Money Supply Definition Example

M0: Notes and coins in circulation. In some countries, M0 includes bank reserves, so M0 is referred to as the monetary base, or narrow money.

MB: is referred to as the Monetary Base or total currency. This is the base from which other forms of money (like checking deposits are created and is traditionally the most liquid measure of the money supply.

M1: Notes and Coins in circulation + Demand Deposits + Other Checkable Deposits (OCDs). Bank reserves are not included in M1.

M2: Represents M1 and "close substitutes" for M1. M1 + Savings Deposits + Time / Term deposits of less than $100,000 + Money Market Deposit Accounts. M2 is a broader classification of money than M1. M2 is the key economic indicator used to forecast inflation.

M3: M2 plus large and long-term deposits. Since 2006, M3 is no longer published by the US central bank. However, there are still estimates produced by various private institutions.

Demand Deposits = Funds Held in Checking (Current) Accounts

Other Checkable Deposits = Demand Deposits other than classic Checking (Current) Accounts i.e. Checking or Current Accounts that pay interest and the depositor can write unlimited cheques on the account.

Savings Deposits = Accounts that pay interest but can not be used directly as Money in the narrow sense i.e. writing a cheque.

Time / Term Deposits = A Savings Account in which the depositor can not withdraw / access their money fo a specific period of time i.e. 1, 2, 3, 5 years. Interest is paid by the bank on the deposits at a higher rate than on instant access savings deposits.

Money Market Deposit Accounts = A high interest paying account, usually requiring a large minimum deposit ($10K, $25K, $100K, $250,000) on which cheques can be written (subject to a maximum per month). A Money Market Account (MMA) is considered a Savings Account for most purposes. Banks are encouraged to add high penalty fees for accessing / writing cheques on the accounts to discourage withdrawals.

The ratio of a pair of these measures, most often M2 / M0, is called an (actual, empirical) money multiplier due to the fractional reserve system in operation.

M0

- Laura has ten US $100 bills, representing $1000 in the M0 supply for the United States.

  MB = $1000
  M0 = $1000
  M1 = $1000
  M2 = $1000

- Laura burns one of her $100 bills. The US M0 and her personal net worth, just decreased by $100.

  MB = $900
  M0 = $900
  M1 = $900
  M2 = $900

M1

- Laura takes the remaining nine bills and deposits them in her transactional account (*checking account* or *current account* by country) at her bank.

  MB = $900
  M0 = 0
  M1 = $900
  M2 = $900

- The bank then calculates its reserve using the minimum reserve percentage given by the Fed and loans the extra money. If the minimum reserve is 10%, this means $90 will remain in the bank's reserve. The remaining $810 can only be used by the bank as credit, by lending money, but until that happens it will be part of the bank's excess reserves.
- The M1 money supply increases by $810 when the loan is made. M1 money is created.

  MB = $900
  M0 = 0
  M1 = $1710
  M2 = $1710)

- Laura writes a check for $400, check number 7771. The total M1 money supply didn't change, it includes the $400 check and the $500 left in her account.

  MB = $900
  M0 = 0
  M1 = $1710
  M2 = $1710

- Laura's check number 7771 is accidentally destroyed in the laundry. M1 and her checking account do not change, because the check is never cashed.

  MB = $900
  M0 = 0
  M1 = $1710
  M2 = $1710

- Laura writes check number 7772 for $100 to her friend Alice, and Alice deposits it into her checking account. MB does not change, it still has $900 in it, Alice's $100 and Laura's $800.

  MB = $900
  M0 = 0
  M1 = $1710
  M2 = $1710

- The bank lends Mandy the $810 credit that it has created. Mandy deposits the money in a checking account at another bank. The other bank must keep $81 as a reserve and has $729 available for loans. This creates a promise-to-pay money from a previous promise-to-pay, thus the M1 money supply is now inflated by $729.

  MB = $900
  M0 = 0
  M1 = $2439
  M2 = $2439

- Mandy's bank now lends the money to someone else who deposits it on a checking account in yet another bank, who again stores 10% as reserve and has 90% available for loans. This process repeats itself at the next bank and at the next bank and so on, until the money in the reserves backs up an M1 money supply of $9000, which is 10 times the MB money.

  MB = $900
  M0 = 0
  M1 = $9000
  M2 = $9000)

M2

- Laura writes check number 7774 for $1000 and brings it to the bank to start a Money Market account (these do not have a credit-creating charter), M1 goes down by $1000, but M2 stays the same. This is because M2 includes the Money Market account in addition to all money counted in M1.

Foreign Exchange

- Laura writes check number 7776 for $200 and brings it downtown to a foreign exchange bank teller at Credit Suisse to convert it to British Pounds. On this particular day, the exchange rate is exactly USD 2.00 = GBP 1.00. Credit Suisse takes her $200 check, and gives her two £50 notes (and charges her a dollar for the service fee). Meanwhile, at the Credit Suisse branch in Hong Kong, a customer named Huang has £100 and wants $200, and the bank does that trade (charging him an extra £.50 for the service fee). US M0 still has the $900, although Huang now has $200 of it. The £100 notes Laura walks off with are part of Britain's M0 money supply that came from Huang.
- The next day, Credit Suisse finds they have an excess of GBP and a shortage of USD, determined by adding up all the branches' supplies. They sell some of their GBP on the open FX market with Deutsche Bank, which has the opposite problem. The exchange rate stays the same.
- The day after, both Credit Suisse and Deutsche Bank find they have too many GBP and not enough USD, along with other traders. Then, to move their inventories, they have to sell GBP at USD 1.999, that is, 1/10-cent less than $2 per pound, and the exchange rate shifts.

  None of the banks has the power to increase or decrease the British M0 or the American M0 (unless they burn bills); they are independent systems.

  The power to alter the Money Supply comes from the Central Banks in each country using Classic Money Supply levers i.e. increasing M2 (Injection) or decreasing M2 (Withdrawal), Non-Classic Money Supply levers e.g. Quantitative Easing (QE) – Buy Bonds and Assets (Injection), Sell Bonds and Assets (Withdrawal) and / or shifting interest rates higher or lower in order to shift global interest rate differentials making it either more profitable to hold domestic currency for the rest of the world (interest rates up) / (Withdrawal) – Currency Higher (Buy), or less profitable to hold domestic currency for the rest of the world (interest rates down) (Injection) – Currency lower (Sell).