DETERMINANTS OF MONEY SUPPLY IN MALTA

By M. ABELA

THE money supply has always been a matter of concern in those economies which rely mainly on the workings of the price system to determine production and distribution. Money in its static function is a technical device to facilitate exchange. In its dynamic function, through its effect on the price level, it can influence the volume of production and is therefore a determinant of economic progress. In countries where the money supply can be varied by administrative action, we find that the monetary system represents a positive instrument of economic control. In those countries in which the quantum of the money supply cannot be regulated administratively, but is more or less automatic, we find that changes in money supply can be taken as indicators of certain economic phenomena at work within the economy. It is the latter type of countries that interest us here. In order to interpret statistics on money supply in such countries we must understand what determines this supply. It will be appreciated that the economic factors at work determining the supply of money differs considerably between countries and therefore what follows can be taken only as a case study of Malta. The background is one of economic dependence on importation, with a relatively small industrial sector.

Statistically the money supply is amenable to direct measurement. It is defined as the sum of demand deposits and currency in the hands of the non-banking public. It consists therefore of the total currency in circulation less the amounts of cash held by banks plus all deposits of business individuals and foreigners withdrawable by cheque or else on demand.[1] The institutions directly concerned with the money supply are the Currency Board which is responsible for the note issue, and the banks as repositories of bank deposits. It is pertinent therefore to describe these two institutions.

The Currency Board and Money Supply

The Currency Board is responsible for the issue of local currency and has its activities defined by Ordinance No. 1 of 1949. This ordinance established a local currency as legal tender in Malta at a rate of exchange at par with the sterling, and gave the Currency Board the onus of paying

[1] Time or fixed deposits are not considered in this study as part of the money supply.

to any person sterling in London equivalent in value to the currency notes lodged with it, and to issue local currency against sterling deposited with it. For this purpose a 'Note Security Fund' was created to be credited with the equivalent of sterling of all currency issued (other than in exchange of currency already issued) and debited with sterling payments made in respect of notes lodged with the Board. The Fund can be invested in sterling securities of or guaranteed by any part of Her Majesty's Dominions other than in Government of Malta Securities. Dividends, interest or other revenue arising is credited to a 'Currency Note Income Account', which is debited with any expenses of the Board. The Ordinance also provides that any excess of the Fund over 110 per cent of the notes in circulation shall be passed to the 'Consolidated Revenue Fund'.

In order to be able to understand better the mechanics of the Board we will assume for the sake of simplicity that there are no banks on the Island. As we have seen the Board has no banking functions and therefore the money supply in such a simplified model would be equal to the notes in circulation issued by the Board. There will not be any banking deposits or advances as by law the Board is not empowered to lend or borrow locally. All transactions will have to be carried out in cash. If a national desires to import goods or services from abroad he will affect payment by lodging cash with the Board in exchange for sterling in London. The cash lodged with the Board commits suicide and is withdrawn from circulation. Similarly if a national decides to lend abroad he will exchange local notes for sterling through the mechanism of the Currency Board with which he can purchase foreign securities. From the money supply point of view there will be a withdrawal of currency from circulation. In this way a decreasing currency in circulation would reflect additional expenditure or additional lending abroad. On the other hand if nationals export goods or services they will be paid in foreign currency which can be changed into sterling and deposited with the Board's agent in London in exchange for local currency. Similarly borrowing from abroad and foreign grants will make available sterling in London which will be converted into local currency by the Board. In the case of this simplified model the money supply will be determined solely by the balance of payments. If the balance of payments will be in equilibrium the money supply will remain static. The Board is thus only a passive agency exchanging sterling into pound notes and vice versa. The government cannot pump more money into circulation by deficit budgeting, as this would entail a Fiduciary Issue[2] which is debarred by law. A surplus balance of payments will have its counterpart in an increased money supply whilst a deficit will cause it to contract.

[2] The issue of notes against local securities is known as a Fiduciary Issue.

The Banks and Money Supply

We are now in a position to complicate our model by bringing into the picture the activities of the commercial banks. The banks can be looked upon as intermediaries between savers and investors. When a person deposits money the bank can do one of three things, it can either keep the cash in reserve, invest it locally by means of overdrafts or advances, or invest it in foreign securities. By definition we know that the cash reserves of the banks are not considered as part of the money supply, and therefore any change in the liquidity policy of the banks will affect the money supply. The question to be answered is whether we can anticipate violent changes in the liquidity policies of the banks. We know that the banks have two conflicting interests. On the one hand is their desire to maximise their profits and on the other is the requirement to maintain the confidence of their customers by means of a considerable degree of liquidity. The desire for liquidity can be broadly defined as the capacity to produce cash on demand for deposits. This can be brought about if the banks keep an adequate ratio of cash to total deposits. This 'cash ratio'[3] in some countries is a matter of convention (notably in the U.K.) in others it is statutory (notably in the U.S.A.). It will be appreciated that if a way could be found whereby the unproductive cash asset is invested without impairing the liquidity of the bank, the cash ratio would dwindle to negligible proportions. This is more or less what happens through the workings of the Currency Board. The Banks can invest their liquid assets in short term loans on the London Money market and when their customers need more cash, in a matter of hours, the banks can transfer their short dated loans to the Board in exchange for cash. For this reason cash holdings of the banks are expected to be negligible. The banks will keep enough cash to carry on their day to day transactions knowing that any contingencies which might arise will be accommodated via the Currency Board. It is highly unlikely therefore that there will be large fluctuations in the money supply due to changes in the liquidity policies of the banks, as there is no incentive for the banks to hoard currency.

Now let us consider what happens to the money supply when the bank decides to invest abroad the money deposited with it. Originally when the depositor lodges his money in a bank a deposit is created corresponding with an identical reduction of private cash hoards, leaving the money supply intact. When the bank decides to invest abroad, the cash deposited with it is transferred to the Currency Board in exchange for Sterling in London. The cash therefore is withdrawn from circulation and the

[3] In the U.K. this ratio has been in the region of 8% since 1946.

money supply has remained identically the same as it was before the deposit was made with the bank. If banks had to decide that all deposits with them will be invested abroad then banking operations will not influence the money supply. The banking system would be another passive device working in identically the same way as the Currency Board. In such an eventuality changes in the money supply can only be in response of changes in the balance of payments position and dealings in foreign money markets. In actual fact, however, the banks can and normally do decide to invest locally. We must attempt to show what happens to the money supply when such a decision is taken. To make the exposition clearer it is important to illustrate this by means of a numerical example. Let us suppose that the currency in circulation is £20m. Let us further assume that the Banks have no deposits and no cash in hand. The money supply is then equivalent to £20m. At a point in time people decide to deposit £2m. with the banks, £1m. of which is kept as cash on hand by the banks and the other £1m. is lent to the bank's customers. In such a case we have £20m. currency in circulation plus £2m. bank deposits less £1m. cash on hand by banks, leaving us with a money supply equivalent to £21m. The £1m. increase in the money supply is equal to the advances made by the banks to their customers. From this we can state that every advance or overdraft made by a bank constitutes an addition to the money supply. Banking credit policy is therefore an important determinant of the money supply.

From the foregoing it appears that the money supply is determined by the state of the balance of payments and by banking credit policies. An increased supply would then mean either a favourable balance of payments, a running down of foreign assets, or else an increase in bank advances. With the exception of the second item these are indicators of economic progress and increased economic activity.

Limiting Factors to Bank Advances

The fact that banking credit policies are an important determinant of the money supply leads us to ask what is the limiting factor to the banks' ability to create credit. We have already stated that the banks' conflicting interest of profitability and liquidity have resulted in the practice of keeping a 'cash ratio'. In countries with an independent monetary system this cash ratio is an important limiting factor to the credit potentialities of the banks. If the banks have a correct 'cash ratio' and decide to expand their credits, a part of this credit would find itself back to the banks as deposits. The result will be that the banks' cash will remain static whilst deposits increase, and consequently the 'cash ratio' will fall. This will

induce the banks to sell some of their securities for cash in order to bring the 'cash ratio' back to its normal position. We have seen that Malta's monetary system is dependent on the sterling[4] and we have also shown that bank cash reserves are apt to be small due to the accommodating action of the Currency Board. In this type of dependent monetary system the 'cash ratio' cannot operate as a check to excessive bank domestic credits. There are different factors at work to limit the credit potentialities of the banking system. The key to the whole problem appears to be in the concept of liquidity. We have seen that it is the requirement of liquidity which is responsible for the banking practice of holding a 'cash ratio'. Let us examine this concept in a little more detail, recalling that Malta's import bill is in the region of £26m. annually. The banks in Malta to preserve full liquidity must be able not only to supply cash on demand but also foreign exchange on demand. This can best be illustrated by means of an example. If an importer decides to import a given value of goods he can do one of two things, he can either take cash to the bank and ask to have it transferred to his creditor abroad, or else if the importer has an account with the bank he can ask to have a part of the deposit transferred abroad. In the former case the banks can transfer the cash to the Currency Board and obtain sterling in London in exchange. In the latter case the Currency Board cannot come to the rescue. The banks must have enough foreign reserves to be able to meet his demand. If the banks cannot meet the demands made on them for foreign exchange, importers would prefer to remain liquid as they know that the Currency Board will always supply foreign exchange to the value of the local notes supplied. If this happens the banks will lose most of their business. These considerations lead us to suggest an amended definition of liquidity in so far as local circumstances are concerned. Liquidity for Maltese Banks is the capacity to produce cash and foreign exchange on demand for deposits. There is then a 'foreign reserve ratio' operating in roughly the same way as the 'cash ratio' in countries with an independent monetary system. The 'foreign reserve ratio' will be the ratio of foreign reserves to deposits, and should be high enough to enable the banks to supply all the foreign currency demanded by their clients. It will be dangerous for the banks to go below this 'foreign reserve ratio'. Let us take the case that the banks have the minimum 'foreign reserve ratio' dictated by banking experience and they decide (against their better judgement) to expand their advances. Such an expansion of the Banks' domestic credit would finance either

[4] The net gain from having a local currency instead of sterling legal tender, accrues from the ability of the Currency Board to invest the Fund into interest yielding securities. In other words private hoards of cash are invested by the Board.

domestic investment or domestic consumption. The effect in both cases will be an increase in domestic incomes. In actual fact the rise in incomes will be slightly higher than the increased advances due to the effect of the multiplier.[5] As incomes rise, imports will tend to rise appreciably due to the fact that the marginal propensity to import is relatively high.[6] In so far as this increased importation will be paid for out of bank deposits there will be an inroad into the banks' foreign reserves. If these reserves are not adequate the banks will start calling in their loans to have more cash available which can be turned into foreign exchange via the Currency Board. This is in effect the most important limiting factor to a local expansionary bank credit policy. The banks can only expand their credits with impunity if they have more foreign reserves, which can only be obtained if the country has an active balance of payments. It follows that if the banks have reached their minimum 'foreign reserve ratio' additional money supply can only be indicative of a favourable balance of payments.

Relationship between Balance of Payments, Bank Advances and Money Supply

The above arguments lead us to expect a functional relationship between the three variables – money supply, balance of payments and bank advances. This relationship can best be illustrated by means of a set of equations.

We have defined the money supply (S) as currency in circulation (C) minus cash on hand by the banks (C') plus total deposits on the non-banking public (D) less time deposits (T)

$$S = C - C' + D - T \qquad (1)$$

We know that an excess on the balance of payments would mean that local earnings of foreign exchange plus foreign grants or loans are in excess of disbursements of foreign exchange and local lending abroad. This surplus of foreign exchange (N) can be either handed over to the Currency Board in exchange for local currency whence we would have an increase in the Currency Board's reserves (I_c) or handed over to the banks in exchange of a bank deposit, in which case we will have an increase in the bank's reserves (I_b) or else the additional earnings can be invested by private residents in foreign securities whence we will have an increase in overseas private investments (I_p), so that

$$N = I_c + I_b + I_p \qquad (2)$$

[5] The coefficient relating the increased credit to the additional income generated by it. The multiplier in Malta is low due to the high marginal propensities to save and to import.

[6] This is the ratio between the increase in income and the increase in imports.

We have also two more sets of identities. We know that an increase in the Currency Board's reserves must be matched by an increase in the currency in circulation and we also know that increased bank deposits can be utilized by the banks either to increase their cash reserves, their foreign reserves or their local advances (A), so that we have

$$I_c = C \tag{3}$$

$$D = I_b + C' + A \tag{4}$$

Substituting (3) and (4) in (1) we obtain

$$S = I_c - C' + I_b + C' + A - T \tag{5}$$

Substituting (2) in (5) we obtain the desired relationship

$$S + T = N - I_p + A \tag{6}$$

and

$$\text{and } N = S + T + I_p - A \tag{7}$$[7]

Equation (6) tells us that within a given period the increase in the supply of money and time deposits is equal to the balance of payments surplus[8] plus increased bank advances less increased private overseas investment, whilst equation (7) shows that the balance of payments surplus is equal to the increase in the currency supply, time deposits and private overseas investment less any increases in bank advances.

Money Supply as an Economic Indicator

In conclusion then we can state with the help of our equations the economic significance of a rising money supply. If we assume no change in bank advances, time deposits or private overseas investment then a rising money supply would mean a surplus on the balance of payments. If the balance of payments is in equilibrium and bank advances show no change, then a rising money supply can only be in consequence of a running down of private overseas' investment. Finally equilibrium on the balance of payments and static overseas investment require additional bank advances to increase the money supply. Alternatively if the money is falling the reverse will hold in each of the three cases. In the first two cases the increased money supply is accompanied by increased foreign exchange, and hence the ability of satisfying the increased demand through a high level of importation. In the third case the increased money supply is not matched by increasing foreign exchange, and if the banks have reached the lower limit of their 'foreign reserve ratio', administrative action will

[7] If the Currency Board was allowed a fiduciary issue (F) then equation (6) will be amended by adding F to the right hand side of the equation and equation (7) will have $-F$ on the right hand side.

[8] If the balance of payments is negative it does not invalidate the argument.

have to be taken to curb imports to avoid depletion of foreign reserves. Such action will result in a demand – pull type of inflation. If on the other hand advances are financing the expansion of the manufacturing sector, the gap in demand can be made good by local supplies without inflationary pressures. Thus with the progressive expansion of the industrial sector the banks can increase their advances, or in other words they will be able to afford to hold a lower 'foreign reserve ratio'.