CHAPTER 4

INCOME DETERMINATION

- **Aggregate demand (AD)** refers to the aggregate expenditure on the purchase of goods and services (domestically produced) during an accounting year.

  $AD = C + I + G + X - M$

  where, C represents private consumption expenditure

  I represents private investment expenditure

  G represents government expenditure (both consumption and investment)

  $X–M$ represents net exports

- **Aggregate supply** (AS) refers to the aggregate production planned by all the producers during an accounting year.

  That is, $AS = C + S$

  Where, C represents aggregate private consumption expenditure

  S represents aggregate savings

- **Ex-ante investment** refers to the planned or intended investment during a particular period of time.

- **Ex-post investment** refers to the actual level of investment during a particular period of time.

- **Consumption function** refers to the relationship between consumption (C) and income (Y) in the economy.

  $C = \bar{C} + bY$

  where, C represents consumption

  $\bar{C}$ represents autonomous consumption (C when $Y = 0$)

  b represents MPC

  Y represents Income

- **Average Propensity to consume** is the ratio of consumption expenditure to a level of income

$$APC = \frac{C}{Y}$$

- **Fundamental Psychological Law** states that the consumption does not increase at a rate in which income increases.
- **Marginal propensity to consume** refers to the ratio of change in the consumer's expenditure due to the change in disposable income

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

Where, ΔC represents change in consumption

ΔY represents change in income

- **Saving function** refers to the relationship between savings (S) and income (Y).

$$S = -\bar{S} + sY$$

where, S represents savings

$\bar{S}$ represents autonomous savings

s represents MPS

Y represents income

- **Average propensity to save** is the ratio of savings to a level of income.

$$APS = \frac{S}{Y}$$

- **Marginal propensity to save refers** to the ratio of change in savings due to the change in the disposable income (Y_d).

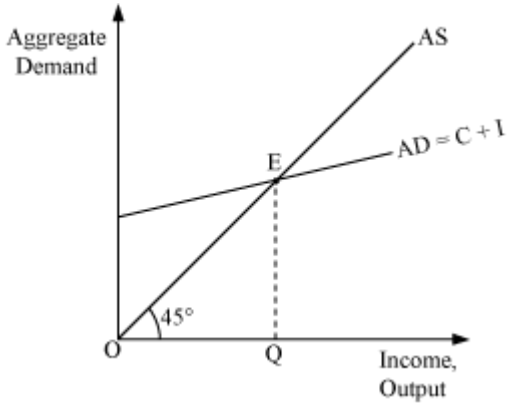
$$MPS = \frac{\Delta S}{\Delta Y_d}$$

- **Sum of MPC and MPS is always equal to unity i.e.**

$$MPC + MPS = 1$$

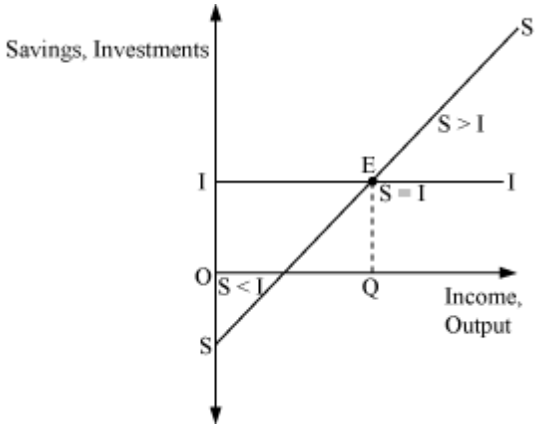
- **Determination of Equilibrium Income/ Output**
  - **AD and AS approach**

According to this approach, the equilibrium level of income is determined by the point where aggregate demand is equal to aggregate supply. Point E is the equilibrium where, AS (45° line) intersects AD. OQ represents equilibrium output.



- **S and I approach (Savings and Investments)**

  According to this approach, the equilibrium is determined where the savings and investment are equal to each other. E is the equilibrium under this approach.



- **Investment multiplier (output multiplier)** shows how a change in investment causes a multiple change in national income.

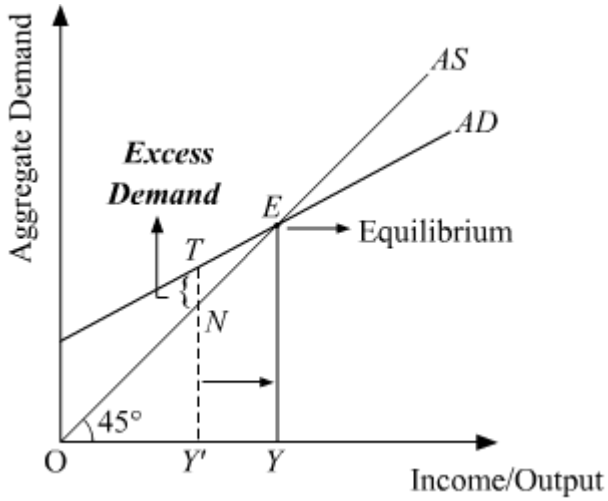
$$\text{Multiplier } (K) = \frac{\Delta Y}{\Delta I}$$

- Relationship between MPC, MPS and Multiplier

$$\text{Multiplier } (K) = \frac{\Delta Y}{\Delta I} = \frac{1}{1 - MPC} = \frac{1}{MPS}$$

- **When Aggregate Demand exceeds Aggregate Supply ($AD > AS$)**

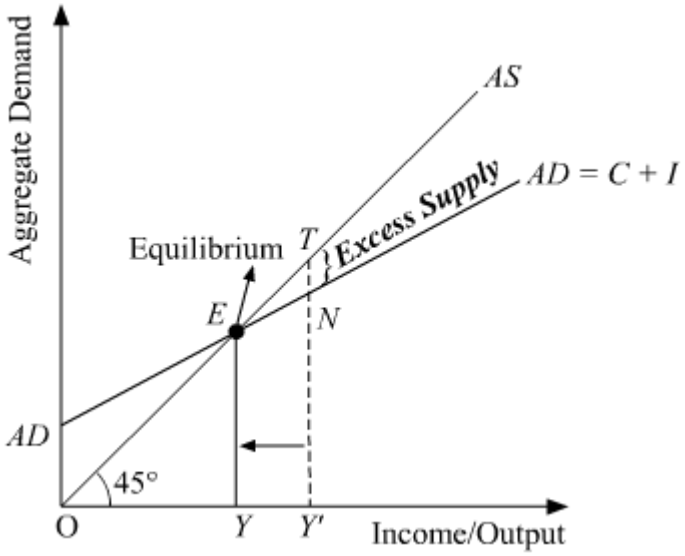
In case, if *AD* > *AS*, then it implies a situation, where the total demand for goods and services is greater than the total supply of the goods and services.



AD > AS ⇒ Excess Demand ⇒ Producers draw down their inventories and increase production ⇒ Increase in employment of factors of production ⇒ Employment level and Income rises ⇒ Income rises sufficiently to equate AD with AS ⇒ Equilibrium Restored.

- **When Aggregate Supply exceeds Aggregate Demand (*AS* > *AD*)**

In case, if *AS* > *AD*, then it implies a situation, where the total supply of goods and services is greater than the total demand for the goods and services.

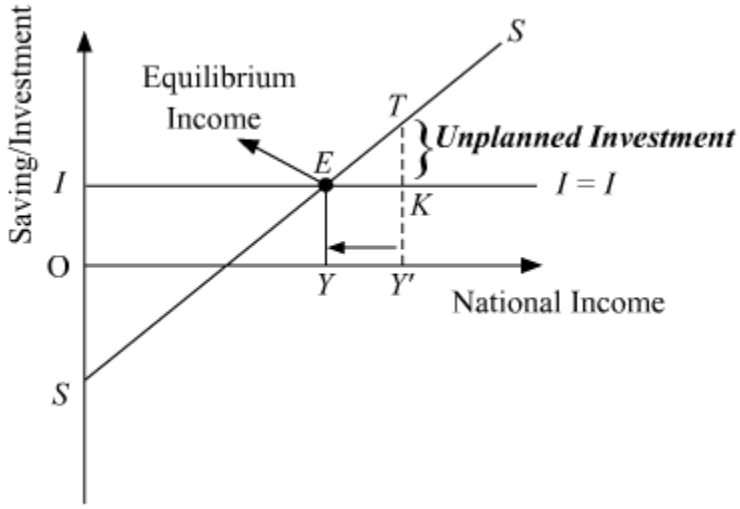


AS > AD ⇒ Deficit Demand ⇒ Producers experience piling up of stock or inventory accumulation ⇒ Decrease in employment of factors of production ⇒ Employment Level and

Income Falls ⇒ Income and Output Fall Sufficiently to equate AD with AS ⇒ Equilibrium Restored.

- **When Savings exceed Investments (*S* > *I*)**

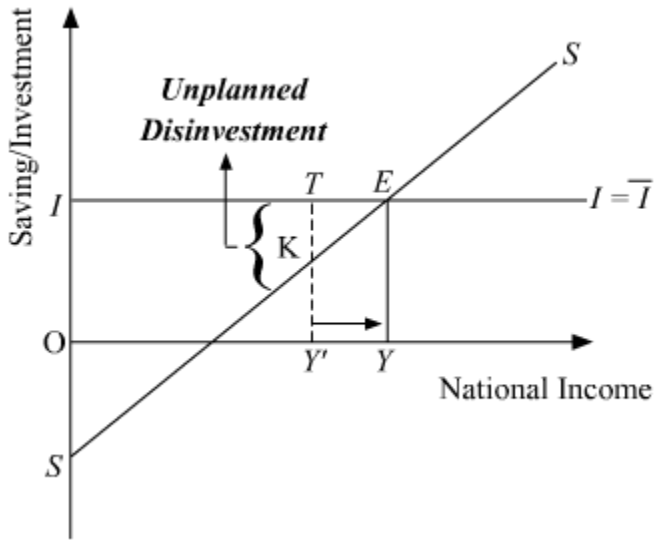
The situation when saving exceeds investment implies a situation where withdrawal from the circular flow of income is greater than injections into the circular flow of income.



S > I ⇒ Total consumption expenditure is less than what is required to purchase the available supply of goods and services ⇒ A portion of the supply remains unsold ⇒ Unplanned inventory accumulation ⇒ Producers plans a cut in the production and employment of factors of production ⇒ Aggregate Income in the economy falls ⇒ Aggregate saving falls ⇒ Savings fall sufficiently to equate S with I ⇒ Equilibrium restored.

- **When Investments exceed Savings (*I* > *S*)**

The situation when *investment* exceeds saving implies a situation where injections into the circular flow of income is greater than withdrawals from the circular flow of income.

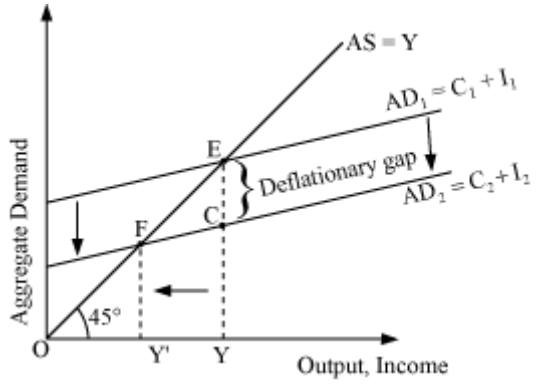


I > S ⇒ Total consumption expenditure is greater than what is required to purchase the available supply of goods and services ⇒ Unplanned inventory depletion ⇒ Producers plans to increase production and employment of factors of production ⇒ Aggregate Income in the economy rises ⇒ Aggregate saving rises ⇒ Saving rises sufficiently to equate S with I ⇒ Equilibrium restored.

- **Deficit demand** is a situation which occurs when the actual or equilibrium level of Aggregate Demand (AD_E) falls short of the full employment level of output (AD_F).

  i.e. if, $AD_E < AD_F$ (situation of Deficit Demand)

  Due to Deficit Demand, there exists a difference (gap) between the full employment level of Aggregate Demand and actual level of demand. This difference is termed as Deflationary Gap.

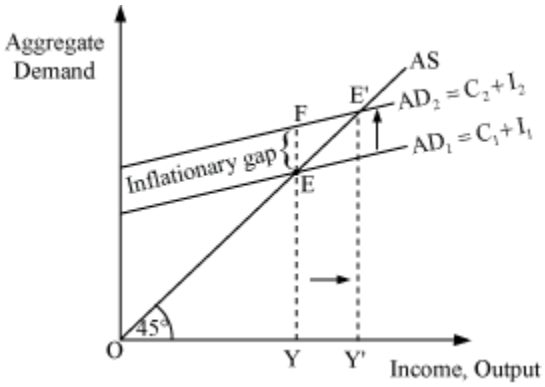


Deflationary Gap $= EY - CY = EC$

- **Excess demand** is a situation where the actual Aggregate Demand for output (AD_E) is more than the full employment level of output (AD_F)

i.e. if, $AD_E > AD_F$ (situation of Excess Demand)

Due to Excess Demand, there exists a difference (gap) between the actual level of Aggregate Demand and full employment level of demand. This difference is termed as Inflationary Gap.



Inflationary Gap $= FY - EY = FE$

- **Fiscal policy** is the policy undertaken by the government to influence the economy through the process of expenditure (government expenditure, subsidies and transfer payments) and revenue collection (taxation).
- **Monetary policy** is the policy under which the monetary authorities through its measures (like bank rate, CRR, SLR, margin requirements, SCC and moral suasions) affects the money supply in the economy.
- **Effective demand** refers to a situation in which equilibrium output is determined solely by the level of aggregate demand.

- **Say's law of market** states that 'supply creates its own demand'. This implies that the quantity produced will always be demanded in the market. There will be full employment of income and product.