Money, Interest Rate, and Monetary Policy

A quick review of Keynesian Cross

Keynesian Cross tells us about

- How the equilibrium output is determined
- How Fiscal Policy works
- The Multiplier

But it does not tell much about

- Price (assumed to be constant)
- Interest Rate (assumed to be constant)
- Money and Monetary Policy

Before we have money…

- **barter** The direct exchange of goods and services for other goods and services.
- A barter system requires **a double coincidence of wants** for trade to take place.
- That is, A and B can trade if
  - A has what B wants,
  - and B has what A wants.

An Overview of Money

What Is Money?

- Money is any item that can serve the three functions:
- a medium of exchange
- a store of value
- a unit of account
- Some textbooks have the fourth function of “a standard of deferred payment”, but it can be merged into the above.

What Is Money?

- **medium of exchange,** or **means of payment** What people generally accept in their transactions of goods and services.

- **store of value** An asset that can be used to transport purchasing power from one time period to another.

- **unit of account** A standard unit that allows people to compare the values of things.

Commodity and Fiat Monies *(1 of 2)*

- **commodity money** Items used as money that also have intrinsic value in some other use.
  - E.g. metal coins
- **fiat,** or **token, money** Items designated as money that are intrinsically worthless.
  - E.g. bank notes
- **legal tender** Money that a government has declared to be accepted in settlement of debts.
  - E.g. national currency (notes + coins)

Commodity and Fiat Monies *(2 of 2)*

- The government usually promises the public that it will not print paper money so fast that it loses its value.
- **currency debasement** The decrease in the value of money that occurs when its supply is increased rapidly.

- Inflation also undermines the two functions of money: a unit of account and a store of value.

Narrow Definitions of Money

- Since many items can be considered “money”, we shall look at the narrowest definition of money.
- **M1,** or **transactions money** Money that can be directly used for transactions = currency in circulation + demand deposits
- **M2,** or **broad money** = M1 + saving and time deposits
- **M3**, for example, can include balances in credit cards.
- Different countries have different classifications of money.

How money was created – Past

- People used gold as money, but it was inconvenient.
- People stored gold at goldsmiths for safety.
- Goldsmiths issued receipts that could be exchanged for gold. These receipts then became a new form of money.
- Goldsmiths had a lot of gold in their vaults, so they lent gold to people and charged interest.
- This expanded the money supply in the economy.

How money is created – Present

- People deposit money in banks for safety.
- Banks issue “evidence or receipts” that can always be exchanged for money, e.g. bankbooks.
- Banks now have a lot of deposits, so they lend these to people (i.e. banks issue loans) and charge interest.
- This expands the money supply in the economy.
- For example, 80$, out of the 100$ deposit, can be lent to someone, creating the money supply of 180$.

How money is created – Present

- The banking system used by goldsmiths and banks is called "**Fractional Reserve Banking**".
- In this system, only a fraction of deposits are backed by actual cash on hand and are available for withdrawal.

- **reserves** The deposits that a bank has at the Central Bank plus its cash on hand.
- **required reserve ratio (RR)** The percentage of its total deposits that a bank must keep as reserves at the Central Bank.

How money is created – Present

- Suppose that RR = 20%, meaning that banks have to keep 20% of their deposits as reserves.
- Mr. A deposits 100$ to Bank A. Bank A lends 80$ to Mr. B.
- Mr. B deposits 80$ to Bank B. Bank B lends 64$ to Mr. C.
- The process repeats again and again.
- The money supply now becomes = 100 + 80 + 64 + …
- In the limit, 100$ deposit will create the money supply

  = 500$ = 100 x (1/RR) = 100 x (1/0.2).

The Money Multiplier

- An increase in bank deposit leads to a greater than one-for-one increase in the money supply.
- **money multiplier** represents the maximum extent to which the money supply is affected by any change in the amount of deposits.

$$\text{money multiplier} \equiv \frac{1}{\text{required reserve ratio}}$$

- ***This concept assumes that people deposits all their money, and that the banks lend all their deposits.***

Functions of the Central Bank *(1 of 2)*

- Central banks are sometimes known as “bankers’ banks.”
- The CB’s crucial role is to control the money supply, i.e. monetary policy.
- The CB also performs several important functions for banks, such as clearing interbank payments and assisting banks that are in difficult financial positions.
- **lender of last resort** It provides funds to troubled banks that cannot find any other sources of funds.

Functions of the Central Bank *(2 of 2)*

- The CB also facilitates the transfer of funds among banks and is responsible for many of the regulations governing banking practices and standards.
- The CB is also responsible for managing exchange rates and the nation's foreign exchange reserves.