CBSE Class 12 Economics
NCERT Solutions
Chapter-04 (Macroeconomics)
Income Determination

1. What is marginal propensity to consume? How is it related to marginal propensity to save?

Ans. Marginal propensity to consume: The ratio of change in consumption (ΔC) to change in income (ΔY) is called marginal propensity to consume. Literally marginal means additional and propensity to consume means desire (or urge) to consume. Thus MPC is the ratio of additional consumption to additional income. It indicates the proportion of additional income that is being spent on additional consumption.

So,

$$MPC = \frac{\Delta C}{\Delta Y}$$

Where,

ΔC = Change in consumption

ΔY = Change in income

For example, if income increases from Rs 200 crores to Rs 250 crores and consumption increases from Rs 20 crores to Rs 40 crores, it implies that 0.4 is the MPC or 40% increase in the income is being consumed.

This can further be explained with the help of a table and a diagram.

If income and consumption are:

Income in Rs (Y)	Consumption Expenditure in Rs (C)
200	

	20	
250	40	

Then MPC = $\dfrac{\Delta C}{\Delta Y} = \dfrac{20}{50}$ =0.4
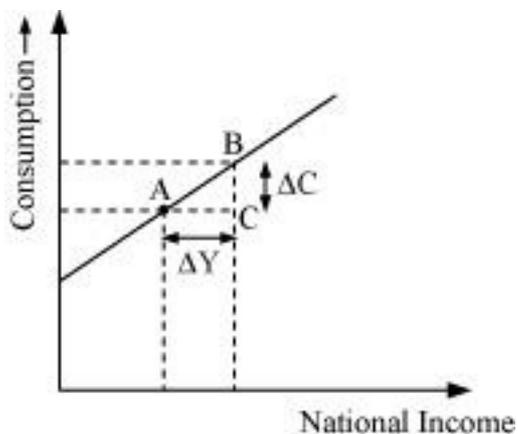
Also, MPC can be explained with the given diagram.

In the diagram, *x*-axis represents national income and *y*-axis represents consumption level.

So, MPC = $\dfrac{BC}{AC}$

The relationship between MPC and MPS can be explained as –

The sum of MPC and MPS is equal to unity i.e., MPC+MPS=1

We know that income (Y) is either spent on consumption (C) or saved (S). Symbolically:

Y = C + S

Or, $\Delta Y = \Delta C + \Delta S$

Dividing both sides by ΔY

$$\frac{\Delta Y}{\Delta Y} = \frac{\Delta C}{\Delta Y} + \frac{\Delta S}{\Delta Y} \left[\frac{\Delta S}{\Delta Y} = MPS \right]$$

Or, 1 = MPC + MPS

Or, MPC = 1 – MPS

Or, MPS = 1 – MPC

So, the sum of MPC and MPS is always equal to unity.

2. What is the difference between ex ante investment and ex post investment?

Ans. Planned investment (Ex-ante) is the investment which is desired to be made by the firms and planners in the economy during a particular period in the beginning of the period. As against it, the actual investment of a period (e.g., a year) measured after the fact is called ex-post or actual investment. It needs to be noted that Keynes include in investment the inventories of unsold goods which he called unplanned investment. Thus actual investment equals planned + unplanned investment. Briefly put, planned investment is intended or desired investment whereas actual investment is equal to planned + unplanned investment. It should be kept in mind that sometimes investment is made which was not included in planned investment. This type of investment is called unplanned investment. Unplanned investment takes place when unsold finished goods accumulate due to poor sales. Thus actual investment of an economy is the total of planned investment and unplanned investment.

3. What do you understand by 'parametric shift of a line'? How does a line shift when its:

(i) slope decreases, and

(ii) its intercept increases?

Ans. Considering the equation of a straight line as

b = ma + ε

Where *m* = slope of straight line, *m* > 0

ε = intercept on vertical axis, ε > 0

Also, when a increases by 1 unit, the value of *b* increases by *m* units.

The parameters ε and *m* are parameters of a graph.

As the value of *m* increases, the straight line rotates upward around the same vertical intercept. This movement is an example of parametric shift of the graph.

(i) A straight line rotates downward around the same vertical intercept as its slope decreases.

(ii) A straight line shifts parallelly upward when its intercept increases.

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4. What is 'effective demand'? How will you derive the autonomous expenditure multiplier when price of final goods and the rate of interest are given?

Ans. Aggregate demand at the point of equilibrium is called an effective demand, because it becomes effective in determining national income. It is the level of demand which is fully met by corresponding supply with no tendency to expand or contract. Thus effective demand is the amount which is actually spent. In Keynesian framework which deals in short run analysis, equilibrium level of income and employment are determined solely by level of aggregate demand (i.e., effective demand) because aggregate supply (or national income) is assumed to be given and constant. Also because in the short run physical and technical conditions affecting aggregate supply do not often change. So it is the level of effective demand or AD which influences the level of output, income and employment. Thus for increasing the level of income, increase in effective demand is essential. In short, AD holds the key to the full employment level of income.The concept of effective demand can be explained with the help of the given diagram.
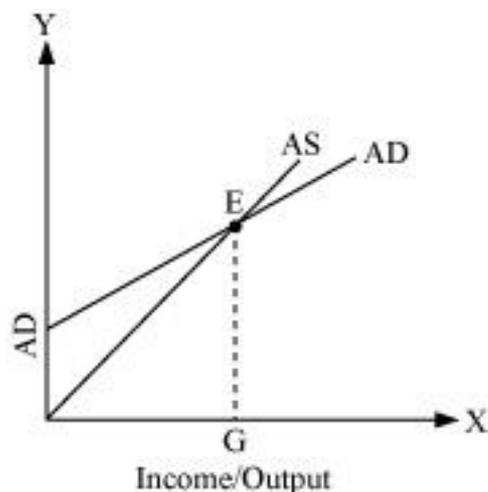
The *x*-axis represents income/output level and *y*-axis represents the level of aggregate demand. E is the equilibrium point where the two curves AS and AD meet. EG is the effective demand and output level is determined by AD (assuming the elasticity of supply to be perfectly elastic).

Autonomous expenditure multiplier is derived as

Y = AD (at equilibrium)

Y = A + cY [Where AD = A + cY]

Y - cY = A

Y (1 - c) = A

$$Y = \frac{A}{1-c}$$

Where,

A = Autonomous expenditure

c = MPC

Y = level of income

$\frac{1}{1-c}$ = autonomous expenditure multiplier

So, the autonomous expenditure multiplier is dependent on the income and MPC.

5. Measure the level of ex-ante aggregate demand when autonomous investment and consumption expenditure (A) is Rs 50 crores, and MPS is 0.2 and level of income (Y) is Rs 4000 crores. State whether the economy is in equilibrium or not (cite reasons).

Ans. Consumption expenditure (A) = Rs 50 Crores

MPS = 0.2

So, MPC = 1 – MPS

= 1 - 0.2

= 0.8

Y = 4000 Crores

We know that AD = A + cY .... (1)

Putting the values in equation .... (1)

AD = 50 + 0.8 x 4000

= 50 + 3200

= Rs 3250 Crores

But, Rs 3250 < Rs 4000

Implies that AD < Y

Hence, the economy is not in equilibrium.

6. Explain 'Paradox of Thrift'.

Ans: Paradox of thrift refers to a situation in which people tend to save more money, thereby leading to a fall in the savings of the economy as a whole. In other words, when everyone increases his/her saving-income proportion i.e. MPS (s), then, the aggregate demand will fall

as consumption decreases. This will further lead to a decrease in employment and income level and finally this will reduce the total savings for the economy. This concept was suggested by Keynes wherein increased saving at individual levels will gradually lead to the slowdown of economy in terms of circular flow of income. Let us understand this statement with the help of the fig. 8.14.
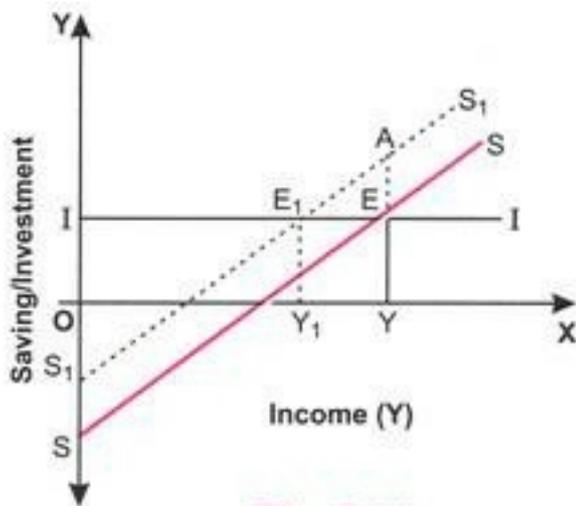

Fig. 8.14

In Fig. 8.14, initial saving curve is SS and investment curve is II. Economy attains equilibrium (Saving = Investment) at E and equilibrium level of income is OY. Now, suppose the society decides to become thrifty by reducing consumption expenditure and Increases saving by, say, AE. As a result, saving curve shifts upward to S_1S_1 intersecting Investment curve II at E_1.

Unplanned inventories will increase and firms will cut down production and employment and move to new equilibrium E_1. The figure shows that in the end, planned saving has fallen from AY to E_1Y_1. Notice at new point of equilibrium E_1, investment level and also realised saving remain the same (E_1Y_1) but level of income has fallen from OY to OY_1. The decline in equilibrium level of income shows the paradox of thrift as the reverse process of multiplier has worked on reducing consumption expenditure. In fact Increased saving is virtually a withdrawal from circular flow of income.