Concept of Marginal Efficiency of Capital

(NOTE- LECTURE COMPILED FROM INTERNET)

Definition and Explanation:

Marginal efficiency capital (MEC) is a Keynesian concept. According to J.M. Keynes, nations output depends on its stock capital. An increase in the stock of capital increases output. The question is how much increase in investment raises output? Well, this depends on the productivity of new capital i.e. on the marginal efficiency of capital. Marginal efficiency of capital is the rate return expected to be obtainable on a new capital asset over its life time.

J.M. Keynes defines marginal efficiency of capital as the:

“The rate of discount which makes the present value of the prospective yield from the capital asset equal to its supply price”.

A businessman while investment in a new capital asset, examines the expected rate of net return (profit) on it during its lifetime against the supply price of capital asset (cost of capital asset) if the expected rate of profit is greater than the replacement cost of the asset, the businessman will invest the money in the project.

Example:

For example, if a businessman spends $10,000 on the purchase of a new griding machine. We assume further that this new capital asset continues to produce goods over a long period of time. The net return (excluding meeting all expenses except the interest cost) of the griding machine expected to be $1000 per annum. The marginal efficiency of capital will be 10%.

\[
\frac{1000}{10000} \times \frac{100}{1} = 10\%
\]

Formula:

The following formula is used to know the present value of aeries of expected income throughout the life span of the capital assets.

\[
S_p = \frac{R_1}{1+r} + \frac{R_2}{1+r^2} + ........... = \frac{R^n}{1+r^n}
\]

Here:

\(S_p\) = Stands for supply price of the new capital asset.

\(R_1 + R^2 \cdot R^n\) = Stands for returns received on yearly basis.

\(R\) = It is the rate of discount applied each the years.

Schedule:

According to J.M. Keynes, the behavior of investment in respect of new investment depends upon the various stock of capital available in the economy at a particular period of time. As the stock of capital increases in the economy, the marginal efficiency of capital goes on
diminishing. The MEC curve is negatively sloped as shown in the figure 30.7.

<table>
<thead>
<tr>
<th>Investment ($ in billion)</th>
<th>Marginal Efficiency of Capital</th>
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</thead>
<tbody>
<tr>
<td>20</td>
<td>10%</td>
</tr>
<tr>
<td>25</td>
<td>9%</td>
</tr>
<tr>
<td>40</td>
<td>7%</td>
</tr>
<tr>
<td>70</td>
<td>5%</td>
</tr>
<tr>
<td>100</td>
<td>2%</td>
</tr>
</tbody>
</table>

Diagram/Curve:

In the above table, it is shown when stock of capital is equal to $20 billion, the marginal efficiency of capital is 10% while at a capital stock of $100 billion, it declines to 2%. This investment demand schedule when depicted graphically in figure 30.7 gives us the investment demand curve which goes on sloping downward from left to right.

Relative Role of MEC and the Rate of Interest:

The **MEC and the rate of interest** are the two important factors which affect the volume of new investment in a country. An investor while making a new investment, weighs the MEC of new investment against the prevailing rate of interest. As long as the MEC is higher than the rate of interest, the investment will be made till the MEC and the rate of interest are equalized.

For example, if the rate of interest 7%, the induced investment will continue to be made till the MEC and the rate of interest are equalized. At 7% rate of interest, the new investment will be $40 billion. In case, the rate of interest comes down to 2%, the new investment in capital assets will be $100 billion.
Summing up, if investment is to be increased in the country, either the rate of interest should go down or MEC should increase.

Factors Affecting MEC:

The marginal efficiency of capital is influenced by short run as well as long run factors. These factors are now discussed in brief:

**Short Run Factors:**

(i) **Demand for the product.** It the market for a particular good is expected to grow and its costs are likely to fall, the rate of return from investment will be high. If entrepreneurs expect a fall in demand of goods and a rise in cost, the will decline.

(ii) **Liquid assets.** If the entrepreneurs are holding large volume of working capital, they can take advantage of the investment opportunities that come in their way. The MEC will be high and vice versa.

(iii) **Sudden changes in income.** The MEC is also influenced by sudden changes in income of the entrepreneurs. If the business community gets windfall profits, or there are tax concession etc., the MEC will be high and hence investment in the country will go up. On the other hand, MEC falls with the decrease in income.

(iv) **Current rate of investment.** Another factor which influences MEC is the current date of investment in a particular industry. If in a particular industry, much investment has already taken place and the rate of investment currently going on in that industry is also very large, then the marginal efficiency of capital will be low.

(v) **Wave of optimism and pessimism.** The marginal efficiency of capital is also affected by waves of optimism and pessimism in the business circle. If businessmen are optimistic about future, the MEC will be overestimated. During periods of pessimism the MEC is under estimated.

**Long Run Factors:**

The long run factors which influence the marginal efficiency capital are as under:

(i) **Rate of growth of population.** Marginal efficiency of capital is also influenced by the rate of growth of population. If population is growing at a rapid speed, it is usually believed that at the demand of various classes of goods will increase. So a rapid rise in the growth of population will increase the marginal efficiency of capital and a slowing down in its rate of growth will discourage investment and thus reduce marginal efficiency of capital.

(ii) **Technological development.** If investment and technological development take place in the industry, the prospects of increase in the net yield brightens up. For example, the development of automobiles in the 20th century has greatly stimulated the rubber industry, the steel and oil industry, etc. So we can say that inventions and technological improvements encourage investment in various projects and increase marginal efficiency of capital.

(iii) **The quantity of capital goods of relevant types already in existence.** If the quantity of
any particular of goods is available in abundance in the market and the consumers can partially or full meet the demand, then it will not be advantageous to invest money in that particular project. So in such cases, the marginal efficiency of capital will be low.

(iv) Rate of taxes. Marginal efficiency of capital is directly influenced by the rate of taxes levied by the government on various commodities. When taxes are levied, the cost of commodities is increased and the revenue is lowered.

When profits are reduced, marginal efficiency of capital will naturally be affected. It will be low.