Consumption Function

Propensity to consume is also called consumption function. In the Keynesian theory, we are concerned not with the consumption of an individual consumer but with the sum total of consumption spending by all the individuals. However, in generalizing the consumption behaviour of the whole economy, we have to draw some useful conclusions from the study of the behaviour of a normal consumer, which may be valid for all consumers' behaviour of the economy. Aggregate consumption depends on consumption function or propensity to consume.

The economic term *'consumption'* means the amount spent on consumption at a given level of income. *'Consumption function'* or *'propensity to consume'* means the whole of the schedule showing consumption expenditure at various levels of income. It tells us how consumption expenditure increases as income increases. The consumption function or propensity to consume, therefore, indicates a functional relationship between the aggregates, viz., total consumption expenditure and the gross national income. It is a schedule that expresses relationship between consumption and disposable income.

According to Keynesian theory, following are the factors that influence consumption:

(a) The real income of the individual,

(b) The past savings, and

(c) Rate of interest.

Average and Marginal Propensities to Consume:

The average propensity to consume (apc) is a relationship between total consumption and total income in a given period of time. In other words, apc is the ratio of consumption to income. Thus:

$$\textbf{apc} = \frac{\textbf{C}}{\textbf{Y}}$$

Where C : Consumption

Y : Income

apc : Average propensity to consume

While, the marginal propensity to consume (mpc) measures the incremental change in consumption as a result of a given increment in income. In other words, mpc is the ratio of change in consumption to the change in income.

$$\textbf{mpc} = \frac{\Delta C}{\Delta Y}$$

Where ΔC : Incremental change in consumption

ΔY : Incremental change in income

mpc : Marginal propensity to consume

the normal relationship between income and consumption is that when income increases, consumption also increases, but by less than the increase in income. In other words, in normal circumstances, mpc is less than one. It is drawn as a straight-line with a slope of less than one. This slope indicates the percentage of additional disposable income that will be spent. It is assumed that the whole additional income is not spent, i.e., a certain amount is spent and the remainder is saved. This can be further explained with the help of following table and diagram:

Income	Consumption	Saving
100	75	25
120	90	30
140	105	35
180	135	45
220	165	55

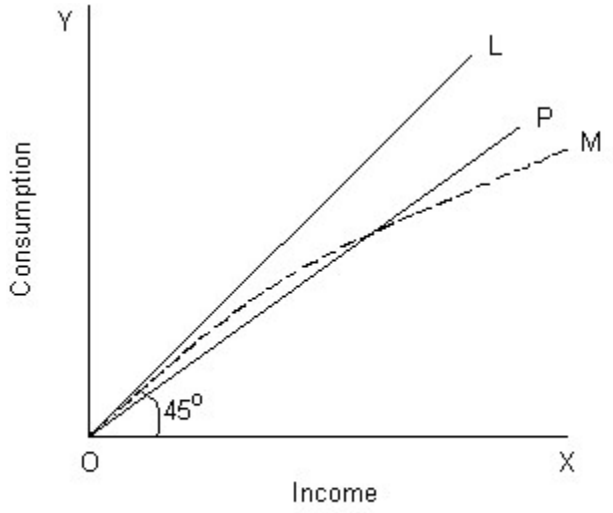

Figure 1 – Income consumption relationship

In the above diagram, OL is the income line and OP is income consumption curve. The income consumption line OP lies below the income line OL. The mpc will be measured by the tangent of the angle that income consumption curve makes with X-axis.

$$mpc = \tan \angle POX$$

The curve as we have drawn turns out to be straight line rising from the origin, which means that mpc is constant throughout. This, however, need not be so and the curve may well become flatter as income rises, for as more and more consumption needs have been satisfied, a greater share of an increase in income than before may be saved. The dotted curve OM represents such a relationship showing that as income rises, mpc becomes smaller and smaller.

There is a level of disposable income (DI) at which the entire income is spent and nothing is saved. This point is often known as *'point of zero savings'*. Below this level of DI, the consumption expenditure will exceed the DI. There may be cases in which the consumer has no income at all. In such cases, the income consumption curve may not rise from the origin but from farther left showing that when income is zero, consumption is not zero and that the individual is living on his past savings.

Propensity to Save:

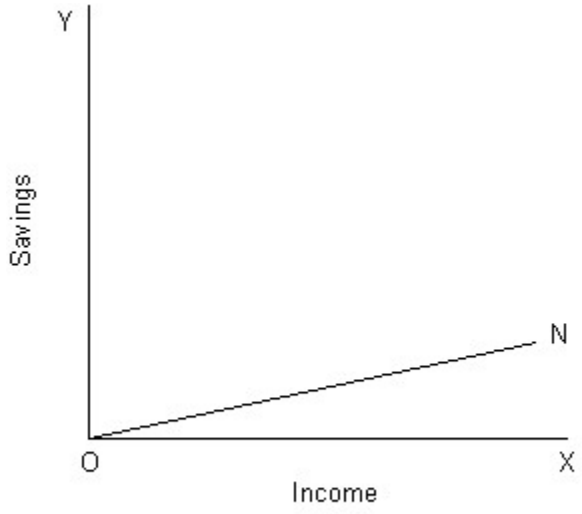

Figure 2 – Saving-income curve

In the above diagram, ON represents the saving-income curve. Savings at a given level of income can also be read off from the distance between a point on income-consumption curve and corresponding point on income curve *(See the figure of income-consumption relationship).* The marginal propensity to save (mps) can be measured by the slope of income-saving curve ON. Marginal propensity to save (mps) is the increment in savings caused by a given increment in income. The mps is always equal to one minus mpc:

$$\text{Marginal propensity to save (mps)} = \frac{\Delta S}{\Delta Y}$$
$$= 1 - \frac{\Delta C}{\Delta Y}$$

$$\text{Average propensity to save (aps)} = \frac{S}{Y}$$

$$= \frac{\text{Total saving}}{\text{Total income}}$$

Keynes' Law of Consumption:

Keynes propounded a law based on the analysis of consumption function. This law is known as *'Fundamental Law of Consumption'* or *'Psychological Law of Consumption'*. It states that aggregate consumption is a function of aggregate disposable income.

Propositions of the Law:

This law consists of three propositions:

(a) When aggregate income increases, consumption expenditure will also increase but by a somewhat smaller amount.

(b) When income increases, the increment of income will be divided in same proportion between saving and consumption. Consumption and saving go side by side. What is not consumed is saved. Savings is, thus, the complement of consumption.

(c) As income increases, both consumption spending and saving go up. An increment in income is unlikely to lead either to less spending or less savings than before. It will seldom happen that a person may decrease his consumption or his savings when he has got more income.

Assumptions:

(a) Habits of people regarding spending do not change or that ***the propensity to consume remains the same or stable.***

(b) The economic conditions remain normal. There is no hyper-inflation or war or other abnormal conditions.

(c) The economy is a ***free-market economy.*** There is no government intervention.

(d) The important characteristic of the slope of consumption function is that the ***marginal propensity to consume (mpc) will be less than unity.*** This results in low-consumption and high-saving economy.

Implications:

According to Keynesian theory, the mpc is less than unity, which brings out the following implications:

(a) Since consumption largely depends on ***income and consumption function is more or less stable,*** it is necessary to increase investment fill the gap of declining consumption as income increases. If this is not done, the increased output will not be profitable.

(b) When the income increases, and the consumption are not increased, there is a ***danger of over-production.*** The government will have to step in to remedy the situation. Therefore, the policy of laissez-faire will not work here.

(c) If the consumption is not increased, the marginal efficiency of capital (MEC) will diminish. The demand for capital will also diminish, and all the economic progress will come to a standstill.

(d) Keynes' Law explains the ***turning points in the business cycle***. When the trade cycle has reached the highest point of prosperity, income has gone up. But since consumption does not correspondingly go up, the downward cycle starts, for demand has lagged behind. In the same manner, when the business cycle has touched the lowest point, the cycle starts upwards, because consumption cannot be diminished beyond a certain point. This is due to the stability of mpc.

(e) Since the mpc is less than unity, this law explains the ***over-saving gap***. As income goes on increasing, consumption does not increase as much. Hence saving process proceeds cumulatively and there arises a danger of over-saving.

(f) This law also explains the ***unique nature of income generation***. If money is injected into the economic system, it will increase consumption but to a smaller extent than increase in income. This again is due to the fact that consumption does not increase along with increase in income.

Factors Influencing Consumption Function:

There are certain factors affecting the propensity to consume in the long-run:

1. Objective Factors:

(a) Distribution of income: It is generally observed that the average and marginal propensities to consume of the poor are greater than those of the rich. This is because the poor has a lot of unsatisfied wants and he is likely to seize every opportunity that comes his way to satisfy them. On the other hand, the rich have already a high standard of living and relatively less urgent wants remain to be satisfied, so that in their case, an addition to their incomes is more likely to be saved than spent on consumption.

(b) Fiscal policy: Fiscal policy of the government will also influence the consumption behaviour of an economy. A reduction in taxation will leave more post-tax incomes with the people and this will stimulate higher expenditure on consumptions. Similarly, an increase in taxes will depress consumption.

(c) Changes in business expectations: Business expectations by affecting the incomes of certain classes of people affect consumption function.

(d) Windfall gains and losses: The windfall losses and gains arising out of changes in capital values affect the 'saving brackets' mostly and not the spending sections. Hence, their influence on consumption function is not so well marked.

(e) Liquidity preferences: Another factor is the people's liquidity preferences. If people prefer to keep their income in liquid ford, consumption is reduced correspondingly.

(f) Substantial changes in the rate of interest.

2. Subjective Factors:

(a) Individual motives to save:

(i) Building of reserves for unforeseen contingencies as illness or unemployment,

(ii) To provide for anticipated future needs such as daughter's wedding, son's education, etc.

(iii) To enjoy an enlarged future income by investing funds out of current income, etc.

(b) Business motives:

(i) The desire to expand business,

(ii) The desire to face emergencies successfully,

(iii) The desire to have successful management,

(iv) The desire to ensure sufficient financial provision against depreciation and obsolescence.

Measures for Raising Consumption:

1. Redistribution of income in favour of poor where propensity to consume is greater.

2. Comprehensive social security measures like unemployment doles, old-age pension, sickness insurance, etc.

3. Liberal wage policy, and

4. Credit facilities for middle and poor classes for purchasing more consumer goods.

Importance of Consumption Function:

1. Important tool of macro-economic analysis.

2. Value of the multiplier gives us a link between changes in investment and changes in income.

3. Consumption function invalidates the Say's Law, which states that supply creates its own demand, because this theory does not hold accurate in the real world.

4. It shows the crucial importance of investment.

5. It explains the reasons of declining MEC.

6. It explains the turning points of business cycle.

Post-Keynesian Developments Regarding Consumption Function:

(a) The Ratchet Effect:

(i) Professor Duesenberry says that in matter of consumption, an individual is not merely influenced by current income, but also by standard of living in the past.

(ii) The consumers are not easily reconciled to fall in their income. They try hard to maintain their previous standard of living. This is to maintain their position among their relatives, friends and neighbours.

(iii) Consumption as a proportion of income goes up as income increases and does not fall in the same proportion as the income falls. In other words, consumption is not reversible. This is known as *'Ratchet Effect'*.

(b) Demonstration Effect:

(i) The Duesenberry Hypothesis suggests that the consumer expenditure depends on relative and not on absolute incomes. The consumption function is linear rather than curved because it is the income of a family relative to that of other families.

(ii) The *'Demonstration Effect'* determines how much a consumer spent and how much he saves. Middle-class and poor people imitate the life style of rich people. People in under-developed countries try to follow the consumption pattern of affluent nations. This is called the 'Demonstration Effect', and it is dangerous as it retards the economic growth.

(c) Pigou Effect:

(i) When prices fall as a result of a cut in money wages, the purchasing power of money with a consumer increases, or there is an increase in the real value of money. People feel that they are now better off and they increase their consumption expenditure. This leads to expansion in GNP and has been referred to as *'Pigou Effect'*.

(ii) Keynes seems to be agreed that theoretically it is possible to bring about full employment by sufficiently lowering the money wages. But the process would be so slow that it could be ignored as a practical possibility. It would be more realistic to assume that wages are not so flexible (as assumed by Pigou) as to permit the working of Pigou effect to bring about full employment.

(d) Government Consumption:

(i) Another factor which affects consumption and the level of economic activity is the government expenditure.

(ii) It differs from country to country and in the same country it differs over time.

(iii) Government may have a vital role in creating employment, influencing consumption and adjusting saving through fiscal and other policies.

Theories of Consumption Function:

There are three different economic theories explaining consumption-income relationship:

(a) Absolute Income Theory: According to Keynes, on average, men increase their consumption as their income increases but not by as much as the increase in income. In other words, the average propensity to consume goes down as the absolute level of income goes up. Hence, according to this theory, the level of consumption expenditure depends upon the absolute level of income and the relationship between the two variables is non-proportionate. However, it is pointed out that although this relationship is one of non-proportionality, yet there is illusion of proportionality caused by factors other than income, viz., accumulated wealth, migration to urban areas, new consumer goods, etc. Owing to such factors as these, the consumers spend more and the relationship appears to be proportional.

(b) Relative Income Hypothesis: The Relative Income Hypothesis was first introduced by Dorothy Brady and Ross Friedman. It states that the consumption expenditure does not depend on the absolute level of income but instead the relative level of income.

According to Dussenberry, there is a strong tendency for the people to emulate and imitate the consumption pattern of their neighbours. This is the *'demonstration effect'*. The relative income hypothesis also tells us that the level of consumption spending is determined by the households' level of current income relative to the

highest level of income earned previously. People are then reluctant to revert to the previous low level of consumption. This is 'ratchet effect'.

The relative income theory states that if current and peak incomes grow together changes in consumption are always proportional to change in income. That is, when the current income rises proportionally with peak income, the apc remains constant.

This proportionality relationship can be illustrated by the following diagram:

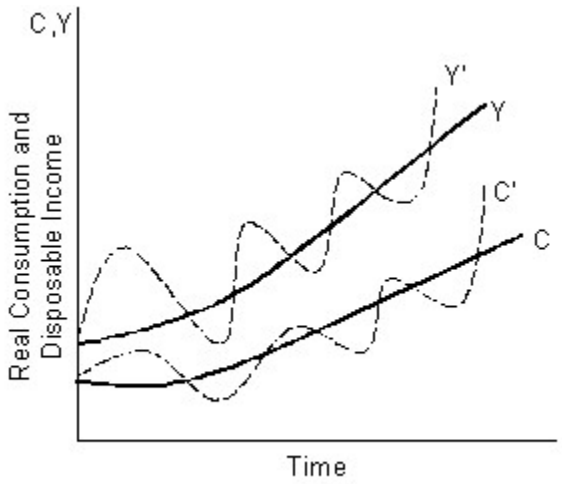

Figure 3 – Proportional Relationship between Income and Consumption

Income and consumption lines (Y and C) show proportional relationship, when income grows steadily. Similarly, if income grows in spurts and dips, the response of the consumption is same. Thus Y' and C' lines show proportional relationship.

(c) Permanent Income Hypothesis: Friedman draws a distinction between permanent consumption and transitory consumption. Permanent consumption stands for that part of consumer expenditure which the consumer regards as permanent and the rest is transitory. Distinction can also be made between durable and non-durable consumer goods. Durable consumption is concerned with purchasing capital assets and in the case of non-durable goods the act of consumption destroys the good. Ordinary consumer expenditure relates to non-durable consumption, i.e., consumption of goods which are quickly used in consumption. These are the 'flow'items since a flow of them is being continuously consumed. On the other hand, durable consumption, which relates to the purchase of capital assets, is an act of investment. These are 'stock' items.

According to Friedman, permanent consumption (Cp) is a function of:

(i) Rate of interest,

(ii) Rates of consumer's income from property and his personal effort, i.e., human and non-human wealth, and

(iii) Consumer's preference for immediate consumption multiplied by permanent income (Yp).

The permanent income theory really emphasises the important role of capital assets or wealth in determining the size of consumption. It shows how both income and consumption are closely linked with the consumer's wealth. It is capital and wealth, which affects the level of consumption rather than consumer's income.

(d) Life Cycle Hypothesis: According to Life Cycle Hypothesis, the consumption function is affected more by consumer's whole life income rather than his current income. This view has been put forward by Modigliani, Brumberg and Ando. The permanent income hypothesis focuses attention on the income of the consumer earned in recent past as well as expected future earnings (and wealth). But the life cycle hypothesis states the consumption function depends upon consumer's whole life income. In childhood, the consumer earns nothing but spends all the same (his parents spend on him); in the middle age, when he comes to have a family, he earns and spends. But he will be earning more than he spends. He tries to save enough to maintain himself in his old age when he will not be able to earn or earn much. Over his life span, the consumer tries to maintain a certain uniform standard and with that end in view he organises whole life's uneven income flows of cash receipts. In other words, he will arrange his income and expenditure in such a manner as to maintain a certain standard of living which he desires.

The *'Life Cycle Hypothesis'* seems to be quite realistic and plausible. It may be noted, however, that this hypothesis emphasises income as derived from wealth more than cash receipts. It also draws our attention to the fact that the consumers have to make a choice between immediate consumption and accumulating of assets for future use.