ECO 302: INTERMEDIATE MACROECONOMICS

Lecturer:

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TIME: 8:00PM – 11:00 AM   VENUE: Felt 2

Presentation outline

- ➢ Money, inflation and unemployment
- ➢ Keynesian theory of demand for money
- ➢ The adjustment mechanism
- ➢ Modern quantity theory
- ➢ The relationship between the money mk't and bond mk't
- ➢ The supply of money
- ➢ Two views are held about money supply
- ➢ The determinants of money supply
- ➢ Composition of total reserves

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Keynesian theory of demand for money

- *Foundation*

- Irving fisher's quantity theory of money demand assumed:
  - Households and businesses demand money for transactions purposes only
  - Only function of money was a medium of exchange
  - Money had no intrinsic utility which made it desirable for its own sake
  - The existence of a time lag between receiving payments from the sale of goods and services and then making payments for goods and services purchased necessitated the holding of cash balances
  - Velocity of circulation of money fixed in the short run and changed only slowly in the long-run.

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Keynesian theory of demand for money cont'

- **Fisher's Model**

- **MV= PT**

- Where: M = Quantity of money supply,

- V = Velocity of circulation

- P = Price level

- T = Volume of transactions

- If $\Delta V = \Delta T = 0$ then $\Delta M_s = \Delta P$. Money supply affects only price level.

- In equilibrium, Md = Ms, then Md $=(1/v)$PT or Md=kPT, where k = 1/v

- Real money demand: Thus $(M_d /P)=kT = V^{-1}T$

- Real money demand = f(level of transactions)

Keynesian theory of demand for money cont'

■ ***Keynesian critics on the above***

1. Economy can operate below full employment, so V can vary.

2. There is a 3rd reason for demanding money which speculative demand (this also make V vary) but agreed on transaction and precautionary demand for money.

3. Given the above there is going to be a problem between M and P. Thus, the link may not hold.

■ ***Motives of holding money***

- ◆ Transactional motive: Thus, $M^d_1 = L_1 (y)$, $L_1 > 0$

- ◆ Precautionary motive: Thus, $M^d_1 = L_1 (y)$, $L_1 > 0$

- ◆ Speculative motive: Thus, $M^d_2 = L_2 (r)$, $L_2 < 0$

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Keynesian theory of demand for money cont'

- Base on the above, the demand for money become:
- $M^d = M^d_1 + M^d_2 = L_1(y) + L_2(r)$
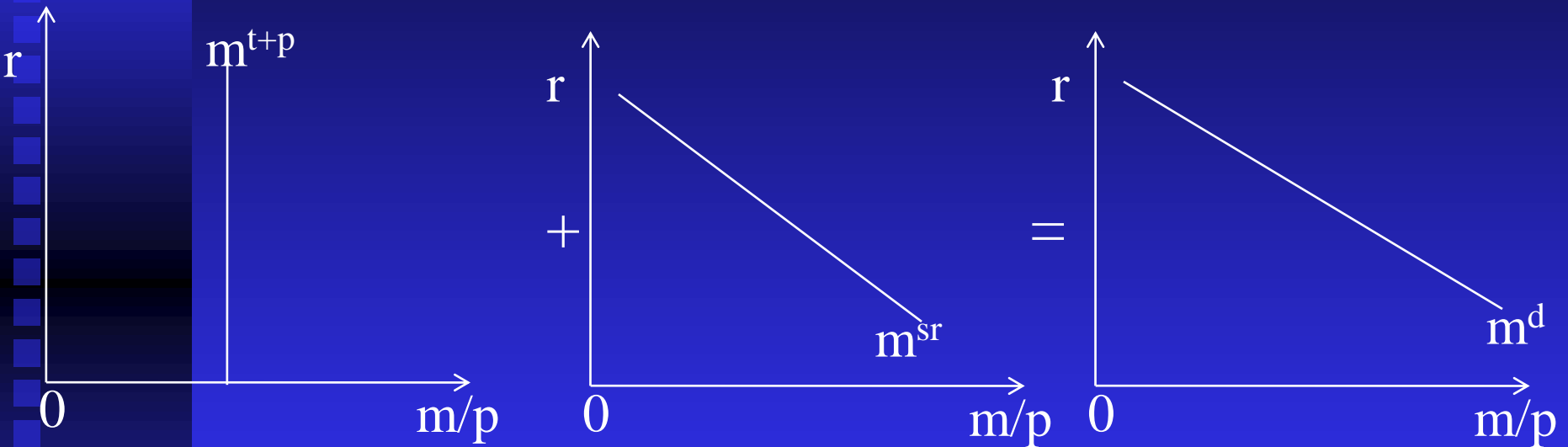
Monetarist theory of demand for money

- ***Modern Quantity theory***

- Friedman considers money to be analogous to a consumer good particularly as a durable good.

- Consequently, money can be treated as an argument (like an explanatory variable) in the consumer's utility function.

- Friedman did not carry out the optimization procedure but was able to identify the main determinants of the demand for money on the basis of intuition.

$$\frac{M^d}{p} = k \left[w, r_1 \ldots r_n, h\frac{P'}{P} \right]$$

- Where w=total wealth, r=interest rate, p/p = rate of inflation, h=ratio of human wealth

The adjustment mechanism

- **Money supply**

This is determined by the central bank as:
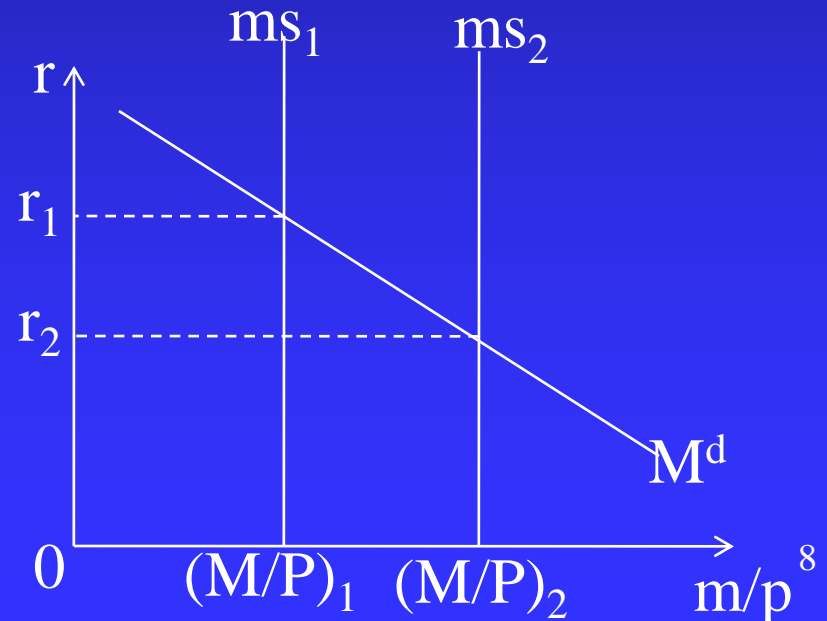
$$M^s = \frac{\overline{M}}{P}$$

- **In a equilibrium**

Supply of money = demand for money

Thus,

$$M^s = \frac{\overline{M}}{P} = M^d = L_1(y) + L_2(r)$$

- **The adjustment mechanism**

The relationship between the money and the bond market

- Implicitly it is assumed that when the money mkt is in equilibrium, then the bond mkt is also in equilibrium.

- Because economic agent holds either money or bond.

- *The relationship between bond prices and interest rate:*

- The amount of bonds individual or institution holds depends on the relationship between the interest rate and the mkt price of bonds.

- The price of bonds can be determined as:

$$\text{price of bonds (PB)} = \frac{\text{Return on the bond (R)}}{\text{Current mkt rate of interest (r)}}$$

The relationship between the money and the bond market cont'

- Suppose that in the year 2010, a firm issues a GHc1000 face value bond and paid a stated annual interest of 10% of the face value. Suppose again that this bond is without a maturity date.

- Find the resale price of the bond holder and check whether he will gain or loss if the interest rate falls to 5%?

- Find the resale price of the bond holder and check whether he will gain or loss if the interest rate falls to 12%?

The relationship between the money and the bond market cont'

- Solution:

- a.

$$\text{price of bonds (PB)} = \frac{\text{Return on the bond (R)}}{\text{Current mkt rate of interest (r)}} = \frac{100}{0.05} = GHC\,2,000$$

- Holder of bond of GHC 1,000 can resale at GHC2,000

- Gain or loss?

- Gain

- Try the (B)

- B. ANSWER = GHC 833.33 loss

UNANNOUNCED QUIZ

- *Duration 10 minutes*

- *Start work*

- Assuming Mr. Kojo buys a bond at GHC 200 and the market interest rate is 15.2%. Find the returns on bonds he purchased? And advice him on today's opportunities if the interest rate is 9%.