* Business Fixed Investment :
Business fixed investment represents spending by firms to increase production capacity. It is traditionally use three Important factors like —
(I) equipment (computers, machines)
(II) Structures (land, plants, warehouses etc)
(III) Intellectual property (Software)

There are three important theories of Investment :

(I) Neoclassical theory
(II) Accelerator theory
(III) Tobin-q theory.

(I) Neoclassical theory : The neoclassical theory, developed by Dale. W. Jorgenson, helps in determination of output and prices through optimal capital stock in an Economy. The neoclassical investment theory is based on the idea that firms maximise profits and use cost-benefit analysis to reach the optimum level of capital stock.

It is a modern theory of Business Investment. It can be assumes that the Desire level of capital stock means Amount of capital goods that allows firm to employment possible profit. or need to manage to maximise profit.

The desire level of capital stock depends on two factors which are -
① user cost of capital stock or Rental cost of capital :
Rental cost of capital is the cost that incurred by a firm for use of capital. its include Real interest rate, Depreciation and taxes.
This can be Expressed as follow :

$$RC = R + d - t \quad \text{or}$$
$$RC = i - \pi^e + d - t$$

Real interest rate = Nominal - rate of inflation

where,
RC = Rental cost of capital
i = Nominal interest rate
π^e = Expected inflation rate
D = Depreciation
t = taxes.

In the above equation we show that, R is ~~the~~ represent the real interest rate. The R is derive when firm borrow fund for purchasing the capital. then firm need to repaid the interest rate. when D is represent the Depreciation .. the D is derive when we continue using the capital like machiney over the time period after that capital will wearout means value of capital is reduced. that's why we need to ~~amount~~ add depreciation. T denote taxes, when firm invest in Specific project, they are getting some tax rebate because government are giving them tax rebate. The tax rebate reduced the rental cost.

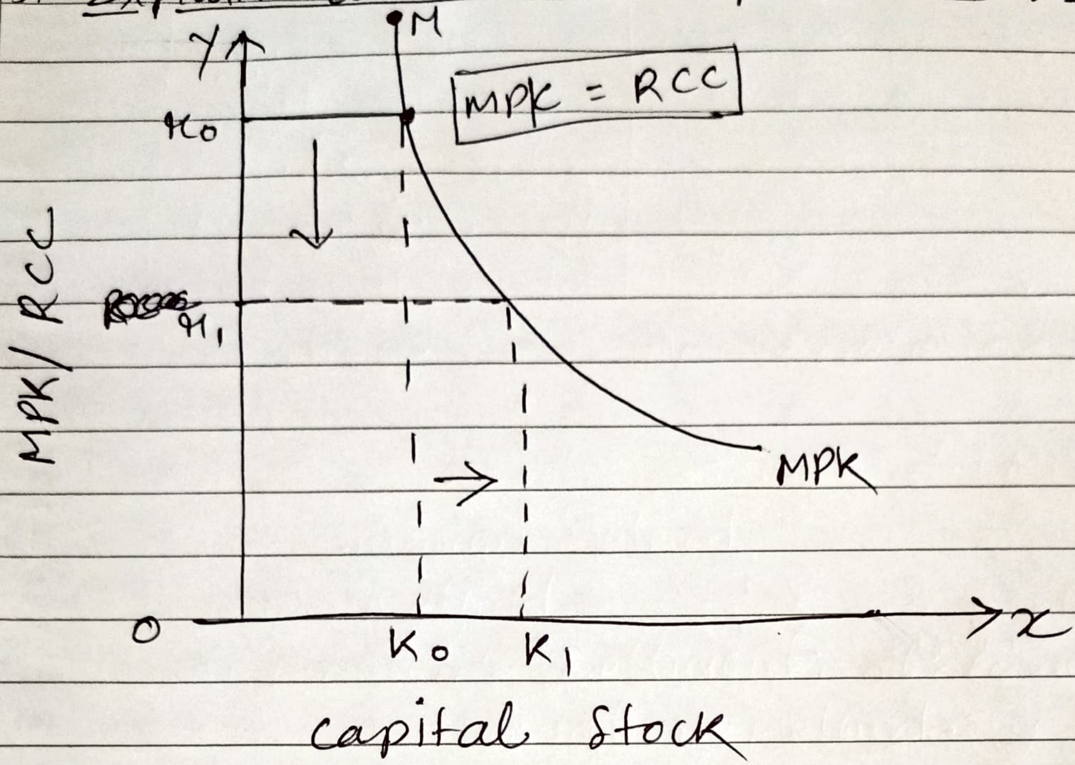
(11) Marginal product of capital (MPK):

MPK refers to the extra amount of output that give extra unit of capital. the MPK is basically for the Benifit of the firm or maximise the profit, by using additional unit of capital.

The sum up the above two factors of desire level of capital stock will achieved when MPK is equal to Rental cost of capital.

$\boxed{MPK = RCC}$ ⇒ Desire level of capital stock.

* Explain with the help of Diagram:



In the above fig. X-axis represent capital stock and y-axis show RCC and MPK. MPK curve slope downward. At the point M, indicate MPK and r_0 represent the rental cost. At first MPK is greater than rental cost because maximum of the profit. then more investment is incurred. the MPK curve is slope down it equal to the r_0, After that firm can't be Invest, it will RCC is reduced to r_1. the capital stock is increase to OK_0 to OK_1. It is inverse relation between MPK/RCC and capital stock.