

CHAPTER SEVEN

MONETARY POLICY AND MONEY SUPPLY IN SOUTH AFRICA

7.1 INTRODUCTION

The overall features of the South African economy and the broad application of monetary policy in South Africa prior to 1994, having been discussed in previous chapters, this chapter analyses the relationship between monetary policy and money supply. To recapitulate, structuralists argue that monetary authorities in an open and small economy cannot control money supply, since it is considered to be *exogenous*, and they are incapable of stimulating economic growth or curbing inflation. Inflation, to structuralists, is imported and to say it is a monetary phenomenon caused by money supply expansion is tautological. They argue that for there to be inflation there must be a money supply, but this does not imply that excessive monetary expansion is the sole or primary cause, and this tautology, they say, cannot be seen as the cause of inflation. Furthermore, structuralists argue that non-economic factors, the socio-political influences, should be taken into account in a monetary analysis of the economy. On the other side of the debate, orthodox or neo-liberal economists, especially monetarists, consider money supply *endogenous* and thus controllable by monetary authorities. They further consider inflation to be positively affected by changes in money supply. It is against this backdrop that this chapter sets out to discuss the money supply process and the application of monetary policy in South Africa. The discussion is opened by tracing the money supply process as the monetary authorities in South Africa, the South African Reserve Bank (SARB), tried to manage the nation's money supply, especially during the 1990s.

7.2 GOAL OF MONEY SUPPLY IN SOUTH AFRICA

The main concern of the SARB, ideally in conjunction with the Department of Finance (Treasury), is with adjustments to interest rates and the growth of the money supply. This concern flows from the ultimate goal of monetary policy, namely promoting strong long-term economic performance. In the short to the medium term, monetary policy objectives seek to stabilise the macro-economy, by, for means such as making adjustments to

external or exogenous shocks and smoothing out business cycle fluctuations, controlling inflation, stabilising the balance of payments, and maintaining a stable and appropriately valued real exchange rate. In terms of the Constitution and the Reserve Bank Act, the mandate of the SARB is to “protect the value of the Rand” (Nattrass 2000:213). On the domestic scene, this mandate prescribes the requirement that the SARB control inflation, while in the international context, it means the maintenance of a stable and appropriately valued exchange rate. These two main functions, the control of inflation and the exchange rate policy, are discussed later in this chapter.

7.3 THREE MAIN MONETARY POLICY INSTRUMENTS IN SOUTH AFRICA

In general, there are three main tools or instruments of monetary policy and a few minor ones. The three major tools are open market operations, discount window policy and reserve requirements. Minor policy instruments include the ability to enact selective credit controls and the ability to use persuasion, sometimes called *moral suasion*, to guide the banking and financial institutions to act in a particular and desired manner. Open market operations entail purchases or sales of government securities by the SARB in a secondary market for securities. These are not new issues by the Treasury, but are bonds previously bought by someone other than the SARB. These open market operations affect the reserves which banks are required to hold, thus their ability to make loans. Essentially, the SARB use open market operations to influence the liquidity of the money market. With reserves above those banks are required to hold, *excess reserves*, banks can make loans and thereby “create money”. Reserve requirements set by the SARB are an extremely powerful and seldom used tool of monetary policy. When banks fall short of the required reserves, they can “go to the window” and borrow from the SARB. The interest rate charged, *discount rate* (or the *repo rate* since 1999), for these loans is increased or lowered to discourage or encourage borrowing, thereby causing the money supply to move in the direction desired by the SARB (Baye & Jansen 1995:427-436).

7.4 OTHER MONETARY POLICY TOOLS IN SOUTH AFRICA FOR AFFECTING THE MONEY SUPPLY

Other minor monetary policy tools like selective credit control are at the SARB's disposal. The *margin requirement* on stock purchases is also varied in response to the influence of discretionary actions of the SARB. Stock is purchased *on margin* when the buyer borrows a fraction of the funds needed to purchase the stock. A margin requirement of 40 percent would require that a buyer provide funds equal to 40 percent of the price of the stock. The margin requirement is used to avoid widespread margin purchases, since a large drop in the stock price can cause problems in the repayment of loans and thereby cause problems for the entire financial industry. With *moral suasion*, as monetary policymaker and regulator of the banking and financial industry, the SARB has considerable persuasive clout to influence behaviour in what it considers the public's best interests. Theoretically, money supply (M^s) is a tool which the Reserve Bank can utilise at its discretion, to the extent that it can manipulate components of the *monetary base* (MB). The monetary base is also called *high-powered money* which is currency in the hands of the public, C, plus commercial bank reserves, R, and the size of the money multiplier, M, (Baye & Jansen 1995:436-437)

Accordingly, before analysing the impact of monetary policy when money supply is exogenous and endogenous, this chapter briefly examines the money supply process; the two main functions of the Reserve Bank, control of inflation, and the exchange rate policy. After this prelude and the subsequent analysis, the South African experience is presented.

7.4.1 The Money supply process

The analysis of the money supply process in this section, and sections 7.4.2 to 7.6.2 is based on the approach of Baye and Jansen (1995:446-473). Generally, the public holds currency and deposits, so that the total money stock, M^s , is the sum of currency, C, and deposits, D :

$$M^s = C + D \quad (44)$$

This narrow definition of money, $M1$, is used to simplify the discussion and will later be expanded to reflect the broader definition, $M3$. It is assumed that the public wishes to hold currency in proportion to deposits. The *desired currency to deposit ratio*, c^d , is given as follows :

$$c^d = C / D, \quad (45)$$

such that :

$$C = c^d \times D \quad (46)$$

Given that the banking sector holds excess reserves, ER , in addition to required reserves, RR , then total reserves, R , become:

$$R = RR + ER \quad (47)$$

The *required reserve to deposit ratio*, rr , that is :

$$rr = RR / D \quad (48)$$

gives total reserves as equal to the required reserve ratio, rr , times deposits :

$$RR = rr \times D \quad (49)$$

Assuming excess reserves, ER to be proportioned to deposits, D , the desired excess ratio, e^d , becomes :

$$e^d = ER / D \quad (50)$$

which can be rewritten as :

$$j \quad ER = e^d \times D \quad (51)$$

Substituting equations (49) and (51) into equation (47), total bank reserves, we get :

$$R = RR + ER \quad (52)$$

$$= (\pi r \times D) + (e^d \times D)$$

$$= (RR + e^d) \times D,$$

which indicates that when the total banking systems holds a constant function of banking system deposits as required and excess reserves, total banking system reserves are proportional to deposits. Thus equation (4) can be rewritten as:

$$R = (\pi r + e^d) \times D \quad (53)$$

7.5 THE MONETARY BASE

As stated above, the *monetary base* is at times called *high-powered money*. It is currency in the hands of the public, C, plus commercial bank reserves, R :

$$MB = C + R \quad (54)$$

The monetary base is convenient for analysing open market operations and the way currency holdings and excess reserves affect money creation. For instance, if an open market purchase of R1 million is made and the securities dealer deposits it all, that increases the bank's reserves by R1 million. Assume that the reserve requirement ratio is 20 percent, then R800,000 can be loaned out, where excess reserves are not held.

Supposing the securities dealer decides to keep a currency holding of 25 percent, required

currency to deposit, c^d , equal to .25. With the required reserve ratio at 20 percent, the securities dealer withdraws R200, 000 ($.25 \times R800, 000$). After the withdrawal of the R200,000, the new reserves are R800,000. It should be noted that the 25 percent currency holding of free or loanable reserves, after retaining required reserves of the R800, 000 is not of initial deposit (R1 million). Against the R800, 000, the bank's required reserve ratio of 20 percent means it must hold R640, 000. Thus, it can loan out R640, 000. If a decision to hold excess reserves of 5 percent is made, a further R40, 000 will be held and only R600, 000 loaned out. This illustrates the fact that the initial R1 million open market purchase will increase bank loans (and hence deposits at other banks) by a lesser amount than when there is no currency holding and excess reserves. This is how the Reserve Bank increases currency in the hands of the public. An open market sales has the opposite contractionary effect on currency in the hands of the public. After this is brief exposition and simple illustration on the monetary base, MB, we now turn to how it impacts on banking system deposits, D, and the currency holdings by the public, C.

7.6 THE COMPLETE DEPOSIT MULTIPLIER

This section covers the relationship between the monetary base and total banking system deposits. The focus is on how currency holding and excess reserves drain the banking system of reserve, in turn affecting the capacity to make loans out or “create money”. We first substitute equations (46) and (52) into equation (53) to express the monetary base, MB, as :

$$\begin{aligned}
 MB &= C + R, & (55) \\
 &= c^d D + (\pi + e^d D),
 \end{aligned}$$

which can be rewritten as :

$$MB = (\pi + e^d + c^d) \times D. \quad (56)$$

Now the monetary base is the total banking system deposits, D, multiplied by the sum of

currency to deposit ratio, c^d , the required reserve ratio, rr , and the desired excess reserve ratio, e^d . Solving equation (56) for D , we obtain the total amount of deposits that are generated with a given monetary base:

$$D = \frac{MB}{rr + e^d + c^d}, \quad (57)$$

which can be rewritten as :

$$D = \left[\frac{1}{rr + e^d + c^d} \right] \times MB \quad (58)$$

Equation (58) determines total banking system deposits given the parameters of the banking system. It also indicates that the total amount of banking system deposits is actually a multiple of the monetary base. The term in the square brackets is called the *complete deposit multiplier*. It indicates the multiple by which a given change in the monetary base will increase the total banking system deposits. This multiplier decreases (increases) with increases (decreases) in either the currency to deposit ratio, c^d ; the required reserve ratio, rr ; or the desired excess reserves, e^d . A change in monetary base, ΔB , causes a change in deposits, ΔD , which is equal to the fraction in the square brackets :

$$\Delta D = \left[\frac{1}{rr + e^d + c^d} \right] \times \Delta MB \quad (59)$$

We next discuss the complete currency or cash multiplier.

7.6.1 THE COMPLETE CURRENCY MULTIPLIER

As shown above, an open market purchase leads not only to an increase in the banking system deposits, but also to more currency in circulation. The reverse is true for an open market sale. If we substitute equation (58) for D in equation (46), we obtain the following relationship between the monetary base and currency :

$$C = c^d \times D, \quad (60)$$

and solving for D, we get:

$$\frac{C}{c^d} = D. \quad (61)$$

Substituting equation (58) for (61), we get:

$$\frac{C}{c^d} = \left[\frac{1}{r + e^d + c^d} \right] \times MB \quad (62)$$

which can be rewritten as :

$$C = \left[\frac{c^d}{r + e^d + c^d} \right] \times MB \quad (63)$$

Here, the term within the square brackets is called the *complete currency multiplier*, which determines by how much currency holdings increase due to changes in the monetary base. A change in the monetary base, ΔMB , will lead to a change in currency holdings, ΔC , that is a fraction of the initial $[c^d / r + e^d + c^d]$ of the initial increase in the monetary base :

$$\Delta C = \left[\frac{c^d}{r + e^d + c^d} \right] \times \Delta MB \quad (64)$$

Thus, the additional increase in the money stock, as the monetary base changes, in the money stock is the same as equations (55) and (57), which is the *complete money multiplier* effect next discussed.

7.6.2 THE COMPLETE MONEY MULTIPLIER

The relationship between the money stock and the monetary base can be deduced from equation (44), and is as follows:

$$M^s = C + D.$$

Substituting equations (63) and (58) for C in (45) and D in (46), respectively, we get the following:

$$C = \left[\frac{c^d}{\pi + e^d + c^d} \right] \times MB$$

and

$$D = \left[\frac{1}{\pi + e^d + c^d} \right] \times MB,$$

gives:

$$M^s = \left[\frac{1 + c^d}{\pi + e^d + c^d} \right] \times MB. \quad (65)$$

The term in the square brackets in equation (65) is called the *complete money multiplier*, the sum of the complete currency and complete deposit multipliers. It depends on the desired currency to deposit ratio, c^d , the required reserve ratio, π , and the desired excess reserve ratio, e^d . It determines the multiple by which the change in the money stock, ΔM^s , will be occasioned by a change in the monetary base, ΔMB .

$$\Delta M^s = \left[\frac{1 + c^d}{r + e^d + c^d} \right] \times \Delta MB. \quad (66)$$

Thus, since the change in the monetary base is multiplied by the complete money multiplier, the money stock changes by a multiple of the change in the monetary base. For the narrow definition of money, M1, was used here. To broaden it to M3, deposits are divided into demand deposits, D, and time deposits, T, adding to them to C, cash and the near-money components, MM, as follows:

$$M3 = C + D + T + MM. \quad (67)$$

If we then let the *time deposits to demand deposits ratio*, T / D , be c^t , and the other components to deposit, MM / D , be c^m , then the complete M3 money multiplier becomes :

$$M3 = \left[\frac{1 + e^d + c^t + c^m}{r + e^d + c^d} \right] \times MB. \quad (68)$$

7.7 MONETARY POLICY APPLICATION

This section is largely based on the work by Natrass (2000); Fourie (2000); and Mollentze (2000).

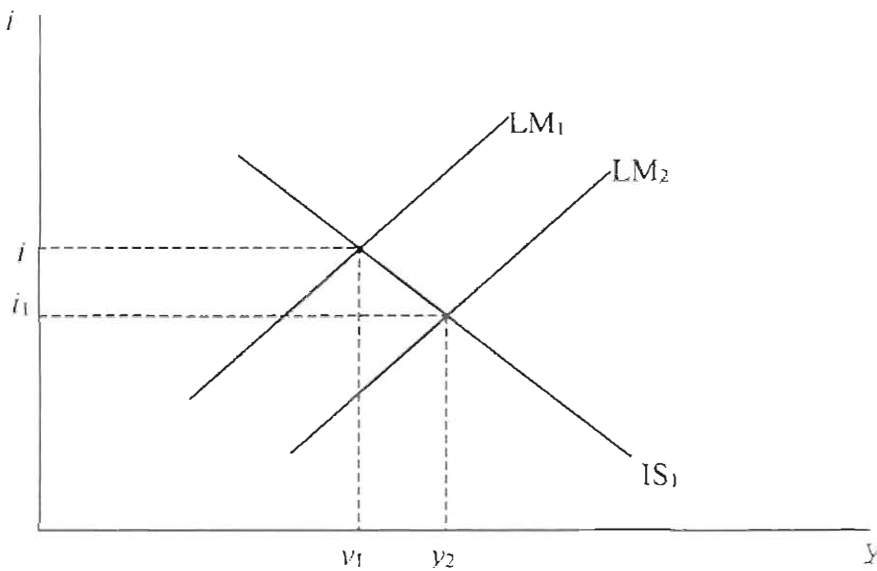
7.7.1 Structuralist(Keynesian) and neo-liberal (neo-classical) approaches

Orthodox or neo-liberal economists, who follow a neo-classical approach, regard money supply as *exogenous* and *controllable* by monetary authorities. This view is not shared by structuralists, with their Keynesian slant, who regard money supply as *endogenous* and *not controllable* by monetary authorities. The traditional orthodox monetary policy approach in the IS-LM model refers to the modification of nominal money supply by the Reserve Bank, through monetary policy instruments, especially open market operations – the sale

and purchase of bonds to and from the public. The sale of bonds decreases money supply, while purchases increase money supply. The impact of such open market operations of money supply is differently explained by two schools of orthodox economists, namely Keynesian and neo-classical schools (Mohr & Fourie 1998:443-444).

To Keynesians, an increase in money supply shifts the LM curve out to the right, increasing the demand for bonds. This increased demand raises the prices of bonds and consequently, there is a drop in their yield.

FIGURE 5: EXPANSIONARY MONETARY POLICY: KEYNESIAN MODEL
(i.e. STRUCTURALIST)

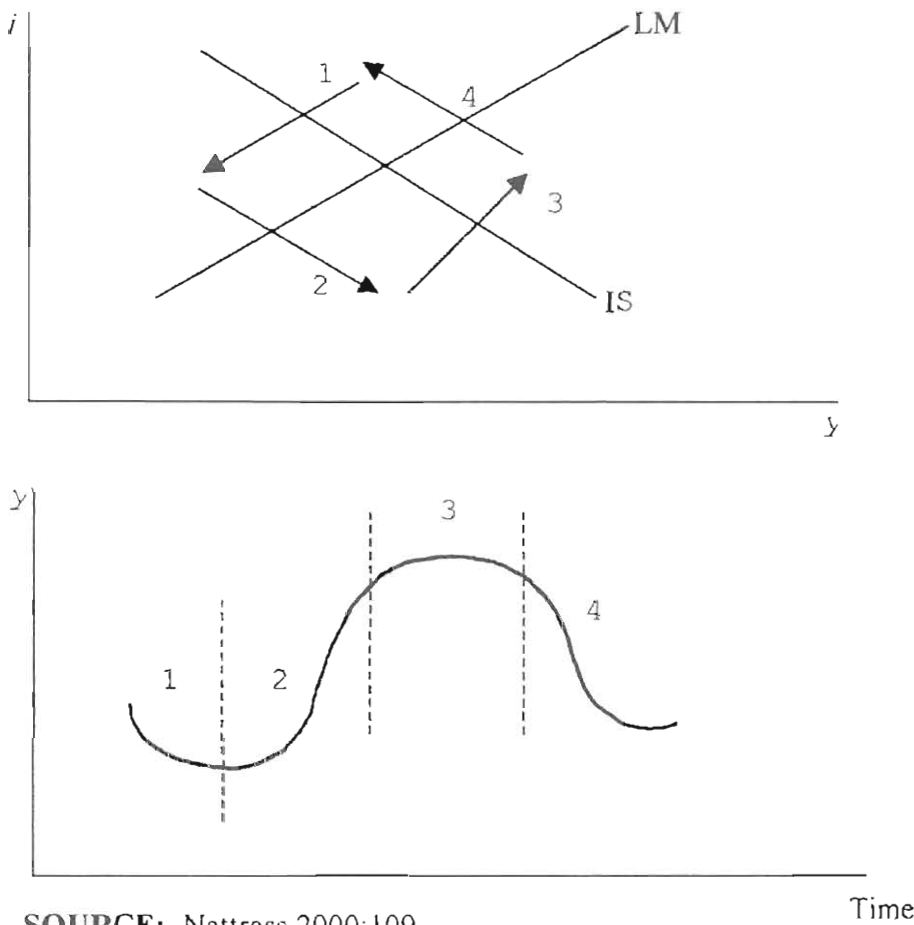


SOURCE: Natrass 2000:107.

This inverse relationship, namely that when interest rates fall bond prices increase, has an impact on the real sector, the goods market. When the interest rate falls, investment demand increases, and consequently output increases. Thus, output increases in line with increased demand. This is the so-called Keynesian transmission mechanism, which reflects the way the money supply ultimately affect the output, via the interest rate. However, Keynesians (structuralists) qualify this by stating that if investment is relatively insensitive to change in interest rates and if the demand for idle balances is highly elastic, monetary

policy through changing money supply becomes less effective in affecting output (Nattrass 2000:106-107). However, this static comparative model does not reflect reality. In the real world, the economy is rarely if ever “in equilibrium”. Then the question becomes whether the authorities should ever try to intervene or whether they should wait for the economy to adjust towards equilibrium.

FIGURE 6: POSSIBLE MOVEMENT AROUND IS-LM EQUILIBRIUM AND IMPLICATIONS FOR THE BUSINESS CYCLE



SOURCE: Nattrass 2000:109

On the contrary, neo-classical economists (the orthodox economists or neo-liberals) argue that money supply does not have a lasting impact on output, propagating the dichotomy between the monetary sector and the real sector. Thus, it is argued that attempts by monetary authorities to increase the level of output through expansionary monetary policy are said to be ultimately self-defeating. Such attempts are considered inflationary, because the economy is assumed to be at the full-employment level of output, and trying to boost

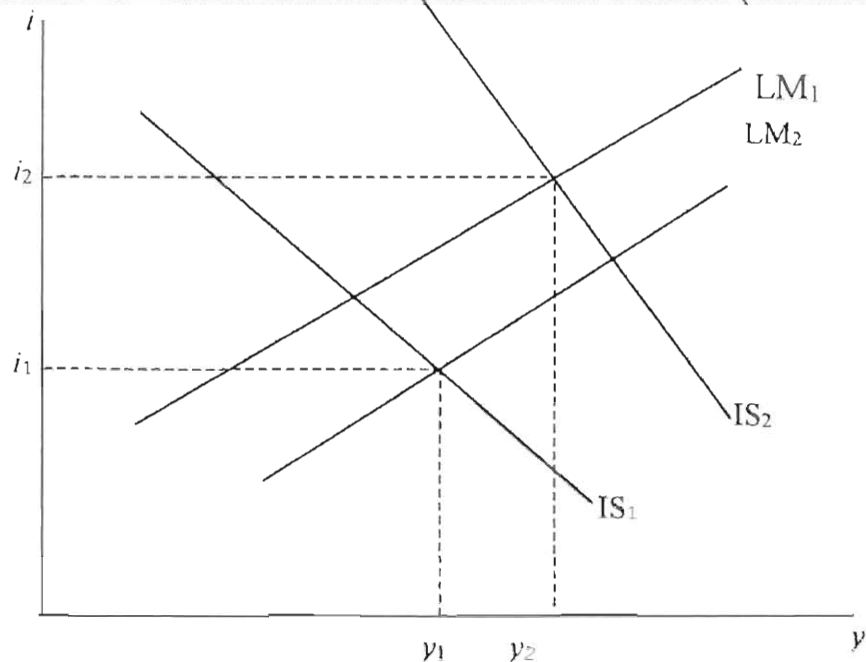
demand above this level simply results in a rise in the price levels. It is further argued that when an expansionary monetary policy is pursued, the real money supply initially increases as a result of the increase in the nominal money supply. This shifts the LM curve to the right. To satisfy the new demand, output has to rise, but because factors of production are fully employed, that becomes impossible. All that can happen is a rise in prices, thereby contracting the real money supply. This shifts the LM curve back towards the left until the full employment level output is again restored. Thus monetary policy is said to have no impact on the real level of output (Natrass, 2000:114-115).

7.7.2 The Keynesian-neoclassical hybrid

This approach to the LM-IS framework uses the neo-classical model when the economy is at full employment and then uses the Keynesian model in a depression. For South Africa, given the per capita GDD drop in 1998 and 1999, the rising unemployment, and the drop in capacity utilisation, this would suggest a policy response leaning to the Keynesian side. This is supported by arguments that the South African economy is “demand constrained” although the neoclassical thinkers such as those who designed GEAR believe that the economy to be “supply-constrained” and inflation to be the primary danger to be fought at all costs (Adelzedah 2000.) Given these different views on whether the South African economy is “demand-constrained” versus “supply-constrained”, advocating a Keynesian (structuralist) or neo-classical orthodox) approach, respectively, a *hybrid* or *mix* of the two approaches is proposed as a practical solution. The hybrid model is said to have built-in flexibility, following the Keynesian approach when the economy is ‘demand-constrained’ and following the neoclassical when the economy is “supply-constrained” (Snowdon, Vane & Wynarczyk, 1994:ch 6 & 8).

In such a model, the expansionary impact of an increase in demand would be dampened by an increase in prices, although not eliminated. This is shown by an increase in output from y_1 to y_2 , as the demand pushes the IS curve to IS_1 to IS_2 and the rise in prices pulls the LM curve back from LM_1 to LM_2 (Natrass 2000:205-206).

FIGURE 7: EXPANSIONARY MONETARY POLICY (HYBRID MODEL)



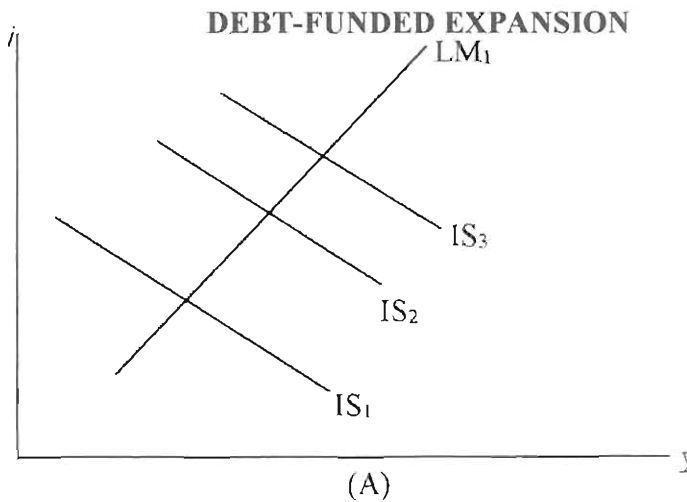
SOURCE: Nattrass 2000:117.

7.8 INVESTMENT ENVIRONMENT AND INTEREST RATES

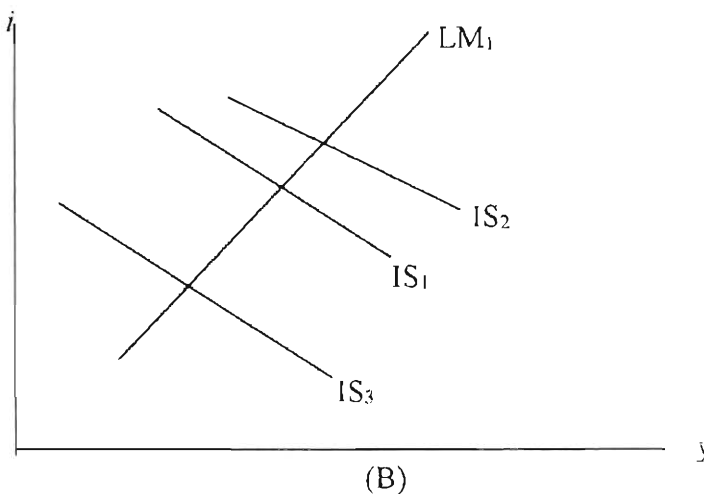
The IS-LM framework has a problem regarding the modelling of investment, since it largely depends on “expectations”, “fears,” “flights of fancy” or the “animal spirits” of investors. To investors, government budget deficit is widely regarded as a determinant of investment, although investor reaction cannot be predicted, as is illustrated by figure 8 on the following page. If investors respond positively to demand, the demand and output rises, and the IS curve shifts out from IS_1 to IS_2 . As investment rises, demand increases and further pushes the IS curve from IS_2 to IS_3 , as is illustrated by panel A. Thus, demand becomes the driver of investment and in turn, of growth. The implication of this analysis is that restrictive fiscal policy will result in a dual contraction in demand, which reduces investment. The labour movement in South Africa, especially COSATU, is critical of the government’s orthodox restrictive policies, because reducing the deficit quickly is seen to cause deflationary pressure on the economy, causing job losses. Accordingly, the government is urged to pursue expansionary policies to induce exogenous increases in investment and income. However, if the government is suspected of spending the borrowed money to finance debt unwisely, fears this that monetisation of debt may spark off inflation could reduce demand and contract investment, as reflected in B of figure 8.

The initial increased demand resulting from the expansionary policy, before fears set in, shifts the IS curve from IS_1 to IS_2 . As fears grow stronger, demand drops and this, in turn, contracts investment, shifting the IS curve from IS_2 to IS_3 . The dilemma becomes how to stimulate economic growth when the estimation of the investment function is difficult to determine and we really do not know what determines investment, since restrictive fiscal policy propagated by the GEAR strategy of low interest rates to stimulate investment assumes it will rise and COSATU assumes it will fall. This controversy over GEAR aroused by COSATU, and the associated criticism of the SARB strategy, are covered below.

FIGURE 8: DIFFERENT PRIVATE INVESTOR REACTIONS TO



An increase in debt-financed Government spending boosts private investment (as investment reports positively to demand)



An Increase In Debt-financed Government Spending Reduces Investment (As Investment Reacts Negatively To The Rise In Government Debt)

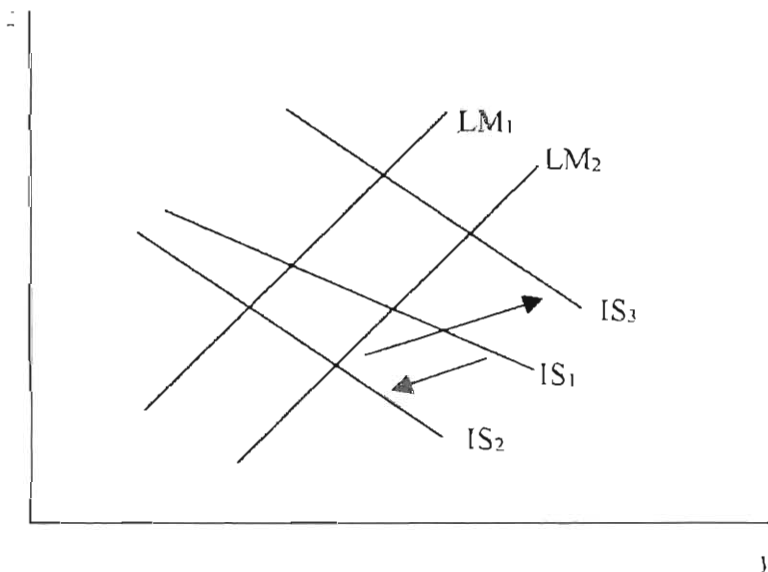
SOURCE: Natrass 2000: 121.

The GEAR strategy calls for low interest rate consistent with higher economic growth and SARB favours a higher rate consistent with lower inflation. To gain a better understanding of this on-going and fervent debate over the efficacy of the South African official macroeconomic policy, a brief outline of the GEAR investment strategy, which is attacked by COSATU for its alleged failure to stimulate economic growth and generate meaningful employment opportunities, an attack shifted by GEAR proponents to the monetary authorities, SARB, is the next topic.

7.8.1 GEAR investment strategy

From the previous sections, it is apparent that there are no *a priori* grounds for anticipating how investors will react. GEAR is the macroeconomic strategy of South Africa, introduced in 1996 by the Ministry of Finance. The basic idea is that by running a primary surplus, investor confidence will be boosted to the extent that its net impact on demand is positive. Initially when the authorities reduce the deficit, by taking more in taxation than they inject in the form of spending, the IS curve shifts inwards to the left, from IS_1 to IS_2 . The results of such a restrictive fiscal policy are shown in figure 10:

FIGURE 9: THE GEAR VISION



SOURCE: Natrass 2000:124.

Then, as private investment picks up, owing to lower levels of interest rates, the IS curve shifts outwards to the right, from IS_2 to IS_3 . Thus, what starts out as ‘contractionary’ fiscal

policy ends up being in fact expansionary. This is becoming conventional wisdom, even if it is not backed by substantial evidence and thorough theoretical underpinnings. The excess of tax income over expenditure used to reduce debt results in a drop in the supply of bonds, a fall in interest rates and the outward shift of the LM curve to the right, from LM_1 to LM_2 . This is the core belief that underpins South Africa's GEAR strategy (Natrass 2000:123-125). The assumption of the formulators of GEAR was that the SARB, the monetary authorities, would not restrict growth of the money supply, thereby shifting the LM curve back to the left, possibly even move past LM_1 . Reality proved this assumption to be false for the South African economy (see chapters 8 and 9).

Proponents of GEAR strategy, in defending the GEAR policy, blame monetary authorities for pursuing an "unnecessarily" tight monetary policy. This has created tension between the Ministry of Finance, which objects to the growing interest burden that high interest rates placed on the budget, and the SARB, which is more worried about the value of the Rand, thus the exchange rate and inflation rather than the short-term growth concern. The agreement is for the SARB to target a specific inflation band, which can be adjusted to accommodate unexpected external shocks. Another defence by the proponents of GEAR is that of labour-market inflexibility. To examine these justifications of the poor performance of GEAR policy, it is necessary to examine the alleged preoccupation of monetary policy with the protection of the value of the Rand. Since money supply, as already shown, is not affected by changes in the interest rate, the equilibrium quantity of money balances is determined solely by the position of the money supply curve. The equilibrium interest rate is determined by the intersection of the real money demand and the real money supply.

7.9 MONETARY POLICY IN SOUTH AFRICA

Before concentrating on the role of monetary policy, namely control of the exchange rate and inflation in preserving the value of the Rand by monetary authorities in South Africa, to detriment of growth and job-creation, as alleged by the proponents of the GEAR policy in defence of its failure to deliver on its promises, it is important to first understand how the instruments of monetary policy are used to influence money supply and money market shortfalls. As previously discussed, the SARB can manipulate the components of the base;

namely notes and coins, and gold and foreign exchange reserves, and the size of the money multiplier, by changing *liquid asset requirements*, although this is seldom done. These instruments, notwithstanding the SARB, since the mid-1980s having adopted a system of monetary control in which the money supply (M3) was regarded as effectively *endogenous* and the *interest rate* was seen as the operational monetary policy tool. Ultimately, the interest rate, and recently the *repo rate*, is considered to influence growth, employment, inflation and the exchange rate (Nattrass 2000:254-256). In a comprehensive study on monetary policy in the “new” South Africa, after 1994, Mollentze (2000: S 41) claims that: “little research has been done on the various transmission channels of monetary policy in South Africa. Because of the complexity and interaction of a large number of variables, such research may in fact not prove to be practicable. Various relationships would have to be disaggregated microeconomically, which would be a major study in its own right. Moreover, the necessary data are not available. In the few cases where such data exist, this is so for only the last few years... Although econometric testing of the various channels of monetary transmission in South Africa has been limited, central bankers agree that results from other financially developed countries are relevant for South Africa. This therefore confirms the ultimate validity of an expansionary monetary policy which is designed to stimulate the economy – and *vice versa*”. This study is an attempt to provide a solution to some of the empirical gaps in chapters eight and nine. Thus, we next take a brief look at how the SARB use the interest rate to control liquidity, the provision of accommodation by commercial banks

7.9.1 Accommodation and interest rate control

As previously stated, the SARB used direct control, such as liquid asset requirements and credit ceilings to manage liquidity in the economy during the 1970s. This approach was gradually abandoned in the 1980s, following the report of the De Kock Commission (1985.) The SARB controlled interest rates in the economy via its bank rate. Implicit in this cash reserve system is the SARB’s view that the money supply is *endogenous*. Commercial banks were legally obliged to hold an amount of cash reserves equal to certain percentage of their total liabilities (that is deposits,) and should these reserves fall below this legal requirement, they had to borrow from the SARB, the “discount window”. The commercial bank would approach the SARB to discount financial assets for cash, less

than what it would have received on the open market. Thus, the SARB would provide “accommodation” to the commercial bank by crediting its current account at the SARB.

This accommodation usually took the form of overnight loans against suitable collateral security. The amount owed collectively by the commercial banks to the SARB is known as *money market shortage*. When a money market shortage existed, the SARB could influence the structure of interest rates by altering the bank rate. When the bank rate rose, that triggered the wholesale market interest rate for short-term funds, which in turn sparked an increase in the rate which banks charged their customers and that paid on deposits. Thus, the entire structure of interest rates in the economy rose, with the SARB acting as a wholesaler of money, at the bank rate, to commercial banks, which retailed money to consumers at market rates, spread in a relatively fixed structure around the bank rate (Nattrass 2000:215-220)

Accordingly, the SARB could ensure that the banking system remained indebted to it under accommodation, that there was a positive money market shortage, so that it effectively controlled interest rates in the economy. The bank rate was also used to influence the money supply. For instance, if the growth in money supply was considered too high, the bank rate has increased, which in turn induced commercial banks to raise their interest rate to their customers. This discouraged borrowings and encouraged savings on the part of consumers, thereby dampening the money supply. Thus, by changing the bank rate or the discount rate charged commercial banks for approaching the accommodation window, a shift was induced in the whole structure of market interest rates. Through the transmission mechanism, market interest rates could affect key macroeconomic variables such as the money supply, bank credit extension and inflation (Mollentze 2000: S 41 – 42).

However, this interest rate control system had a number of problems. The major problem was that the money market interest rates were relatively insensitive to fluctuation in liquidity in the economy. This was because since banks could easily meet their liquidity requirements automatically from the SARB at the bank rate, the short-term interest rates were often not affected by liquidity shortages, thereby rendering the impact of changes in the size of money market shortage on short-term interest rates ineffective (Nattrass

2000:215-220)

Furthermore, because the bank rate had an “announcement effect”, it had a high degree of political significance. Expectations regarding changes in the bank rate became more important than the explanation of available liquidity in the market on changes in interest rates. This meant that the expectation that the SARB was about to change the bank rate would cause money market rates to change without any necessary change in the underlying liquidity conditions. Thus, the SARB was unable to send clear signals to the market about its monetary policy stance. Also, the SARB was unable to receive clear signals about the market liquidity position, which hampered the regulation of the domestic money supply. To remedy this problem, the “*repurchase system*” was introduced in 1998 to replace the bank rate, this was designed to allow underlying liquidity conditions in the market to be reflected by short-term market interest rates (Fourie 2000:240 - 243).

Under this repurchase system, a repurchase agreement is where one party sells an asset to another party with the understanding that the seller will buy it back in the future. This is like a loan with collateral. The difference with this system is that the SARB is able to decide now on a daily basis how much it wants to lend out or how much liquidity it wants to supply to the market. Such amount is put up for tender and each commercial bank submits a bid for the amount it desires. This tender bid involves a repurchase agreement, with the bank offering to sell financial assets to the SARB for cash, which it will repurchase in the future, usually one week hence. However, the SARB has the discretionary power to shorten or lengthen the one-week maturity period. The discount rate the bank is willing to pay on the repurchase assets is called the “*repo rate*”. Thus, the bank offering the rate obtains all the liquidity it requests, while the lowest bidder may well receive less money than it bid for.

Accordingly, different banks could pay different rates if their tender rates differed, and for this reason the system is known as “*multiple-rate scale auction*” and the “*repo rate*” published in the media is the average of all the individual bidding rates. The repo rate, on a day-to-day basis, tends to fluctuate within a narrow margin. Because the amount offered is now fixed by the SARB and the repo rate is determined by the tender process, the policy intentions of the SARB are reflected in a more transparent way (Nattrass 2000:221-226).

In periods of uncertainty or financial volatility, the SARB is able to hold *fixed rate auctions*, designed to send a clear signal to the market and to stabilise the short-term interest rates. When that is the case, the total liquidity provided is divided among the banks on a *pro rata* basis, depending on the amount of money for which each bank originally bid. Furthermore, to allow for unforeseen liquidity shortages on the part of the banks, the SARB augmented the repurchase system with the *marginal / lending facility*, allowing banks to borrow overnight funds or loans for few days, at a rate higher than the *repo* rate. This rate was set at 1 percentage point higher than the repo rate of 15%, when the system was introduced, but this has substantially changed as circumstances changed. Towards the end of 1999 the SARB fixed the repo rate at 12%, gravitating the system to a fixed rate auction system. At each meeting the SARB's Monetary Policy Committee makes a pronouncement on the repo rate. The change is not clearly spelled out, but speculation is that the multiple-bid repo system has not been functioning as it was intended. This move has, however, blurred the difference between this system and the previous system of bank rate control. It is suggested that the repo system was a public relations exercise to depoliticise the old bank rate (Nattrass 2000:225-227). A fixed rate has formally been used again since September 2001.

We now turn to the monetary approach of controlling inflation and the exchange rate, which has been criticised by GEAR proponents.

7.9.2 Controlling Inflation

Between 1974 and 1993 South Africa's rate of inflation fluctuated between 10% and 20%, but since 1993 the rate has been consistently less than 10%, which may be attributed both to its stringent monetary policy of high interest rates and to the sluggishness of economic activity during the most of the latter period (SARB Quarterly Bulletin, several issues). Two primary causes of inflation are essentially "cost-push factors", acting on the supply side of the economy and "demand-pull factors", such as increased money supply and excessive credit extension fuelling consumer spending on the demand side. "Cost-push factors" include rapid wage and salary increases, higher international oil prices, higher interest rates raising the cost of capital, food price inflation caused by adverse

climatic conditions, and exchange rate depreciation triggering higher import prices. Inflation is at times also caused by entrenched expectations of future price increases. For example, firms that accept a certain rate of inflation will build this expectation into their sales prices and salary structures for the next year, thus creating a self-fulfilling prophecy (Nattrass 2000:227-228)

However, monetarists argue that inflation, CPI, rises continuously only if money supply is allowed to keep growing, with “too much money chasing too few goods”. Thus, according to this basically Quantity Theory of Money view, the only effective means for controlling inflation in the long term is by pursuing a contractionary money supply policy. In fighting inflation in South Africa, the main instrument at the disposal of the SARB is the repo rate. By increasing the repo rate, market interest rates are shifted upwards, in turn, suppressing the demand for credit and monetary expansion. High interest rates discourage borrowing and consumption spending, which reduces demand-pull inflation. On the supply side, higher interest rates may encourage firms to scale down wages and salaries. With import demand also discouraged by high interest rates, ‘imported’ inflation will also decline.

For the period between 1960 and 1972, South Africa experienced positive real interest rates and low inflation. During the 1980s, the SARB put more emphasis on stabilising the business cycle fluctuations rather than on controlling inflation. This briefly reversed the positive real interest rate to stimulate the economy in 1986 and 1987. In 1989, when Chris Stals took over as Governor of the SARB, the focus was back on controlling inflation. Since then, the trend in South Africa has been characterised by greater stability in the bank rate/repo rate, high real interest rates and falling inflation (Nattrass 2000:230-231.)

However, while Chris Stals was successful in fighting inflation he was accused of lack of transparency. This was because inflation-targeting did not make the goal or target rate clear. The time frame he used to target reducing inflation was “in line” with that of major trading partners, namely bringing inflation within the 1 to 5 percent band, but was never given. The criticism was fuelled by the fact that the CPI is sensitive to transitory shocks, which are not directly related to the inflationary process, as argued by structuralists. A suggested way out is to build flexibility into the framework to allow for unforeseen

exogenous inflationary shock through the balance of payments or exchange rate, international oil price hikes, etcetera. As a result, in February 2000, the SARB adopted a new price index known as CPIX, which is the CPI excluding the effect of interest payments on the loans (Natrass 2000:233-236)

7.9.3 Balance of payments and exchange rate policy

With globalisation, international flows of goods and financial assets are crucial for monetary policy consideration. Thus the balance of payments becomes a constraint, will capital account shocks posing problems. This has an impact on the real exchange rate, which might possibly cause currency crises. We now briefly discuss the issues.

7.9.3.1 Exchange rate policy in South Africa

To comply with the Constitutional imperative to “protect the value of the Rand”, the SARB’s focus is not only domestic through controlling inflation, but also *external*, through stabilisation of the real effective exchange rate at the appropriate value. This objective of the exchange rate policy is crucial for becoming internationally competitive. South Africa, like most countries these days, has opted for a managed floating exchange rate under this regime. The SARB intervenes in the market to smooth out short-term fluctuations, even if the value of the Rand has fluctuated under market forces. This is a comprehensive solution as the country retains some autonomy in monetary policy but reduces the impact of unexpected shocks is reduced. If, for instance, there is a sudden spate of selling of Rands on the foreign exchange market, the SARB steps in to buy these Rands and thereby reduce the supply, which in turn protects the value of the Rand. However, because reserves are limited, this policy cannot be pursued for a long period of time. As an alternative, the SARB influences the exchange rate by altering the incentives for both local and foreign agents to hold or trade in Rands, such as discouraging locals from demanding foreign exchange with which to purchase imports. Aligned with this are policies which influence the components of the balance of payments. For a brief period after the end of the Bretton Woods fixed exchange rate system in 1972, South Africa first pegged the Rand to British sterling and to the US dollar, before opting

for a managed float. In the 1980s and 1990s, South Africa's policies arguably led to an overvalued nominal and real exchange rate. While this addressed the SARB's major concern of not "importing" inflation, it reduced South Africa's global competitiveness. In 1996 and in 1998, the Rand depreciated significantly, when the SARB could not sustain its interventions to fight crises by selling its foreign reserves (Natrass 2000:196-202). As a repository of gold and foreign exchange reserves, the SARB is responsible for maintaining equilibrium in the balance of payments, that is compatibility between the current and financial accounts (capital account).

7.10 CONCLUSION

This chapter covers the different views held on money supply by structuralists and neo-liberal economists, which in turn form the basis of their opposing arguments. To structuralists money supply is *exogenous*, thus beyond the control of the monetary authorities of a small and open economy like that of South Africa. On the other hand, 'neo-liberal' or orthodox economists, especially the neoclassical economists and monetarists, consider money supply endogenous and under the control of such monetary authorities. Implicit in the structuralist argument is the notion of "importation" of inflation, rejecting the view that increases in the money supply are the primary or only cause of inflation. Instead, socio political influences are said to be factored in when analysing the causes of inflation. Again, this is opposed by orthodox economists who regard increases in the money supply as the main cause of inflation, rejecting the contention that it is 'imported'. Accordingly, since this debate is studied, using South Africa as a frame of reference, the money supply process and its application are discussed, as a framework within which the opposed arguments are formulated.

The goal of monetary policy in South Africa up to 1997 was to protect the value of the Rand and maintain an appropriately valued exchange rate; the three main monetary policy instruments used: open market operations, discount-window policy and reserve requirements; and other selective instruments, like moral suasion, are presented. This set the stage for the subsequent discussion on controlling inflation for preservation of the value of the Rand and balance of payments and exchange rate policy. Given that the official macroeconomic policy of GEAR is challenged by COSATU, a very powerful

labour union, as a failure in stimulating growth and creating jobs, its proponents instead shift the blame to the monetary authorities, the SARB, for pursuing ‘inflation targeting’, which presupposes high interest rates. High interest rates are said to discourage investment, thereby stifling economic growth. For this reason, GEAR’s poor growth performance, it is argued, should be blamed on monetary policy and not on the GEAR strategy. Accordingly, this chapter briefly touched on the money supply process and monetary policy in South Africa, investment and the GEAR strategy, and the controversy between COSATU and the proponents of GEAR over the effectiveness of GEAR as the official macroeconomic policy of South Africa.