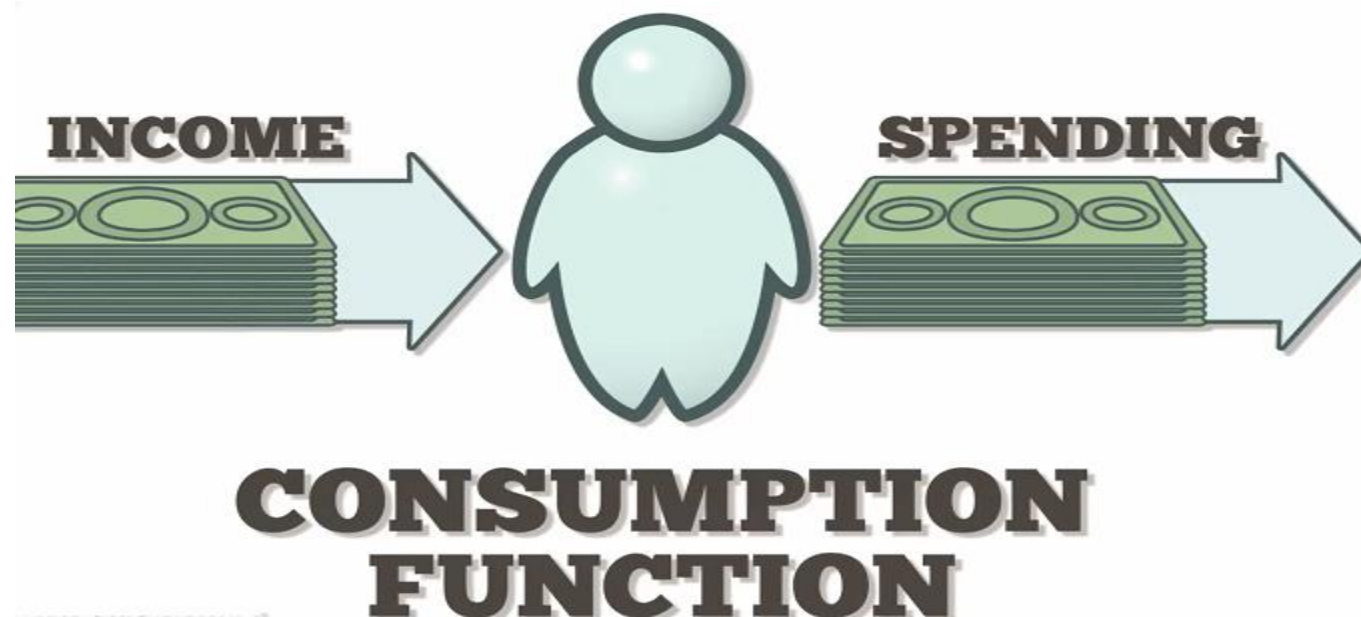# CONSUMPTION FUNCTION

Introduction

Given the aggregate supply, the level of income or employment is determined by the level of aggregate demand; the greater the aggregate demand, the greater the level of income and emp

Aggregate demand consists of two parts – consumption demand and investment demand. Consumption demand depends upon the level of income and the propensity to consume.

The Concept of Consumption Function:

The consumption of a community depends upon the level of income. In other words, consumption is a function of income. The consumption function relates the amount of consumption to the level of income.

When the income of a community rises, consumption also rises but increase in consumption is less than the increase in income.

Symbolically:

C = f (Y)

Where   C = consumption and   Y = income

Consumption function (linear, i.e., straight line consumption function) is represented by the following equation.

C = a + cY

It shows that consumption is equal to a, an autonomous consumption taking place when income is zero.

Thus even if income is zero, the consumption will mot be zero but it wil be a.

c is marginal propensity to consume and it is constant at all levels of income. However the average propensity to consume falls steadily as income rises.

Thus, total consumption (C) comprises two components:

(i) Autonomous consumption (a) not influenced by income and

(ii) Induced consumption (cY) influenced by income.

For example, the consumption equation C = 30 + 0.75Y means Rs 30 is autonomous consumption (a) and 0.75 is marginal propensity to consume (c). Further, as income increases, 75% of additional income (indicating 0.75Y) is spent on consumption.

Consumption Curve
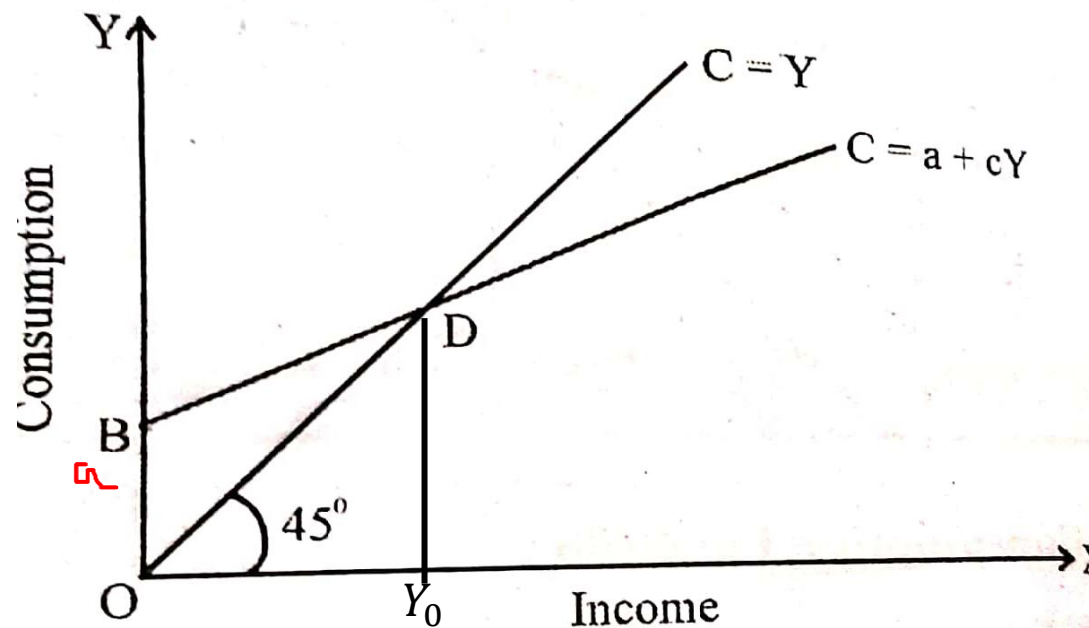
The line C = a + cY is the consumption curve. It shows that if income falls to zero, consumption does not fall to zero but it is equal to OB. OB = a and BC represents cY. The slope of consumption curve is c.

The curve shows that when income is low, consumption is greater than income. As income rises, consumption also rises and therefore at point D consumption is equal to income. Beyond the point D as income rises consumption also rises but the increase in consumption is less than the increase in income. Thus the gap between income and consumption is widening at a constant rate because the consumption as a proportion of income is rising at a constant rate c. This **gap between income and consumption is saving.**

It is clear from the figure that up the income level Y_0 C>Y resulting in negative saving or borrowing. Beyond that C < Y. Beyond point D as income increases the amount consumed out of a given increase in income will decline.

After point D the gap between consumption and income will increase at an increasing rate. Hence according to Keynes, the marginal propensity to consume would decline as income increases.

Average Propensity to Consume

Average propensity to consume refers to the ratio of consumption expenditure to the corresponding level of income.

$$APC = \frac{Consumption\ (C)}{Income\ (Y)}$$

APC declines as income increases because the proportion of income spent on consumption decreases.

Marginal Propensity to Consume

The marginal propensity to consume (MPC) is the ratio of the change in consumption to the change in income that brought it about.

It is calculated by dividing the absolute change in consumption by the absolute change in income and is expressed as:

MPC = ΔC/ΔY

According to Keynes, the value of MPC is always positive but less than 1, i.e. $1 > MPC > 0$

Income (₹) Y 1	Consumption (₹) C 2	Saving (₹) S 3	APC = C/Y 4	MPC = $\Delta C/\Delta Y$ 5
0	400	-400	-	-
300	600	-300	-	-
800	900	-100	-	-
1000	1000	0	$\dfrac{1000}{1000} = 1$	-
1250	1200	50	$\dfrac{1200}{1250} = 0.96$	$\dfrac{200}{250} = 0.8$
1500	1375	125	$\dfrac{1375}{1500} = 0.92$	$\dfrac{175}{250} = 0.7$
1750	1525	225	$\dfrac{1525}{1750} = 0.87$	$\dfrac{150}{250} = 0.5$
2000	1650	350	$\dfrac{1650}{2000} = 0.83$	$\dfrac{125}{250} = 0.5$

It is clear from the table that the MPC declines as income rises but it will always be positive. This is Keynes's fundamental psychological law. As income increases both APC and MPC decline but the MPC is less than the APC.

Saving Function

Saving is that part of income which is not spent on current consumption. The relationship between saving and income is called saving function.

Thus saving function (or propensity to save) relates the level of saving to the level of income. It is the desire or tendency of the households to save at a given level of income. Thus, saving (S) is a function (f) of income (Y).

Symbolically,

S = f (Y)

Algebraically:

S = Y-C

Thus saving is residual income of households that is left after consumption.

Saving can be negative (-) at zero or low level of income. As Income increases, savings also increase but more than the increase in income.

Average Propensity to Save:

Average propensity to save is the proportion of disposable income that is saved (i.e., not consumed).

APS = $\dfrac{Savings\ (S)}{Income\ (Y)}$

APS increases with rise in income.

C+S = Y

Dividing both sides by disposable income Y we have

C/Y + S/Y = Y/Y = 1

APC + APS = 1

Thus APS = 1- APC

When APC decreases when income is rising, APS is rising with the rise in income.

Marginal Propensity to Save (MPS):

Marginal propensity to save represents how much of the additional disposable income is devoted to saving. The marginal propensity to save is therefore change in savings induced by a change in the disposable income.

Thus,

$MPS = \Delta S/ \Delta Y$

For example, if disposable income increases from Rs. 10,000 to Rs. 12,000 and this causes planned savings to increase by Rs. 500 crores, marginal propensity to save is:

$MPS = 500/2000 = 1/4 = 0.25$

Since the additional income is either consumed or saved, the sum of marginal propensity to consume and marginal propensity to save is equal to one.

MPC + MPS = 1

This indicates that if MPC is decreasing with the rise in income, MPS must increase.

 As APC > MPC , this implies APS < MPS

Assumptions of Keynes's consumption function

1. **A constant psychological and institutional factor**

Keynes assumes that consumption depends upon income alone and other institutional and psychological factors such as income distribution, price level, population growth, fashion, tastes and habits do not change in the short run.

2. The existence of Normal Conditions

According to Keynes, extraordinary circumstances like war, revolution, hyperinflation etc. do not exist. Thus Keynes's consumption function holds good only under normal circumstances.

3. Existence of Laissez- faire economy

It implies a socio-economic set up based on laissez-faire under which the State is not interfering in the economic activities carried on by individual entrepreneurs. This law, therefore, holds either in the free-enterprise economy or, at the most, in a mixed economy.

Implications of Keynes's Consumption Function

1. Importance of Investment:

Keynes' psychological law of consumption brings about the crucial importance of investment if we want to attain higher level of income and employment. The law says when income increases the gap between income and consumption increases.

The gap is to be filled by bringing more and more investment failing which there will be shortage of effective demand and the economy would slip down. Thus the law highlights the vital importance of investment.

2. Invalidates Say's Law:

Since the marginal propensity to consume is less than unity all that is supplied is not automatically demanded. The supply fails to create its own demand resulting in glut of products in the market. Thus Keynes's psychological law of consumption invalidates the Say's law.

3. Decline in MEC:

As a result of the propensity to consume remaining stable with an increase in income the expected rate of profitability or the marginal efficiency of capital may tend to decline. This can be prevented only by increasing consumption with an increase in income because ultimately the decisions to undertake investments are guided by the volume of consumption.

4. **Over Saving Gap:**

Since the increase in consumption expenditure does not keep pace with the increase in income, there arises the danger of over-saving gap. This danger is more for rich countries than for poor countries.

5. Income Propagation:

Keynesian theory explains the slow nature of income propagation. Since the marginal propensity to consume is less than unity, injection of increasing purchasing power into the income stream leads to smaller and smaller successive increments to income.

6. **Under Employment Equilibrium:**

Equilibrium would be attained at full employment only if investment demand happens to be equal to the gap between aggregate income corresponding to full employment and aggregate consumption expenditure out of that income. But Keynes believed that the typical investment demand would not be adequate to fill the gap between the amount of income corresponding to full employment and the consumption demand out of that income. As such the aggregate demand and supply schedules would intersect at a point less than full employment.

7. **Need for State Intervention:**

As there is no automatic and self-adjusting mechanism between supply and demand the government should interfere actively to ensure that aggregate effective demand does not fall below aggregate supply.

8. Turning Points of Trade Cycle:

Keynes' psychological law of consumption is very helpful in explaining the turning points of the trade cycle. When the business cycle reaches the highest point of prosperity, income has increased, but the marginal propensity to consume being less than unity, consumption does not increase correspondingly and the result is the downward start of the cycle.

Similarly when the business cycle reaches the lowest point, income has declined very low but since people do not reduce their consumption to the full extent of decline in income, the upward phase of the cycle starts. Thus consumption function occupies a very important place in the theory of employment.

Resources

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4. Salvatore, D.: Managerial Economics in a global economy (Thomson South Western Singapore, 2001)