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## Introduction

Money Multiplier also called **monetary multiplier** is the maximum limit to which changes in the quantity of money deposited can alter the money supply. A **money multiplier** is a method for demonstrating the maximum amount of broad money that commercial banks could create for a given fixed amount of base money and reserve ratio.

### **What is Money Multiplier?**

- In monetary economics, a money multiplier is one of many **closely related ratios of commercial bank money to central bank money** (also known as **the monetary base**) in a fractional-reserve banking system.
- The money multiplier effect can be seen in the banking system of a country.
- An increase in bank lending should increase a country's money supply.
- The multiplier's size is determined by the percentage of deposits that banks are required to hold as reserves.
- When the reserve requirement falls, so does the money supply reserve multiplier, and vice versa.
- Money multiplier is a key component of the **fractional banking system**.
  - There is an initial increase in bank deposits (monetary base).
  - The bank holds a portion of this deposit in reserves and lends the remainder.
  - This bank loan will then be re-deposited in banks, allowing for further increases in bank lending and the money supply.

### Money Multiplier Formula

- Money multiplier (m) is the inverse of the **reserve requirement (R)**

**Money Multiplier = 1/Reserve ratio**

$$m = 1/R$$

- For example, with a reserve ratio of 20%, this reserve ratio can also be expressed as a fraction:  $R = 1/5$
- As a result, the money multiplier,  $m$ , will be calculated as:

$$m = 1/(1/5) = 5$$

- This figure is multiplied by the number of reserves to calculate the money supply's maximum potential amount.
- For example, if the Reserve Ratio is  $1/10$  (10 percent) or the Money Multiplier is 10, Rs.100 can be multiplied by 10 to generate Rs.1000 in the money supply.
- When the Reserve Ratio is  $1/4$  (25%) or the Money Multiplier is 4, the money supply is only Rs. 400.

### **Money Multiplier in Real World**

In a basic theory of the money multiplier, it is assumed that if the bank lends Rs.100, the entire amount will be returned. However, there are numerous reasons why the actual money multiplier is significantly lower than the theoretically possible money multiplier in the real world.

- Spending on imports - When consumers purchase imports, money leaves the economy.
- Taxes will be deducted as a percentage of your income.
- Not all money is spent and circulated; a sizable portion is saved.
- **Currency Drainage Ratio** - This is the percentage of banknotes held in cash by individual consumers rather than deposited in banks.
  - If consumers deposited all of their cash in banks, the money multiplier would be greater.
  - However, if people keep their funds in cash, banks will be unable to lend more.
- **Bad loans** - A bank may lend Rs.100, but if the company fails, the money is never deposited in the banking system.
- **Safety reserve ratio** - This is the percentage of deposits that a bank may wish to keep in excess of the statutory reserve ratio.
  - For example, the required reserve ratio may be 5%, but banks may prefer to keep 5.25%.
- More money may not be available for lending. Even if banks could lend 95 percent of their deposits, this does not mean they would. People may not want to borrow during a recession, but they prefer to save.
- Banks may be unwilling to lend. Furthermore, banks may refuse to lend at various times, for example, during a recession when they believe firms and individuals are more likely to default. As a result, banks have a higher reserve ratio.

### **Significance of Money Multiplier**

- The money multiplier is important because it **illustrates the potential effects of changes in the money supply on the whole economy.**
- A given increase in reserves may result in a larger expansion of the money supply when the money multiplier is higher, potentially boosting economic activity.
- A lower money multiplier, on the other hand, suggests that changes in reserves will have less of an influence on the money supply.
- The money multiplier is frequently **used by central banks as a tool to help them make monetary policy choices.**
- Central banks can alter the reserve requirements or carry out open market transactions (buying or selling government securities) to affect the money multiplier, which in turn affects the money supply.
- These steps can be taken to manage financial stability, boost economic growth, or limit inflation.

### **Conclusion**

The money multiplier indicates how quickly the money supply will grow as a result of bank lending. The higher the reserve ratio, the fewer deposits available for lending, resulting in a lower money multiplier.