

# Macroeconomics

## Classical model of output and Employment

Assumptions:-

1. Full employment → Resources are fully employed. Any deviation from full employment leads to bring economy back to original situation by the act of market forces. There can be fractional and voluntary unemployment in the state of full employment.

Full employment is a situation in which everyone who is willing to work is able to do work gets work

2. Say's law of market → Supply creates its own demand i.e  $AD = AS$  and

$$S = I$$

No overproduction, No underproduction.

3. Laissez - faire system → No government control. Market forces of demand and supply operates.

4. Money is neutral → Money only acts as a medium of exchange.

5. Perfect competition

6. Closed economy

7. No money illusion [workers easily determine price levels in economy and hence demand real wages]

8. Existence of two sectors- Real and Monetary

9. Rate of interest = f [savings (+), Inv. (-)]

10. Demand and supply of labour =  $f\left(\frac{W}{P}\right)$

W = Nominal wages

P = price level

11. Prices, wages are flexible in both upward and downward direction

12.  $S_L = f(W/P)$

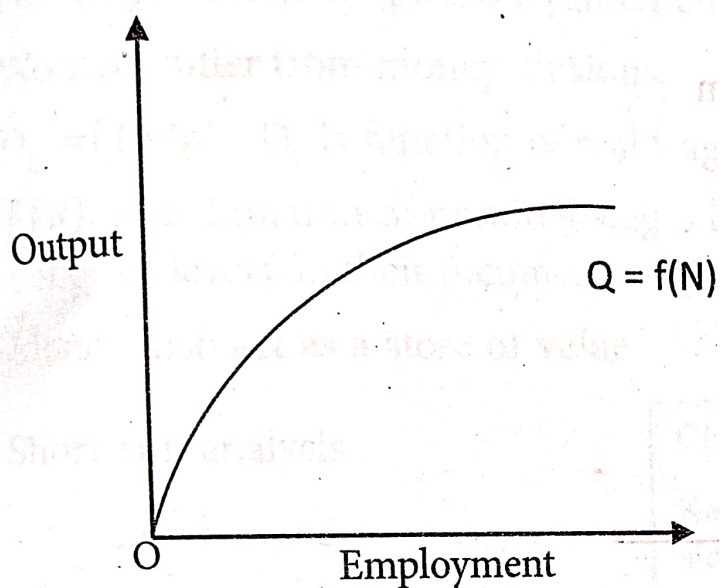
13.  $D_L = f(W/P, MRP_L)$

14. Long run analysis

## Classical Dichotomy

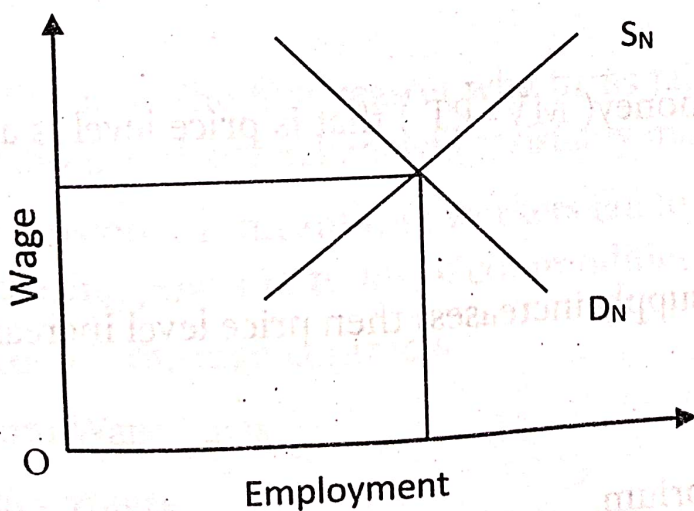
By the term classical dichotomy we mean that there exists two independent sectors in the economy- real sector and monetary sector. There is a complete independence of real variables from nominal variables. This implies that the money is neutral in nature. It acts as a medium of exchange only. Money impacts prices and hence only affects the nominal variables, keeping the real variables unchanged. Real factors are determined by variables totally different from nominal variables

### Determination of Output and Employment



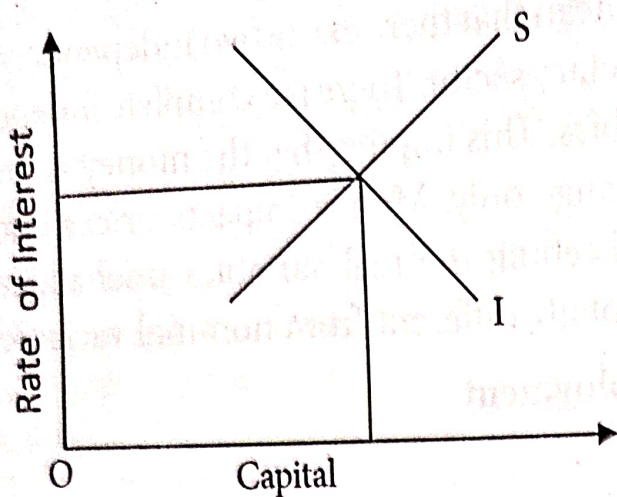
Output is increasing function of the number of workers. But after a point diminishing returns to labour start.

### Labour Market Equilibrium →



$D_N$  is decreasing function of real wage rate.  $S_N$  is increasing function of real wage rate

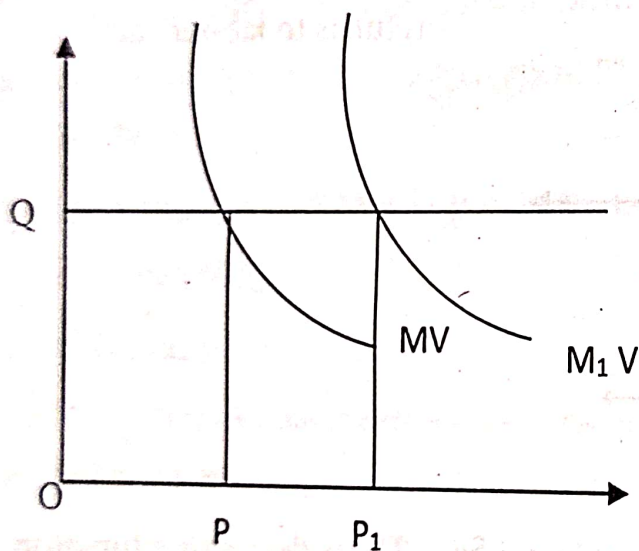
## Goods Market Equilibrium →



Saving is increasing function of rate of interest. Investment is decreasing function of rate of interest.

If  $S > I$ ,  $r$  will fall, again equilibrium.

## Money Market Equilibrium →



Based on quantity theory of money ( $MV=PT$ ) that is price level is a function of money supply.

$MV$  = money supply curve

If  $MV$  shifts forward (money supply increases) then price level increase given the same level of output.

Criticisms by Keynes :-

- 1) Underemployment equilibrium.
- 2) Refutation of say's law.
- 3) Self adjustment not possible

- 4) Equality of S and I through income changes
- 5) Money is not neutral
- 6) State intervention essential
- 7) Rejection of quantity theory of money
- 8) Long run analysis is unrealistic

### Keynesian's theory :-

- 1) Full employment not possible [under employment equilibrium].
- 2) Workers suffer from money illusions.
- 3)  $D_L = f(w/p)$ .  $D_L$  is function of real wages  
 $S_L = f(w)$ .  $S_L$  is function of nominal wages because workers cannot estimate the effect of price levels on their income.
- 4) Money also act as a store of value
- 5) Short-run analysis .

Classicals focused on supply side Keynesian's focused on demand side
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## Demand for money theories

Classical theory → Fisher's quantity theory of money .

MV represents supply of money,

$$MV = PT$$

MV represent supply of money, PT represents demand

Quantity of money    Velocity of money    Price level    Transactions

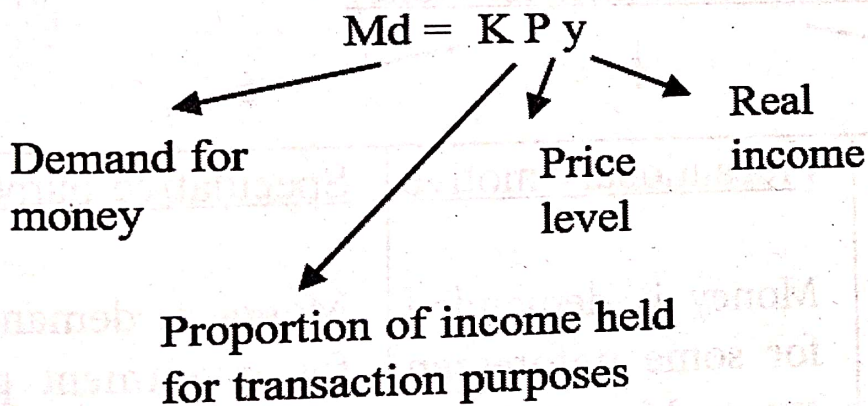
Assumptions :- T, V are constant.

- Money supply is not affected by price level.
- Full employment of resources.

Any ↑ in money supply → ↑ in price level

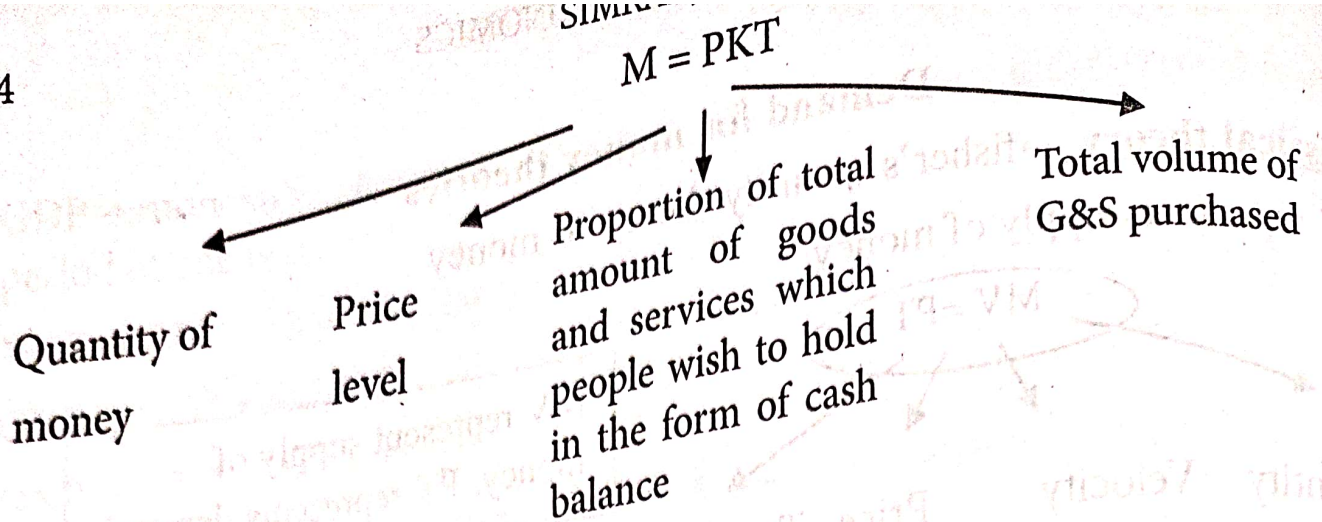
Cambridge Version/ Cash balance approach:-

Initially given by Marshall and modified by Pigou, Robertson, Keynes .



Besides the medium of exchange, the Cambridge approach also considered the store of value function.

Robertson's equation for demand for money



Pigou equation :-

$$P = KR/M$$

$P$  = Value of money

$K$  = Proportion of total resources which people wish to hold in the form of money

to legal tender.

$M$  = Number of actual units of legal tender money

$R$  = Real Income

## Keynesian theory of money

... for money