

## **Saving Function:**

Saving is defined as the part of income which is not consumed. This is because disposable income is either consumed or saved.

Thus

$$Y_d = C + S$$

$$S = Y - C$$

where  $Y_d$  = Disposable income,  $C$  = Consumption,  $S$  = Saving

Saving is a function of income. Thus, saving function can be written as

$$S = f(Y)$$

Let us take the Keynesian consumption,

$$C = a + bY.$$

We can derive saving function corresponding to it.

$$\text{Since } Y = C + S$$

$$S = Y - C$$

Now, substituting the above Keynesian function for  $C$  in (i) we have

$$S = Y - (a + bY)$$

$$= Y - a - bY$$

$$= -a + Y - bY$$

$$= -a + (1 - b) Y$$

Note that  $(1 - b)$  in the above saving function is the **value of marginal propensity to save (MPS)** where  $b$  is marginal propensity to consume (MPC).

Let us give a numerical example. Suppose the following consumption function is given.

$$C = 150 + 0.80 Y$$

$$S = Y - C$$

Substituting the given consumption function for  $C$  we have

$$S = Y - 150 - 0.80 Y$$

$$= -150 + Y - 0.80 Y$$

$$= 150 + (1 - 0.80) Y$$

$$= -150 + 0.20 Y$$

$$\text{MPS} = .20$$

**Important : The sum of marginal propensity to consume and marginal propensity to save is equal to one (MPC + MPS = 1).**

Now let us look at the difference between average propensity to save and marginal propensity to save-

### **Average propensity to save:**

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

Mathematically

$$APS = \text{Savings/Disposable Income} = S/Y$$

Like the average propensity to consume (APC) average propensity to save also changes as income increases.

According to Keynes average propensity to consume (APC) falls as income increases. This implies that average propensity to save (APS) will increase as income rises.

### **Income is either consumed or saved:**

$$C + S = Y$$

Dividing both sides by disposable income Y we have

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

Since C/Y is average propensity to consume and S/Y is average propensity to save, we have

$$APC + APS = 1$$

This implies  $APS = 1 - APC$

If  $APC = 0.75$ , then economy will save 25 per cent of its disposable income or its average propensity to save

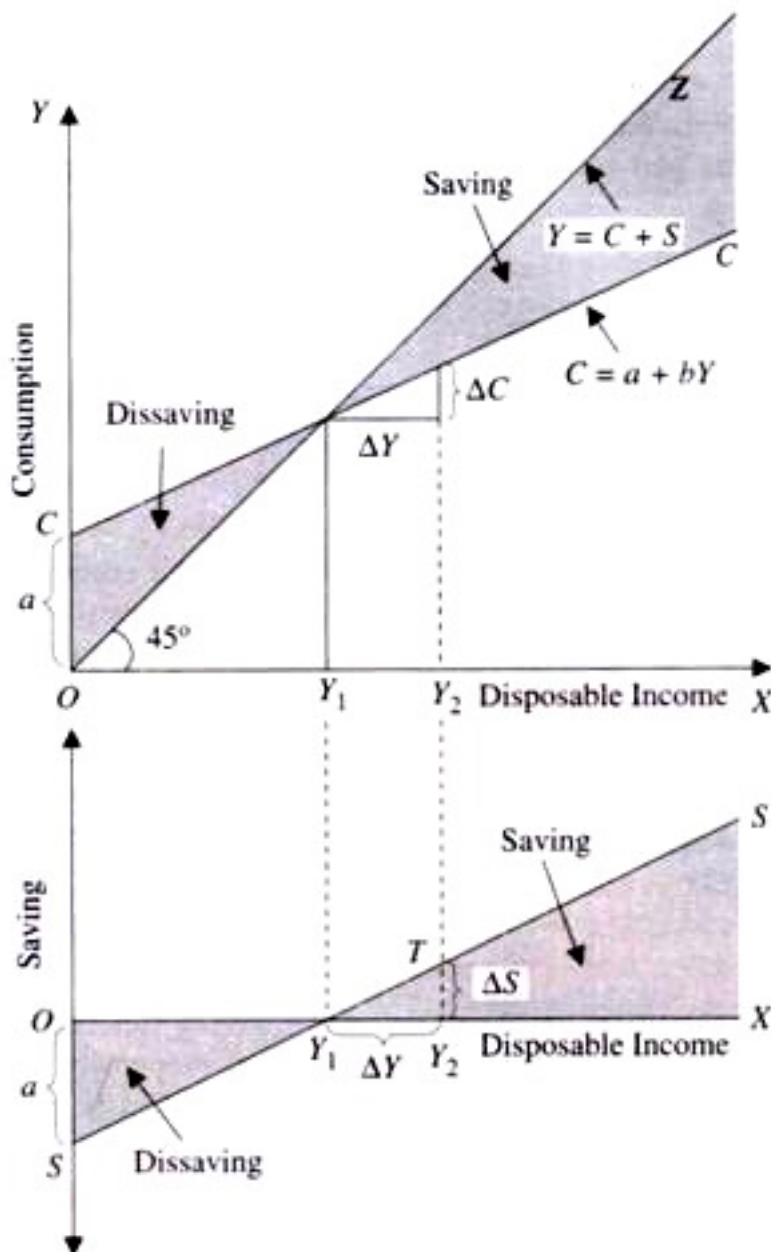
(APS) will be 0.25

$$(1 - 0.75 = 0.25).$$

In Fig. 6.6 we show the savings curve. The saving curve SS shows the gap between consumption curve CC and the income curve OZ in the upper panel of Fig. 6.6. It will be seen that up to income level  $OY_1$  consumption is more than income, that is, there is dissaving.

Beyond income level  $OY_1$ , there is positive saving. As average propensity to consume (APC) falls with the increase in income in the upper panel, Average propensity to save rises as income increases.

Thus in Fig. 6.6 with the increase in income not only



the absolute amount of saving increases, the average propensity to save also increases.

Fig. 6.6 Saving Function Derived from Consumption Function

**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 rupees 10,000 to 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.

$$MPC + MPS = 1$$

We can prove this mathematically -

From  $C + S = Y$ , it follows that any change in income must induce either change in consumption or change in saving. Thus.

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

Dividing both sides by  $\Delta Y$  we have

$$\Delta C/\Delta Y + \Delta S/\Delta Y = \Delta Y/\Delta Y = 1$$

$$MPC + MPS = 1$$

The concept of marginal propensity to save is graphically shown at the bottom of Fig. 6.6. According to the figure when disposable income increases from  $OY_1$  (say Rs. 10,000) to  $OY_2$  (say Rs. 12,000), that is,  $\Delta Y = \text{Rs. } 2000$ , the saving increases by  $Y_2T$ , (Rs. 500), that is,  $\Delta S$  is Rs. 500. Thus marginal propensity to save (MPS) is

$$\Delta S/\Delta Y = Y_2 T/Y_1 Y_2 = 500/2000 = 1/4 = 0.25$$

### **Determinants of Propensity to Consume:**

The important question is on what factors the propensity to consume of a community depends. In other words, what are the factors that determine the level and position of the propensity to consume or the consumption function? Keynes divided the factors determining the propensity to consume into two groups: the first group of factors was called by him as subjective factors and the second group was named by him as objective factors. We shall explain below in detail these subjective and objective factors which affect the consumption function of a community.

### **Important Features of Keynes' Consumption Function:**

In macroeconomics, Keynes's consumption function plays a highly important role. Therefore, it is essential to state its important features.

### **The following are the important features of Keynes's consumption function:**

1. First, absolute level of current income is the important factor that determines consumption of the

community. Increase in national income causes an increase in consumption. On the other hand, classical economists thought that it was rate of interest that primarily determined saving and consumption of the community. A rise in rate of interest induces the people to save more and thus to reduce their level of consumption.

According to Keynes, though rate of interest is one of the factors that determine consumption of the community, he did not consider it a very important determinant of it. By considering level of current income as the most important factor determining consumption and saving, Keynes made a significant contribution to the macroeconomic theory.

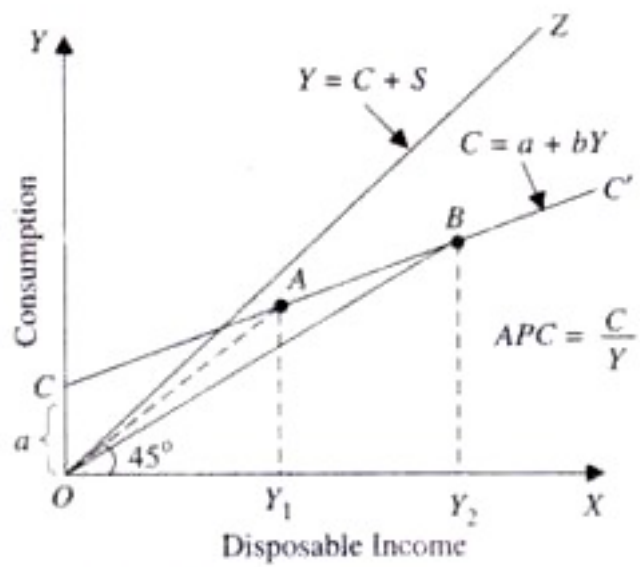
2. The second important feature of Keynes' consumption function is that marginal propensity to consume is less than one but greater than zero ( $0 < MPC < 1$ ). As has been explained above, the feature of Keynes's consumption function that marginal propensity to consume is less than one is known as Keynes's psychological law of consumption. According to this law, as income increases, consumption increases but not as much as the increase in income. Keynes's theory of multiplier is based on the marginal propensity to consume being less than one but greater than zero.



3. In Keynes consumption function, namely,  $C = a +$  by, as income increases, average propensity to consume (APC) falls. Keynes was of the view that rich people relatively save a higher proportion of their income so that at higher levels of income average propensity to consume (APC), that is, proportion of total consumption to national income falls as national income rises.

4. Another important feature of consumption function as put forward by Keynes is that it remains stable in the short run. Consumption function, according to Keynes, depends on various institutional factors such as distribution of income and wealth and psychological factors such as willingness to save.

Since there cannot be much changes in these institutional and psychological factors, consumption function remains stable in the short run, that is, it does not shift upward or downward. Therefore, Keynes in his theory explains the determination of income and employment in the short run by considering that the consumption function is stable.



**Fig. 6.7.** Keynes Consumption Function: Falling Average Propensity to Consume

