27

THEORY OF INCOME DETERMINATION

Economy must produce goods and services and generate income for its citizens. For this it must provide employment opportunities. In this context it is important to ask the question "How much output should be produced in the economy?" What should be the level of income and employment?" John Maynard Keynes a famous economist who pioneered the study of macro economics in the 1930s has propounded a simple theory of income and employment to answer these questions.

OBJECTIVES

After completing this lesson, you will be able to:

- know the meaning of aggregate demand, aggregate supply and effective demand of an economy;
- tell the components of aggregate demand;
- determine the equilibrium level of income and employment;
- understand the concept and working of multiplier;
- distinguish between excess demand and deficient in demand; and
- expalin the methods to correct exces demand & deficient demand.

27.1 MODEL OF A SIMPLE ECONOMY

When We talk about the determination of income and employment in an economy the first step is to define the aggregate demand function of the economy. Here we assume that the economy is operating in the short run.

27.1.1 The Concept of Aggregate Demand

Aggregate demand of an economy is defined as the total demand for goods and services at the given price level.

Price are given or fixed because in a short run period prices of goods and services do not change.

A measure of aggregate demand is the aggregate expenditure incurred by the different consuming sectors of the economy on consumption of goods and services at the prevailing price level.Now the Questions arises –

Who are the consuming sectors in the economy? It must be noted that the economy's total product is used for final consumption as well as for further production. Accordingly, we can identify the following consuming sectors

1. Household
2. Firm
3. Government
4. Rest of the world

Aggregate demand consists of the demand for goods and services by theses sectors taken together.

Let us discuss these components of aggregate demand separately.

1. Household Consumption Demand

The household sector of the economy consists of individuals and families and non-profit organization who serve the households. These entities consume final goods and services for satisfaction of wants. Individuals and families demand both durable and non-durable goods. Examples of durable goods are, T.V., Refrigerator, Washing machine, Car, Scooter. Motorbike, Furniture, etc. Non-durable goods include food and non-food items. Cereals, pulses, vegetables, fruits etc. are food items whereas cloth, shoes, cosmetics , fuel. etc. are part of non-food items . All these goods are demanded by the households.

The non-profit organizations serving the household sector include charitable trusts, religious foundations etc., who demand goods and services to serve the household sector. They do not do business to earn profit. For example, a trust to serve the differently abled people demand various goods such as office stationeries, furniture. Vehicle etc. Such consumption is a part of household consumption demand.

2. Producers or Firm's Investment Demand

The firms and or the producers demand goods and services for further production. The demand for goods by the firms to produce a product is known as "Investment". Firms demand capital goods such as machinery and equipment. They also demand intermediate goods for further production. Purchase of wheat floor to produce bread by a bakery unit is an example of intermediate good or Secondary Inputs. Water, electricity, raw materials etc used for product in one examples of intermediate consumption.

3. Government Expenditure

The Government constitutes an important sector which purchases goods and services for the benefit of public. So, all purchases made by the government are intermediate purchases. The Government provides services such as law and order, defence, education and health etc. To provide these service, the government functions through various ministries and departments. To maintain these offices. The government purchases uniforms, vehicles, stationary, furniture etc. It spends money on payment of salaries to its employees. In this way, government expenditure constitutes a sizeable part of the aggregate demand.

4. Purchases by Rest of the World

We are living in the era of globalization where in countries are linked to each other through trade and transfers. A country which has got economic relation with another country is called an open economy. In an open economy, the foreign countries, which have economic relationship with the domestic country constitute the rest of the world. The way the households of the domestic country demand goods and services inside the country, in the same way the foreigners also purchase goods and services from the country from outside. This is called import of the rest of the world or export of the domestic country. However, since the households, firms and government of the domestic country also purchase goods and services from abroad which are called imports from rest of the world. Net export is calculated by deducting the imports of domestic country from abroad from its exports to rest of the world. Exports minus imports are called net exports . Net export is the measure of demand for goods and services by the rest of the world in the domestic Country.

Now we can write that aggregate demand is the sum of demands by households firms, and government and rest of the world. Let us express household demand as consumption, firms' demand as investment, government demand as government purchases and demand of rest of the world as net exports. Then, we can say that aggregate demand is the sum of consumption, investment, government purchases and net exports.

We can also write systematically :

$$AD = C + 1 + G + NX \quad ...(1)$$

Where, AD = aggregate demand

C = consumption

I = investment

G = Government purchases

NX = net exports

NX = X – M, Where X = Exports, M = Imports

AD is also called aggregate expenditure in the economy.

Determining equilibrium level of income

The first step in determining the equilibrium level of income in an economy is to estimate its aggregate demand. The aggregate demand in an open economy is given in equation above.

To develop a simple model, let us assume that there are two sectors in the economy - households and firms. The demands of other two sectors such as government and rest of the world can be assumed to be given for the time being.

In such a case. The aggregate demand will be the sum of consumption and investment. Symbolically in a two sector economy,

AD = C + I. where AD = Aggregate demand

27.2 CONDITION OF EQUILIBRIUM

The equilibrium income of the economy is determined at the point where aggregate demand equals the value of total output.

It can be said that actual value of total output is same as the economy's income. Let it be denoted as Y. It is also said that income is divided between consumption and saving.

So, $Y = C + S.$

where S = Saving

So according to condition of equilibrium it can be written that:

$$AD = Y \quad ...(2)$$

Or, $$C + 1 = C + S \quad ...(3)$$

Or $\quad I = S \quad (4)$

In an economy, the equilibrium level of income is determined at the point where aggregate demand equals total output and investment equals saving.

INTEXT QUESTIONS 27.1

1. Aggregate expenditure is a measure of aggregate demand . True / false.
2. What is the difference between exports and imports of an economy called ?
3. Whose demand is called final demand for goods and services.
   (a) Firms (b) Government
   (c) Households (d) Rest of the world
4. The condition for equilibrium income is given as
   (a) C = S (b) C + I = C + S
   (c) C + S = S + 1 (d) S = Y

27.2.1 Diagramatic Representation

The equilibrium level of income can be presented using diagram. First, We have to make the diagram of aggregate demand which is the sum of consumption and investment in a two sector economy. You have already seen the diagram of consumption and investment functions in the previous lesson. We will use both these diagrams to construct the diagram of C + I as -given below.

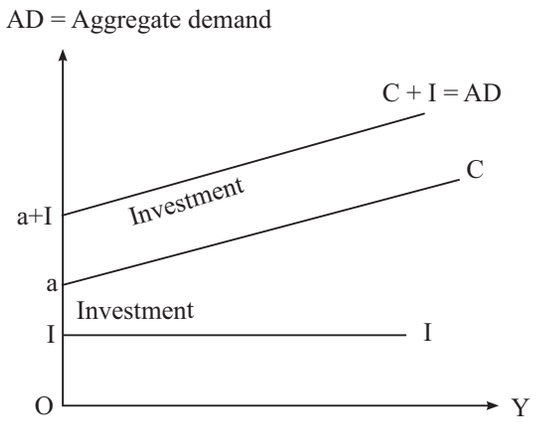

Fig. 27.1

In the previous lesson we said that the consumption function starts from point a on the vertical axis where Oa a is in the measure of fixed consumption. Then from

point 'a' the consumption function slopes upwards at a rate equal to MPC. It is also mentioned in the previous lesson that investment is fixed or autonomous . Hence, when we add investment with consumption function. then automatically fixed consumption and fixed investment will he added so that C + I will start from point a + I where 0 to a + I will be the measure of autonomous expenditure by both households and firms taken together.

Equation of C + I:

Note that, as said earlier, C = a + by

And, 1 is a fixed amount.

So, $$C + I = a + bY + I$$

$$= (a + I) + bY \qquad ...(5)$$

Where b = MPC

It is seen clearly that when consumption function (C) starts from a, the aggregate demand (C + 1) starts from (a + I) which is above C by an amount equal to investment (I). Both C and C + I slope upwards at a rate equal to b or MPC. Hence C and C + I are parallel to each other.

27.2.2 The Significance of 45° line

The value of output is same as level of income Y. Also Y is the sum of C and S or Y = C + S. Geometrically on a 45 degree line through the origin Y = C + S when we measure income Y along horizontal axis and C + S along vertical axis. It should be noted that on a 45 degree line C + S = Y because it divides the plane into two equal parts, See diagram, below.

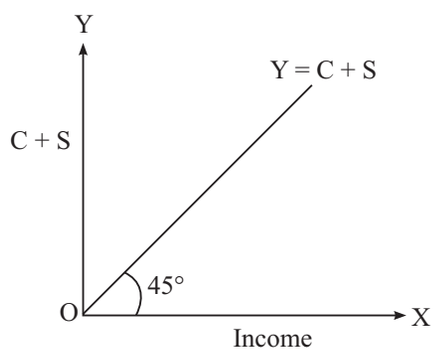

Fig. 27.2

27.2.3 Diagram for Equilibrium Income

To determine the equilibrium level of income , we can bring the above two diagrams of C + I and 45 degree line, together in one diagram as given below.

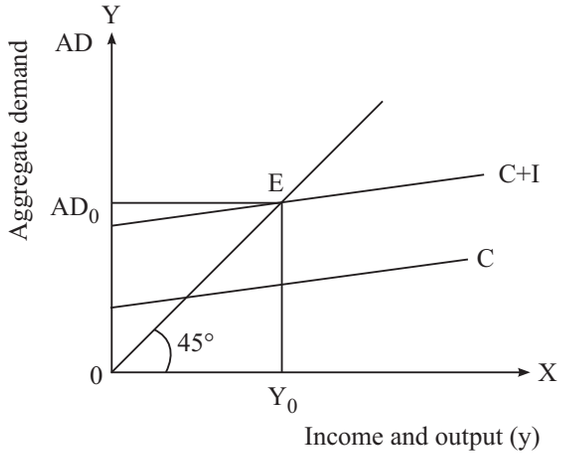

Fig. 27.3

As shown in the diagram above the aggregate demand line shown as C + I cuts the 45 degree line at point E. So E is the point of equilibrium where C + I = C + S. Drop perpendicular from point E on both the axis. The perpendicular cuts the horizontal axis which shows income an at point Yo. Hence the equilibrium level of income is determined at point Yo. OY_0 is the measure of equilibrium level of income. The level of aggregate demand that matches the measure of equilibrium income is determined at point. AD_0 on the vertical axis. The distance 0 to ADo (aggregate demand) equal the distance OYo (equilibrium level of income).

Equilibrium income by saving and investment approach

The equilibrium level of income can be determined by using saving and investment approach. Recall that, we have given the equilibrium condition as

$$C + I = C + S$$

This implies that I = S

Hence whenever aggregate demand equals total output, saving also equal investment. This means that the point at which saving and investment are equal refers to the equilibrium level of income. See diagram below

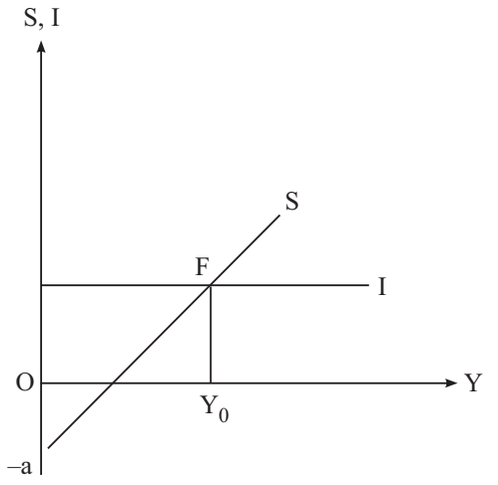

Fig. 27.4

In the Fig 27.4, income (Y) is measured along the horizontal axis. Saving and investment is measured along the vertical axis. The investment curve is shown as a horizontal line I indicating that investment is autonomous or fixed at all levels of income. The saving function is upward sloping starting from –a, below the origin, (see the lesson on consumption saving and investment). Both S and I curves cut each other at point F where S = I. From the point F drop a perpendicular on income axis (horizontal axis) to get the level of equilibrium income which is labelled as Y_0. Note that both the equilibrium level of income Y_0 shown in diagrams Fig. 27.3 and Fig. 27.4 are same.

It should be noted that in the economy people who save may be different from people who invest. So saving and investment equilibrium is not automatic or natural. It so happens that people plan to save certain amount but ends up in saving different amount. In other worlds planned saving may be different from actual or realised saving. The difference in planned and actual amount could be due to unexpected changes in prices in the market and changes expectations of households etc. Similarly, firms may plan to invest certain amount in assets but may end up in procuring asset which are different in value as planned earlier. This difference arises due to increase or decrease in price of assets (machinery and equipment) availability of loan from banks etc. So planned and realized investments may or may not always equal. Keynes has termed "planned" as "exante" and "realised" as "expost".

Accordingly we have exante saving and investment and export saving and investment. Below the level of equilibrium income i.e. Y_0, there is excess demand as I > S. Similarly above Y_0 there is excess supply situation as S > 1. Because of excess demand or excess supply in the economy price level, expectations of people fluctuate. So exante and expost items are not equal. At the equilibrium level of

income Y_0, there is neither excess demand nor excess supply. Hence exante and expost saving and investment are equal at equilibrium level of income.

27.2.4 Concept of Effective Demand

According to Keynes who gave the theory of equilibrium income, the point E in figure 27.3 is the point is the point of effective demand. In other words effective demand in the economy refers to the point where aggregate demand equals the level of output in the short run given the price level. This implies that the equilibrium level of income reflects the effective demand in the economy.

INTEXT QUESTIONS 27.2

1. What is the difference between aggregate demand and consumption is called .....?
2. The rate at which aggregate demand increases is known as .....?
3. Differentiate between aggregate demand (AD) and Effective demand (ED) ?

27.3 MULTIPLER AND ITS WORKING

Every economy wants to increase its level of equilibrium income every year . You know that increase in income is a manifestation of economic growth which is necessary to raise the standard of living of the population. To achieve this, the economy must increase the level of investment. Increase in investment is expected to bring about multiple increase in income. This means that increase in income has to be more than increase in investment In such a case, increase in income can be expressed as the product of some numerical value greater than one and the increase in investment. So take an example, Let investment in the economy increases from 100 crores to 150 crores, increase in investment is 150-100 = 50 crores. Let us expect that level of income increases by 100 crores. Since $100 = 2 \times 50$, it can be said that increase in income is equal to two times the increase in investment. Given the increase of investment the number which is multiplied with it is called multiplier. In this example multiplier is 2.

27.3.1 Definition of Multiplier

In the above example we can say that the multiplier 2 which is derived by dividing 100 crores by 50 crores. This mean $2 = \frac{100 \text{ crores}}{50 \text{ crores}}$

We can put this symbolically. Here 100 crores is the increase in income . Denote it as ΔY. Denote 50 crores, which is increase in investment, as ΔI. The multiplier 2 can be denoted as k . Then we can write that

Multiplier $k = \Delta Y / \Delta I$

Hence, multiplier is defined as the ratio of increase in Income to increase in investment. Using this equaiton we can also write that

$$\Delta Y = k\Delta I$$

This implies that increse in income is equal to multiplier times increase in investment. Here value of k holds key to increase in income given the value of increase in investment.

If K = 1. Then $\Delta Y = \Delta I$

This means that increase in investment brings about same amount of increase in income. If $k > I$ (k is greater than I) then, increase in investment will bring about higher increase in income than itself. We always expect that multiplier should be greater than 1, so that increase in income will be higher than that of investment which can be termed as profitable.

27.3.2 Derivation of the Value of Multiplier

In the above example if value of multiplier becomes 3 then increase in income will be 3×50 crores = 150 crores. If multiplier becomes 4, then increase in income will be still higher at 4×50 crores = 200 crores. Higher value of multiplier is always desirable. What determines the value of multiplier ? You know that firms make investments and give employment to produce goods and services and sell them in the market. They expect that consumers should demand their product so that they get higher return which will result in higher level of income. This implies that consumption demand is the important factor in influencing the level of income. As already said in the lesson on consumption, saving and investment, consumption demand is itself influenced by marginal prosperity to consume (MPC) out of income of the household consumers. So, higher the MPC, hither will be consumption demand for goods and services produced by firms who have made investment to produce them. Higher consumption will push the revenue or income of these firms upwards. So, multiplier which is multiplied by the increase in investment is determined by MPC. Higher value of MPC will make multiplier higher and vice versa. It is also said earlier that MPC is written as 1-MPS. If the value of MPS is small, then MPC is large. Hence, multiplier is higher if MPC is higher or MPS is lower. Similarly if MPC is lower or MPS is higher, then multiplier will be lower.

To derive the value of multiplier involving MPC or MPS we can use the condition for attaining the equilibrium income as follows:

$$C + I = C + S$$

Since, $C + S = Y$,

so $C + I = Y$

Multiply Δ through out to get

$$\Delta C + \Delta I = \Delta Y$$

Divide all through by ΔY to get

$$\frac{\Delta C}{\Delta Y} + \frac{\Delta I}{\Delta Y} = \frac{\Delta Y}{\Delta Y}$$

We know that $\frac{\Delta C}{\Delta Y} = MPC$

Then $MPC + \frac{\Delta I}{\Delta Y} = 1$

or $\frac{\Delta I}{\Delta Y} = 1 - MPC$

Reversing both sides we get

$$\frac{\Delta Y}{\Delta I} = \frac{1}{1 - MPC} = \frac{1}{MPS}$$

Since $\frac{\Delta Y}{\Delta I} = k$ or multiplier, we can write

$$\text{Multiplier } K = \frac{1}{1 - MPC} \text{ or } \frac{1}{MPS} \qquad (6)$$

Using the value of multiplier we can write that

$$\Delta Y = \frac{1}{1 - MPC} \times \Delta I \text{ or } \frac{1}{MPS} \times \Delta I$$

Example : If MPS is 0.2 and investment increases by ₹ 200 crores what is the increase in income ?

Answer: $\Delta Y = \frac{I}{MPS} \times \Delta I$

$$= \frac{1}{0.2} \times 200$$

$= 5 \times 200$

$=$ ₹ 1000 crores

So, increase in income is ₹ 1000 crores

Example: Given that MPC is 0.75 and investment increases from ₹ 100 crores to ₹ 150 crores. Find out value of multiplier and increase in income ?

Ans: $\text{multiplier} = \dfrac{1}{1-\text{MPC}}$

$$= \frac{1}{1-0.75}$$

$$= \frac{1}{0.25} = 4$$

Increase in income is given as

$$\Delta Y = \frac{1}{1-\text{MPC}} \times \Delta I$$

$= 4 \times (150 - 100)$

$= 4 \times 50$

$=$ ₹ 200 crores

Example 3: Due to increase in investment from ₹200 crores to ₹ 280 crores, income increased from ₹1000 crores to ₹1240 crores. What is the value of multiplier ?

Ans : $\text{Multiplier} = \dfrac{\Delta Y}{\Delta I}$

$$= \frac{1200-1000}{280-200}$$

$$= \frac{240}{80} = 3$$

So value of multiplier = 3.

27.3.4 Working of Multiplier

It is found that given the value of MPC and increase in investment the increase in income can be determined. For example, if MPC = 0.5, ΔI = ₹100 crores then

$$\Delta Y = \frac{1}{1-0.5} \times 100 = 2 \times 100 = 200.$$

Here. we can ask a question, whether the increase in income is realized immediately or does it take place through various rounds? Infact we can show that the increase in income by ₹200 crores actually takes place through various rounds in the following manner:

Here, $\Delta Y = \frac{1}{1-0.5} \times 100$ crores

The multiplier. $\frac{1}{1-0.5}$ has the common ratio 0.5 which is less than 1. Using formula for geometric progression we can write that.

$$\frac{1}{1-0.5} = 1 + 0.5 + (0.5)^2 + 0.5^3 \text{ .....}$$

Hence, $\frac{1}{1-0.5} \times 100$ crores can be written as

$$= (1 + 0.5 + (0.5)^2 + (0.5)^3 + \text{.....}) \times 100 \text{ crores}$$

$$= 100 + 0.5 \times 100 + (0.5)^2 \times 100\ 0.5^3 + \text{.....}$$

$$= 100 + 50 + 25 + \text{.....}$$

$$= 200$$

$$= \frac{1}{1-0.5} \times 100 = \text{Rs } 200 \text{ crores}$$

or $2 \times 100 = 200$

We can present the above sequence in a tabular manner.

Table : Working of Multiplier

Taking above example:

Rounds	ΔI	ΔY
1.	₹ 100 crores	₹ 100 crores
2.	...	₹ 50 crores
3.	...	₹ 25 crores

Explanation: When investment increases by ₹ 100 crores, aggregate demand (AD) increases by ₹ 100 crores since investment is a part of AD. But at the point of equilibrium AD = Y. So, income also increases by ₹ 100 crores in the first round i.e.

This also implies that $\Delta AD = \Delta Y$.

ΔY = 100 crore in the first round.

In the second round, consumption increases due to increase in income. Since MPC = 0.5 and ΔY = ₹ 100 crores

Increase in consumption or $\Delta C = MPC \times \Delta Y = 0.5 \times 100$ = ₹ 50 crores.

As a result of increase in consumption by ₹ 50 crores AD also increase by ₹ 50 crores as consumption is part of AD. But AD = Y at equilibrium, (so $\Delta AD = \Delta Y$, as said above). Hence in the second round increase in income is ₹ 50 crores. So after two rounds increase in income or $\Delta Y = 100 + 50$ = ₹ 150 crores.

In the third round, increase in consumption or $\Delta C = MPC \times \Delta Y$ of second round. So $\Delta C = 0.5 \times 50$. But $50 = 0.5 \times 100$. Hence $\Delta C = 0.5 \times (0.5 \times 100) = (0.5)^2 \times 100$ = ₹ 25 crores.

Increase in consumption again leads to increase in AD and finally increase in income by ₹ 25 crores in the third round. So, after three rounds, total increase in income = 100 + 50 + 25 = ₹ 175 crores.

This way increase in income takes place through initial increase in investment and latter by increases in consumption through various rounds till It equals

$$\frac{1}{1-MPC} \times \Delta I \quad \text{or} \quad k \times \Delta I$$

INTEXT QUESTIONS 27.3

1. If MPS = 0.5, what is multiplier ?
2. If MPC = 0.8, what is multiplier?
3. If increase in investment is ₹ 50 crores and income increases from ₹ 1000 crores to ₹ 1200 crores then find out multiplier?

4. If MPC is more then multiplier is less. True/false
5. If MPS is higher, then multiplier is lower True/false
6. Given that MPC = 0.8 and increase in investment is ₹ 100 crores find out increase in consumption in the second round ? What is total increase in income after two rounds?

27.4 EXCESS DEMAND

You learnt that equilibrium level of income is determined at the point where aggregate demand (AD) equals the level of output (Y). Let us assume that the level of output is at the maximum possible level or potential level which is achieved by full utilization of the resources of the economy. This means that the economy output will not increase beyond the potential level. You also learnt that increase in AD through increase in investment , brings about increase in income. or output due to working of multiplier. Now think of a situation in which the economy is already operating at its potential level of output and there is increase in investment at that level. What will happen? Will the level of output increase further?

The answer is that the economy's output will not increase. However due to increase in investment, which is a type of fixed or autonomous expenditure, the aggregate demand (AD) will increase and exceed the level of potential output. Such a situation is called excess demand in the country.

So. excess demand refers to the situation when aggregate demand exceeds the potential level of output in the economy.

The result of excess demand is inflation in the economy. The reason is obvious. When people have more money to demand more goods and services while the supply of output is less than this, then the price level will rise to balance the demand and supply forces.

Diagrammatically excess demand is created when AD line shifts upwards at the level of equilibrium as shown in the diagram below.

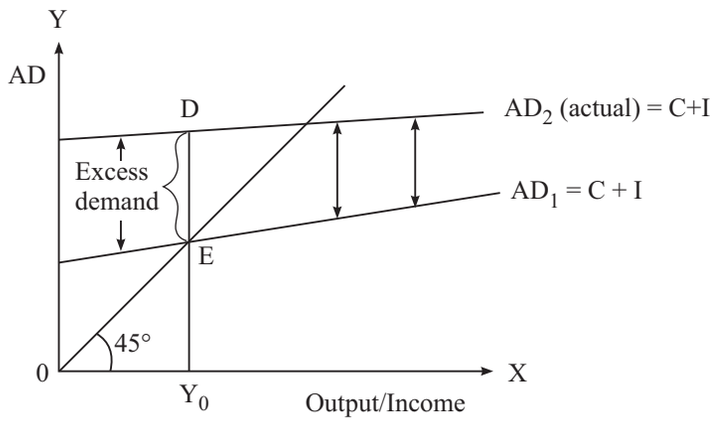

Fig. 27.5

In the diagram, it is shown that the equilibrium position is at point E, where aggregate demand line AD_1 meets 45 degree line. Let the economy be at equilibrium level of income. Now let aggregate demand increases from AD_1 to AD_2 due to increase in fixed investment or consumption. As a result a gap to the extent of DE is created which is the difference between the new and old aggregate demand. Here the income is not increasing beyond Y_0 after increase in AD. So the gap DE is the measure of excess demand in the economy. This gap is also called inflationary gap.

27.5 DEFICIENCY IN DEMAND

Deficiency in demand is exactly opposite to excess demand situation. When the economy is at its potential level and there is a fall in aggregate demand due to fall in autonomous consumption or investment, then it is called deficiency in demand. At this situation the output level seems to be in surplus in the market and people do not demand it thus putting pressure on price level to fall in order to balance the demand and supply forces. This creates deflationary pressure in the economy where deflation implies fall in prices of goods and services.

Diagrammatically, deficiency in demand is shown by the fall in AD line at the level of potential output as shown below in diagram.

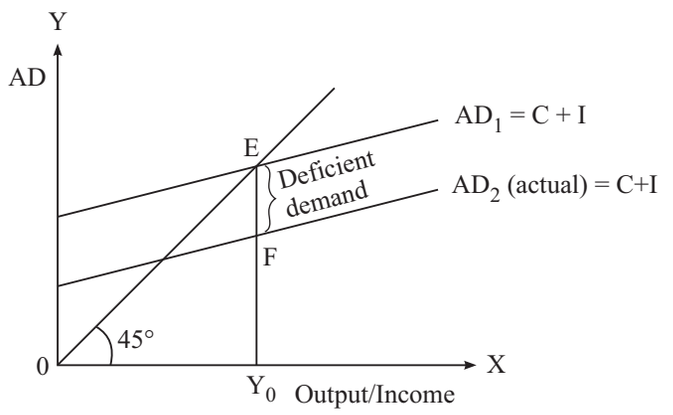

Fig. 27.6

In the diagram, equilibrium income is determined at point E where original aggregate demand, AD_1 cuts 45 degree line. The corresponding income at Yo is the potential level. Now at this level, AD_1 falls to AD_2 creating a gap EF without any fall in output. EF is the measure of deficiency in demand . This gap is also called deflationary gap.

Measures to correct excess and deficiency in demand:

Both inflation and deflation are bad for the society. Inflation reduces the purchasing power of the people so that they are not able to purchase the quantity they want causing reduction in their level of satisfaction. Poor and middle income group are worst affected by rise in the price level. Similarly, producers are worst affected by fall in prices or deflation. Their profit level falls due to fall in prices forcing them to reduce investment. This further causes employment level to fall. So the whole society gets badly affected by deflation.

Hence it is necessary to control inflation and deflation both. The measures or policies, implemented by the government to tackle these problems include:

(i) Fiscal policy

(ii) Monetary policy.

(i) Fiscal policy

Fiscal policy is the economic policy of the government that is concerned with (a) taxation (b) public expenditure and (c) public borrowing. The government uses fiscal policy to control the rising prices or deal with the situation of deflation. In case of inflation or excess demand situation the government can exempt the poor people from paying income tax and reduce the burden of tax on the middle class by increasing the limit of income level to be exempted from income tax.

At the same time government can increase the tax burden on the rich class who are capable of paying higher amount of tax. In case of tax on commodities, the government can tax the luxury items heavily, while reduce the taxes on necessary and normal goods extensively used by the population.

Along with taxation policy, the government must reduce public expenditure and public borrowing to control excess demand. Reduction in public expenditure and public borrowing reduces the supply of money thereby reducing inflation.

In case of deficiency in demand the government must increase its expenditure and borrowing to boost the economy. Public expenditure include expenditure on welfare of people, creation of infrastructure, investments to generate employment opportunities etc. For this government can borrow money to finance these schemes.

(ii) Monetary policy

The monetary policy is implemented by the country's centrol Bank. In case of India, it is the Reserve Bank (RBI) which implements monetary policy.

Monetary policy refers to credit control measures used by the central bank to regulate and control the level of credit creation by commercial banks. Too much

of credit supply by commercial banks crates excess demand in the economy while lack of credit facilities results in fall in money supply and deflation or deficiency in demand in the economy. Monetary policy aims at controlling the excess or deficiency in demand.

The following are the instruments of monetary policy.

(i) Bank rate

(ii) Open market operation

(iii) Variable reserve ratio

Bank rate is the rate at which the central bank discounts the securities of the commercial banks. It is also the rate at which commercial banks borrow money from the control bank. To check excess demand, the central bank increases the bank rate in order to control the borrowing capacity of the commercial banks so that they do not indulge in distribution of loans to the customers. As a result credit supply is checked. On the other hand, the central bank can decrease the bank rate to cure deflation.

Open market operation refers to buying and selling of securities by central bank. Normally the commercial banks are the buyers of such securities.

During inflation (excess demand situation) the central bank sells government securities to commercial banks in returns of money. As a result money supply in the economy falls causing prices to fall. During deflation, the central bank will buy back the securities by paying money to the commercial banks thus causing money supply to rise which cures deficiency in demand.

Certain percentage of the value of the asset of the commercial bank is kept as reserves in the central bank called variable reserve ratio. To central excess demand, the central bank will increase the variable reserve ratio. So, that commercial banks have to a part with larger amount of their asset with the central bank. This will reduce their ability to supply more money in the society. To tackle deflation, the central bank will decrease the variable reserve ratio which will have the opposite effect.

(Also see monetary policy in lesson 28).

A major reason of excess demand in the economy is increase in credit supply by banks in anticipation of creation of more output in future Increase in credit or money supply creates immediate increase in demand for goods and services and thus rise in prices. Similarly fall in credit or money supply creates deficiency in demand as people do not have enough money to buy goods and services leading to fall in price.

INTEXT QUESTIONS 27.4

1. Excess demand creates inflationary pressure. True/false
2. Deficiency in demand leads to increase in price True/false
3. Increase in money supply creates excess demand . True/false
4. Decrease in credit supply leads to deflation True/false.
5. Tax policy is a part of monetary policy. True or false.
6. Public expenditure should be increased to cure deflation. True or false.
7. Reduce public borrowing to cure excess demand. True of false.
8. Bank rate must be increased to allow increase in money supply.True or false.
9. Open market operation is a fiscal policy instrument. True or false.

WHAT YOU HAVE LEARNT

- The components of aggregate demand are household consumption demand, investment by firms, government expenditure and net exports.
- The equilibrium level of income is determined at the point where aggregate demand equals total output in the economy. symbolically. $C + I = C + S$ in a two sector economy.
- The point at which $C + I = C + S$ is also called effective demand.
- Multiplier is defined as the ratio of increase in income to increase in investment.
- Multiplier= $1/1 - MPC = 1/MPS$
- Increase in income = multiplier × increase in investment

  Or $\Delta Y = 1/1 - MPC \times \Delta I$
- Multiplier process involves increase in income through various rounds due to initial increase in investment and subsequent increases in consumption.
- Excess demand refers to increase in aggregate demand at potential level of output.
- Excess demand creates inflationary pressure in the economy.
- Deficiency in demand refers to fall in aggregate demand at the level of potential output.
- Increase in money supply creates excess demand in the economy, excess demand is also called inflationary gap.

- Decrease in money supply creates deficiency in demand in the economy. Deficiency in demand is also called deflationary gap.
- Excess and deficiency in demand can be corrected by using fiscal and monetary policies.
- Fiscal policy is the policy of the government with respect to taxation, public expenditure and public borrowing
- Excess demand (deficiency in demand) can be corrected by decreasing (increasing) public expenditure and public borrowing.
- Monetary policy is the policy of the central bank to control credit creation of commercial banks. The instruments of monetary policy are bank rate, open market operation and variable reserve ratio.
- Excess demand (Deficiency in demand) can be corrected by increasing (decreasing) bank rate, selling (buying) securities in the open market and increasing (decreasing) variable reserve ratio.

TERMINAL EXERCISE

1. Discuss the various components of aggregate demand in brief'?
2. Explain determination of equilibrium income in a two sector economy ? Give diagram.
3. Define multiplier and derive its value ?
4. Explain the working of multiplier through various rounds?
5. Define excess demand. Explain it by using suitable diagram?
6. Define deficiency in demand? Explain it by using suitable diagram?
7. What do you mean by effective demand? Use a suitable diagram to show it?
8. What are the components of fiscal policy?
9. How are they used to curb excess demand in the economy
10. What are the instruments of monetary polices? How are they used to cure excess demand in the economy
11. Explain the role of fiscal on monetary policies to check deficiency in demand?

ANSWERS TO INTEXT QUESTIONS

27.1

1. True
2. Net exports

3. Household
4. (b)

28.2

1. Investment
2. MPC
3. AD = C + I, ED in the point where C + I = C + S

27.3

1. 2
2. 5
3. 4
4. False
5. True
6. ₹ 80 crores, ₹ 180 crores

27.4

1. True
2. False
3. True
4. True