Unit: Money supply and money multiplier

Subject: Monetary Economics

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1. What is high powered money? Explain with suitable examples.

A macroeconomic term for the monetary base that is controlled by the institution in a nation that controls monetary policy is "high-powered money. "Typically, this is the central bank or the finance ministry. The money multiplier greatly magnifies the magnitude of changes in the monetary base, which is why the monetary base is referred to as high-powered. Due to money multiplier effects, for instance, a 1% increase in the monetary base could result in a 10% increase in the money supply (“High-Powered Money Definition”). The public's demand for currency and the commercial banks' demand for the legal limit or required reserves with the central bank constitute the use of high-powered money. The monetary base grows as commercial banks see an increase in their reserve holdings because of the Federal Reserve's creation of new funds to purchase bonds from them. Because it can be multiplied through fractional reserve banking, this is sometimes referred to as high-powered money (HPM). The country's base money is referred to as "High Powered Money. “It includes the people's currency, the commercial banks' cash reserves with the central bank, and the commercial banks' vault cash. High powered money is different from ordinary money (M1), which is made up of (i) public currency (C), (ii) demand deposits in banks (DD), and (iii) other deposits with the central bank (OD); M1 is made up of C+DD+ OD (“What Is High Powered Money? – Sage-Tips”).

1. Explain with suitable examples the concept of money supply function.

By regulating interest rates and altering the flow of money through the economy, economists study the money supply and develop policies based on it. Due to the potential effects of the money supply on price levels, inflation, and the business cycle, both the public and private sectors are the subject of analysis. The money stock is another name for the money supply.

The total amount of money in circulation is referred to as the "money supply."e.g..., public coins and notes, as well as DDs issued by commercial banks. H=C+R+OD… … … … … (1)

M 1 =C+DD… … … … … … (2)

M 2 =M 1 +TD… … … … …. (3)

Where,

H= Powerful cash or base cash

C= Money held by open

R=Commercial Banks reserve consists of cash in a vault and a deposit with an OD Bank (BD).

The various types of money in the money supply are typically categorized as Ms, such as M0, M1, M2, and M3, depending on the instrument's type and account size. Each nation may use different classifications, and not all the classifications are widely utilized. The economy's various levels of liquidity are represented by the money supply. The various types of money in the money supply are typically categorized as Ms, such as M0, M1, M2, and M3, depending on the instrument's type and account size. Each nation may use different classifications, and not all the classifications are widely utilized. The economy's various levels of liquidity are represented by the money supply (Westfall).

1. Explain the monetary base model of money supply determination.

The amount of currency issued by the Federal Reserve System (Central Bank) that circulates outside of the Treasury and Federal Reserve through the public and Federal Reserve balances of depository institutions is referred to as the monetary base.M0 and MB are other names for it. The money that people use every day accounts for a significant portion of MB. As a result, it provides insight into a nation's nominal GDP, inflation, price levels, and short-term and long-term economic trends. As a result, it serves as a reference for monetary policy making. MO also denotes MB, which represents a significant portion of a nation's money supply. It is sometimes referred to as M0, money base, or base money.M1 and M2 are additional measures of the money supply. The public's total currency and transaction deposits at depository institutions are represented by M1.M2 is the sum of retail, money market, mutual fund, and savings deposits, small-denomination time deposits, and shares. Formula for Monetary base MB=C+R In the formula above, MB denotes the monetary base, C denotes the circulating currency, and R denotes the reserve balances. The sum of all depository institutions' deposits in their accounts at the Federal Reserve or the nation's central bank is known as the reserve balance. Even for monetary base calculators, these are the fundamental input values for MB calculations. The monetary base is denoted by MB, the circulating currency by C, and the reserve balances by R in the preceding formula. The reserve balance is the sum of all deposits made by depository institutions into their accounts with the Federal Reserve or the nation's central bank. These are the fundamental input values for MB calculations, even for monetary base calculators (Team).

1. Discuss with suitable examples the concept of ‘money multiplier’. Derive m.

The economy's creation of money through the creation of credit is known as the money multiplier. The fractional reserve banking system is used to create the money in the market. It is also referred to as the credit multiplier or monetary multiplier on occasion. It is the maximum extent to which changes in the number of money deposits made by market participants can alter the money supply. The economy's commercial banks exhibit the effect of the money multiplier. Money and deposits are accepted at commercial banks. They lend other shares to the people as loans, keeping a portion as a reserve.

The term "reserve ratio," "required reserve ratio," or "cash reserve ratio" refers to the amount of money these commercial banks reserve at any given time for depositors' withdrawals. The process by which an injection or withdrawal of capital results in a proportional increase or decrease in final income is referred to as the m multiplier effect, which is a popular term in economics. The Multiplier Effect makes it much easier to determine how changes in various economic activities, like spending or investing, will affect the overall output of the economy. Economists and bankers typically view the multiplier effect from a banking and money supply perspective. The term "money supplier multiplier effect" describes this process. Across nations, there are various levels of the money supply that can typically be identified as:

The entirety of the physical currency that is in use within an economy is referred to as the first level, or M1.

The short-term deposit account balances are added together for a sum at the next level, M2.

When a customer makes a deposit into a short-term deposit account, the financial institution can lend that account to another person without having to meet the reserve requirement. The proportion of deposits that banks are required to hold as reserves determines the magnitude of the multiplier. The funds generated by lending are based on those funds, but the original depositor retains ownership of their initial deposit. Even though there is no additional physical currency to support the new amount, the value of the money supply is increased if a second borrower deposits funds received from the lending institution.

When narrow money is taken

M 1 = m 1H

m 1= C+ DD / C+R+OD

Dividing the equation with DD we get

m 1= C/DD+ DD/DD / C/DD+R/DD+OD/DD

The equation can be written as

m 1 = 1+c / c+r+d

substituting the value m 1 from above equation to equation M1= m1 H

m1 = 1+c / c+r+d \* H

hence, equation states increase in H increases narrow money supply by e multiplier (m 1)

times the increment in H. The value of m 1 depends on the behavioral parameter such as c, r and d.

when broad money is taken

M2 = m 2 H

M2 can also be written as C+DD+TD

Or., cDD+DD+tDD c= C/ DD t= T/ DD

Or, M2= DD( c+1+t)

R = rD, where D= Total deposit, and D = DD +TD

Thus R = r(DD+TD)

Substituting the value of R in above equation we get,

H = C+ r(DD+TD)+OD

Or, H = cDD+ r(DD+TD)+OD

Or, H=cDD +r(DD+tDD) +dDD

Or, H=cDD + rDD(1+t)+dDD

Or, H= DD{c+r(1+t) +d}

DD = 1 / {c+r (1+t)+ d}\* H

Where, 1 / {c+r (1+t)+ d} represents the demand deposit multiplier

Now, substituting the value of DD from above equation to M2= DD( c+1+t) we get,

M2 = (1+c+t) / {c+r(1+t)+d} \* H

m 2= (1+c+t) / {c+r(1+t)+d} Here the behavioral factors of m 2 are c, t, d and r.

In money multiplier theory the supply of money is influenced either by the change in

behavioral factors of m or by change in factors affecting base money.

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