(*ii*) As income increases, both MPC and APC decline but decline in MPC is more than the decline in APC.

(*iii*) When MPC is constant, the consumption function is a straight line curve.

(*iv*) MPC is higher in case of poor communities and lower in case of rich communities. This is because the basic needs of rich communities have already been fulfilled and any further increase in income is saved. But in case of poor communities, most of the basic needs remain unfulfilled and as a result, any additional increase in income increases their consumption.

IMPLICATIONS AND IMPORTANCE OF PSYCHOLOGICAL LAW OF CONSUMPTION

The important implications of Psychological Law of Consumption are the following:

1. *Crucial role of investment:* The Psychological Law of Consumption establishes vital and crucial role of investment when the community spends less than the increase in income. This is important for increased output and employment in the economy.
2. *Repudiation of Say's Law:* Keynes' law invalidates Say's Law of Markets that supply creates its own demand. Keynes assumes MPC being less than one. Thus, all that is increased is not consumed. Keynes' law explains general overproduction and general unemployment in the economy. The supply fails to create its own demand.
3. *Declining marginal efficiency of capital:* The expected rate of profit from a capital asset or MEC may fall as a result of constant or not rising propensity to consume. This tendency could be avoided if propensity to consume can be increased with the rise in income. Thus, stable consumption with rise in income tends to lower MEC and investment in the short run.
4. *Oversaving gap:* Oversaving gap is the difference between the amount people planned to save and the total volume of private investment. When consumption function remains constant or does not rise with increase in income, an oversaving gap tends to exist.
5. *Explains turning points of business cycle:* As MPC is less than one; it helps in explaining the turning points of business cycle. The causes of upswings and downswings of business activities are explained.
6. *Effective demand:* Keynes law of consumption has helped us in explaining the determinants of effective demand and underemployment equilibrium.

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FACTORS INFLUENCING CONSUMPTION FUNCTION

The important factors influencing consumption function are the following:

1. *Subjective factors*: Psychological motives which affect propensity to consume consist of subjective factors. These motives affect both individual and corporate savings. Such motives are family affection, old age security, foresight, precaution, etc. According to Keynes individual's decision to consume or save is a choice between the present and future consumption. People refrain from present consumption sometimes and keep bank

balances to meet their unforeseen contingencies. There are some motives which also induce a person to increase consumption such as better standard of living, extravagance, generosity, enjoyment, recreation etc.

2. *Objective factors*: Consumption function is affected by objective factors such as income, distribution of income, financial policies of corporation, changes in expectations, windfall gains, fiscal policy, demographic factors, wage rates, wealth and stock of money, liquid assets, changes in the rate of interest etc. The most important factor which affects consumption function is the income. As income rise or falls, consumption also rises or falls. Distribution of income and wealth is another important factor. Widespread inequality of income lowers the overall propensity to consume. Financial policies of companies such as less payment of dividend and retaining more reserves also affect consumption habits of people. People in such situation spend less. People have expectations regarding future events. If they expect a war in near future, they spend more on current consumption. When speculators expect fall in future bond prices, they sell bonds at current prices. Sudden or unexpected gains also results in increase in consumption. The government's fiscal policy also affects consumption function greatly. A progressive taxation brings about more equitable distribution of income, thereby increasing consumption. On the other hand, a regressive tax policy will reduce consumption in the economy. Liquid assets also affect propensity to consume. It has been observed that people having large amount of liquid assets have greater tendency to consume.

Questions for Review

1. Explain the concept of consumption function.
2. What is propensity to consume?
3. What is marginal propensity to consume?
4. What is propensity to save?
5. What is average propensity to save?
6. What is marginal propensity to save?
7. Define average propensity to consume.

21 CONCEPT OF MULTIPLIER

MEANING OF INVESTMENT MULTIPLIER AND ITS WORKING

The concept of 'Multiplier' occupies an important place in Keynesian theory of income, output and employment. Keynes borrowed the idea of multiplier from R.F. Kahn who explained the effect of an increase in investment on employment. Keynes explained the relationship of a small increase in investment to final increase in income. According to J.M. Keynes, employment depends upon effective demand, which further, depends upon consumption and investment ($Y = C + I$). Consumption function (propensity to consume) is stable in the short period and marginal propensity to consume is less than one. Therefore, all the increase in income does not go to increase consumption at the rate at which income increases. As a result, a gap is created between incomes (output) and consumption which must be filled up by making additional investment. Keynes believed that the initial increase in investment will increase the final income by many times. Thus, investment multiplier shows the relationship between an initial increase in investment and final increase in aggregate income. In other words, it is the ratio expressing quantitative relationship between the final increase in national income and the increase in investment which induces the rise in income. Arithmetically,

$$\Delta Y = K.\Delta I$$

Where, ΔY is the change in income; K stands for multiplier and I for investment. Therefore multiplier coefficient can be expressed as,

$$K = \frac{\Delta Y}{\Delta I}$$

That is, K is equal to the ratio of increase in income to the increase in investment, which helps to raise income manifold.

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Thus, if investment in the economy increases by Rs. 1 crore and the national income rises by Rs. 5 crore, then the multiplier is 5. This is because when investment is made in the economy, it not only expands the income of one industry where initial investment is made but also in other industries whose products are demanded by men employed in investment industries. It should be noted that the value of multiplier depends on marginal propensity to consume. The multiplier is large or small according as the MPC is large or small. The value of multiplier ranges between one to infinity. However, it can never be one because whole of the increase in income is not consumed and it can never be zero, which means the economy saves whole of its additional income. As Keynes assumed that MPC is less than unity, its value can never be equal to infinity. It has been observed in real life that actual value generally varies from 2 to 4. The general formula for the multiplier is:

$$K = \frac{1}{1 - \frac{\Delta C}{\Delta Y}}$$

where K stands for multiplier and for $1 - \frac{\Delta C}{\Delta Y}$ the marginal propensity to save. In other words, the multiplier is nothing but the reciprocal of the marginal propensity to save. Let us derive the coefficient of multiplier as shown under:

$$Y = C + I$$

Or $$\Delta Y = \Delta C + \Delta I$$

Or, $$\Delta I = \Delta Y - \Delta C \qquad ...(i)$$

By definition, we know that $$K = \frac{\Delta Y}{\Delta I} \quad \text{or} \quad \Delta Y = K.\Delta I \qquad ...(ii)$$

From (*ii*), we get

$$\Delta I = \frac{\Delta Y}{K}$$

Substituting (*ii*) into (*i*) we get,

$$\frac{\Delta Y}{K} = \Delta Y - \Delta C$$

Now, dividing it by ΔY,

$$\frac{1}{K} = 1 - \frac{\Delta C}{\Delta Y}$$

or, $$K = \frac{1}{1 - \frac{\Delta C}{\Delta Y}}$$

or, $$K = \frac{1}{MPS}$$

It is thus clear that investment multiplier (K) varies directly with the marginal propensity to consume $\frac{\Delta C}{\Delta Y}$. Higher the MPC, higher is the magnitude of K and vice versa.

Working of the Multiplier

Multiplier is the mechanism which increases income in multiple counts as a result of initial investment. How this happens is clear from the following example. Let us assume that MPC is

½ and an initial investment of Rs. 10 crores in public works take place. Therefore, the value of multiplier (K) comes to

$$\left[\frac{1}{1-\frac{1}{2}}\right] = 2$$

It means an investment of Rs. 10 crores will increase the total income by Rs. 20 crores. When an initial investment of Rs. 10 crores is made in the economy, half of it will be spent on consumption (as MPC = ½). In the second round, income will increase by Rs. 5 crores and again half of it will be spent on consumption so that in the third round, income will be Rs. 2.5 crores, in the fourth round by Rs. 1.25 crores and so on, till it has increased to Rs. 20 crores, i.e., two times the original investment. Thus, we see that the multiplier is equal to the ratio of the increase in income to the increase in investment. In brief, $\frac{\text{Rs. 20 crore}}{\text{Rs. 10 crore}} = 2$. Therefore, the multiplier is 2. One should note that income expansion is spread over a period of time and not all at once. The working of multiplier is also shown in the adjacent diagram. In the Fig. 21.1, CC is the consumption curve drawn according to the MPC value, i.e., ½ at all income levels. EY1 is the equilibrium level of income. Income rises from C+I to C+I+I'. The new curve C+I+I' intersects the 45º line at E'. E'Y2 is the new level of income at Y2, which is greater than the old level of income by Y1Y2. Thus, assuming MPC of ½ and multiplier being 2, the original investment results in doubling the income level Y1Y2.

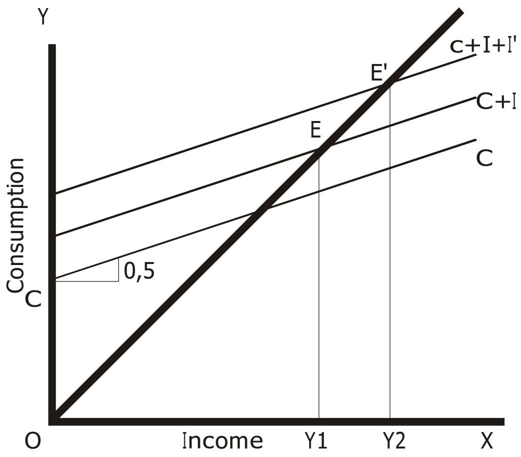

Fig. 21.1

Assumptions of Multiplier

The following are the assumptions of multiplier as described by Keynes:

1. There is no change in MPC.
2. There is no induced investment.

3. The new higher level of investment is maintained long enough for the completion of the adjustment process.
4. There is complete absence of government policy like taxation or expenditure.
5. There is no time lag between the receipt of income and its expenditure.
6. There is closed economy.

Importance of Multiplier

Multiplier is an important contribution to economic theory. It not only has theoretical importance but also is an important tool for formulation of various economic policies. It has given emphasis on investment as the major dynamic element in the economy. Investment helps in directly creating employment in the economy and also in generating income manifold. The introduction of the concept of multiplier has strengthened the importance of public investment in the economy. It indicates that a small increase in investment results in a large increase in investment and employment. Multiplier is also helpful in analyzing the matters related to business cycle. Thus the concept of multiplier is of vital importance in economic analysis.

Leakages in the Working of Multiplier

It is observed in reality that the whole of increment in the income is not spent on consumption. Therefore, marginal propensity to consume is never equal to one. This is due to several leakages from the income stream, which slows down income propagation. These leakages are explained as under:

1. *Saving*: Saving is an important leakage in the income stream. A part of increase in income is saved, thereby limiting the value of multiplier. It is thus clear that higher the saving lower will be the value of multiplier.
2. *Payment of old debts*: A part of income received by the people is used to pay off the old debts, thereby reducing money for consumption and hence the value of multiplier.
3. *Imports:* In case of excess imports over exports, part of increased income goes to increase income in the foreign countries. In the long period, the increased income in foreign countries will help in increasing demand for exports and thus have beneficial effects on the income of the country importing goods. However, it may or may not happen also. As such imports are important leakages.
4. *Inflation:* Price inflation results in degeneration of increased income instead of promotion of consumption, income, and employment.
5. *Hoarding:* Hoarding means holding idle cash balances. It is an important form of leakage. If people have high liquidity preference or high demand for money for holding as cash, expenditure on consumption decreases as a result of which multiplier value goes down.
6. *Purchase of stocks and securities:* People are also having tendency to buy old stocks and securities when their income is increased. As such consumption expenditure goes down. Such financial investment restricts the value of the multiplier.

It is therefore clear that these leakages in the flow of income in the economy severely restrict the value of multiplier. It is necessary to control such leakages to have greater multiplier effects.