MONEY SUPPLY ANALYSIS

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Let us directly enter into the discussions on money supply process by saying that money is not the substitute for other assets, including *near money,* at the time of making payments; and as it is the non-interest bearing asset, it should be grouped with similar kind of assets.

However, since every financial asset when it is close to maturity date is highly liquid, near money during maturity may be coming into the category of money.

When both the monetary and financial assets increase with the growth of income, there is a strong nexus between the increased sizes of income and that of those assets. Clearly, the control of Aggregate Demand (AD) requires the control of total financial assets including money proper. But the question posed is: Is this the only target of monetary policy ?

These statements reveal that the monetary policy has to deal with complicated situations when the following debates still persist.

(1)   Whether money and other financial assets should be treated in a similar way, or in a dissimilar way ?

(2)   Whether the banking system, or the financial package as a whole should be the concern of monetary authority ?

(3)   Whether the attempts of monetary authority should be to regulate AD ? Or, instead, should monetary policy try to bring a comprehensive change in economic structure ?

(4)   Is there any limit to the effective use of monetary policy ?

(5)   What should be the targets and instruments of monetary policy ?

These are some of the complicated issues in monetary economics whose aim is to examine the role of money and credit, their attributes, and the institutions dealing with them in theory and practice. A clear-cut answer to the above 1 through 5 questions, at the outset, need:

(1)   The theoretical analysis of money, monetary and financial institutions, the instruments used in money and capital markets and the prices of short as well as the long run funds.

(2)   The empirically identified demand for and the supply of money and credit functions.

Under the assumption that MD is a stable function of few variables and that it has a property of being homogeneity of degree one in price and income, the direct regulation of MS by authority keeps monetary policy active in transmitting its

impressive impact on target variables, But the said assumptions are subject to

empirical verifications.

Given MD, money supply changes (ΔMS)- whether defined broadly or narrowly- become the prime mover of an economic system. These changes become effective through the channels of substitution effect, wealth effect, price effect and income effect.

Consider the official definition of money (narrowly defined) and assume that money is not the substitute at the time of making payments (time and savings deposits are the basis of financial intermediation) then:

$$MS = C + D \text{ - - - - - - (1)}$$

This (equation 1) gives an accounting definition of money derived from the monetary survey account by summing up the currency in circulation (C) and the demand deposits (interest free account) with banks. The other deposit of the private sector (even if it is of the nature of demand deposit) held with central bank is, however, the part of reserve money treated as H.

The MS, thus, is the liability of banks (inclusive of central bank issues) and the asset of general public who hold it. Opposite is true in case of credit.

Equation (1), however, is an identity which fails to describe the behaviour of money supply changes. In equation (1), MS is the total stock of money in the hand of public composed of currency (C) issued by central bank and the demand deposit (primary and secondary) liabilities of the commercial banks.

The C, together with the reserves of the private sector and commercial banks held with NRB and the cash in vaults of commercial banks, is high powered money (H=C+R), which, in turn, when is diverted towards commercial banks, serves as the base for deposit (D) or credit expansion by commercial banks. Higher the amount of H in the form of R in equation H=C+R, greater the power of commercial banks to create money (as M=C+D) or credit (as every loan creates its own deposit); given the demand for money and credit in the economy. The H has both uses and sources sides:

Uses: $H=R+C = B=C_p + R_{com} + R_{ps} + VC_{com}$ - - - - - - - - - - - (2)

Sources: $H= NFA+CCB+CPS+NCG+CGE+NOA-NML$ - - (3)

These identities are from monetary authority account. A change in the distribution of C+R=H in equation (2) changes the composition of R held (demanded) by commercial banks. More R available to commercial banks gives more supply of money issued by commercial banks. Instead, more R in the hand of general public (in C) and central bank (R itself) reduces D and hence MS.

On the other hand, equation (3) measures the effects on supply of base money (B=H). Higher the amount of H due to an increase in any of its component on its sources side, the greater the power of the economy to supply the stock of money (M=C+D).

Symbols stand for: R=reserve money (central bank liabilities); H=B=high powered money (source base of R); C_p=currency with public other than banks and government; R_{com}=reserves (R) held by commercial banks with NRB; Rps= reserves held by private sector with NRB; VCcom=Vault cash with commercial banks; NFA= net foreign assets with NRB; C_{ps} credit to private sector by NRB; NCG= net credit to government by NRB; CGE= credit to government enterprises by NRB; NOA= net other assets with NRB; and NML= non-monetary liabilities of NRB (capital plus reserves).

As against, Money Supply (MS) in its behavioural version may be expressed as:

MS = f(h) - - - (4)

f'>0

This function (4) expresses MS behaviour in terms of the behaviour of H. Their positive association is given by the property of relations f'>0. When assumed that MS is a proportional function of H the expression becomes:

MS = mH - - - (5)

And, if the function is non-proportional the equation (4) becomes:

MS = a_1 + a_2 H - - - (6)

a_2>0

Both of m and a_2 are money multipliers. The former is combinely an average and marginal multiplier, while the latter is simply marginal multiplier.
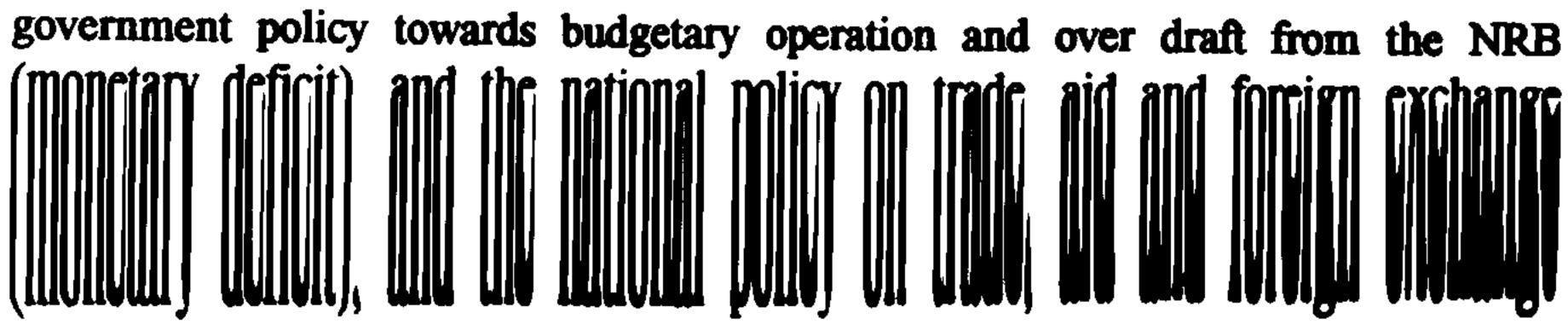
Holding that H is mostly determined from monetary authority account which, in turn, is the result of exogenously given policy and non policy performances in the economy as a whole, the m, on the other hand, is determined through the behavioural parameters representing public, bank and central bank actions. The Money Supply (MS) equation in its usual behavioural form can, therefore, be written as:

MS = m (......) H - - - (7)

Here, m is explained by parameters such as the currency ratio (c) and the reserve ratio (r). The c = C/M reflects public preference of currency (C) in terms of MS (M) and the r=R/D shows the bank's preference of reserves (R) in terms of total deposits. The r also represents central bank minimum reserve requirement policy. These two parameters usually, however, are highly indogenously determined through the actions of general public and commercial banks.

Higher the c and r (values), the lower the value of

$$m\left(for\ m = \frac{1}{c + r\,(1 - c)} \right)$$ and hence lower the MS, given H. The H, however,

compiles the effects of central bank policy towards money and credit supply, the

government policy towards budgetary operation and over draft from the NRB (monetary deficit) and the national policy on trade, aid and foreign exchange (representing foreign sector of the economy).

The exact historical values of m = MS/H in Nepal are found:

Year	1965	1970	1975	1980	1985	1990	1995
Value of m	1.17	1.08	1.13	1.14	1.06	1.09	0.96

Figures for 1965 through 1995 demonstrate that the values of m are converging toward 1. It implies that H, historically, is the most dominant element of the money stock determination in Nepal. Of the factors affecting H, the NFA and the NRB credit to government and commercial banks are quite significant. Since the NFA is the outcome of the economic policies here and abroad and the government borrowing from the NRB is virtually automatic in its behaviour, both of them are weakly regulated by NRB. Only way out is the regulation of credit to commercial banks. It further implies that, in Nepal, monetary policy has a limited choice of regulating MS only through the actions of central *bank* as a *bankers* bank. This role of NRB too is weakened when the commercial banks are holding excessive liquidity in most of the times. There is definite room for fiscal operation.

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