

MEANING OF CONSUMPTION FUNCTION

The consumption function or propensity to consume refers to income consumption relationship. It is a "functional relationship between two aggregates, *i.e.*, total consumption and gross national income."¹ Symbolically, the relationship is represented as $C=f(Y)$, where C is consumption, Y is income, and f is the functional relationship. Thus the consumption function indicates a functional relationship between C and Y , where C is the dependent and Y is the independent variable, *i.e.*, C is determined by Y . This relationship is based on the *ceteris paribus* (other things being equal) assumption, as such only income consumption relationship is considered and all possible influences on consumption are held constant.

In fact, propensity to consume or consumption function is a schedule of the various amounts of consumption expenditure corresponding to different levels of income. A hypothetical consumption schedule is given in Table I.

Table I shows that consumption is an increasing function of income because consumption expenditure increases with increase in income. Here it is shown that when income is zero during the depression, people spend out of their past savings on consumption because they must eat in order to live. When income is generated in the economy to the extent of Rs 60 crores, it is not sufficient to meet the consumption expenditure of the community so that the consumption expenditure of Rs 70 crores is still above the income amounting to Rs 60 crores (Rs 10 crores are dis-saved). When both consumption expenditure

TABLE I : CONSUMPTION SCHEDULE

(Rs Crores)

Income (Y)	Consumption $C=f(Y)$
0	20
60	70
120	120
180	170
240	220
300	270
360	320

and income equal Rs 120 crores, it is the basic consumption level. After this, income is shown to increase by 60 crores and consumption by 50 crores. This implies a stable consumption function during the short-run as assumed by Keynes. Figure 8.1 illustrates the consumption function diagrammatically. In the diagram,² income is measured horizontally and consumption is measured vertically. 45° is the unity-line where at all levels income and consumption are equal. The C curve is a linear consumption function based on the assumption that consumption changes by the same amount (Rs 50 crores). Its upward slope to the right indicates that consumption is an increasing function

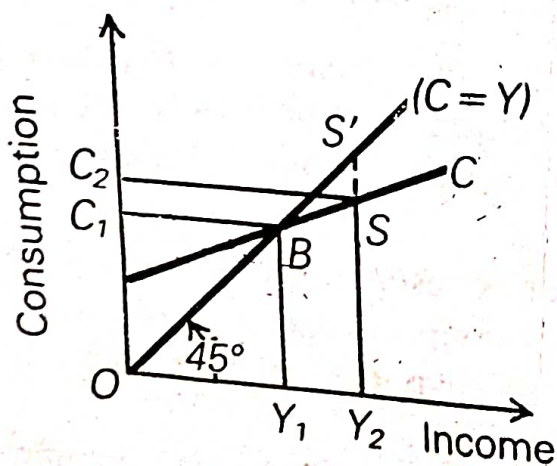


FIG. 8.1

of income. B is the break-even point where $C=Y$ or $OY_1=OC_1$. When income rises to OY_1 consumption also increases to OC_2 , but the increase in consumption is less than the increase in income, $C_1C_2 < Y_1Y_2$. The portion of income not consumed is saved as shown by the vertical distance between 45° line and C curve, i.e., SS' . "Thus

the consumption function measures not only the amount spent on consumption but also the amount saved. This is because the propensity to save is merely the propensity not to consume. The 45° line may therefore be regarded as a zero-saving line, and the shape and position of the C curve indicate the division of income between consumption and saving."³

PROPERTIES OR TECHNICAL ATTRIBUTES OF THE CONSUMPTION FUNCTION

The consumption function has two technical attributes or properties: (i) the average propensity to consume, and (ii) the marginal propensity to consume.

(1) *The Average Propensity to Consume.* "The average propensity to consume may be defined as the ratio of consumption expenditure to any particular level of income."⁴ It is found by dividing consumption expenditure by income, or $APC = C/Y$. It is expressed as the percentage or proportion of income consumed. The APC at various income levels is shown in column 3 of Table II. The APC declines as income increases because the proportion of income spent on consumption decreases. But reverse is the case with APS (average propensity to save) which increases with increase in income (see column 4). Thus the APC also tells us about the APS , $APS = 1 - APC$.

Diagrammatically, the average propensity to consume is any one point on the C curve. In Figure 8.2 panel (A), point R measures the APC of the C curve which is OC'/OY' . The flattening of the C curve to the right shows declining APC .

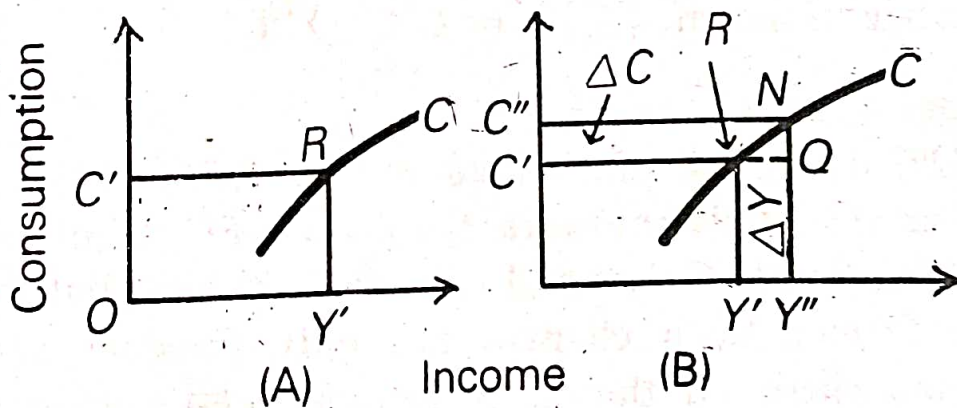


FIG. 8.2

(2) *The Marginal Propensity to Consume.* "The marginal propensity to consume may be defined as the ratio of the change in consumption to the change in income or as the rate of change in the average propensity to consume as income changes."⁵ It can be found by dividing change in consumption by a change in income, or $MPC = \Delta C / \Delta Y$. The MPC is constant at all levels of income as shown in column 5 of Table II. It is 0.83 or 83 per cent because the ratio of change in consumption to change in income is $\Delta C / \Delta Y = 50/60$. The marginal propensity to save can be derived from the MPC by the

formula $1 - MPC$. It is 0.17 in our example (see column 6).

TABLE II

(1) Income Y	(2) Consumption (C)	(3) $APC = C/Y$	(4) $APS = S/Y$ ($1 - APC$)	(5) $MPC = \Delta C / \Delta Y$	(6) $MPS = \Delta S / \Delta Y$ ($1 - MPC$)
120	120	$\frac{120}{120} = 1$ or 100%	0	—	—
180	170	$\frac{170}{180} = 0.92$ or 92%	0.08	$\frac{50}{60} = 0.83$	0.17
240	220	$\frac{220}{240} = 0.91$ or 91%	0.09	$\frac{50}{60} = 0.83$	0.17
300	270	$\frac{270}{300} = 0.90$ or 90%	0.10	$\frac{50}{60} = 0.83$	0.17
360	320	$\frac{320}{360} = 0.88$ or 88%	0.12	$\frac{50}{60} = 0.83$ or 83%	0.17

Diagrammatically, the marginal propensity to consume is measured by the gradient or slope of the C curve. This is shown in Figure 8.2 panel (B) by NQ/RQ where NQ is change in consumption (ΔC) and RQ is change in income (ΔY), or $C'C''/Y'Y''$.

Significance of MPC

The MPC is the rate of change in the APC . When income increases, the MPC falls but more than the APC . Contrariwise, when income falls, the MPC rises and the APC also rises but at a slower rate than the former. Such changes are only possible during cyclical fluctuations whereas in the short-run there is no change in the MPC and $MPC < APC$.

Keynes is concerned primarily with the MPC , for his analysis pertains to the short-run while the APC is useful in the long-run analysis. The post-Keynesian economists have come to the conclusion that over the long-run APC and MPC are equal and approximate 0.9. In the Keynesian analysis the MPC is given more prominence. Its value is assumed to be positive and less than unity which means that when income increases the whole of it is not spent on consumption. On the contrary, when income falls, consumption expenditure does not decline in the same proportion and never becomes zero. The Keynesian hypothesis that the marginal propensity to consume is positive but less than unity ($0 < \Delta C / \Delta Y < 1$) is of great analytical and practical significance. Besides telling us that consumption is an increasing function of income and it increases by less than the incre-

ment of income, this hypothesis helps in explaining "(a) the theoretical possibility of general over production or 'underemployment equilibrium,' and also (b) the relative stability of a highly developed industrial economy. For it is implied that the gap between income and consumption at all high levels of income is too wide to be easily filled by investment with the possible consequence that the economy may fluctuate around an underemployment equilibrium."⁶ Thus the economic significance of the *MPC* lies in filling the gap between income and consumption through planned investment to maintain the desired level of income. Further, its importance lies in the multiplier theory. The higher the *MPC*, the higher the multiplier and vice versa. The *MPC* is low in the case of the rich people and high in the case of the poor. This accounts for high *MPC* in underdeveloped countries and low in advanced countries.

KEYNES'S PSYCHOLOGICAL LAW OF CONSUMPTION

Keynes propounded the fundamental psychological law of consumption which forms the basis of the consumption function. He wrote, "The fundamental psychological law upon which we are entitled to depend with great confidence both *a priori* from our knowledge of human nature and from the detailed facts of experience, is that men are disposed as a rule and on the average to increase their consumption as their income increases but not by as much as the increase in their income." The law implies that there is a tendency on the part of the people to spend on consumption less than the full increment of income.

Propositions of the Law. This law has three related propositions:

(1) When income increases, consumption expenditure also increases but by a smaller amount. The reason is that as income increases, our wants are satisfied side by side, so that the need to spend more on consumer goods diminishes. It does not mean that the consumption expenditure falls with the increase in income. In fact, the consumption expenditure increases with increase in income but less than proportionately.

(2) The increased income will be divided in some proportion between consumption expenditure and saving. This follows from the above proposition because when the whole of increased income is not spent on consumption, the remaining is saved. In this way, consumption and saving move together.

(3) Increase in income always leads to an increase in both consumption and saving. This means that increased income is unlikely to lead either to fall in consumption or saving than before. This is based on the above propositions because as income increases consumption also increases but by a smaller amount than before which leads to an increase in saving. Thus with increased income both consumption and saving increase.

The three propositions of the law can be explained with the help of the following Table III.

TABLE III

(Rs Crores)

Income (Y)	Consumption (C)	Savings (S = Y - C)
0	20	-20
60	70	-10
120	120	0
180	170	10
240	220	20
300	270	30
360	320	40

Proposition (1): Income increases by Rs 60 crores and the increase in consumption is by Rs 50 crores. The consumption expenditure is, however, increasing with increase in income, i.e., Rs 170, 220, 270 and 320 crores against Rs 120, 180, 240, 300 and 360 crores respectively.

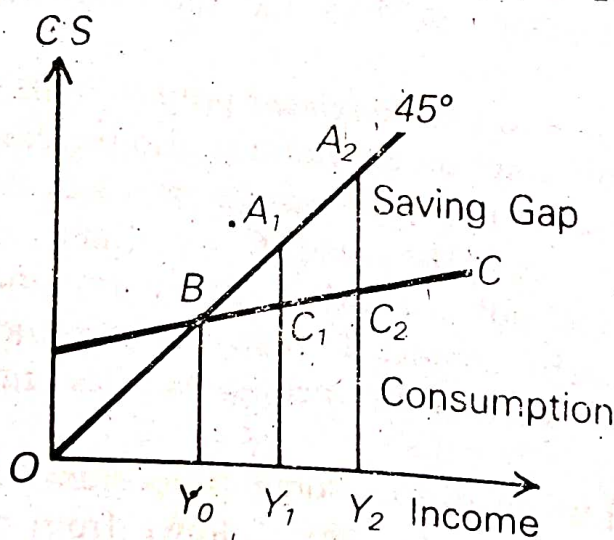


FIG. 8.3

Proposition (2): The increased income of Rs 60 crores in each case is divided in some proportion between consumption and saving (i.e., Rs 50 crores and Rs 10 crores).

Proposition (3): As income increases from Rs 120 to 180, 240, 300 and 360 crores, consumption also increases from Rs 120 to 170, 220, 270, 320 crores, along with increase in saving from Rs 0 to 10, 20, 30 and 40 crores respectively. With increase in income neither consumption nor saving have fallen.

The Consumption Function

Diagrammatically, the three propositions are explained in Figure 8.3. Here, income is measured horizontally and consumption and saving are measured on the vertical axis. C is the consumption function curve and 45° line represents income. *Proposition (1)*: When income increases from OY_0 to OY_1 consumption also increases from BY_0 to C_1Y_1 but the increase in consumption is less than the increase in income, i.e., $C_1Y_1 < A_1Y_1 (= OY_1)$ by A_1C_1 . *Proposition (2)*: When income increases to OY_1 and OY_2 , it is divided in some proportion between consumption C_1Y_1 and C_2Y_2 and saving A_1C_1 and A_2C_2 respectively. *Proposition (3)*: Increases in income to OY_1 and OY_2 lead to increased consumption $C_2Y_2 > C_1Y_1$ and increased saving $A_2C_2 > A_1C_1$ than before. It is clear from the widening area below the C curve and the saving gap between 45° line and the C curve.