1

AGGREGATE DEMAND AND AGGREGATE SUPPLY UNDER IS-LM MODEL

Unit Structure:

1.0 OBJECTIVES

- To understand the derivation of Aggregate Demand Curve with IS-LM model
- To discuss the Aggregate Supply Curve
- To study the determination of Aggregate National Income and Price Level under Aggregate Demand and Aggregate Supply model
- To Understand Extension of IS-LM model with Labour Market and Flexible Prices

1.1 INTRODUCTION

Before understanding the derivation of Aggregate Demand Curve with the IS-LM model, it would be important to get familiar with the concepts of Aggregate Demand and IS-LM as discussed below:

1.2 MEANING OF AGGREGATE DEMAND

Macroeconomics is a study of aggregates and averages.Thus,the focus, as far as demand and supply of goods and services are concerned, is on total / all goods and services produced by an economy. Accordingly, the demand for all individual goods and services is also combined in macroeconomics and is referred to as aggregate demand.

In short, Aggregate demand refers to the total demand for final goods and services in an economy. Or It is the total (final) expenditure of all the units of the economy, i.e., households, firms, government, and the rest of the world on final goods and services.

Therefore,

$AD = C + I + G + (X – M)$

Where,

AD = Aggregate Demand

C=Household consumption expenditure

I=Investment expenditure

G=Government expenditure

(X – M)= Exports - Imports (Net exports)

1.3 AGGREGATE DEMAND CURVE

The Aggregate demand is determined by a number of factors; one of them is the price level. An aggregate demand curve shows the total spending on domestic goods and services at each price level. Thus, the aggregate demand curve represents the total quantity of all goods (and services) demanded by the economy at different price levels.

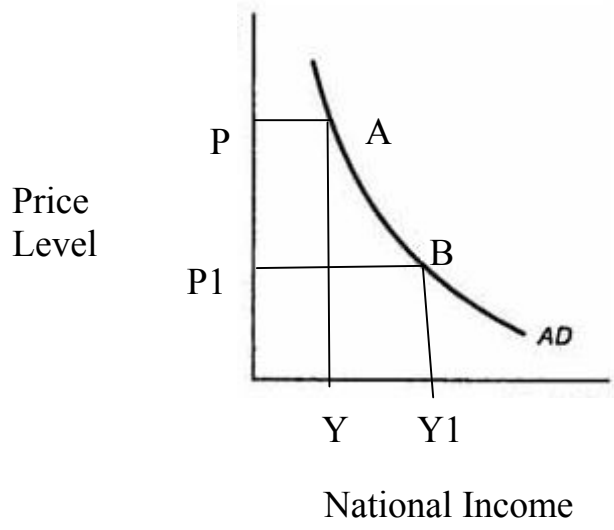
Thus, the aggregate demand curve shows a relationship between aggregate demand and the general price level.

A fall in the general price level, causes an increase in AD and similarly,

A rise in the general price level causes a decrease in AD

Therefore, the aggregate demand curve becomes a downward sloping curve as shown in the diagram below:

Figure No. 1.1



1.4 INTRODUCTION TO IS-LM MODEL

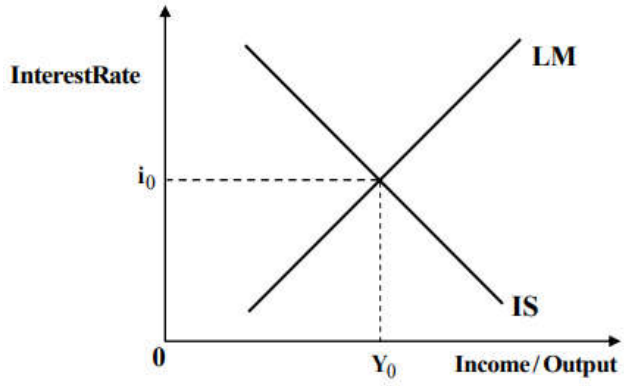
The IS-LM model is also known as the Hicks-Hansen model. It is a macroeconomic tool which is being used to show the relationship between interest rates and national income.

In this model, IS (Goods Market Equilibrium) refers to Investment-Saving while LM (Money Market Equilibrium) refers to Liquidity preference (Demand for money)-Money supply. These curves are used to model the general equilibrium in the economy.

The IS curve is downward sloping because as the interest rate falls, investment increases, leading to increase in national income. Thus, the IS curve is a downward sloping curve showing the inverse relationship between interest rate and national income. While, the LM curve is upward sloping because higher national income results in higher demand for money, thus, resulting in higher interest rates. This is how the LM curve is an upward sloping curve showing a direct relationship between interest rate and national income.

The intersection of both the IS and LM curves shows the equilibrium interest rate and national income level when both goods and money markets are in equilibrium as shown in the diagram below:

Figure No. 1.2



The IS – LM intersect each-other at point E. This point shows that at this particular point both markets are in equilibrium with the equilibrium level of income as Y0 and interest rate as i0. At point E economy is in equilibrium for a given price level. Therefore, an important assumption for this analysis is that the price level remains constant.

The change in price level in the above model is the basis of derivation of Aggregate Demand curve in IS-LM model.

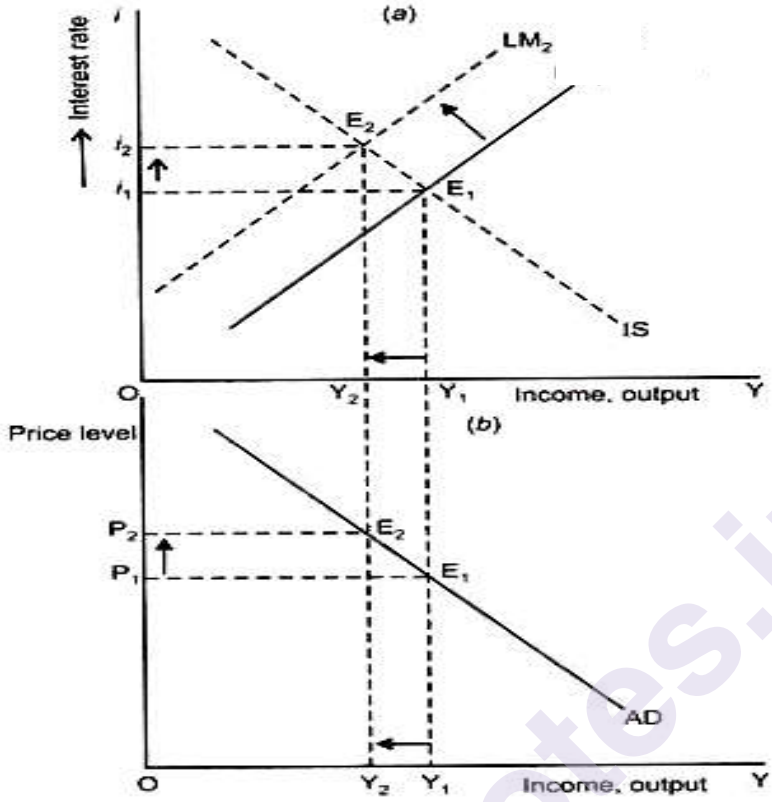
1.5 DERIVATION OF AGGREGATE DEMAND CURVE IN IS-LM MODEL

As explained above, the aggregate demand curve shows the inverse relation between the general price level and the level of national income and changes in the price level helps in deriving the aggregate demand curve in the IS-LM model.

Changes in price level affect the LM curve. Assuming the supply of money is constant, if there is an increase in price level, demand for money falls leading to a left shift in LM curve and vice-versa.

The derivation of Aggregate Demand curve on the basis of shift in the LM curve is explained below with the help of diagram:

Figure No. 1.3



In the above diagram-

IS= Initial Goods market equilibrium curve

LM1= Initial Money Market Equilibrium Curve

LM2 = New Money Market Equilibrium Curve after increase in price level

AD = Aggregate demand curve

E1= Initial Equilibrium point

E2 = New equilibrium point

In the upper diagram, there is a shift in the LM curve to the right from LM1 to LM2 due to increase in price level. This increase in price level shifts the equilibrium point from E1 to E2 and thereby causes a rise in interest rate from i1 to i2. Such a rise in price level further results in decrease in national income in the lower diagram. By shifting points E1 and E2 from upper diagram to lower diagram one can get a downward sloping AD curve which shows an inverse relationship between price level and national income level as explained above.

Thus, the aggregate demand curve is a locus of points showing various combinations of Price level and national income levels that are consistent

with the general equilibrium of the goods market and money market, i.e., equilibrium interest rate and national income as shown by the intersection of the IS and LM curves.

1.6 AGGREGATE SUPPLY CURVE

The aggregate supply curve shows the relationship between the price level and the quantity of goods and services supplied in an economy (with the objective of profit maximization).

In other words, the aggregate supply curve measures the relationship between the price level of goods supplied to the economy and the quantity of the goods supplied. In the short run, the supply curve is relatively elastic (flatter), whereas, in the long run, it is relatively inelastic (steeper).

Rising prices are usually an indication that businesses should increase production to meet increased aggregate demand.When demand rises in the face of constant supply, consumers compete for the goods available and, as a result, pay higher prices. Due to this dynamism, the firms are induced to increase output in order to sell more goods.

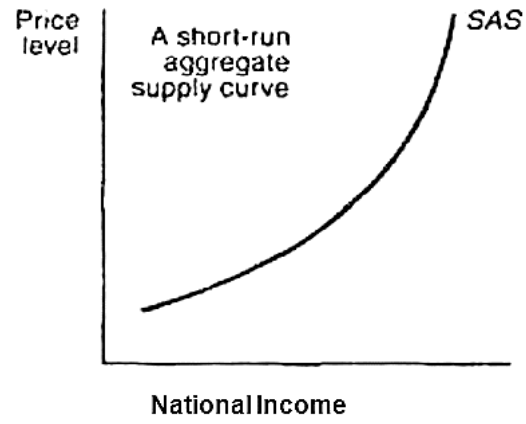
- **Short-run Aggregate Supply Curve (SRAS):**

The short-run is defined as the period that begins immediately after a price increase and ends when input prices have increased in proportion to the price increase. In the short run, sellers of finished goods receive higher prices for their goods without a proportional increase in the cost of their inputs. Therefore, higher the price level, the more willing these sellers will be to supply.

(The SRAS curve is based on the assumption that input providers do not or cannot immediately account for increases in the general price level, so it takes some time–referred to as the short run–for input prices to fully reflect changes in the price level for final goods.)

Thus, the SRAS curve, depicted in the below diagram is upward sloping, reflecting the direct/positive relationship between the price level and the quantity of goods supplied in the short run.

Figure No. 1.4

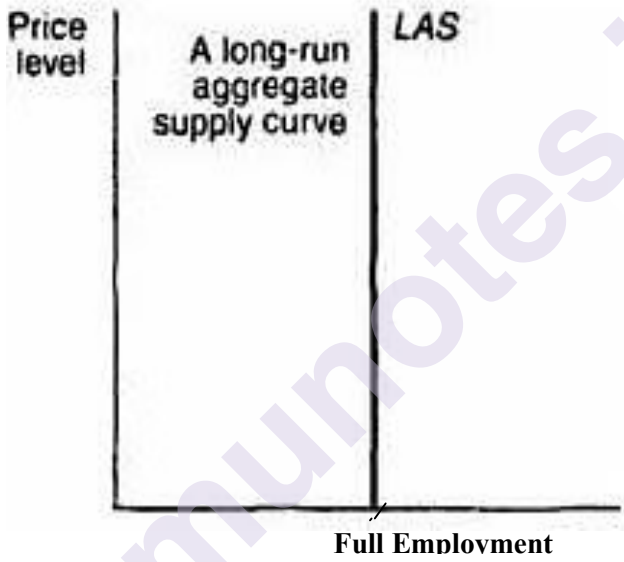


- **Long-run Aggregate Supply Curve (LRAS):**

The long-run is defined as the time period during which input prices have completely adjusted to changes in the price level of final goods.In other words, in the long run, the increase in prices received by sellers for their finished goods is completely offset by the proportional increase in prices paid by sellers for inputs.

As a result, the total amount of output (National Income) supplied by all sellers in the economy is unaffected by changes in the price level. And therefore, LRAS curve, depicted in the diagram below, is a vertical line, indicating that changes in the price level have no effect on long-run aggregate supply. Further, the LAS curve is vertical at full employment level which is defined as the level of national output that occurs when all of the economy's available resources are fully utilized.

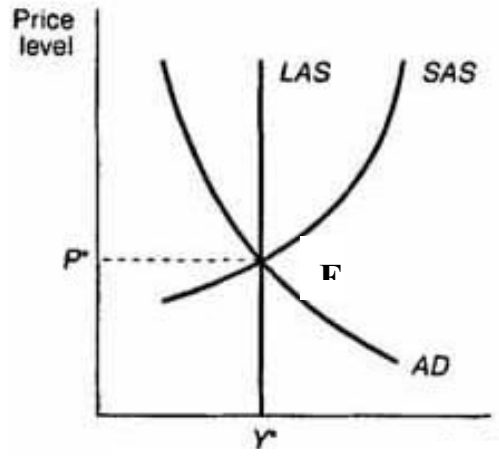
Figure No. 1.5



1.7 DETERMINATION OF AGGREGATE NATIONAL INCOME AND PRICE LEVEL UNDER AS-AD MODEL

The determination of Aggregate National Income and Price Level under AS-AD model happens at the point where aggregate demand curve and aggregate supply curve (both short run and long run curves) intersect each other as shown in the diagram below:

Figure No. 1.6

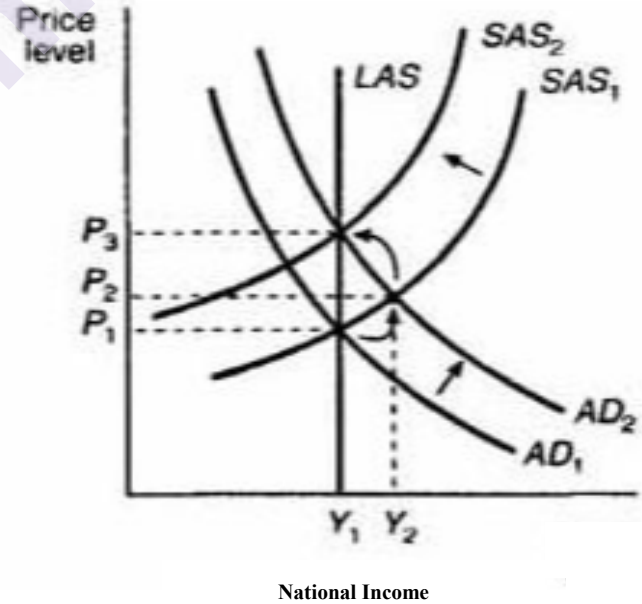


In the above diagram equilibrium price level OP and equilibrium national income OY is determined at point E where Aggregate Demand (AD) curve, Short run aggregate supply curve (SAS) and Long run aggregate supply curve (LAS) are intersecting each other.

- **Effects of increase in AD when the economy operates at full employment level:**

The diagram below shows the situation when there is an increase in aggregate demand represented by the shift in the aggregate demand curve to the right from AD1 to AD2.

Figure No. 1.7



The diagram above deals with the case where there is zero economic growth because the economy is already at full employment level, when aggregate demand increases.

In such a situation, when AD increases from AD1 to AD2, the equilibrium price level increases from P1, to P2, and national increases above its full employment level, from Y1 to Y2 this is because input prices have not yet risen in response to the increase in the price level for final goods and the economy is still operating along the initial SAS curve i.e. SAS1.

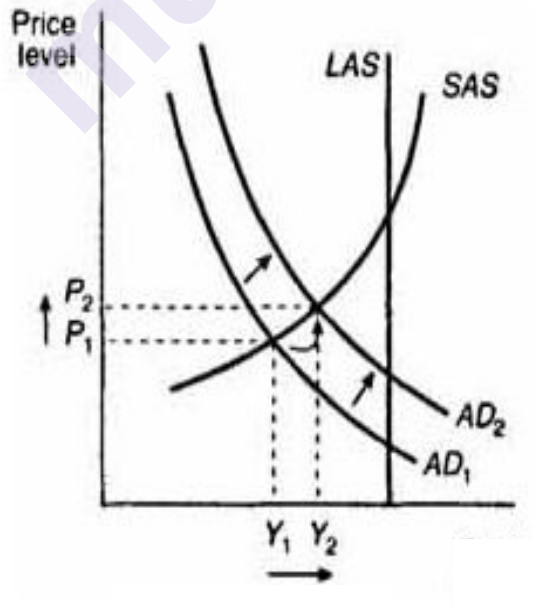
However, since the economy is already operating at full employment level, input providers will demand higher prices resultantly Production costs will therefore increase, and the national income will be reduced. This is represented by the shift of the SAS curve from SAS1 to SAS2. The end result is a higher price level P3, at the same full employment level Y1.

- **Effects of increase in AD when the economy does not operate at full employment level:**

In this case, the increase in the equilibrium price level does not lead to an increase in input prices because the economy is not fully employing all of its input resources. When unemployed inputs are available, input prices do not tend to rise. The result, in this case, is that the SAS curve does not shift left (there is movement along the same SAS curve) and cancel out the increase in national income brought about by the increase in aggregate demand.

The effects of increase in AD when the economy does not operate at full employment level is depicted in the diagram below:

Figure No. 1.8

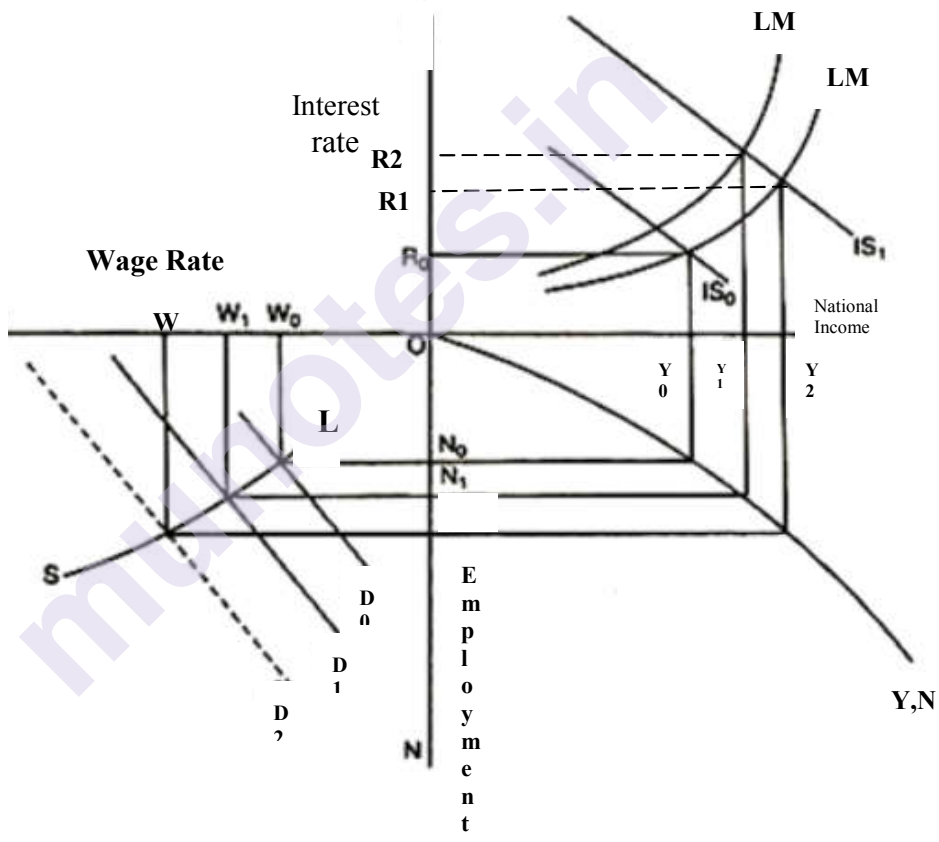


As shown in the diagram above, an increase in aggregate demand from AD1 to AD2, causes both an increase in the equilibrium price level from P1 to P2, and an increase in the equilibrium level of national income from Y1 to Y2.

1.8 EXTENSION OF IS-LM MODEL WITH LABOUR MARKET AND FLEXIBLE PRICES

This extension deals with the general equilibrium (IS-LM) that has been shown by the three markets (goods, labour, money) having been combined in the diagram below. Thus, the diagram shows that there is equilibrium in all the markets simultaneously in the economy.

Figure No. 1.9



Part A contains the LM—IS curves and shows the equilibrium of good and money markets. Part B relates the level of employment to the National Income/output produced in the economy and Part C shows the labour market.

In the diagram,

IS0= Initial Goods market equilibrium curve

LM0= Initial Money market equilibrium curve

IS1= New Goods market equilibrium curve after expansionary fiscal policy

LM1= Money market equilibrium curve after price rise

Y,N = Income-employment curve

LS= Labour supply curve

D0 = Initial demand for labour curve

D1, D2 = New demand for labour curve

The initial equilibrium in the goods market is at the point where IS0 and LM0 intersect each other where equilibrium interest rate is R0 and national income is Y0. At this equilibrium of national income,the number of labourers employed in the economy are N0 at wage rate W0, where D0=LS.

Now with the expansionary fiscal policy, IS0 becomes IS1. Because of this, the interest rate rises to R1 and national income increases to Y1. This rise in Y1 results in an increase in employment level to N1 and increase in wage rate to W1 (where D1=LS).

Under a flexible price regime, if we consider the case of price level, the price rise will increase the size of the demand for money. If the money supply remains fixed, this increase in demand for money will shift the LM curve from LM0 to LM1. The interaction between LM1 and IS1, increases interest rate to R2 and income level to Y2. This further results in the rise in employment level to N2 and increase in wage rate to W2 (where, D2=LS).

1.9 SUMMARY

Aggregate demand refers to the total demand for final goods and services in an economy and therefore, the aggregate demand curve represents the total quantity of all goods (and services) demanded by the economy at different price levels.Thus, the aggregate demand curve is downwards sloping curve as it shows inverse relationship between the two variables. Changes in price level affecting the shift in LM curve is the basis of the derivation of Aggregate Demand curve in IS-LM model.

The aggregate supply curve shows the relationship between the price level and the quantity of goods and services supplied in an economy and it is an upward sloping curve, reflecting the direct/positive relationship between the price level and the quantity of goods supplied in the short run. However, the total amount of output (National Income) supplied by all sellers in the economy is unaffected by changes in the price level in the long run and therefore, AS curve, is a vertical line, indicating that changes in the price level have no effect on long-run aggregate supply.

The determination of Aggregate National Income and Price Level under AS-AD model happens at the point where aggregate demand curve and aggregate supply curve (both short run and long run curves) intersect each other.

1.10 QUESTIONS

- Explain the Meaning of Aggregate Demand and also explain the Derivation of Aggregate Demand Curve in IS-LM Model
- Explain the Meaning of Aggregate supply and also explain the Derivation of Aggregate Supply Curve in short-run and long run.
- Discuss the extension of IS-LM model with Labour Market and Flexible Prices.

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2

LONG-RUN PHILIPS CURVE

Unit Structure:

2.0 OBJECTIVES

- To understand the nature of Long-run Philips Curve
- To discuss Friedman's Expectation Model, Tobin's modified Philips Curve with Adaptive Expectations and Rational Expectations

2.1 INTRODUCTION TO LONG-RUN PHILIPS CURVE

Prof. Philips in his analysis of the inverse inflation-unemployment relationship had covered a period of about fifty years. The studies on U.S. data in the 1960s, 1970s and 1980s reveal that the Phillips curve is valid only in the short-run because its position goes on shifting in the long run. This led to the conclusion that "there exists either no or weak relationship between inflation and unemployment in the long run".

Edumond Phelps and Milton Friedmon tried to trace the long run behaviour of Phillips Curve. Between the two, Friedman's theory of Natural Rate of Unemployment is widely accepted as an explanation of inflation-unemployment relationship in the long run.

2.2 FRIEDMAN'S LONG-RUN PHILIPS CURVE WITH EXPECTATION MODEL

On the basis of Phillips Curve and macroeconomic theory Milton Friedman tried to explain the shifts in Phillips curve in the long run and derived a long run Philip's Curve.

In the opinion of Friedman, Philip's curve is valid only in the short-run. He argues that the long run is characterised by the existence of only a single rate of unemployment at any rate of inflation. This rate for him is the

natural rate of unemployment. This rate is known as 'Non-Accelerating-Inflation Rate of Unemployment (NAIRU)'.

Thus,the natural rate of unemployment is the rate at which the current number of unemployed is equal to the number of employment available in the labour market. These unemployed workers are not employed for the reasons, like-.the fresh graduates may spend a good deal of time searching for the suitable jobs or there can be unemployment in some industries which experience decline in their production etc. It is these kinds of unemployment that constitute the natural rate of unemployment. It is believed that the 4% to 5% rate of unemployment represents a natural rate of unemployment in the developed countries.

Another important thing to be noted is that expectations about the future rate of inflation play an important role in determining the natural rate of unemployment. Friedman put forward a theory of adaptive expectations according to which people form their expectations on the basis of previous and present rate of inflation, and change or adapt their expec-tations only when the actual inflation turns out to be different from their expected rate.

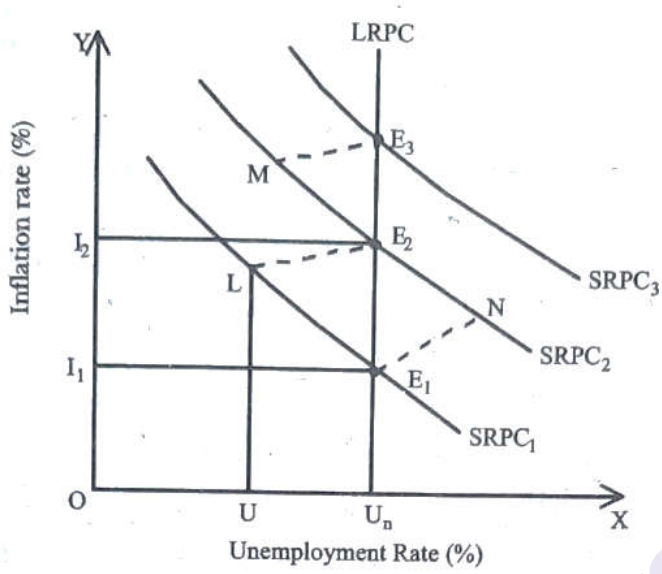
According to Friedman's theory of adaptive expectations, there may be a tradeoff between rates of infla-tion and unemployment in the short run, but there is no such trade off in the long run.

The essential highlights of Friedman's theory are:

- Permanent elimination of NAIRU is not possible despite expansionary monetary and fiscal policies.
- Expansionary policies accelerate the rate of inflation.
- These policies bring an upward shift in Philip's Curve.
- The upward movement of the Phillips curve indicates higher levels of unemployment and inflation.
- Ultimately Phillips Curve becomes a vertical straight line.

Friedman's construction of the Long Run Phillips Curve (LRPC) can be explained with reference to Fig. given below:

Figure No. 2.1



In the above figure,

SRPC1 – SRPC2 – SRPC3 — Short Run Phillips Curve

LRPC — Long Run Phillips Curve

Un — Natural Rate of Unemployment

Let us assume that the economy is currently experiencing a rate of inflation equal to I1. The other assumption is that nominal wages have been set on the expectations at I1 rate of inflation which will con-tinue in the future.

Let us start with position E1 at which inflation rate is I1 and Unemployment Rate Un. These rates are consistent with potential output. The government, feeling that Un is a high rate of unemployment, adopts expansionary monetary policy to reduce it. Since at E1 the economy is producing full employment level output expansion of money supply causes increase in prices; which reduces real wages. Fall in real wages induces the employers to increase the demand for labour leading to higher employment (Lower Unemployment at U). High prices and low unemployment shifts the inflation-unemployment trade-off point from E1 to L along SRPC1. At this point we can notice higher inflation and lower unemployment.

This situation will continue to exist in the short run so long as the labourers accept low real wages for a variety of reasons such as period of wage agreement, ignorance about futureprice rise, slow rise in price level causing no serious impact of inflation etc. During this time-lag the real wages decline as also unemployment rate is below natural rate (point 1).

Role of Expectation:

The picture, as described above, changes in the long run due to demand for rise in money wages to push up the real wages at previous level. This is where the role of adaptive expectations comes into the picture. In economics, adaptive expectations is a hypothesized process by which people form their expectations about the future based on what had happened in the past. For example, if people want to create an expectation of the future inflation rate, they can refer to past inflation rates.

The short-run Phillips Curve Analysis did not take into account the changes in the price increase expectations for the long-run. This occurs at the time of renewal of wage agreement. By this time the workers realize the pinch of inflation through fall in real wages. The trade unions pressurize the employers for increase in real wages through upward revisions of money wages. This leads to decline in the demand for labour causing an upwards shift, in the labour market from L to E2. This implies an increase in inflation and unemployment rates. This is stagflation which implies increase in prices without corresponding rise in employment and output.

At point E2, with higher inflation and natural rate of unemployment the government has to make a choice between the two. In a sense the state has to trade-off between the two i.e. whether to

- Accept existing situation
- Reduce unemployment below natural rate
- Reduce inflationary pressure.
- In case the government accepts the existing levels of inflation and unemployment the economy will be stagnated at point E.
- If in the opinion of the policy makers the natural rate of unemployment is intolerable and has to be brought down to the targeted level, they have to follow the expansionary policy like increase in money supply. This approach will raise the price level further but will pull the quantum of unemployment below the natural rate. This is revealed by the movement from point E2 to point M and further from M to E3. It is clear that expansionary policy causes an upward shift in Phillips Curve. At point E3 economy operates at a natural unemployment rate with higher level of inflation.
- Alternatively, the government may choose to reduce inflationary pressure through the use of various anti-inflationary devices consisting of monetary, fiscal as well as physical measures. The lowering of price level leads to rise in real wages causing decline in demand forlabour and the consequent rise in unemployment. This is evident from the movement from E2 to N on SRPC2.

Thus, in the long run the shift in Phillips Curve establishes different equilibrium positions such as E1, E2, E3 etc. The Long-Run Phillips Curve (LRPC) can be obtained by joining these positions. It can be noticed that LRPC is obtained as a vertical straight line. This is how on the basis of the adaptive expectations theory, Milton Friedman constructed the long run Phillips Curve. On this curve-

'The trade-off between inflation and unemployment is not-existent. At any rate of inflation the unemployment is at a natural rate.'

Further, it is important to know that adaptive expectations theory has also been applied to explain the reverse process of disinflation, that is, fall in the rate of inflation as well as inflation itself.

Criticism:

The vertical long-run Phillips curve given by Friedman is criticised on following grounds:

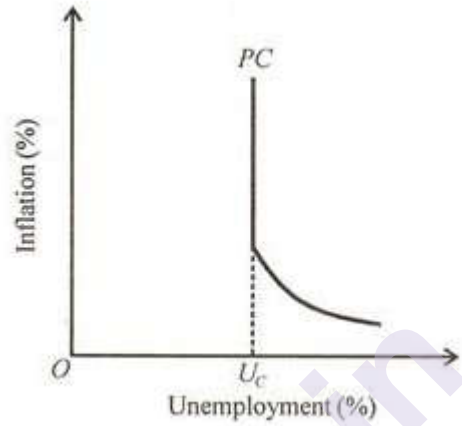
- The vertical long-run Phillips curve relates to a steady rate of inflation. But this is not a correct view because the economy is always passing through a series of disequilibrium positions with little tendency to approach a steady state.
- Friedman does not explain how expectations are formed that would be free from theoretical and statistical bias.
- Some economists point out that people do not anticipate inflation rates correctly, particularly when some prices are almost certain to rise faster than others.
- Friedman himself accepts the possibility that the long-run Phillips curve might not just be vertical, but could be positively sloped with increasing doses of inflation leading to increasing unemployment.
- Some economists have argued that wage rates do not increase at a high rate of unemployment.
- Some economists believe that workers are more concerned with the increase in their money wage rates than real wage rates.
- Saul Hyman has estimated that the long-run Phillips curve is not vertical but is negatively sloped. According to Hyman, the unemployment rate can be permanently reduced if we are prepared to accept an increase in inflation rate.

2.3 TOBIN'S MODIFIED PHILIPS CURVE

James Tobin in his presidential address before the American Economic Association in 1971, proposed a compromise between the negatively sloping and vertical Phillips curves. Tobin believes that there is a Phillips curve within limits.

According to him, as the economy expands and employment grows, the curve becomes even more fragile and vanishes, until it becomes vertical at some critically low rate of unemployment. Thus, Tobin's Phillips curve is kinked-shaped, partly like a normal downward sloping Phillips curve and the rest vertical like that of Friedman, as shown in Figure below:

Figure No. 2.2



In the figure Uc is the critical rate of unemployment at which the Phillips curve becomes vertical where there is no trade-off between unemployment and inflation. According to Tobin, the vertical portion of the curve is not due to increase in the demand for more wages but emerges from imperfections of the labour market.

At the Uc level, it is not possible to provide more employment because the job seekers have wrong skills or wrong age or sex or are in the wrong place. Regarding the normal portion of the Phillips curve which is negatively sloping, wages are sticky downward because labourers resist a decline in their relative wages. For Tobin, there is a wage-change floor in excess supply situations. In the range of relatively high unemployment to the right of Uc in the figure, as aggregate demand and inflation increase and involuntary unemployment is reduced, wage-floor markets gradually diminish. When all sectors of the labour market are above the wage floor, the level of the critically low rate of unemployment Uc is reached.

2.4 ADAPTIVE EXPECTATIONS AND RATIONAL EXPECTATIONS

Expectations play an important role in decision-making. Eg. During the rainy season when one moves out, he may look at the sky or listen to the weather forecast and if he expects that it might rain later in the day, he can carry an umbrella. In a similar manner, economic agents form expectations about economic variables (such as prices, demand, government policy, etc.) and make decisions. Eg. If a producer expects that demand for his products will increase in the coming years, he would plan to increase his production capacity.

Economists have recognized the role of expectations in economic behavior for a long time. Keynes speaks about expectations of people, but he does not include it in his analysis. Formal treatment of expectations in economic theory however began in the 1950s. There are two important hypotheses of expectations, viz., (i) adaptive expectations, and (ii) rational expectations.

1. Adaptive Expectations

Adaptive expectations take into account past behavior of a variable. Suppose price level for time period (t) is *P*t and we put a superscript 'e' to indicate expected price level. Thus expected price level in period (t) is *P*te . According to adaptive expectations,

$$\boldsymbol{P}te = \boldsymbol{P}te\text{-}1 + \lambda\ (\boldsymbol{P}t\text{-}1 - \boldsymbol{P}te\text{-}1)$$

where *P*t-1 is the price level in the previous time period, and λ is a parameter such that it takes values between 0 and 1.

The above equation can be interpreted as follows:

During previous year economic agents (say, households and firms) expected price level to be *P*te-1 but, Actual price however turned out to be *P*t-1. Thus, there is a forecast error of (*P*t-1 − *P*te-1). Of these forecast error, people will update their expectations by adding λ (*P*t-1 − *P*te-1) to previous year's expected price. Thus, people would like to update their expectations, and rectify part of the error they committed during the previous year.

Eg. Suppose, in 2020 firms expected the inflation rate (P) to be 3 per cent (*P*te -1). In reality, inflation rate turned out to be 6 per cent (*P*t -1), thereby resulting in an error of 3 per cent. What should be the expected inflation rate in 2021 (value of *P*te)? Obviously, firms would update their expected inflation rate for the current year and they would expect a higher rate of inflation in 2021. Suppose, firms have learnt from past experience that about 50 per cent of the forecast errors needs to be corrected (it means, λ = 0.5) while updating their forecast about price level. Thus, the expected inflation rate in 2021 would be-

$$P\text{te} = P\text{te -1} + \lambda\ (P\text{t-1} - P\text{te-1})$$

$$=3 + 0.5(6 - 3)$$

$$= 4.5 \text{ per cent.}$$

Merits:

- Adaptive expectations hypothesis is simple to operate.
- It also brings in an important concept, i.e., expectations into macroeconomics thereby making it more realistic.

Limitations-

There are however two major limitations of adaptive expectations hypothesis.

- First, the model assumes that people do not learn from past mistakes – they adjust current year expectations by λ times the forecast error. Thus, they consistently underestimate the rate of inflation, if the actual inflation rate is more than the expected inflation rate. Similarly, they consistently overestimate the rate of inflation, if the actual inflation rate is less than the expected inflation rate.

- Second, the model assumes that people base their expectations on past information only. It does not take into account the present or future events. For example, under adaptive expectations, when the government pursues an expansionary monetary policy people do not expect that inflation rate will go up. Similarly, when there is a natural disaster such as drought, people do not expect that aggregate supply will decline and prices will go up.

Thus, the limitations of adaptive expectations prompted economists to look for alternative theories of expectations and one of them is Rational Expectations Hypothesis.

2. Rational Expectations:

Rational expectations hypothesis assumes that households and firms take decisions on the basis of the best possible information available to them. Thus, they consider not only past trends but also present and expected future events.

According to rational expectations, people learn from past mistakes. People may be wrong in their forecast sometimes; but on average they will be correct.

In simple terms, expected rate of inflation in period t is given by-

$$\pi et = \pi t + \varepsilon t$$

In the above equation εt is a stochastic error, with expected value of zero. While some people may have positive errors in their forecast, others will have negative errors. When aggregated, such errors cancel out in the sense that the sum of positive errors is equal to the sum of negative errors. Secondly, the errors do not show any pattern; they are random in nature. It is to be noted that under adaptive expectations, errors were systematic (it followed a pattern).

There are two versions of the rational expectations hypothesis: weak and strong.

In the weak version, it is assumed that people have access to limited information; but they make best use of the information. Let us take a concrete example. Suppose, every week for household consumption milk

is needed. A person may not know the relative prices and nutrient levels of all the brands of milk available in the market. With limited information available to a consumer, however, he may usually stick to the same brand (and may be the same shop, without knowing that other shops are charging a lower price!).

In the strong version of the rational expectations hypothesis, it is assumed that people have access to all information. Decisions taken are based on all information. Thus, their expectations are equal to the actual values. Any error in forecast is due to unexpected developments.

2.5 SUMMARY

Milton Friedman tried to trace the long run behaviour of Phillips Curve. Friedman's theory of Natural Rate of Unemployment is widely accepted as an explanation of inflation-unemployment relationship in the long run on the basis of Adaptive expectations (Expectations are largely based on what has happened in the past) in which the Long run Philips Curve becomes vertical straight line. However, Tobin's Modified Philips Curve is based on Rational expectations (Expectations are based on the module that is being used by the economist) in which Phillips curve is kinked-shaped, partly like a normal downward sloping Phillips curve and the rest vertical like that of Friedman.

2.6 QUESTIONS

1. Explain the Friedman's Expectation Model with reference to Long-run Philips Curve
2. Describe the Tobin's modified Philips Curve
3. Discuss the concepts of Adaptive Expectations and Rational Expectation

3

TRADE CYCLES – 1

Unit Structure:

3.0 OBJECTIVES

- To know the meaning of trade cycles.
- To study the features of trade cycles.
- To study the several types of trade cycles.
- To explain the various phases of trade cycles.

3.1 INTRODUCTION

Almost all economies of the world have suffered from economic fluctuations at different stages of their economic growth.

An important feature of a capitalist economy is the existence of business cycle. The business cycle is associated with fluctuations in macro economic activity. It may be noted that these fluctuationsas 'cycle' are periodic and occur regularly. Cyclical fluctuations arewave like movements found in the aggregate economic activity of anation. A business cycle is characterized by recurring phases of expansion and contraction in economic activity in terms of employment, output and income.

The period of high income, output and employment has been called the period of expansion, upswing or prosperity, and the period of low income, output and employment has been called theperiod of contraction, recession, down swing or depression. The sealtering periods of expansion and contraction in economic activity have been called business cycle. They are also known as trade cycle.

3.2 MEANING OF TRADE CYCLES

Trade cycle has been defined by different economist in different ways.

According to J.M. Keynes, "A trade cycle is composed of periods of good trade characterized by rising prices and low unemployment percentages with periods of bad trade characterized by falling prices and high unemployment percentages."

In the words of Haberler, "The business cycle may be defined as an alternation of periods of prosperity and depression of good and bad trade."

According to Schumpeter, "the business cycle represents wave like fluctuations in level of business activity from the equilibrium."

According to Fredric Benham, "A trade cycle may be defined rather badly, as a period of prosperity followed by a period of depression. It is not surprising that economic process should beir regular, trade being good at some time and bad at others."

3.3 FEATURES OF TRADE CYCLES

Though different business cycles differ in duration and intensity they have some common features which can explain below.

1. A business cycle is a wave like movement in macro economic activity like income, output and employment which shows upward and downward trend in the economy.

2. Business cycles are recurrent and have been occurring periodically.They do not show some regularity.

3. They have some distinct phases such as prosperity, recession, depression and recovery.

4. The duration of business cycles may vary from minimum of two years to a maximum of ten to twelve years.

5. Business cycles are synchronic. That is they do not cause changes in any single industry or sector but are of all embracing character. For example, depression or contraction occurs simultaneously in all industries or sectors of the economy. Recession passes from one industry to another and chain reaction continues till the whole economy is in the grip of recession. Similar process is at work in the expansion phase or prosperity.

6. There are different types of business cycles. Some are minor and others are major. Minor cycles operate for a period of three to four years and major business cycles operate for a period of four to eight years. Though business cycles differ in timing, they have a common pattern of sequential phases.

7. Expansion and contraction phases of business cycle are cumulative in effect.

8. It has been observed that fluctuations occur not only in level of production but also simultaneously in other variables such as employment, investment, consumption, rate of interest and price level.

9. Another important feature of business cycles is that down swing is more sudden than the changes in upswing.

10. An important feature of business cycles is profits fluctuate more than any other type of income. The occurrence of business cycles causes a lot of uncertainty for business and makes it difficult to forecast the economic conditions.

11. Lastly, business cycles are international in character. That is once started in one country they spread to other countries through trade relations between.

3.4 TYPES OF TRADE CYCLES

Prof. James Arthur Estey has classified business cycles under the following heads:

1. Major and Minor Cycles:

Major cycles may be defined as the fluctuations of business activity occurring between successive crises. The term "crisis" maybe interpreted here to mean the major "breakdowns" or "downturns" that interrupt from time to time the relatively even tenor of economic activity. So the major cycles constitute the intervals between successive major down turns of business activity or between major recessions. On this basis, Prof. Hansen recognizes twelve major cycles in the U.S.A., during the period from 1837 to 1937, with an average duration of 8.33 years. The major cycles are sometimes referred to as Juglar Cycles, after the name of Clement Juglar, a French economist of the nineteenth century, who on the basis of his investigation, established the crystal nature of business fluctuations. This cycle is also termed as the major cycle. It isdefined "as the fluctuation of business presentation among successive crises." Clement Jugler, French economist presented those periods of prosperity, crisis and liquidation adopted each other always in the same order. Later economists have come to theend that a Jugler cycle's duration is on the average nine and a halfyears.

It has been established from the records of business fluctuation s that each major cycle is made up of two or three minorcycles the up swing of business in the major cycle is often interrupted by minor down swings, likewise, the down swings of business in the major cycle may be interrupted by minor upswings.

These shorter cycles in major cycles are sometimes referred to asminor cycles. The duration of the minor cycles averages close to 40 months.

These minor cycles have actually operated both in Great Britain and the U.S.A. Since the distinction 'between major and minor cycles was observed by Prof. Joseph Kitchin, the minorcycles are sometimes referred to as Kitchin Cycles. This is also termed as the minor cycle which is of just about forty five months gap. It is well-known after the name of British economist Joseph Kitchin who made a difference among a major and a minor cycle year nineteen twenty three. He came to the termination on the basic of his research that a major cycle is composed of two or three minor cycles of forty five months.

2. Building cycles:

This refers to the cycle of building construction. The duration of the building cycles is longer than that of the business cycle.

It has been discovered the building industry is also subject to fluctuations of fairly regular duration. There are upswings and down swings in the building cycles is 18 years-just twice the length of business cycle. Between 1830 and 1934, there were six complex building cycles in the U.S.A. Another type of cycle associates to the construction of buildings which is of fairly regular duration. Its duration is two fold that of the major cycles and is on average of eighteen years duration. Such cycles are related with the names of Warren and Pearson.

3. Long Waves or Kondratieff Cycles:

They are sometimes referred to as "long waves" occurringin a 50 or 60-year cycle. The long waves in economic activity were discovered by the Russian economist, Kondratieff. Hence, these long waves are called Kondratieff Cycles. Kondratieff, on the basis of statistical data pertaining to the period 1780-1920, was able to establish 21/2 long cycles in England and France each full cyclebeing of the duration of 60 years.

Summing up, the fundamental changes in economic activity include three kinds of cycles-the short or minor or the Kitchen cycles of the duration of 40 months or so, the major or the Juglarcycles, composed of three minor cycles and of the duration of 10years or so, and finally, the Kondratieff cycles (or, long waves), made up of 6 Juglar cycles and of the duration of 60 years.

N.D.Kondratieff, the Russian economist came to the conclusion that there are longer waves of cycles of more than fifty years duration made of six Jugler cycles. A very long cycle has come to be known as the Kondratieff wave.

3.5 PHASES OF TRADE CYCLES

Business cycles have shown distinct phases, the study of which is useful to understand their fundamental causes. Generally, a business cycle has four phases.

1. Prosperity (Expansion, Boom, or Upswing)

2. Recession (upper turning point)

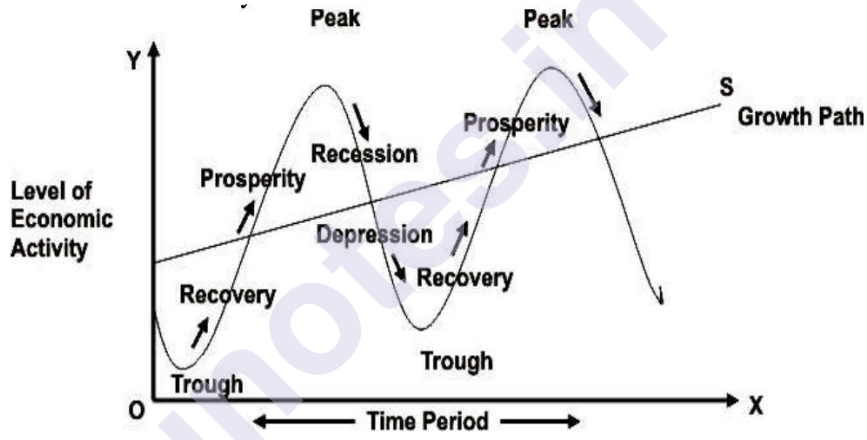
3. Depression (Contraction or Down swing) and

4. Revival or Recovery (lower turning point)

The four phases of business cycle are shown in the following figure. It starts from trough or lower turning point when the level of economic activity is at the lowest level. Then it passes through recovery and prosperity phase, but due to the causes explained below the expansion cannot continue indefinitely, and after reaching peak, recession and depression or down swing starts. The down swing continues till the lowest turning point and reaches to trough. It is important to note that no phase has any definite time period or time interval. Similarly any two business cycles are not the same.

The prosperity starts at trough and ends at peak. The recession starts at peak and ends at trough. One complete period of such movementis called as a trade cycle.

Figure No. 3.1



Four phase of trade cycles are briefly explained as follows.

1. Prosperity: Prosperity is 'a stage in which the money income, consumption, production and level of employment are high or rising and there are no idle resources or unemployed workers.'

This stage is characterized by increased production, high capital investment, expansion of bank credit, high prices, high profit, a high rate of interest, full employment income, effective demand, inflation MEC, profits, standard of living, full employment of resources, and over all business optimism etc.

The prosperity comes to an end when forces become weak and therefore, bottlenecks start to appear at the peak of prosperity. Due to high profit, inflation and over optimism make the entrepreneurs to invest more and more. But because of shortage of raw material and scarcity of factors of production prices of goods and services rises. As a result there is fall indemand and profit, business calculations go wrong. Thus their overoptimism is replaced by over pessimism. Thus prosperity digs its owngrave.

2. Recession: When the phase of prosperity ends, recession starts. Recession is an upper turning point. This is a phase of contraction orslowing down of economic activities. Recession is generally of a short duration.

After boom, demand falls, production becomes excess and investment results in over investment. Finally, it leads to recession. During this phase profit, investment and share prices falls significantly, Because of lack of investment the demand for bank credit,rate of interest, income employment, and demand for goods and services falls.

If recession continues for a long period of time then finally, it reaches to the phase of depression.

3. Depression: It is a period in which business or economic activity in acountry is far below the normal. Depression is 'a stage in which themoney income, consumption, production and level of employment falls, idle resources and unemployment increases.'

It is characterized by a sharp reduction of production, mass unemployment, low employment, falling prices, falling profits, low wages, and contraction of credit, fall in aggregate income, effective demand, MEC, a high rate of business failure and atmosphere of all round pessimism etc. The depression may be of a short duration or may continue for a long period of time.

After a period of time, moderate increase in the demand for goods and services helps to increase in investment, production, employment, income and effective demand. Finally, it leads to recovery.

4. Recovery : Depression phase is generally followed by recovery. Various exogenous and endogenous factors are responsible for reviving the economy. When the economy enters the phase of recovery, economic activity once again gathers momentum in terms of income, output, employment, investment and effective demand. But the growth rate lies below the steady growth path.

Thus, a recovery phase starts which is called the lower turning point. It is characterized by improvement in demand for capital stock, rise in demand for consumption good, rise in prices and profits, improvement in the expectations of the entrepreneurs, slowing rising MEC, slowly increasing investment, rise in employment, output and income, rise in bank credit, stock market becomes more sensitive and revival slowly emerges etc.

The phase of recovery once started, it slowly takes the economy onthe path of expansion and prosperity. With this the cycle repeats itself.

Check your Progress:

1. What is a business cycle? What are its different features?

2. What is a business cycle? Explain the different phases of a trade cycle.

3.6 SUMMARY

1. A business cycle is characterized by recurring phases of expansion and contraction in economic activity in terms of employment, output and income.

2. A business cycle has four phases:

   a) Prosperity (Expansion, Boom, or Upswing)

   b) Recession (upper turning point)

   c) Depression (Contraction or Down swing) and

   d) Revival or Recovery (lower turning point)

3. Prosperity is a stage in which the money income, consumption, production and level of employment are high or rising and there are no idle resources or unemployed workers.

4. When the phase of prosperity ends, recession starts. Recession is an upper turning point. This is a phase of contraction or slowing down of economic activities. Recession is generally of a short duration.

5. Depression is a stage in which the money income, consumption, production and level of employment falls, idle resources and unemployment increases.

6. When the economy enters the phase of recovery, economic activity once again gathers momentum in terms of income, output, employment, investment and effective demand.

3.7 QUESTIONS

1. Define the term trade cycle and discuss the features of trade cycle.

2. What are the types of trade cycle?

3. Discuss the several phases of trade cycle.

4

TRADE CYCLES – 2

Unit Structure:

4.0 OBJECTIVES

- To know the theory of Hawtrey's theory of trade cycles.
- To understand the Kaldor's theory of trade cycles.
- To study the Paul Samelson's theory of trade cycles.
- To know the Hicks theory of trade cycles.
- To know the measure to control trade cycles.

4.1 INTRODUCTION

A trade cycle refers to fluctuations in economic activities specially in employment, output and income, prices, profits etc. It has been defined differently by different economists. According to Mitchell, "Business cycles are of fluctuations in the economic activities of organized communities. The adjective 'business' restricts the concept of fluctuations in activities which are systematically conducted on commercial basis.

The noun 'cycle' bars out fluctuations which do not occur with a measure of regularity". According to Keynes, "A trade cycle is composed of periods of good trade characterised by rising prices and low unemployment percentages altering with periods of bad trade characterised by falling prices and high unemployment percentages".

Many theories have been put forward from time to time to explain the phenomenon of trade cycles. These theories can be classified into non-monetary and monetary theories.

4.2 HAWTREY'S THEORY OF TRADE CYCLES

Prof.Hawtrey considers trade cycle to be a purely monetary phenomenon. According to him non-monetary factors like wars, strike, floods, drought may cause only temporary depression. Hawtrey believes that expansion and contraction of money are the basic causes of trade cycle. Money supply changes due to changes in rates of interest.

When rate of interest is reduced by banks, entrepreneurs will borrow more and invest. This causes an increase in money supply and rise in price leading to expansion. On the other hand, an increase in the rate of interest will lead to reduction in borrowing, investment, prices and business activity and hence depression.

Hawtrey believes that trade cycle is nothing but small scale replica of inflation and deflation. An increase in money supply will lead to boom and vice versa, a decrease in money supply will result in depression.

Banks will give more loans to traders and merchants by lowering the rate of interest. Merchants place more orders which induce the entrepreneurs to increase production by employing more labourers. This results in increase in employment and income leading to an increase in demand for goods. Thus the phase of expansion starts.

Business expands; factors of production are fully employed; price increases further, resulting in boom conditions. At this time, the banks call off loans from the borrowers. In order to repay the loans, the borrowers sell their stocks. This sudden disposal of goods leads to fall in prices and liquidation of marginal firms. Banks will further contract credit.

Thus the period of contraction starts making the producers reduce their output. The process of contraction becomes cumulative leading to depression. When the economy is at the level of depression, banks have excess reserves. Therefore, banks will lend at a low rate of interest which makes the entrepreneurs to borrow more. Thus revival starts, becomes cumulative and leads to boom.

Hawtrey's theory has been criticised on many grounds:

1. Hawtrey's theory is considered to be an incomplete theory as it does not take into account the non-monetary factors which cause trade cycles.
2. It is wrong to say that banks alone cause business cycle. Credit expansion and contraction do not lead to boom and depression. But they are accentuated by bank credit.
3. The theory exaggerates the importance of bank credit as a means of financing development. In recent years, all firms resort to plough back of profits for expansion.
4. Mere contraction of bank credit will not lead to depression if marginal efficiency of capital is high. Businessmen will undertake investment in-spite of high rate of interest if they feel that the future prospects are bright.

5. Rate of interest does not determine the level of borrowing and investment. A high rate of interest will not prevent the people to borrow. Therefore, it may be stated that banking system cannot originate a trade cycle. Expansion and contraction of credit may be a supplementary cause but not the main and sole cause of trade cycle.

4.3 KALDOR'S THEORY OF TRADE CYCLES

After the publication of John Maynard Keynes' General Theory many attempts were made to build a business cycle model. The models that were built by American Neo-Keynesians such as Paul Samuelson proved unstable. They could not describe why an economy should cycle through recession and growth in a stable fashion. The British Neo-Keynesian John Hicks tried to improve the theory by imposing rigid ceilings and floors on the model. But most people thought that this was a poor way of explaining the cycle as it relied on artificial, exogenous constraints. Kaldor, however, had actually invented a fully coherent and highly realistic account of the business cycle in 1940. He used non-linear dynamics to construct this theory. Kaldor's theory was similar to Samuelson's and Hicks' as it used a multiplier-accelerator model to understand the cycle. It differed from these theories, however, as Kaldor introduced the capital stock as an important determinant of the trade cycle. This was in keeping with Keynes' sketch of the business cycle in his General Theory.

Following Keynes, Kaldor argued that investment depended positively on income and negatively on the accumulated capital stock. The idea that investment depends positively on the growth of income is simply the idea of the accelerator model that holds that in periods of high income growth and hence demand growth, investment should rise in the anticipation of high income and demand growth in the future. The intuition lying behind the negative relationship to the accumulation of the capital stock is due to the fact that if firms have a very large amount of productive capacity accumulated already they will not be as inclined to invest in more. Kaldor was in effect integrating Roy Harrod's ideas about unbalanced growth into his theory.

In the standard accelerator model that stood behind Samuelson's and Hicks' business cycle theories investment was determined as such:

$I_t = I_a + w(Y_{t-1} - Y_{t-2})$

This states that investment is determined by exogenous investment and lagged income multiplied by the accelerator coefficient. Kaldor's model modified this to include a negative coefficient for the capital stock:

$I_t = I_a + w(Y_{t-1} - Y_{t-2}) - jK$

Kaldor then assumed that the investment and savings functions are non-linear. He argued that at the peaks and troughs of the cycle the marginal propensity to save shifts in opposite ways. The intuition behind this is that during recessions people will cut their savings to maintain their standard of living while at high levels of income people will save a larger

proportion of their income. He also argued that at the peaks and troughs of the cycle the marginal propensity to invest shifts. The intuition behind this is that at the trough of the cycle there will be a large amount of excess capacity and so businessmen will not want to invest more, while at the peak of the cycle rising costs will discourage investment. This creates non-linear dynamics in the economy that then drive the business cycle.

When Kaldor combines these components we get a clear six-stage model of the business cycle. In the first stage the economy is in equilibrium position. Investment is taking place and the capital stock is growing. In the second stage the growth in the capital stock leads to a downward shift in the investment curve as businessmen decide their factories become overfull. In the third stage (which overlaps with the second stage) the high growth in income causes higher saving which pushes the savings curve upwards. At this point the two curves become tangential and the equilibrium becomes unstable which generates a recession. In the fourth stage the same dynamics kick in but this time moving in the opposite direction. By the sixth stage the equilibrium is again unstable and a boom is produced.

Kaldor also noted the importance of income distribution in his theory of the business cycle. He assumed that savings out of profits were higher than savings out of wages; that is, he argued that poorer people (workers) tend to save less than richer people (capitalists). Or: $S_w<S_p$

Kaldor believed that the business cycle had an inherent mechanism built into it that redistributed income across the cycle and that these mitigated "explosive" results. As we have seen, in a cyclical upswing where planned investment begins to outstrip planned savings prices will tend to rise. Kaldor assumed that those who set prices have more power than those who set wages and so prices will tend to rise faster than wages. This means that profits must also rise faster than wages. Kaldor argued that due to the different savings propensities of capitalists and workers this will lead to higher savings. This will then dampen the cycle somewhat. In a recession or depression Kaldor argued that prices should fall faster than wages for the same reasons that Keynes laid out in his General Theory. This meant that income would be redistributed to workers as real wages rose. This would lead savings to fall in a recession or depression and so would dampen the cycle.

Kaldor's model assumes wage and price flexibility. If wage and price flexibility are not forthcoming the economy may have a tendency to either perpetual and rising inflation or persistent stagnation. Kaldor also makes strong assumptions about how wages and prices respond in both inflations and depressions. If these assumptions do not hold Kaldor's model would lead us to conclude that the cycle might give way to either perpetual and rising inflation or stagnation.

Kaldor's non-linear business cycle theory overcomes the difficulty that many economists had with Roy Harrod's growth theory. Many of the American Neo-Keynesian economists thought that Harrod's work implied

that capitalism would tend toward extremes of zero and infinite growth and that there were no dynamics that might keep it in check. Robert Solow, who eventually created the Solow Growth Model in response to these perceived problems, summarised this view as such:

Keep in mind that Harrod's first Essay was published in 1939 and Domar's first article in 1946. Growth theory, like much else in macroeconomics, was a product of the depression of the 1930s and of the war that finally ended it. So was I. Nevertheless it seemed to me that the story told by these models felt wrong. An expedition from Mars arriving on Earth having read this literature would have expected to find only the wreckage of a capitalism that had shaken itself to pieces long ago. Economic history was indeed a record of fluctuations as well as of growth, but most business cycles seemed to be self-limiting. Sustained, though disturbed, growth was not a rarity.

In fact, Kaldor's 1940 paper had already shown this to be completely untrue. Solow was working with an erroneous and underdeveloped theory of the business cycle that he had taken over from Samuelson. By the time Solow was working on his growth theory, the Cambridge UK economists had already satisfactorily laid out a self-limiting theory of the business cycle that they thought was a reasonable description of the real world. This is one of the reasons that the Cambridge economists were so hostile in their reaction to Solow's growth model and went on to attack it in the Cambridge Capital Controversy of the 1960s. The ignorance on the part of the American economists' knowledge of Kaldor's model also explains why the Cambridge Post-Keynesian economists found the ISLM model favoured by the American Neo-Keynesians to be crude and lacking.

4.4 PAUL SAMUELSON'S THEORY OF TRADE CYCLES

The multiplier–accelerator model (also known as Hansen–Samuelson model) is a macroeconomic model which analyzes the business cycle. This model was developed by Paul Samuelson, who credited Alvin Hansen for the inspiration. This model is based on the Keynesian multiplier, which is a consequence of assuming that consumption intentions depend on the level of economic activity, and the accelerator theory of investment, which assumes that investment intentions depend on the pace of growth in economic activity.

The multiplier–accelerator model can be stated for a closed economy as follows:

First, the market-clearing level of economic activity is defined as that at which production exactly matches the total of government spending intentions, households' consumption intentions and firms' investing intentions.

$Y_t = g_t + C_t + I_t$

then an equation to express the idea that households' consumption intentions depend upon some measure of economic activity, possibly with a lag:

$C_t = \alpha Y_{t-1}$

then an equation that makes firms' investment intentions react to the pace of change of economic activity:

$I_t = \beta[C_t - C_{t-1}]$

and finally a statement that government spending intentions are not influenced by any of the other variables in the model. For example, the level of government spending could be used as the unit of account:

$g_t = 1$

where, Y_t is national income, g_t is government expenditure, $C_t$is consumption expenditure, $I_t$is induced private investment, and the subscript t is time. Here we can rearrange these equations and rewrite them as a second-order linear difference equation:

$Y_t = 1 + \alpha(1+\beta)\, Y_{t-1} - \alpha\beta Y_{t-2}$

Samuelson demonstrated that there are several kinds of solution path for national income to be derived from this second order linear difference equation. This solution path changes its form, depending on the values of the roots of the equation or the relationships between the parameter

Criticism:

Jay Wright Forrester argues that the Accelerator-Multiplier Theory cannot create the assumed business cycle but instead is a major contributor to the economic long wave.

4.5 HICKS THEORY OF TRADE CYCLES

J.R. Hicks in his book A Contribution to the Theory of the Trade Cycle builds his theory of business cycle around the principle of the multiplier-accelerator interaction. To him, “the theory of the acceleration and the theory of the multiplier are the two sides of the theory of fluctuations.” Unlike Samuelson’s model, it is concerned with the problem of growth and of a moving equilibrium.

Ingredients of the Theory:

The ingredients of Hicks’s theory of trade cycle are warranted rate of growth, consumption function, autonomous investment, an induced investment function, and multiplier-accelerator relation.

The warranted rate of growth is the rate which will sustain itself. It is consistent with saving-investment equilibrium. The economy is said to be growing at the warranted rate when real investment and real saving are taking place at the same rate. According to Hicks, it is the multiplier-

accelerator interaction which weaves the path of economic fluctuations around the warranted growth rate.

The consumption function takes the form Ct= aYt-1 . Consumption in period t is regarded as a function of income (Y) of the previous period (f-1). Thus consumption lags behind income, and the multiplier is treated as a lagged relation.

The autonomous investment is independent of changes in the level of output. Hence it is not related to the growth of the economy.

The induced investment, on the other hand, is dependent on changes in the level of output. Hence it is a function of the growth rate of the economy. In the Hicksian theory, the accelerator is based on induced investment which along with the multiplier brings about an upturn.

The accelerator is defined by Hicks as the ratio of induced investment to the increase in income. Given constant values of the multiplier and the accelerator, it is the 'leverage effect' that is responsible for economic fluctuations.

Assumptions of the Theory:

The Hicksian theory of trade cycle is based on the following assumptions:

(1) Hicks assumes a progressive economy in which autonomous investment increases at a constant rate so that the system remains in a moving equilibrium.

(2) The saving and investment coefficients are disturbed overtime in such a way that an upward displacement from equilibrium path leads to a lagged movement away from equilibrium.

(3) Hicks assumes constant values for the multiplier and the accelerator.

(4) The economy cannot expand beyond the full employment level of output. Thus "the full employment ceiling" acts as a direct restraint on the upward expansion of the economy.

(5) The working of the accelerator in the downswing provides an indirect restraint on the downward movement of the economy. The rate of decrease in the accelerator is limited by the rate of depreciation in the downswing.

(6) The relation between the multiplier and accelerator is treated in a lagged manner, since consumption and induced investment are assumed to operate with a time lag.

(7) It is assumed that the average capital-output ratio (v) is greater than unity and that gross investment does not fall below zero. Thus the cycles are inherently explosive but are contained by ceilings and floors of the economy.

The Hicksian Theory:

Hicks explains his theory of the trade cycle in terms of Fig. 5. Line AA shows the path of autonomous investment growing at a constant rate. EE is the equilibrium level of output which depends on AA and is deduced from it by the application of the multiplier accelerator interaction to it.

Line FF is the full employment ceiling level above the equilibrium path EE and is growing at the constant rate of autonomous investment. LL is the lower equilibrium path of output representing the floor or 'slump equilibrium line'.

Figure No. 4.1

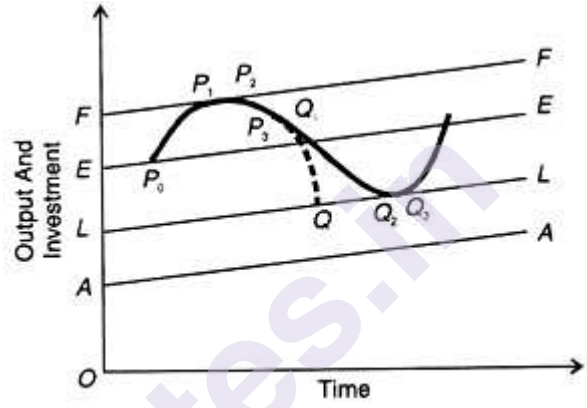


Fig. 5

Time and Output and Investment

Hicks begins from a cycle less situation PQ on the equilibrium path EE when an increase in the rate of autonomous investment leads to an upward movement in income. As a result, the growth of output and income propelled by the combined operation of the multiplier and accelerator moves the economy on to the upward expansion path from Po to P1.

According to Hicks, this upswing phase relates to the standard cycle which will lead to an explosive situation because of the given values of the multiplier and the accelerator. But this does not happen because of the upper limit or ceiling set by the full employment level FF.

Hicks writes in this connection: "I shall follow Keynes in assuming that there is some point at which output becomes inelastic in response to an increase in effective demand." Thus certain bottlenecks of supply emerge which prevent output from reaching the peak and instead encounter the ceiling at P1.

When the economy hits the full employment ceiling at P1 it will creep along the ceiling for a period of time to P2 and the downward swing will not start immediately. The economy will move along the ceiling from P1 to P2 depending upon the time period of the investment lag.

The greater the investment lag, the more the economy will move along the ceiling path. Since income at this level is decreasing relative to the previous stage of the cycle, there is a decreased amount of investment. This much of investment is insufficient to keep the economy at the ceiling level, and then the downturn starts.

During the downswing, "the multiplier-accelerator mechanism sets in reverse, falling investment reducing income, reduced income reducing investment, and so on, progressively. If the accelerator worked continuously, output would plunge downward below the equilibrium level EE, and because of explosive tendencies, to a greater extent than it rose above it." The fall in output in this case might be a steep one, as shown by P2 P3 Q. But in the downswing, the accelerator does not work so swiftly as in the upswing. If the slump is severe, induced investment will quickly fall to zero and the value of the accelerator becomes zero.

The rate of decrease in investment is limited by the rate of depreciation. Thus the total amount of investment in the economy is equal to autonomous investment minus the constant rate of depreciation. Since autonomous investment is taking place, the fall in output is much gradual and the slump much longer than the boom, as indicated by Q1Q2. At Q2, the slump reaches the bottom or floor provided by the LL line.

The economy does not turn upward immediately from Q2 but will move along the slump equilibrium line to Q3 because of the existence of excess capacity in the economy. Finally, when all excess capacity is exhausted, autonomous investment will cause income to rise which will in turn lead to an increase in induced investment so that the accelerator is triggered off which along with the multiplier moves the economy toward the ceiling again. It is in this way that the cyclical process will be repeated in the economy.

Criticisms:

The Hicksian theory of the business cycle has been severely criticised by Duesenberry, Smithies and others on the following grounds:

1. Value of Multiplier not Constant:

Hicks's model assumes that the value of the multiplier remains constant during the different phases of the trade cycle. This is based on the Keynesian stable consumption function. But this is not a realistic assumption, as Friedman has proved on the basis of empirical evidence that the marginal propensity to consume does not remain stable in relation to cyclical changes in income. Thus the value of the multiplier changes with different phases of the cycle.

2. Value of Accelerator not Constant:

Hicks has also been criticised for assuming a constant value of the accelerator during the different phases of the cycle. The constancy of the accelerator presupposes a constant capital-output ratio. These are

unrealistic assumptions because the capital-output ratio is itself subject to change due to technological factors, the nature and composition of investment, the gestation period of capital goods, etc. Lundberg, therefore, suggests that the assumption of constancy in accelerator should be abandoned for a realistic approach to the understanding of trade cycles.

3. Autonomous Investment not Continuous:

Hicks assumes that autonomous investment continues throughout the different phases of the cycle at a steady pace. This is unrealistic because financial crisis in a slump may reduce autonomous investment below its normal level. Further, it is also possible, as pointed out by Schumpeter, that autonomous investment may itself be subject to fluctuations due to a technological innovation.

4. Growth not Dependent only on changes in Autonomous Investment:

Another weakness of the Hicksian model is that growth is made dependent upon changes in autonomous investment. It is a burst of autonomous investment from the equilibrium path that leads to growth. According to Prof. Smithies, the source of growth should he within the system. In imputing growth to an unexplained extraneous factor, Hicks has failed to provide a complete explanation of the cycle.

5. Distinction Between Autonomous and Induced Investment not Feasible:

Critics like Duesenberry and Lundberg point out that Hicks's distinction between autonomous and induced investment is not feasible in practice. As pointed out by Lundberg, every investment is autonomous in the short run and a major amount of autonomous investment becomes induced in the long run.

It is also possible that part of a particular investment may be autonomous and a part induced, as in the case of machinery. Hence this distinction between autonomous and induced investment is of doubtful validity in practice.

6. Ceiling fails to explain adequately the onset of Depression:

Hicks has been criticised for his explanation of the ceiling or the upper limit of the cycle. According to Duesenberry, the ceiling fails to explain adequately the onset of depression. It may at best check growth and not cause a depression. Shortage of resources cannot bring a sudden decline in investment and thus cause a depression.

The recession of 1953-54 in America was not caused by shortage of resources. Further, as admitted by Hicks himself, depression may start even before reaching the full employment ceiling due to monetary factors.

7. Explanation of Floor and Lower Turning Point not Convincing:

Hicks's explanation of the floor and of the lower turning point is not convincing. According to Hicks, it is autonomous investment that brings a gradual movement towards the floor and it is again increase in autonomous investment at the bottom that leads to the lower turning point. Harrod doubts the contention that autonomous investment would be increasing at the bottom of the depression. Depression may retard rather than encourage autonomous investment.

Further, Hicks's contention that revival would start with the exhaustion of excess capacity has not been proved by empirical evidence. RendingsFels's study of the American business cycles in the 19th century has revealed that the revival was not due to the exhaustion of excess capacity. Rather in certain cases, revival started even when there was excess capacity.

8. Full Employment level not Independent of Output Path:

Another criticism levelled against Hicks's model is that the full employment ceiling. As defined by Hicks, it is independent of the path of output. According to Dernburg and McDougall, the full employment level depends on the magnitude of the resources that are available to the country.

The capital stock is one of the resources. When the capital stock is increasing during any period, the ceiling is raised. "Since the rate at which output increases determines the rate at which capital stock changes, the ceiling level of output will differ depending on the time path of output. One cannot therefore separate the long-run full employment trend from what happens during a cycle."

9. Explosive Cycle not Realistic:

Hicks assumes in his model that the average capital-output ratio (v) is greater than unity for a time lag of one year or less. Thus explosive cycles are inherent in his model. But empirical evidence shows that the response of investment to a change in output (v) is spread over many periods. As a result, there have been damped cycles rather than explosive cycles.

10. Mechanical Explanation of Trade Cycle:

Another serious limitation of the theory is that it presents a mechanical explanation of the trade cycle. This is because the theory is based on the multiplier-accelerator interaction in rigid form, according to Kaldor and Duesenberry. Thus it is a mechanical sort of explanation in which human judgement, business expectations and decisions play little or no part. Investment plays a leading role based on formula rather than on judgement.

11. Contraction Phase not longer than Expansion Phase:

Hicks has been criticised for asserting that the contraction phase is longer than expansion phase of trade cycle. But the actual behaviour of the postwar cycles has shown that the expansionary phase of the business cycle is much longer than the contractionary phase.

Conclusion:

Despite these apparent weaknesses of the Hicksian model, it is superior to all the earlier theories in satisfactorily explaining the turning points of the business cycle. To conclude with Dernburg and McDougall, "The Hicks's model serves as a useful framework of analysis which, with modification, yields a fairly good picture of cyclical fluctuation within a framework of growth.

It serves especially to emphasise that in a capitalist economy characterised by substantial amounts of durable equipment, a period of contraction inevitably follows expansion. Hicks's model also pinpoints the fact that in the absence of technical progress and other powerful growth factors, the economy will tend to languish in depression for long periods of time." The model is at best suggestive.

4.6 MEASURES TO CONTROL TRADE CYCLES

The following are some of the measures to control business cycles.

1. Monetary policy:

Some economists advocated the monetary measure's to control business cycles. The central bank can practice the monetary measures to control trade cycles. The Central. Bank uses both quantitative and qualitative measures to control credit. During the terms of inflation it can increase the bank rate and it leads to higher interest rates in the money market. Thus, expansion is checked. It can also sell its securities for public. As a result the excessive purchasing power of people decreases. It can also increase cash reserve ratios CRR to reduce the credit creation of commercial banks.

In the same way, during the period of depression the Central Bank can reduce the Bank rate to stimulate investment. It can purchase securities from bank and public to increase the credit creation of banks and the purchasing power of the people. Cash reserve ratio to be kept by the commercial banks is lowered enabling them to give more credit. As a result, money and credit are increased. Due to these measures the economy can take an upward movement.

2. Fiscal measures:

Keynes advocates fiscal measures to control trade cycles. Budgetary measures, taxation, public expenditure and public debt should be used to control trade cycles. During the period Of depression the government should increase its expenditure and increase aggregate demand. The government should increase its expenditure by deficit budgeting. The

government spends large sums of money on public works like roads, projects etc. and consequently employment will be increased.

This will arrest the fall of prices of goods and unemployment in those industries. This can mitigate suffering and revival will start. During the period of prosperity or inflation, public expenditure should be reduced. Taxation and public borrowing should be increased. The government adopt surplus budgets. All these measures can reduce the incomes of the people, leading to a fall in the aggregate demand. This can arrest the expansion of business.

3. Price control:

To control inflation or rising prices, price control measures should be introduced. That means prices must he kept under check.

4. Price support:

During the period of depression prices begin t fall. This has cumulative effect. So it is harmful. To avoid this, price support policy should be adopted. Minimum prices should be provided. If prices fall below a minimum level, government purchases all the goods at support prices in the market.

4.7 SUMMARY

In this unit we have studied the Hawtrey's theory of trade cycles Kaldor's theory of trade cycles, Paul Samuelson's theory of trade cycles, Hicks theory of trade cycles and measures to control trade cycles etc in detail.

4.7 QUESTIONS

1. Discuss the Hawtrey'stheory of trade cycles.

2. Elaborate the Kaldor's theory of trade cycles.

3. Explain the Paul Samuelson's theory of trade cycles.

4. Discuss Hicks theory of trade cycles

5. What are the measures to control trade cycles?

5

EXCHANGE RATES REGIMES

Unit Structure:

5.0 OBJECTIVES

- To study about the managed exchange rates.
- To know the policies of managed flexibility.
- To understand the concept of balance of payments (BoP).

5.1 MANAGED EXCHANGE RATES

Managed exchange rate system a system under which a government and Central Bank actively manage the value of their currency against another currency usually by keeping the exchange rate within the desired range of rates by using a price ceiling and price floor for the currency. Under the managed exchange rate system, the exchange rate is predominantly determined in the foreign exchange market by supply of and demand for a currency. The government intervenes only occasionally to influence the exchange rate when it considers it to be necessary.

There has been a reduction in central bank intervention in the developed countries over the last decade. However, any central bank still has the discretion to intervene if it feels conditions warrant. The central banks in many parts of the developing world still engage in intervention

Methods for managing or pegging a currency is exchange rate

1. Monetary policy:

Expansionary monetary policy is lowering the interest rates in order to discourage people in investing. Lower interest rates reduce demand for a currency and leads to depreciation of currency. Central Bank intentionally reduces interest rates through devaluation. Lower interest rates attract foreign investors to invest in a country and there is inflow of foreign currency into the economy there is a reduction in demand for foreign

currency. Higher interest rates should increase demand for a currency and leads to its appreciation the central bank actively intervenes in the form of revaluation

2. Official reserves:

It is a direct intervention in foreign exchange market to reduce the value of a currency.it means Central Bank can buy or sell its own currency on the forex market in order to revalue or devalue its currency against another currency. Central Bank wishes to develop its currency it must buy the foreign currency which adds to the central banks official reserves and sell its own currency on the forex market this will lead to the devaluation of a currency

3. Exchange controls:

It is a legal limit on foreign investment at home or abroad by foreign and domestic investors by limiting investments in a country. the government can essentiallyminimise the amount of demand for its currency in forex market

The government in order to keep its currency strong, must limit the amount by limiting the investment done by domestic investors abroad. Large amount of domestic investors abroad would increases the demand for foreign currency and reduce demand for domestic currency. An increase the supply of the domestic currency in forex market causes it to get weak. A weak currency is deemed undesirable by the government. It can set limits on the amount of foreign investment abroad done by domestic investors.

Hence there are three tools for managing exchange rate. Central Bank can use monetary policy by lowering interest rate .It can reduce the demand for domestic currency in forex market .since investment in the market will become less attractive and help to keep the currency below the price ceiling . By raising interest rate they could make investment more attractive causing for demand for currency to rise and keep the exchange rate above the price floor official reserve.Ifthe central bank wishes to devalue it's currency in forex market it can buy foreign currencies and add them to their official reserves and increase the supply of it's currency in forex market. If the central bank wishes to re-value it's currency or strengthen its currency against another currency it increases the supply of foreign currencies and buy its own currencies in the forex market driving the demand for currency and keeping the exchange rate above the minimum level established by the central bank .

Exchange control limits the amount of foreign investment at home or abroad in domestic fronts.Limiting the amount of investment flowing into or out of the country can help to keep the demand for the countries currency on the forex market a certain range and maintain the exchange rate within a desire range.

5.2 POLICY OF MANAGED FLEXIBILITY

In practice, different countries have attempted to adopt such exchange rate policies that tend to combine a certain degree of inflexibility with a reasonable degree of flexibility. Such practices are known as the policies of managed flexibility or controlled floating.

The fixed and flexible exchange rate policy are at the two extremes,which suffered certain drawbacks or limitations.

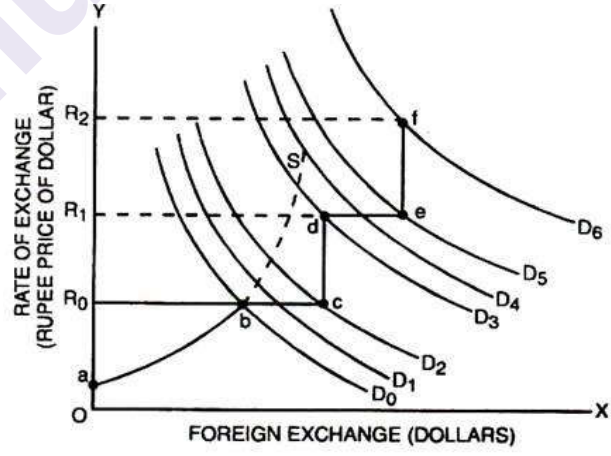
Types of Managed Flexibility

1) ADJUSTABLE PEG SYSTEM:

Under the Bretton Woods System, the exchange rates of different currencies were pegged in terms of gold or the U.S. dollar at the rate of $ 35 per ounce of gold. The nations were allowed to change the par values of their currencies when faced with a 'fundamental' disequilibrium. An adjustable peg system requires the defining of par value with a specific permitted band of variations along with the stipulation that the par value will be changed periodically and the currency devalued to correct a BOP deficit or revalued to correct a surplus.

Thus the adjustable peg policy involves the pegging of exchange at a given level at a given time. As the situation changes, the old peg (exchange parity), when it is no longer feasible, is abandoned and a new parity is established through devaluation or revaluation. In such a system, it is important that some specific objective rules are agreed upon and enforced to determine when a nation must readjust the par value and to what extent it should make the adjustment. The working of adjustable peg system can be shown through following figure.

Figure No. 5.1



In Fig. 1, the foreign exchange (dollars) is measured along the X axis. The rate of exchange (rupees price of dollar) is measured along the Y axis. Given the demand for and supply curves D_0 and S respectively of foreign exchange, the original rate of exchange between dollar and rupee is R_0. This is the fixed or pegged exchange rate.

Even if the demand for foreign exchange increases and the demand curve shifts to D_1 and D_2, the rateof exchange remains pegged at the level R_0 and adjustment is made through the use of country's exchange reserves. It means the supply curve, which had started from the point a rises positively upto point b and then becomes horizontal upto point c where the country exhausts its foreign exchange reserves.

If the demand curve shifts from D_2 to D_3, the country cannot maintain the old parity. Therefore, the exchange rate is adjusted at the higher level R_1. If the demand for foreign exchange increases and the demand curve shifts to D_4 and D_5, the same exchange parity R_1 is maintained again through the use of foreign exchange reserves. It means the supply curve, after moving vertically from c to d, moves horizontally upto e.

At this point the exchange reserves of the country have got exhausted. Further pegging at the level R_1 is not possible. The increase in demand, shown by the shift of demand curve from D_5 to D_6 must be adjusted now by pegging the exchange rate at a higher level R_2. In this system of adjustable peg, the effective supply curve of dollar has a zig-zag path a b c d e f and so on.

The adjustable peg system is also called as the system of maximum devaluation. A country faced with BOP deficit waits for some time and maintains the old peg through the pegging operations. When the pegging is no longer possible, the old equilibrium rate or peg becomes non-feasible. Then the country has to undertake a sudden big dose of devaluation of home currency.

In this way, the system of adjustable peg combines certain degree of exchange rate flexibility with stability of exchange rate and attempts to lead the economy towards a more realistic exchange rate.

Limitations:

1. In the IMF adjustable peg system, there is no clear cut operational definition of 'fundamental' disequilibrium. It was referred only in broad and vague terms like deficit or surplus persisting over the years.

2. Most of the countries often give priority to the domestic objectives like maximum employment and price stability. This system provides no alternative for adjustment in the short run.

3. The deficit and surplus countries are often reluctant to change the exchange rate for protecting their economic interests, for the reasons of prestige or to fend against the destabilising speculation. They will change the par value only when they are practically forced to do so.

4. The adjustable peg system causes a large scale destabilising speculation. If a country is faced with persistent deficit, the speculators can easily anticipate the extent by which the currency will be devalued. Hence, they start transferring funds out of a weak currency into stronger one with a view to avoid capital losses. These

type of speculations has adverse effects upon a relatively weak currency.

5. IMF fixed parity or adjustable peg collapsed in 1973. Earlier, the U.S. dollar was the strongest currency. Most of the other countries wanted to build their exchange reserves in terms of dollars. This brought dollar under tremendous strain. This ultimately led the United States to disallow the convertibility of dollar into gold. It amounted to a collapse of IMF exchange system.

6. The system of adjustable peg involved a serious flaw in the form of IMF insistence upon the expenditure-reduction policies for correcting the BOP disequilibrium. It was not welcome to many countries which were inclined to follow the expenditure-raising policy for achieving higher growth rate and maximum welfare. Many of the countries adopted the expenditure-switching policies. That was also not acceptable to the IMF

7. Since under the adjustable peg system, the countries make change in exchange parity only when they have no other alternative or when they are forced to do so, it remains virtually a fixed exchange system

8. In the opinion of Milton Friedman, "…this system can neither ensure sensitive, gradual and continuing adjustments in the rates of exchange, nor can it provide permanent stability in expectations. Therefore, it is clearly the worst of two worlds."

2) CRAWLING PEG SYSTEM:

It waspopularised in mid-sixties by economists like WilliamFellner, J.H. Williamson, J. Black, J.E. Meade and C.J. Murphy. It is a compromise between the extremes of freely fluctuating exchange rates and perfectly stable exchange rates. It was devised in order to avoid the disadvantage of relatively large changes in par values and possibly destabilising speculation associated with the system of adjustable peg.

In adjustable peg, the authorities wait for a long time until the reserves of foreign exchange get exhausted. Where as in crawling peg system, the par values are changed by small pronounced amounts or percentages at frequent and specified intervals, such as one month or even a fortnight, until the equilibrium exchange rate is reached. This exchange rate policy known also as 'trotting peg' or 'gliding parity"

3) POLICY OF MANAGED FLOATING:

The fluctuations in exchange rate tend to have an adverse effect upon the flow of international trade and investments. The Smithsonian Agreement made on December 18, 1971 provided for the widening of margin of fluctuations from 1 percent on each side of the exchange parity to 2.25 percent on each side of the par value of exchange.

Snake in a tunnel:

The Werner Report of 1972, introduced a scheme intended to reduce the fluctuations in the currencies of the members of the EC. The scheme required that the members restrict fluctuation between their currencies to ± 1.125 percent of their par values, but subject to the constraint that each would be allowed to fluctuate against the U.S. dollar by the full ± 2.25 percent allowed by the Smithsonian Agreement. This scheme was known as the 'snake in the tunnel'. The 'tunnel' was later abandoned, when the member countries decided to float their currencies against the dollar.

After the breakdown of Smithsonian Agreement, following the U.S. devaluation of dollar on February 32, 1973, several countries including Britain, Canada, Japan, Switzerland, India and some smaller countries had floating exchange rates in March 1973. The countries of EC continued to have a "joint float" even after March 1973. Since the EC currencies could fluctuate relative to other currencies irrespective of any fixed margin or band, the exchange rate policy of EC countries was likened to a "snake in the lake."

The system of floating exchange rates was not, in fact, a system of freely flexible exchange rates but of a managed float. Under managed floating exchange rate, the monetary authorities of different countries are entrusted with the responsibility to intervene in foreign exchange markets to smoothen out short run fluctuations without attempting to affect the long-term trend in exchange rates.

At the same time, they retain the flexibility in adjusting the BOP disequilibria. It is true that the monetary authorities are in no better position than traders, investors or professional speculators to know what the long-term trend in foreign exchange rate is. Such knowledge is not even required to stabilise the short run fluctuations in exchange rates, when a country has adopted a policy of "leaning against the wind."

The central banks intervene only to moderate the short run fluctuations through using or absorbing the international exchange reserves. This policy reduces the short run fluctuations in the exchange rate without affecting the long term trend in exchange rates. It implies that even under a policy of managed float there is need of maintaining some amount of foreign exchange reserves.

4) CLEAN AND DIRTY FLOAT SYSTEMS:

The system of managed floatmakes a distinction between a clean float and dirty float.

Clean Float:

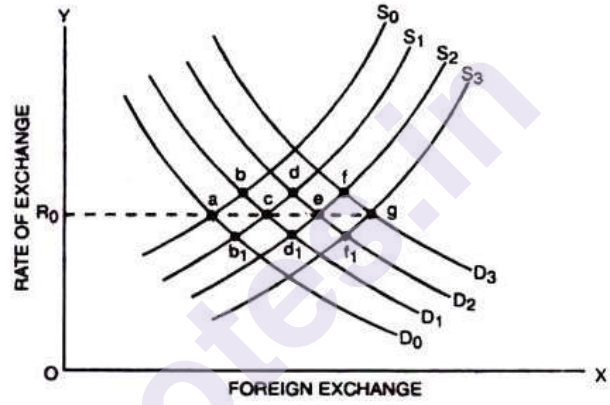
In case of clean float, the rate of exchange is allowed to be determined by the free market forces of demand and supply of foreign exchange. The exchange rate is permitted to move up and down. The foreign exchange market itself corrects the excess demand or excess supply conditions

without the intervention of monetary authority. Thus, the policy of clean float is identical to the policy of freely fluctuating exchange rates.

Dirty Float:

In case of a dirty float, the exchange rate is determined by the market forces of demand and supply for foreign exchange. However, the monetary authority intervenes in the foreign exchange market through the pegging operations either to smoothen or to eliminate the fluctuations altogether. It means even the long term trend in exchange rate is manipulated by the monetary authority. Such a policy of managed float is understood as the policy of 'dirty float'. The clean float and dirty float are distinguished through below figure.

Figure No. 5.2



Given the demand and supply functions of foreign exchange as D_0 and S_0 respectively, the equilibrium rate of exchange R_0 is determined at point a. Under the alternate pressures of BOP deficits and surpluses, the demand and supply curves undergo shifts. The policy of clean float causes the equilibrium rate of exchange to move along the path $ab_1cd_1ef_1g$.

Whereas, under the free adjustment without central banking intervention, the exchange rate, in case of clean float, moves along the path a b c d e f g. In these two cases of clean float, the exchange rate is fairly stable around the level R_0.

On the opposite, when there is a policy of dirty float and the central bank is prepared to intervene through the sale or purchase of foreign exchange and the variations in exchange rate are not allowed to take place. The movement takes place directly from a to c, then from c to e and again from e to g.The clean float policy ensures the exchange rate stability with a certain degree of flexibility. The dirty float, on the opposite, does not permit flexibility in the exchange rate.

A dirty float results not only in deliberate manipulations of exchange rate, it also affects the long term trend of fluctuations. The distortions caused by the dirty float are clearly detrimental to the smooth flow of international trade and investment.

5.3 BALANCE OF PAYMENTS AND EXCHANGE RATES

Balance of payments is the systematic record of a country's trade with other nations. The relationship between balance of payments and exchange rates under a floating-rate exchange system is driven by the supply and demand for the country's currency and all transactions taking place with other countries.

Balance of payments records all the financial transaction that a country makes with other countries in a year. These transactions allow the transfer of ownership of anything that has economic value and can be measured in monetary terms for citizens of one country to citizens of the other country. The transaction involves:

1. Tangible goods that can be products that have visible existence.

2. Intangible goods (services).

3. Income of its citizens

4. Liabilities and financial claims to other countries

Exchange rates and its relationship with balance of payment Exchange rate is the value of one currency in terms of another. Both Exchange Rates and Balance of payment have a strong relationship. Exchange rates have huge impact on the balance of payments. Whenever a country's exchange rate falls, it means the value of its currency in terms of another country has fall, which in return makes its exports cheaper and imports expensive. This can lead to a current account deficit and will have negative effect on balance of payment. On the other hand the increase in the rates of one currency will help the country improve its current account and so its balance of payment.

Exchange rate fluctuations are likely to determine economic performance. Developingand Industrial countries have had varying experiences regarding fluctuations in current and financial account balances. Exchange rate fluctuations are assumed randomly to be distributed around a steady-state stochastic trend over time. Positive shocks to the exchange rate indicate an unanticipated increase in the foreign currency price of domestic currency that is, unanticipated currency appreciation. Similarly, negative shocks indicate unanticipated depreciation of the exchange rate. The different effects of anticipated and unanticipated currency movement and differentiate the effects of currency appreciation and depreciation on major components of the balance of payments in developing and industrial countries.

5.4 BALANCE OF PAYMENTS ALWAYS BALANCES

A nation's BOP is a summary statement of all economic transactions between the residents of a country and the rest of the world during a given period of time. A BOP account is divided into current account and capital account.

Current Account is made up of trade in goods (i.e., visible) and trade in services (i.e., invisibles) and unrequited transfers.

The Capital account is made up of transaction in financial assets.

These two accounts comprise Balance of Payments. A BOP account is prepared according to the principle of double-entry book-keeping. This accounting procedure gives rise to two entries, a debit and a corresponding credit. Any transaction giving rise to a receipt from the rest of the world is a credit item in the BOP account. Any transaction giving rise to a payment to the rest of the world is a debit item.

The left hand side of the BOP account shows the receipts of the country. Receipts arise from the commodity export, merchandised goods, from the sale of invisible services, unilateral transactions in the form of the receipts of gift and grants from foreign governments, international lending institutions and foreign individuals, borrowing of money from foreigners or from repayment of loans by foreigners.

The right hand side shows the payments made by the country on different items to foreigners. like total of external purchasing power is used for acquiring imports of foreign goods and services as well as purchase of foreign assets. This is the accounting procedure.

The BOP figures are published in a single column with positive (credit) and negative (debit) signs. Since payments side of the account enumerates all the uses which are made up of the total foreign purchasing power acquired by this country in a given period, and since the receipts of the accounts enumerate all the sources from which foreign purchasing power is acquired by the same country in the same period, the two sides must balance.

The entries in the account should, therefore, add up to zero. In practice, this is difficult to achieve where receipts equal payments. In reality, total receipts may diverge from total payments because of:

i. the difficulty of collecting accurate trade information;

ii. the difference in the timing between the two sides of the balance;

iii. a change in the exchange rates.

Because of such measurement problems, resource is made to 'balancing item' that intends to eliminate errors in measurement. The purpose of incorporating this item in the BOP account is to adjust the difference between the sums of the credit and the sums of the debit items in the BOP accounts so that they add up to zero by construction. Hence the proposition: 'the BOP always balances'. It is a truism. It only suggests that the two sides of the accounts must always show the same total.

It implies only an equality. In this book-keeping sense, BOP always balances. Thus, by construction, BOP accounts do not matter. The accounts have both economic and political implications. Mathematically, receipts equal payments but it need not balance in economic sense. This means that there cannot be disequilibrium in the BOP accounts. A combined deficit in the current and capital accounts is the most unwanted

macroeconomic goal of an economy. Again, a deficit in the current account is also undesirable. All these suggest that BOP is out of equilibrium.

DOES BOP ALWAYS BALANCE?

There are three tests -

i. Movements in foreign exchange reserves including gold,
ii. increase in borrowing from abroad, and
iii. movements in foreign exchange rates of the country's currency in question.

If foreign exchange reserves decline, a country's BOP is considered to be in disequilibrium or in deficit. If foreign exchange reserves are allowed to deplete rapidly it may shatter the confidence of people over domestic currency. This may, ultimately, lead to a run on the bank.

In order to cover the deficit a country may borrow from abroad. Thus, such borrowing occurs when imports exceed exports. This involves payment of interest on borrowed funds at a high rate of interest.

The foreign exchange rate of a country's currency may tumble when it suffers from BOP disequilibrium. A fall in exchange rate of a currency is a sign of BOP disequilibrium. Thus, the above (mechanical) equality between receipts and payments should not be interpreted to mean that a country never suffers from the BOP problem and the international economic transactions of a country are always in equilibrium.

5.5 QUESTIONS

1. Explain the meaning and Methods for managing exchange rates
2. Discuss the merits and demerits of exchange rate system
3. Explain briefly the policy of Managed Flexibility
4. Explain with diagram the concepts of Adjustable Peg System and Crawling Peg System
5. Explain the policy of Managed Floating
6. Write a note on Clean and Dirty Float Systems
7. Explain the relation between Balance of Payments and Exchange Rates
8. 'Balance of Payments Always Balances'- explain

6

CONVERTIBILITY OF RUPEE AND CURRENCY CRISIS

Unit Structure:

6.0 OBJECTIVES

Basically there are mainly two objectives behind the study of this unit.

- To study the concept of convertibility of rupee.
- To study the impact and measures of currency crisis.

6.1 CONVERTIBILITY OF CURRENCY

Currency convertibility refers to how liquid a nation's currency is in terms of exchanging with other global currencies. A convertible currency can be easily traded on forex markets with little to no restrictions. A convertible currency (e.g., U.S. dollar, Euro, Japanese Yen, and the British pound) is seen as a reliable store of value, meaning an investor will have no trouble buying and selling the currency. on-convertible and blocked currencies (e.g. Cuban Pesos or North Korean Won) are not easily exchanged for other currencies and are only used for domestic exchange with their respective borders.

Convertibility of a currency is desirable for the rapid growth of world trade and capital flows between countries. With free and unrestricted convertibility of currencies into foreign exchange trade and capital flows between countries takes place smoothly.

To achieve higher rate of economic growth and thereby to improve living standards through greater trade and capital flows, the need for convertibility of currencies of different nations has been greatly felt. Under Bretton Woods system fixed exchange rate system was adopted by large number of countries.

In order to maintain the exchange rate of their currencies in terms of dollar or gold various countries imposed several controls over the use of foreign exchange. This required some restrictions on the use of foreign exchange and its allocation among different uses, the currency of a nation was converted into foreign exchange on the basis of officially fixed exchange rate.

When Bretton Woods system collapsed in 1971, the various countries switched over to the floating foreign exchange rate system. Under the floating or flexible exchange rate system, exchange rates between different national currencies are allowed to the determined through market demand for and supply of them. However, various countries still imposed restrictions on the free convertibility of their currencies in view of their difficult balance of payment situation.

6.1.1 CURRENT ACCOUNT AND CAPITAL ACCOUNT CONVERTIBILITY OF CURRENCY:

A currency may be convertible on current account (that is, exports and imports of merchandise and invisibles) only. A currency may be convertible on both current and capital accounts.

Capital account convertibility is in respect of capital flows, that is, flows of portfolio capital, direct investment flows, flows of borrowed funds and dividends and interest payable on them, a currency is freely convertible into foreign exchange and vice-versa at market determined exchange rate.

Thus, by convertibility of rupee on capital account means those who bring in foreign exchange for purchasing stocks, bonds in Indian stock markets or for direct investment in power projects, highways steel plants etc. can get them freely converted into rupees without taking any permission from the government.

Likewise, the dividends, capital gains, interest received on purchased stock, equity etc. profits earned on direct investment get the rupees converted into US dollars, Pound Sterlings at market determined exchange rate between these currencies and repatriate them.

Since capital convertibility is risky and makes foreign exchange rate more volatile, is introduced only some time after the introduction of convertibility on current account when exchange rate of currency of a country is relatively stable, deficit in balance of payments is well under control and enough foreign exchange reserves are available with the Central Bank.

6.1.2 ADVANTAGES OF CURRENCY CONVERTIBILITY

1. Encourages exports:

An important advantage of currency convertibility is that it encourages exports by increasing their profitability. Exports increase because market foreign exchange rate is higher than the previous officially fixed exchange rate. This implies that from given exports, exporters can get more rupees against foreign exchange (e.g. US dollars) earned from exports. Currency convertibility especially encourages those exports which have low import-intensity.

2. Encourages import substitution:

Since free or market determined exchange rate is higher than the previous officially fixed exchange rate, imports become more expensive after convertibility of a currency. This discourages imports and encourages import substitution.

3. Remittances from abroad:

Rupee convertibility provided greater incentives to send remittances of foreign exchange by Indian workers living abroad and by NRI. Further, it makes illegal remittance such 'hawala money' and smuggling of gold less attractive.

4. A self balancing mechanism:

Another important merit of currency convertibility lies in its self-balancing mechanism. When balance of payments is in deficit due to over-valued exchange rate, under currency convertibility, the currency of the country depreciates which gives boost to exports by lowering their prices on the one hand and discourages imports by raising their prices on the other.

Deficit in balance of payments get automatically corrected without intervention by the Government or its Central bank. The opposite happens when balance of payments is in surplus due to the under-valued exchange rate.

5. Specialisation and comparative advantage:

Currency convertibility ensures production pattern of different trading countries in accordance with their comparative advantage and resource endowment. It is only when there is currency convertibility that market exchange rate truly reflects the purchasing powers of their currencies which is based on the prices and costs of goods found in different countries.

6. Integration of World Economy:

Finally, currency convertibility gives boost to the integration of the world economy. As under currency convertibility there is easy access to foreign exchange, it greatly helps the growth of trade and capital flows between

the countries. The expansion in trade and capital flows between countries will ensure rapid economic growth in the economies of the world. In fact, currency convertibility is said to be a prerequisite for the success of globalisation.

6.1.3 THE BENEFITS OF CAPITAL ACCOUNT CONVERTIBILITY:

The Tarapore Committee mentioned the following benefits of capital account convertibility to India:

1. Availability of large funds to supplement domestic resources and thereby promote economic growth.
2. Improved access to international financial markets and reduction in cost of capital.
3. Incentive for Indians to acquire and hold international securities and assets, and
4. Improvement of the financial system in the context of global competition.

6.1.4 PROBLEMS:

It may be noted that convertibility of currency can give rise to some problems.

Since market determined exchange rate is generally higher than the previous officially fixed exchange rate, prices of essential imports rise which may generate cost-push inflation in the economy.

If current account convertibility is not properly managed and monitored, market exchange rate may lead to the depreciation of domestic currency. If a currency depreciates heavily, the confidence in it is shaken and no one will accept it in its transactions. As a result, trade and capital flows in the country are adversely affected.

Convertibility of a currency sometimes makes it highly volatile. Further, operations by speculators make it more volatile. Further, operations by speculators make it more volatile and unstable. When due to speculative activity, a currency depreciates and confidence in it is shaken there is capital flight from the country as it happened in 1997-98 in case of South East Asian economies such as Thail and, Malaysia, Indonesia, Singapore and South Korea.

This adversely affects economic growth of the economy. In the context of heavy depreciation of the currency not only there is capital flight but inflow of capital in the economy is discouraged as due to depreciation of the currency profitability of investment in an economy is adversely affected.

6.2 CURRENCY CRISES

A currency crisis is defined as any situation in the foreign exchange markets where a currency suddenly and/or unexpectedly loses substantial

value relative to other currencies. In most cases, a currency crisis is not an isolated event and usually follows a financial or socio-political crisis.

6.2.1 SIGNS OF A CURRENCY CRISIS:

1. Inflation A currency crisis is almost always preceded by a period of rising inflation and inflation expectations.

2. Local banking crisis A currency crisis usually starts with domestic financial institutions reneging on their debt payments.

6.2.2 CAUSES:

The causes of currency crises can be many. It's often difficult to see one coming albeit in retrospect many reasons seem to arise. Some of these causes include any combination of the following:

Speculation. That is to say, there is nothing wrong with the currency at the heart of things but investors and traders may think so and devalue the currency with their own actions.Central bank policies that may slow the economy.

- A significant event, such as an assassination of a country's leader, which rattles the markets
- Wars
- Sanctions placed upon a nation by another
- An over-reliance on foreign investment/foreign debt
- An over-reliance on one source of income for the economy
- Market panics based on any of the above

6.2.3 IMPACT OF THE CURRENCY CRISIS:

The effect of the currency crisis on the economy can take several routes.

1) Trigger a default and banking crisis:

The risk of default on foreign debt soars. Depreciation causes debts denominated in foreign currencies to increase dramatically, reducing the ability to repay debtors, be they governments or companies or banks.

2) Depleted foreign exchange reserves:

Currency crises can be very damaging to an economy. The central bank took on the role of fending off speculative attacks using foreign reserves. Its purpose is to prevent the depreciation from deepening.As a result, foreign exchange reserves fell sharply.

How strong foreign exchange reserves can last depends on the intensity of speculation, the severity of exchange rate depreciation, and the size of foreign reserves held.

3) Uncertainty to international trade:

The sharp depreciation made domestic goods very cheap for foreigners. That should increase exports. The effect depends on the demand for domestic goods and on the price elasticity of the exported goods—the more elastic the demand, the greater the export.

On the other hand, a severe depreciation caused foreign goods' price to skyrocket for domestic consumers. Imports are shrinking. Again, how much imports will shrink depends on the price elasticity of imported goods.

4) Severe depreciation increases imported inflation:

The price of imported goods soared due to the depreciation of the exchange rate. Consumers may stop buying imported goods.However, companies cannot just stop imports. Indeed, they may delay the purchase of imported capital goods. But, for raw materials, they will still buy

The increase in raw material prices raises production costs. To maintain profits, producers pass on the increase in costs to the selling price. As a result, domestic inflation has risen sharply.

6.2.4 MEASURES TO CURB CURRENCY CRISIS:

There are several possible measures to avoid a currency crisis, they are:

1) Floating exchange rate:

One of the keys to avoid the crisis is allowing the exchange rate to float freely when speculators begin to launch their attacks. Fixed exchange rates require a credible policy against the market. And often, a country doesn't have the large reserves to do so. If the government still maintains a fixed exchange rate, devaluation is an alternative policy.

2) Raise interest rates:

The increase keeps the spread of domestic interest rates and international interest rates attractive. The aim is to encourage investment inflows, thereby increasing the demand for domestic currency. Or, at least, it prevents foreign investment from exiting the domestic market. Apart from interest rates, central banks may also adopt other tight monetary policies in response to currency crisis risks.

3) Fiscal policy tightening:

Governments often borrow abroad to finance deficits. Therefore, when the government lowers the deficit, it reduces the debt from the international market.

4) Control of capital outflows:

The government restricted domestic currency exchange and imposed greater controls on capital flight. Such controls avoid the exodus of funds

and the massive sale of the domestic currency. However, often, the market does not like it.

5) IMF bailout funds:

This option is usually less popular in some countries. Such bailouts are likely to have undesirable by products such as higher taxes and lower government spending.

6.3 QUESTIONS

1. What do you mean by Convertibility of Currency? Explain briefly the current and capital account convertibility.
2. Examine the advantages and disadvantages of Currency Convertibility.
3. Write a note on Currency Crises.
4. Examine the impact of the currency crisis.
5. Explain the measures to curb currency crisis.

7

INTERNATIONAL MONETARY SYSTEM – 1

Unit Structure:

7.0 OBJECTIVES

The obectives of this unit are as follows –

- To know the concept of gold standard.
- To study about the Bretton Wood system and the collapse of Bretton Woods systems.
- To understand the Maastricht Treaty.
- To study about Euro Currency Market.

7.1 INTRODUCTION

An international monetary system (sometimes referred to as an international monetary order or regime) refers to the rules, customs, instruments, facilities, and organizations for effecting international payments. International monetary systems can be classified according to the way in which exchange rates are determined or according to the form that international reserve assets take. Under the exchange rate classification, we can have a fixed exchange rate system with a narrow band of fluctuation about a par value, a fixed exchange rate system with a wide band of fluctuation, an adjustable peg system, a crawling peg system, managed floating etc.

Features of a Good International Monetary System:

1. A good international monetary system is one that maximizes the flow of international trade and investments.
2. It leads to an "equitable" distribution of the gains from trade among the nations.
3. An international monetary system can be evaluated in terms of adjustment, liquidity, and confidence. Adjustment refers to the process by which balance-of-payment disequilibria are corrected. A good international monetary system is one that minimizes the cost of and the time required for adjustment.
4. Liquidity refers to the amount of international reserve assets available to settle temporary balance- of-payments disequilibria. A good international monetary system is one that provides adequate international reserves so that nations can correct balance- of-payments deficits without deflating their own economies.
5. Confidence refers to the knowledge that the adjustment mechanism is working adequately and that international reserves will retain their absolute and relative values.

7.2 THE GOLD STANDARD

7.2.1 MEANING OF THE GOLD STANDARD:

International gold standard is means an international monetary system wherein all participating countries have legally

(1) defined the unit of account (rupee, dollar, pound etc. monetary unit of the country) in terms of gold,

(2) established a mechanism whereby their local currencies are kept equal in value to gold and to each other,

(3) fixed the external value of their currencies through the medium of gold and,

(4) their monetary authorities are willing to buy and sell gold at a fixed price in unlimited amounts.

Under this system each nation defined the gold content of its currency and passively stood ready to buy or sell any amount of gold at that price Since the gold content in one unit of each currency was fixed, exchange rates were also fixed. This was called the mint parity. The exchange rate could then fluctuate above and below the mint parity (i.e., within the gold points) by the cost of shipping an amount of gold equal to one unit of the foreign currency between the two monetary centers.

A deficit nation would lose gold, its money supply would fall, and so would its prices. This would stimulate the nation's exports and discourage its imports until the balance-of-payments deficit was eliminated. The opposite occurred in the surplus nation.

7.2.2 A BRIEF HISTORY OF GOLD STANDARD (1880 to 1924):

The gold standard operated from about 1880 to 1914. Chronologically speaking, the inception of international gold standard may be found in the last quarter of the 19th century when major trading countries like Germany (in 1873), France (in 1878) and U.S.A. (in 1900) adopted the gold coin standard, though England had already adopted as long ago as in 1816. Similarly, Russia, Holland, Austria, etc., also adopted gold exchange standard later on, in the early 20th century. Thus, during the years preceding World War I in 1914, gold standard which became a universal standard of 'International Gold Standard' was in full swing. With the outbreak of World War I, the classical gold standard came to an end between 1919 and 1924.

Inter-War Period (1918-36):

The gold coin standard worked remarkably well until the outbreak of the global war in 1914, when the conditions were normal. But the First World War in 1914 created emergencies and abnormalities throughout the world and as a result the gold standard was suspended during 1914-18 and incovertible paper currencies became the order of the day. Gold coins were withdrawn from circulation by all the bellige- rent countries of Europe to be replaced by notes. The central banks of different countries had to resort to inflationary processes to finance the high cost of war. In short, the rules of the gold standard game were not (and could not be) observed and the gold standard perished.

However, with the cessation of the war and restoration of peace, monetary authorities of all countries again planned to revive the gold standard. The war had created wild inflation, chaos and confusion in the international monetary systems, and it was believed that, the restoration of the gold standard would again ease the situation. At the International Conference at Brussels in 1922, monetary experts agreed to reintroduce gold standard.

7.2.3 INTRODUCTION OF GOLD EXCHANGE STANDARD(1925):

Gold exchange standard is a system in which both gold and currencies convertible into gold (mostly pounds but also U.S. dollars and French francs) were used as international reserves. This system came into existence after World War I.

With the out break of World War I, the classical gold standard came to an end Between 1919 and 1924, exchange rates fluctuated wildly, and this led to a desire to return to the stability of the gold standard. In April 1925, the United Kingdom reestablished the convertibility of the pound into gold at the prewar price. Other nations followed the United Kingdom's lead and went back to gold. This new system is called as Gold Exchange Standard.

With paper currency having become popular in many countries, and in view of the scarcity of gold and other considerations, it was thought that the gold coin standard of the past could not be revived. Instead, the gold bullion or gold exchange standard was prescribed at the Geneva

Conference (1920). The U.S.A. was the first to adopt the gold standard in 1924, with England following suit in May, 1925 at the pre-war gold parity rate, i.e., £= 4.8665. Other European countries too followed the lead in returning to the gold standard, either by introducing gold bullion standard or gold exchange standard. With France joining late in 1928, the restoration became complete. Countries which had adopted gold exchange standard chose London, New York or Paris to keep their reserves. They announced convertibility of their domestic currencies secure exchange stability. into pounds, dollars and francs, and tried to

Thus, there was a structural difference between the gold standard of the pre-war years and that of the inter-war period. In the revived gold standard system, gold coins were not brought into circulation. It was in the form of gold bullions.

7.2.4 DURING GOLD EXCHANGE STANDARD (1925-1933):

Since the United Kingdom had lost a great deal of its competitiveness and had liquidated a substantial portion of its foreign investments to pay for the war effort, re-establishing the pre-war parity left the pound grossly overvalued and led to large balance-of-payments deficits and gold losses until the United Kingdom was forced to abandon the system in 1931 (the United States followed suit in 1933).

7.2.5 COLLAPSE IN 1930s:

Although full-fledged gold standard was back in the field of international monetary system by 1928, it had very short innings. In practice, it could not function smoothly as in the pre-war era. It lasted for a bare three years and that too in an unsatisfactory manner and ended when Great Britain renounced it in September 1931. Greece, Portugal, Japan and S. Africa also followed the U.K.,Australia, New Zealand and most of South America had gone off the gold standard before Great Britain. U.S.A. went off in 1933 and France in 1936. The world, in general, thus, virtually abandoned the gold again by 1936, leading to the final and complete break-down of the post-war gold standard.

7.2.6 MECHANISM OF GOLD STANDARD:

a) MAINTENANCE OF EXCHANGE STABILITY GOLD POINTS:

International gold standard is basically concerned with the external value of a currency and maintaining the stability of exchange rates. The process by which gold standard maintains exchange stability is very simple.

Under the international gold standard the values of the currencies of participating countries are fixed in terms of gold. Their exchange rates, therefore, are also automatically fixed by gold parity. Thus, in a foreign exchange market if the exchange rate tends to rise much above the gold parity rate, the excess demand for foreign exchange will be met by export of gold.

Similarly, if the foreign exchange rate tends to fall much below the gold parity rate, the excess supply of foreign exchange is taken off from the market by the import of gold. In this way the demand for any currency in foreign exchange market is kept equal to the supply, so that, stability of the exchange rate is maintained.

The following illustration will make the point clear:

Suppose, two countries, say India and U.K., are both on the gold standard, and that there is free import and export of gold in both countries. Now, if in India the monetary authority has fixed the value of the rupee at 1/100th ounce of pure gold and in U.K. its monetary authority has fixed the value of pound as 1/5th ounce of pure gold, then the gold parity exchange rate of the two currencies would be

Rs. =(1/5)ounce of gold/(1/100)ounce of gold = 100/5 = 20

Now, suppose that there is deficit in India's balance of payments (import payments are more than export receipts), and surplus in U.K.'s balance of payments (export receipts are more than import payments). Then the demand for pound will be more than the demand for rupee, for the obvious reason that people in India with rupees will purchase more pounds for payments to their creditors in U.K. than the people

in U.K. with pounds purchasing rupees for payments to their creditors in India.Thus, the value of pound tends to rise in terms of the rupee, because of the heavy demand for it. But this change in the exchange rate cannot go far.

Now, if the cost of transfer (which is made up of the cost of shipment, insurance and interest) of 1/5th ounce of gold from India to U.K. is only 50 paise, the exchange rate of pound will not rise above Rs. 20.50 per pound, whatever, may be the excess demand for pounds in the foreign exchange market. This is because anybody in India can get pounds by exporting gold to U.K. The cost of getting £1 by exporting gold would be only 50 paise, and he can buy 1/5th ounce of gold for Rs. 20 from the Indian monetary authority, the Reserve Bank of India, for this purpose.

Thus, in getting the pound by way of exporting gold one has to bear only the cost of transferring gold from India to U.K., which is assumed to be 50 paise. People in India can thus, get any amount of pounds at the price of Rs. 20.50 per pound by exporting gold. This means that the supply curve of pound becomes perfectly elastic at this price. Therefore, when the exchange rate rises uptoRs. 20.50 per pound in the foreign exchange market, it will not be allowed to rise further.

Whatever, excess demand for the pound is there, it will be taken off at this rate from the foreign exchange market and will be shunted into the gold market, and the excess pounds will be made available through export of gold. This point of foreign exchange rate is called the upper gold point or the gold export point (for India). It is the specific point of the foreign exchange rate beyond which any excess demand for pound (in India) is

met by export of gold. Here, Rs. 20.50 to £ 1 is India's gold export point and U.K.'s gold import point.

The reverse will be the case when the demand for rupee increases or the supply of pounds increases. In that case the value of rupee will rise or that of pound will fall. But here also the rate will not decline by more than 50 paise, the transfer cost of gold (from India to U.K. or from UK. to India). Hence, the exchange rate will not fall below Rs. 19.50 per pound. Any Englishman can get any amount of rupees at the rate of Rs. 19.50 per pound by importing gold into India. For, he can get 1/5th ounce of gold from the Bank of England for one pound, and transfer it by bearing the transfer cost of 50 paise, in return for which he can get Rs. 20 from the Reserve Bank of India. This means, the supply of rupees against pounds (i.e., the demand for pounds against rupees) becomes completely elastic at the exchange rate of Rs. 19.50 per pound.

Thus, the demand curve for pounds becomes perfectly elastic at this rate. This exchange rate should be regarded as the lower gold point or the gold import point (for India). For, at this rate, any excess supply of pounds or any excess supply of demand for rupees, will be taken away from the foreign exchange market and will be shunted into the gold market, and the excess rupees will be made available through the import of gold in India. Here, Rs. 19.50 to £ 1 is India's import point of U.K.'s export point.

b) GOLD STANDARD AND AUTOMATIC ADJUSTMENTS IN BALANCE OF PAYMENTS:

A country with a deficit balance of payments loses gold, i.e, gold flows out of the country, whereas, a country with a surplus balance of payments receives gold, i.e., there will be an inflow of gold into the country.

(1) A nation with deficit in Balance of Payments:

When there is deficit in the balance of payments, the demand for the foreign currency increases as a result the demand for and purchase of gold from the central bank also increases for import payments. Induced outflow of gold leads to a contraction of currency and credit in the country. For, the exporters of gold will purchase gold from the central bank. Thus, the gold reserve of the central bank falls and to that extent it will have to reduce the issue of notes and currency in circulation. So also commercial banks find reduction in their demand deposits if withdrawals were made by these gold exporters for purchasing gold from the central bank. To that extent commercial banks' cash reserves are depleted and they are forced to contract credit accordingly.

(2) Contraction in money supply (currency plus credit) will lead to a decrease in prices.

(3) The fall in prices in the country will encourage foreigners' demand for its goods and services so that, its exports will increase.

Simultaneously, its imports will decline because people will find foreign goods relatively costlier.

(4) The increase in exports and decrease in imports of the country would increase the supply of and decrease the demand for foreign currency.

(5) Ultimately the deficit in the balance of payments will be wiped out and the country may become a surplus country. That is to say, a formerly gold-losing country will now become a gold- receiving country.

Thus, the efflux of gold automatically creates conditions for the removal of the deficit in thebalance of payments of a gold-losing country, the deficit which was the cause of the out-flow of gold.

2. A Nation with a surplus in Balance of Payments:

1. A country with surplus balance of payments has more export receipts than import payments. Hence the demand for the domestic currency is more compared to foreign currency as the foreigners' demand for domestic currency rises. They buy the domestic currency by transferring gold to the domestic country. Hence there is inflow of gold. The inflow of gold which is caused by the surplus balance of payments, in effect, leads to an expansion of credit and currency in the country. For, when exporters in the surplus country receive gold from the debtor country, they will get local currency in exchange from the central bank. Thus,the central bank's gold reserve position is strengthened and its capacity to issue more currencyincreases. Simultaneously, when these people deposit their money with the commercial banks, thelatter's cash reserves grow and so does their credit creation capacity.

2. The expansion of credit and currency will lead to a rise in prices in the country.

3. With the rise in prices the country's exports will decline while its imports will increase.

4. When exports decline and imports increase in the country, its demand for foreign currency increases, while the supply of foreign currency in the country declines.

5. Ultimately, the country's surplus balance of payments may turn reverse so that, a formerly gold-receiving country will now become a gold-losing country.

7.2.7 ADVANTAGES OF INTERNATIONAL GOLD STANDARD:

1. **International Medium of Exchange:** International gold standard provides the gold standard countries an international medium of exchange and standard of value.' Because gold is an almost universally demanded valuable commodity, it is generally acceptable as a means of payment. Thus, payments in gold are acceptable to foreigners. Moreover, exchange rates of the currencies of different countries can be easily determined

when their par values are expressed in terms of gold. ready by, gold also serves as a measure of value of efferent commodities, thus, enabling us to mold a comparison of the worth of goods in different countries.

2. Stability of Exchange Rates: Perhaps the great advantage of the gold standard, whatever, the form it may take (whether gold coin standard, gold bullion standard, or gold exchange standard), is that it provides stability of exchange rates among the countries that adhere to it, and stability to the internal value of the currency, maintaining at the same time its internal value. Gold standard ensures that exchange rates do not move beyond the specie or gold point-within limits of slight variations. This stability of exchange rates facilitates international capital movements and leads to expansion of international trade.

3. Parity of Price Levels: Under international gold standard, price levels between different countries are harmonised. The movement of gold from country to country causes price levels to rise and fall in such a manner that they are brought into equilibrium among all the nations which maintain gold standard. However, this does not mean that, the price levels in different countries are identical they are uniformly kept in equilibrium, ie, they will be moving together. The price level in any country will neither remain very low nor very high so that, it can gain permanent export advantages over others or suffer permanent disadvantages in imports.

4. Automatic Laissez-Faire Standard: International gold standard is a laissez-faire standard in the sense that it functions automatically and that it requires no intervention of the government or the monetary authority for adjustments. The golden rules of gold standard enjoin on the government not to inflate currency and credit beyond proportions justified by gold reserves. Further, it was claimed to be automatic in the sense that no international organisation or agreements were nece- ssary for its successful operation. It is argued that when on the gold standard the balance of payments is automatically brought into equilibrium.

Even today, the IMF has not replaced the automatic mechanism of international gold standard by some other system. Gold exchange standard in a form is retained only to be supplemented and modified to the present conditions by other suitable devices.

5. Public Confidence: Gold standard system inspires public confidence insofar as the public has a strong bias in favour of gold. In fact, international gold standard has strengthened the general habit of using gold as an international means of payments. International gold standard was, thus, in many ways a very useful monetary system for the growth of world trade and transactions.

7.2.8 DRAWBACKS OF THE INTERNATIONAL GOLD STANDARD

The gold standard suffers from a series of defects.

1. The main drawback of the gold standard is that it deprives a country of the power to adopt the particular monetary policy which is more appropriate to its internal economic condition, at a time when its monetary policy is subjected to international pressures.

2. Price stability and exchange stability, the two main objectives of monetary policy, cannot be reconciled under the gold standard. Gold standard forces the country to surrender the consideration of price stability. Thus, under the gold standard mechanism exchange rates are stabilised at the expense of internal economic stability and full employment.

- In the opinion of Halm, the gold standard mechanism is a fair weather craft. The mechanism can function only when the rules of the game are observed. "It is fair weather craft of doubtful seaworthiness in stormy waters. When the necessary conditions cannot be fulfilled, the gold standard is abandoned, and it becomes the task of 'paper' standards to manage the bad situation."

- It causes violent strains on the economic adjustments of the participating countries to play according to the rules of the game. In fact, international gold standard cannot be regarded as automatic since it is to be managed by the central banks of the countries by following the rules of the gold standard game. Credit contractions and credit expansions as per the rules are to be pursued, which are difficult and dangerous operations. Oftentimes the central bank may not be able to engaged in policy to reduce costs and prices sufficiently when gold flows out, or to create enough demand for new loans when gold flows in."

- Mrs. Joan Robinson remarked that the gold standard mechanism suffers from an "inherent bias towards deflation." because, even when gold begins to flow back to the gold-losing country, the central bank finds it very difficult to stimulate credit expansion and overcome deflation. For, the mechanism lacks sufficient reciprocity. The gold-losing country will under legal compulsion to contract the currency but the gold-receiving country is not compelled by law to expand the currency.

- Further, it is easy for a central bank to contract credit through bank rate policy and depress investment, but it is difficult to expand credit and stimulate investment. Thus, while the gold-losing country suffers deflation, the gold-receiving country may or may not experience inflation.

3. Rules of the Gold Standard Game:

The successful working of the automatic international gold standard presupposes that, there is no conscious management of the standard but that participating countries adhere to what is called the rules of the gold standard game. These rules are as follows: free import and export of gold between the participating countries.

- The governments concerned must observe this golden rule of gold standard, viz., expand be credit when gold is coming in, contract credit when gold is going out." Thus, the gold-receiving country must make arrangements for currency and credit expansion, and the gold-losing

- There should be a high degree of flexibility in the price systems of the participating countries, that, when the monetary pressure of gold movementis exerted price levels rise or fall accompanied by smooth adjustments of costs.

- There should be absence of distributing capital movements. The automatic operation of the gold standard can be ensured only when, among other things, the investment policy of the lending countries remains uniform. Flights of capital are independent of the variations in the respective ratessoof interest and are capable of destroying the whole gold standard mechanism."

- Although, free trade is not an essential condition of a successful functioning of the gold standard, the game requires that there should be no severe restrictions on international trade. Particularly, import quotas hinder the automatic adjustment of gold standard mechanism.

- The monetary authorities of the gold standard countries should maintain their gold parities bybuying and selling gold in unlimited quantities at fixed rates. Moreover, the gold value of the domestic currency must neither be overvalued nor undervalued. It should also be stable. 7. Finally, the monetary authorities must be willing to conform to the rules of the game, even at the cost of sacrificing the conflicting aims of domestic monetary policy. The various independent objectives of monetary policy must be wholly subordinated to the international monetary motives.

7.2.9 CAUSES OF THE DOWNFALL OF GOLD STANDARD:

As we have seen, during the thirties all the countries of the world one after another went off the gold standard. A country is said to have gone off the gold standard when she abandons gold as a unit of currency and when gold ceases to serve as a medium of exchange.

The post-war gold standard monetary system failed due to its mixed structure of international gold standard, as well as changes in the economic philosophy and ideals and unfair practices adopted by the participating nations. We may briefly reckon here the causes which were responsible for the ultimate breakdown of the post-war gold standard the automatic working of the gold standard.

1. War violently disrupted the normal course of international trade and caused maldistributionof gold holdings as between different countries. It, therefore, became very difficult for the various countries to maintain gold standard without having adequate stocks of gold.

2. In the inter-war period the disequilibrium in the structure of costs and prices between differentcountries was so great that it could not be corrected by ordinary methods or the automatic workingof the gold standard.

3. The seeds of collapse of the post-war gold standard were hidden in the unreal and improper parities announced by important countries. The British pound was overvalued by 10 per cent, while the French franc was undervalued to that extent. This led to a continuous and persisting outflow of gold from Great Britain to U.S.A. and France. These ill-chosen parities made it difficult to correct the disequilibrium in the balance of payments of the U.K. and the other countries holding sterling.

4. Defiance of the rules of the standard by the participating countries was another major cause of its collapse. For instance, gold receiving countries like the US.A. and France did not allow their increased stocks of gold to operate upon their currencies, and tried to prevent inflation. They sterilized the additional stocks of gold. This meant that they did not help the deficit countries to end their deficits. This 'sterilisation policy' was neither desirable nor necessary in the interest of the smooth working of the international gold standard.

5. The automatic adjustment mechanism of the gold standard was seriously distorted by erratic movements of short-term funds during the thirties. People also lost faith in the stability of exchange rates during this period. So, speculation in foreign exchange took full swing which endangered the gold standard

6. In the post-war era, the monetary authorities were no longer exclusively devoted to the aimsof the gold standard. Internal price stability and full employment were heavily stressed as againstthe maintenance of exchange stability. Thus, the goals and practices of monetary policy were contraryto the requirements of smooth working of the gold standard.

7. Gold standard mechanism was further disturbed by the imposition of high tariffs by the to safeguard their own interests.

8. According to Hawtrey, the immediate cause of the collapse was the withdrawal of foreign money, first from Austria and Germany and then from England. This was the result of distrust and this distrust was directly due to the appreciation of gold-prices.

9. The Great Depression of the thirties quickened the collapse of the gold standard.In short, circumstances in the inter-war period were so unfavorable that the gold standard broke down in 1936.

It may be observed that in the present era, gold standard, in all probability, will never return. For the present time isthe time of conscious

development of resources on a national basis under a happy atmosphere of internationalcooperation. However, gold will continue to play an important role in maintaining international relations. Gold servesand will continue to serve as a measuring rod of international values and exchanges. The International Monetary Fund,therefore, still retains the significance of gold as international means of payments in its refined monetary system.

7.3 BRETTON WOODS SYSTEM

7.3.1 MEANING OF THE BRETTON WOODS SYSTEM:

- At 1944 meetings in Bretton Woods, New Hampshire, representatives of the United States, the United Kingdom, and other allies decided on the establishment of a gold-exchange standard after the war.
- Under the Bretton Woods System, the United States was to maintain the price of gold fixed at $35 per ounce and be ready to exchange on demand dollars for gold at that price without restrictions or limitations.
- Other nations were to fix the price of their currencies in terms of dollars (and thus implicitly in terms of gold) and intervene in foreign exchange markets to keep the exchange rate from moving by more than 1 percent above or par value.
- Within the allowed band of fluctuation, the exchange below the rate was determined by the forces of demand and supply. Specifically, a nation would have to use its dollar reserves to purchase its own currency to prevent it from depreciating by more than 1 percent from the agreed par value, or the nation had to purchase dollars with its own currency (adding to its international reserves) to prevent an appreciation of its currency by more than 1 percent from the par value.
- Until the late 1950s and early 1960s, when other currencies became fully convertible into dollars, the U.S. dollar was the only intervention currency, so that the new system was practically a gold-dollar standard.)

7.3.2 OPERATION AND EVOLUTION OF THE BRETTON WOODS SYSTEM:

The following points explain in brief the operation of Bretton woods system:

1. Allowing changes in the par values of the currencies:

The Bretton Woods System envisaged and allowed changes in par values in cases of fundamental disequilibrium, industrial nations were very-reluctant to change their par values until such action was long overdue and practically forced upon them by the resulting destabilizing speculation.

2. Industrial Nations approach to devaluation:

The unwillingness of industrial nations to change their par values as a matter of policy when in fundamental disequilibrium robbed the system of the mechanism for balance-of-payments adjustment and gave rise to destabilizing international capital flows, which eventually led to the collapse of the system.

3. Deficit nations and Surplus nations:

Deficit nations regarded devaluations as a sign of national weakness,while surplus nations preferred to continue accumulating international reserves instead of revaluing. Thus, from 1950 until August 1971, the United Kingdom devalued only in 1967; France devalued only in 1957 and 1969, West Germany revalued in 1961 and 1969; and the United States, Italy, and Japan never changed their par values. Meanwhile, Canada (defying the rules of the IMF) had fluctuating exchange rates from 1950 to 1962 and then reinstituted them in 1970. Developing nations, on the other hand, devalued all too often.

4. Huge capital inflows and outflows due to rigidity:

Facing large trade deficits, the United Kingdom experienced huge capital outflows in the expectation that the pound would be devalued, until it was indeed forced to do so in 1967. On the other hand, West Germany received huge capital inflows in the expectation that it would revalue the mark. This made revaluation of the mark inevitable in 1961 and again in 1969.

5. Convertibility of the dollar :

Convertibility of the dollar into gold resumed soon after World War II. Formal convertibility for current account transactions was achieved in 1961 for major European currencies and in 1964 for the Japanese yen. Capital account restrictions were permitted to allow nations some protection against destabilizing capital flows.

6. Trade Expansion Act of 1962 and GATT:

Under the Trade Expansion Act of 1962 and GATT auspices, the United States initiated and engaged in wide-ranging multilateral trade negotiations (the Kennedy Round), which lowered average tariffs on manufactured goods to less than 10 percent. Many nontariff barriers remained, however, especially in agriculture and on simple manufactured goods, such as textiles, which are of special importance to developing nations. Several attempts were made at economic integration during this period, the most successful being the European Common Market.

7. General Arrangements to Borrow (GAB):

In 1962, the IMF negotiated the General Arrangements to Borrow (GAB) up to $6 billion from the so-called Group of Ten most important industrial nations (the United States, the United Kingdom, West Germany, Japan,

France, Italy, Canada, the Netherlands, Belgium, and Sweden) and Switzerland to its resources, if needed, to help nations facing balance of payments difficulties. GAB was renewed and expanded in subsequent years.

8. Standby arrangements:

Starting in the early 1960s, member nations began to negotiate standby arrangements. These refer to advance permission for future borrowings by the nation at the IMF. Once a standby arrangement was negotiated, the nation paid a small commitment charge on the amount earmarked and was then able to borrow up to this additional amount immediately when the need arose at a 5.5 percent charge per year on the amount actually borrowed. Standby arrangements were usually negotiated by member nations as a first line of defense against anticipated destabilizing hot money flows. After several increases in quotas, the total resources of the IMF reached $28.5 billion by 1971. By the end of 1971, the IMF had lent about $22 billion, of which about $4 billion was outstanding. Member nations were also allowed to borrow up to 50 percent of their quotas in any one year (up from 25 percent).

9. Swap arrangements:

National central banks also began to negotiate so-called swap arrangements to exchange each other's currency to be used to intervene in foreign exchange markets to combat hot money flows. Swap arrangements were negotiated for specific periods of time and with an exchange rate guarantee. When due, they could either be settled by a reverse transaction or renegotiated for another period. The United States and European nations negotiated many such swap arrangements during the 1960s.

10. Special Drawing Rights (SDRs):

The IMF also created Special Drawing Rights (SDRs) to supplement the international reserves of gold and foreign exchange. Sometimes called paper gold, SDRs are accounting entries in the books of the IMF. SDRS are not backed by gold or any other currency, but represent genuine international reserves. Their value arises because member nations have so agreed. SDRS can be used only in dealings among central banks to settle balance-of-payments deficits and surpluses, not in private commercial dealings. A total of $9.5 billion SDRs were created from 1970 to 1972, and these were distributed to member nations according to their quotas in the IMF. Further allocations of SDRs were made in the 1979-1981 period. The value of one SDR was originally set equal to one U.S. dollar, but rose above $1 as a result of the devaluations to the dollar in 1971 and 1973. Starting in 1974, the value of SDRs was tied to a basket of currencies and was $1.43 at the end of 2003.

Overall, the Bretton Woods system served the world well, until the mid-1960s with international trade growing faster than (and there- fore stimulating) world output.

7.3.3 COLLAPSE OF THE BRETTON WOODS SYSTEM:

1. Built-in Instability:

The Bretton Woods System had a built-in instability that ultimately led to its breakdown. It was an adjustable peg system within plus or minus 1 per cent of the par value of $ 35. In case of fundamental disequilibrium, a country could devalue its currency with the approval of the IMF. But countries were reluctant to devalue their currencies because they had to export more goods in order to pay for dearer imports from other countries. This led countries to rely on deflation in order to cure BOP deficits through expenditure-reducing monetary-fiscal policies. The UK often restored to deflation such as in 1949, 1957 and 1967.

2. European Recovery:

From 1945 to 1949, the United States ran huge balance-of-payments surpluses with Europe and extended Marshall Plan aid to help in its reconstruction. With European recovery more or less complete by 1950, the U.S. balance of payments turned into deficit. Up to 1957, U.S. deficits were small and allowed European nations and Japan to build up their international reserves.

3. Lack of International Liquidity:

There was a growing lack of international liquidity due to increasing demand for the dollar in world monetary markets. With the expansion of world trade, BOP deficits (and surpluses) of countries increased. This necessitated the supply of gold and of the dollar. But the production of gold in Africa was increasing very little. This led to larger demand and holdings of the dollar.

4. The Dollar shortage:

United States settled its deficits mostly in dollars. Surplus nations were willing to accept dollars because (a) United States stood ready to exchange dollars for gold at the fixed price of $35 an ounce, making the dollar "as good as gold"; (b) dollars could be used as an international currency to transactions with any other nation; and (c) dollar deposits earned interest while gold did not. As the supply of dollars was inadequate in relation to the liquidity needs of countries, the US printed more dollars to pay for its deficits which other countries accepted as reserves.

5. Destabilizing Speculation:

Since countries with "fundamental disequilibrium" in BOP were reluctant to devalue their currencies and also took time to get the approval of the IMF, it provided speculators an opportunity to resort to speculation in dollars. When devaluations were actually made, there were large doses of devaluation than originally anticipated. This was due to destabilizing speculation which made controls over capital flows even through monetary- fiscal measures ineffective. This was the immediate reason for the UK to devalue the pound in 1967.

6. U.S. balance-of-payments deficits:

Starting in 1958, U.S. balance-of-payments deficits increased sharply, first because of the huge capital outflows (mostly direct investments in Europe) and then because of the high U.S. inflation rate (during the Vietnam War). By 1970, foreign official dollar holdings were more than $40 billion, up from $13 billion in 1949 in the face of U.S. gold reserves declining from $25 billion in 1949 to $11 billion in 1970.

7. The Struggle of US for Balance of Payment corrections:

Because the dollar was an international currency, the United States felt that it was unable to devalue to correct its balance-of-payments deficits. Instead, it adopted a number of other policies, with limited success. The United States tried to encourage exports, reduced military and other government expenditures abroad, tied most of its foreign aid, and imposed some direct controls over capital outflows.

8. Mistakes in US Policies.

The BOP deficits of the US became steadily worse in the 1960s. To overcome them, the policies adopted by the US government ultimately led to the world crises. Rising US government expenditure in the Vietnam War, the financing of US space programme and the establishment of the "Great Society" (social welfare) programme in the 1960s led to large outflow of dollar from the US. But the US monetary authority (FED) did not devalue the dollar. Rather, it adopted monetary and fiscal measures to cut its BOP deficit.

9. Sharp decline in Gold reserves of US:

As U.S. balance-of-payments deficits continued to rise over time, U.S. gold reserves declined to the point where they were only about one-quarter of foreign-held dollar reserves by 1970. In 1970 and early 1971, the expectation was that the United States would soon have to devalue the dollar and this led to huge destabilizing capital movements out of dollars.

10. The Triffin Dilemma:

Since the dollar acted as a medium of exchange, a unit of account and a store of value of the IMF system, every country wanted to increase its reserves of dollar which led to dollar holdings to a greater extent than needed. Consequently, the US gold stock continued to decline and the US balance of payments continued to deteriorate. Robert Triffin warned in 1960 that the demand for world liquidity was growing faster than the supply because the incremental supply of gold was increasing little. Since the dollar was convertible into gold, the supply of US dollars would be inadequate in relation to the liquidity needs of countries. This would force the US to abandon its commitment to convert dollars into gold. This is the Triffin Dilemma which actually led to the collapse of the Bretton Woods System in August 1971.

11. Suspension of convertibility of dollars into gold:

On August 15, 1971, President Nixon was forced to suspend the convertibility of dollars into gold. The Bretton Woods System was dead. At the same time, the United States imposed wage and price controls, as well as a temporary 10 percent import surcharge, to be lifted after the required currency realignment took place. For the benefit of seigniorage from the use of the dollar as an international currency, the United States had paid a heavy price by being unable to devalue, even though it was clearly in fundamental disequilibrium. The irony was that the dollar remained an international currency without any backing of gold.

12. Smithsonian Agreement :

With the Smithsonian Agreement in December 1971, representatives of the Group of Ten nations agreed to increase the dollar price of gold from $35 to $38 an ounce. This implied a devaluation of the dollar of about 9 percent. At the same time, the German mark was revalued by about 17 percent, the Japanese yen by about 14 percent, and other currencies by smaller amounts with respect to the dollar. In addition, the band of fluctuation was increased from 1 percent to 2.25 percent on either side of the new central rates, and the United States removed its 10 percent import surcharge. Since the dollar remained inconvertible into gold, the world was now essentially on a dollar standard.

13. Another devaluation in 1972:

However, with another huge U.S. balance-of-payments deficit in 1972, it was felt that the Smithsonian Agreement was not working and that another devaluation of the dollar was required.) This expectation led to renewed speculation against the dollar and became self-fulfilling in February 1973, when the United States was once again forced to devalue the dollar, this time by about 10 percent (achieved by increasing the official price of gold to $42.22 an ounce). When speculation against the dollar flared up again in March 1973, monetary authorities in the major industrial nations decided to let their currencies float. The present managed floating exchange rate system was born.)

While the immediate cause of the collapse of the Bretton Woods System was the huge balance-of-payments deficits of the United States in 1970 and 1971, the fundamental cause was the lack of a workable balance-of-payments adjustment mechanism, the eruption of a crisis of confidence in the US dollar. Persistent U.S. balance-of-payments deficits undermined confidence in the dollar and led to its collapse. Thus the main cause of breakdown of the Bretton Woods System was the problems of liquidity, adjustment and confidence.

7.4 MONETARY SYSTEM AFTER THE COLLAPSE OF BRETTON WOODS SYSTEM

The Present International Monetary System: A Chronological Order:

1. **Floating exchange rates:** At the beginning of March 1973 India, Canada, Japan, Switzerland, the UK and several smaller countries had floating exchange rates. However, the "joint float" of the EEC countries continued even after March 1973 and was now called the "snake in the lake", as there was no band within which the EEC currencies could fluctuate relative to other currencies.

2. **European Currency Unit (ECU):** In March, 1979 the European Monetary System (EMS) was formed which created the European Currency Unit (ECU) which is a "basket" currency of a unit of account consisting of the major European currencies. The EMS limits the internal exchange rate movement of the member countries to not more than 2.25 per cent from the "central rates" with the exception of Italy whose lira can fluctuate up to 6 per cent.

3. **The Jamaica Agreement:** The Jamaica Agreement of January 1976 (ratified in April 1978) formalized the regime of floating exchange rates under the auspices of the IMF. A number of factors forced the majority of member countries of the IMF to float their currencies. There were large short-term capital movements and central banks failed to stop speculation in currencies during the regime of adjustable pegs.

4. **The oil crisis:** The oil crisis in 1973 and the increase in oil prices in 1974 led to the great recession of 1974-75 in the industrial countries of the world. As a result "the dollar went into a rapid decline, which, by late 1978, had such alarming proportions that the United States government finally decided on a policy of massive intervention in order to prevent a further fall in the value of the dollar". At last, the system of managed floating exchange rates had come to stay by 1978.

5. **The Second Amendment of the IMF Charter:** By the Second Amendment of the IMF Charter in 1978, the member countries are not expected to maintain and establish par values with gold or dollar. The Fund has no control over the exchange rate adjustment policies of the member countries. But it exercises international "surveillance" of exchange rate policies of its members. The Second Amendment has reduced the position of gold in the global monetary system in the following ways by: (a) abolishing the official price of gold; (b) delinking it with the dollar in exchange arrangements; (c) eliminating the obligations of the Fund and its members to transfer or receive gold; and (d) selling a part of Fund's gold holdings.

6. **SDRs:** The Second Amendment has also made SDRs as the chief reserve assets of the global monetary system whose value is expressed in currencies and not gold. It is now a unit of account, a currency peg and medium of transactions.

7. **Managed floating:** The present international monetary system of floating exchange rates is not one of free flexible exchange rates but of "managed floating". It has rarely operated without government intervention. Periodic intervention by governments has led the system to be called a "managed" or "dirty" floating system. In 1977, when the intervention was very heavy, it was characterized as a "filthy" float. When Governments do not intervene, it is a "clean" float. But the possibilities of a clean float are very remote. Thus a system of managed floating exchange rates is evolving where the central banks are trying to control fluctuations of exchange rates around some "normal" rates even though the Second Amendment of the Fund makes no mention of normal rates.

Managed Floating Exchange Rate System: Meaning And Features:

Meaning: Under such a system, nations' monetary authorities can intervene in foreign exchange markets to smooth out short-run fluctuations in exchange rates usually without attempting to affect long-run trends. This could be achieved by a policy of leaning against the wind.

Inception: Since March 1973, the world has had a managed floating exchange rate system. The 1976 Jamaica Accords (ratified in 1978) formally recognized the managed floating system and allowed nations the choice of foreign exchange regime as long as their actions were not disruptive to trade partners. At the beginning of 2004, about half of the 187 members of the IMF adopted some form of exchange rate flexibility. From 1974 to 1977; again from 1981 to 1985, and since the early 1990s, the United States ally followed a policy of benign neglect by not intervening in foreign exchange markets to stabilize the value of the dollar.

Features:

1. **Need international reserves:** Under the present managed float, nations still need international reserves in order to intervene in foreign exchange markets to smooth out short-run fluctuations in exchange rates. At present, such interventions are still made mostly in dollars. In January 1975, U.S. citizens were allowed for the first time since 1933 to own gold (other than in jewelry). The price of gold temporarily rose above $800 an ounce in January 1980, but it soon fell and stabilized at less than half of its peak price (it was $400 in February 2004). The official price of gold was abolished and the IMF suspended all gold transactions with member nations. The old gold tranche at the IMF was renamed the first-credit tranche. The IMF continued to value its gold holdings at the pre-1971 official price of $35 an ounce.

2. **The renewal of GAB to NAB:** The IMF renewed and expanded the General Arrangements to Borrow (GAB) and in 1997 extended it with the New Arrangement to Borrow (NAB) that provided the IMF with an additional $49 billion in lending capability in 2003 (on top of $24 billion on GAB). Central bankers also expanded their swap arrangements to $54 billion and their standby arrangements to $77 billion in 2003.

3. **Relaxation of borrowing rules:** Borrowing rules at the IMF were also relaxed and new credit facilities were added that greatly expanded the overall maximum amount of credit to a member nation. There is an initial fee for borrowing, and the interest charged is based on the length of the loan, the facility used, and prevailing interest rates. Besides the usual surveillance responsibilities over the exchange rate policies of its members, the IMF has in recent years broadened its responsibilities to include help for members to overcome their structural problems. Total Fund credit and loans outstanding rose from $14 billion in 1980 to $109 billion in 2003.

4. **The European Monetary System (EMS):** The formation of the European Monetary System (EMS): In March 1979, the European Monetary System (EMS) was formed and in January 1999 the European Monetary Union (EMU) came into existence with the creation of the euro (which began actual circulation at the beginning of 2002) and the European Central Bank (ECB) starting to operate.

5. **IMF conditionality:** Since 1982, the IMF has engaged in a number of debt rescheduling and rescue operations. As a condition for the additional loans and special help, the IMF required reductions in government spending, growth of the money supply, and wage increases in order to reduce imports, stimulate exports, and make the country more nearly self-sustaining. Such IMF conditionality, however, proved very painful and led to riots and even the toppling of governments. Partly in response to these accusations, the IMF has become more flexible in its lending activities.

The problems of the present international monetary system:

1. Excessive fluctuations and

2. Large disequilibria in exchange rates. Often countries, both developed and developing, have been faced with either

3. Excessive appreciation or depreciation of their currencies in relation to the dollar which continues to dominate the world monetary system.

4. Even the newly created Euro of the EU which was supposed to be a strong currency has been depreciating considerably since its inception against the dollar. This has adversely affected the world trade.

Suggestions To Reform The Present Monetary System:

Economists have suggested a number of measures in order to avoid the excessive fluctuations and large disequilibria in exchange rates for reforming the present world monetary system:

1. **Coordination and Cooperation of Policies:** A few economists, and McKinnon in particular, suggested international co-operation and co-ordination of policies among the leading developed countries for exchange rate stability. According to McKinnon', the US, Germany and Japan should have the optimal degree of exchange rate stability by fixing the exchange rates their currencies at the equilibrium level based on the purchasing power parity. Thus, they would co-ordinate their monetary policies for exchange rate stability.

2. **Establishing Target Zones:** Williamson called for the establishment of target zones within which fluctuations in exchange rates of major currencies may be permitted. According to him, the forces of demand and supply should determine the equilibrium exchange rate. There should be an upper target zone of 10% above the equilibrium rate and a lower target zone of 10% below the equilibrium exchange rate. The exchange rate should not be allowed to move outside the two target zones by official intervention. In February 1987, the leading five developed countries agreed under the Louvre Agreement to have some sort of target zones for the stability of ex- change rates among their currencies. Despite official intervention by these countries, the ex- change rates continued to fluctuate within wide margins than agreed upon at Louvre. Thus Williamson's proposal has since been discarded being impracticable.

3. **Improving Global Liquidity:** The reform package of the present world monetary system should improve global liquidity. As a first step, both BOP deficit and surplus countries should take steps to reduce a persistent imbalance through exchange rate changes via internal policy measures. Second, they should also cooperate in curbing large flows of "hot money" that destabilize their currencies. Third, they should be willing to settle their BOP imbalances through SDRS rather than through gold or dollar as reserve assets. Fourth, there should be increasing flow of resources to the developing countries.

4. **Leaning Against the Wind:** To reduce the fluctuations in exchange rates, the IMF Guidelines for the Management of Floating Exchange Rates, 1974 suggested the idea of leaning against the wind. It means that the central banks should intervene to reduce short-term fluctuations in exchange rates but leave the long-term fluctuations to be adjusted by the market forces. 5. Richard Cooper suggests a global central bank with a global currency which should be a global lender of last resort.

5. Jaffrey Sachs proposes the creation of an international bankruptcy court which should deal with countries.

6. George Soros opines that the IMF should set ceilings for external finance for each country beyond which access to private capital need not be insured. But there should be insurance by an international credit insurance corporation.

7. Paul Krugman suggests reintroduction of capital controls as a "least bad response" to an international crisis.

8. **Objective Indicators:** To iron out exchange rate fluctuations, the IMF Interim Committee suggested the adoption of such objective indicators as inflation-unemployment, growth of money supply, growth of GNP, fiscal balance, balance of trade and international reserves. The variations in these indicators require the adoption of restrictive monetary-fiscal measures to bring stability in exchange rates.

Conclusion: The various suggestions to reform the present monetary system are closely inter- linked. But there is lack of unanimity over the various proposals among the nations. Given the differences of opinion between the developing and developed countries and among the developed countries themselves, there is no hope that any concrete proposal to reform the global monetary system would be acceptable to nations. So the present system of managed floating exchange rate is likely to stay on.

7.5 THE MAASTRICHT TREATY

7.5.1 INTRODUCTION:

The early ups and downs in the working of the EMS which were characterized by currency realignments and strict exchange controls set the EU members to think about having a monetary union. In 1989, the Delors Committee recommended a three-stage transition for the formation of a European Monetary Union (EMU).

1. **In the First stage:** All EU members were to join the Exchange Rate Mechanism (ERM) of the European Monetary System (EMS).

2. **In the Second Stage**: Exchange rate bands were to be narrowed and certain macroeconomic policy decisions were placed under EU control.
3. **In stage three**: The national currencies of EU countries were to be replaced by a single European currency and all monetary policy decisions were to be vested in a European Central Bank.

On 10 December, 1991, the leaders of the EU countries met at Maastricht in the Netherlands and agreed to establish a single European currency which is called the Euro. In February 1992, the 15-member countries signed the Maastricht Treaty for the European Monetary Union (EMU). It called upon the members to start stage two of the Delors Plan on 1 January, 1994 and stage three not later than 1 January, 1999.

7.5.2 MAIN FEATURES OF THE MAASTRICHT TREATY:

The Maastricht Treaty lays down that EU countries must satisfy four macroeconomic convergence criteria before they can be admitted to the EMU. They are:

a. The rate of inflation in the country must not be more than 1.5% above the average of the three EU member countries with the lowest inflation rate.
b. The country must have maintained a stable exchange rate under the Exchange Rate Manage ment System without devaluation.
c. The country must not have a public deficit higher than 3% of its GDP, except temporarily and in exceptional circumstances.
d. The country's public debt must be below or near 60% of its GDP.

The Treaty provides for a regular monitoring of criteria (c) and (d) by the European Commission and for imposing penalties on countries that violate these two criteria and fail to correct excessive deficits and debts.

7.5.3 POST-MAASTRICHT DEVELOPMENTS AND ADOPTION OF EURO AS SINGLE CURRENCY:

Besides the Maastricht Treaty, the EU members signed the Stability and Growth Pact (SGP) in 1997 which further tightens the fiscal measures by laying down the medium-term budgetary objective of

being near to balance or surplus. It also sets out a timetable for levying penalties on countries

that fail to correct excessive deficits and debts. By May 1998, eleven EU countries had satisfied the convergence criteria and became founder members of EMU. The time table for the implementation of EMU and adoption of the EURO was divided into three stages:

1. **In the first stage**, **the European Central Bank (ECB)** was established on 30 June, 1998 at Frankfurt (Germany) for a smooth change over the currencies of member nations to the Euro. The main functions of the Bank till the circulation of Euro coins and bank notes from 1 January, 2002 were to control inflation and create confidence of the global financial markets in the Euro.

2. **In the second stage**, **EU countries adopted the Euro:** EU countries adopted the Euro as a single monetary unit. In the beginning 1 January, 1999, the central banks of EU countries adopted the Euro as a single monetary unit.

3. **In the third stageEuro coins replaced national currencies**: Beginning January, 2002 more than 14 billion Euro bank notes and 50 billion Euro coins replaced national currencies and bank notes and coins of members. They were made available at all banks, and post offices. Till 31 December, 2002, banknotes of each Euro area country could be exchanged at banks in the country concerned. At least until the end of 2012, national central

banks will exchange free of charge their old national banknotes against the Euro. In most countries, the redemption periods are longer or even indefinite.

7.6 FEATURES OF THE EURO AS EMU CURRENCY

Denominations: The EMU currency consists of Euros of 100 cents. The Euro banknotes have seven denominations of 5, 10, 20, 50, 100, 200 and 500 Euro. The Euro coins have eight denominations of 1,2,5,10, 20, 50 cent and 1 and 2 Euro. Euro coins have a European side and a national side on which national symbol of the issuing country appears. But Euro banknotes do not have national symbols. They are uniform throughout the EU. Countries like Britain which have their own currencies in circulation have fixed exchange rates with the Euro and it circulates in such countries.

The European System of Central Banks (ESCB): The ECB and national central banks (NCBS) of 13 EU countries form the European System of Central Banks (ESCB). The NCBs of the EU countries that have not joined the Eurozone are members with special status. They conduct their respective national policies but do not take part in decision making of the EMU and the implementation of its policies. All heads of NCBS sit on the ECB general council which conducts monetary policy for the entire Eurozone. Besides this, (1) the ECB conducts foreign exchange operations; (ii) holds and manages the official foreign exchange reserves; (ii) promotes the smooth operation of the payment system; and (iv) supports the policies of its member banks.

Conclusion: The Euro, as the international currency of the European Monetary Union, was weak against the dollar in the beginning. To begin with, it opened at 1 EUR = $ 1.16 in 1999. But when the Euro actually started operating in January 2002, it fell to 1 EUR = $0.89. With the U.S. budget and current account deficits widening and the U.S. Federal Reserve (central bank) reducing the bank rate in subsequent years, it surged to a record high of $ 1.45 in early 2008.

ADVANTAGES OF THE EURO AS THE INTERNATIONAL CURRENCY OF THE EUROPEAN MONETARY UNION:

The following have been the advantages of adoption of the Euro:

1. The Euro has brought a greater degree of European market integration.
2. It has removed the threat of currency realignments.
3. It has eliminated the costs and inconveniences of traders to convert one currency to another of the EU countries.
4. There is no longer any risk of fluctuations between currencies.
5. Rates of interest and inflation rates are much lower now.
6. Exchange rates are permanently fixed,

7. There is freedom of capital movements.
8. People now buy, sell and borrow within a larger and more competitive market.
9. Prices are displayed in the same currency throughout the EU. They are easier to compare and help the buyers to make the right choice.
10. Travelling in Europe has become more convenient because a traveller has to change money only once in the Euro. This saves both time and money.
11. The European Central Bank has put an end to the hegemony of the German Bundesbank in the management of EMU monetary policy. All NCBs participate and follow monetary policy decisions taken by the ECB's general council.

7.7 EURO – CURRENCY MARKET

7.7.1 The Meaning of Euro-Currency market:

The Eurocurrency market is the money market for currency outside of the country where it is legal tender. The eurocurrency market is utilized by banks, multinational corporations, mutual funds, and hedge funds. They wish to circumvent regulatory requirements, tax laws, and interest rate caps often present in domestic banking, particularly in the United States.

The eurocurrency market originated in the aftermath of World War II when the Marshall Plan to rebuild Europe sent a flood of dollars overseas. The market developed first in London, as banks needed a market for dollar deposits outside the United States. Dollars held outside the United States are called euro-dollars, even if they are held in markets outside Europe, such as Singapore or the Cayman Islands.

The eurocurrency market has expanded to include other currencies, such as the Japanese yen and the British pound, whenever they trade outside of their home markets. However, the euro-dollar market remains the largest.

The term eurocurrency is a generalization of euro-dollar and should not be confused with the EU currency, the euro. The eurocurrency market functions in many financial centres around the world, not just Europe.

Example of Euro-dollar Market transaction: Euro-dollar transactions are conducted by banks not resident in the United States. For instance, when an American citizen deposits (lends) his funds with a U.S. Bank in London, which may again be used to make advances to a business enterprise in the U.S., then such transactions are referred as Euro-dollar transactions.

7.7.2 The Features of Euro-dollar Market:

1. **Short-term Money market:** It has emerged as a truly international short-term money market. It is simply a short-term money market facilitating banks' borrowings and lendings of US dollars. The Euro-dollar market is principally located in Europe and basically deals in U.S. dollars. But, in a wider sense, Euro-dollar market is confined to the external lending and borrowing of the world's most important convertible currencies like dollar, pound sterling, Swiss franc, French Franc, Deutsche mark and Netherlands Guilder.

2. **It is unofficial but profound:** Euro-dollar market is the creation of the international bankers. Though, Euro-dollar market is wholly unofficial in character, it has become an indispensable part of the international monetary system. It is one of the largest markets for short-term funds. Original customers of the Euro-dollar market were the business firms in Europe and the Far East which found Euro-dollars cheaper way of financing their imports from the United States, since the lending rates of dollars in the Euro-dollar market were relatively less.

3. **Euro-dollars:** By Euro-dollars is meant all U.S. dollar deposits in banks outside the United States, including the foreign branches of U.S. banks. A Euro-dollar is, however, not a special type of dollar. It bears the same exchange rate as an ordinary U.S. dollar has in terms of other currencies.

4. **Unsecured credits:** All Euro-dollar transactions are, however, unsecured credits since the transactions in each currency are made outside the country where that currency has originated. In short, the term Euro-dollar is used as a common term to include the external markets in all the major convertible currencies.

5. **It is competitive:** The Euro-dollar market attracts funds by offering high rates of interest, greater flexibility of maturities and a wider range of investment qualities.

6. **It is a more flexible capital market:** Euro-dollars have come into existence on account of the Regulation issued by the Board of Governors of the U.S. Federal Reserve System, which does not permit the banks to pay interest to the depositors above a certain limit. As such, banks outside the United States tend to expand their dollar business by offering higher deposit rates and charging lower lending rates, as compared to the banks inside the U.S. But, increase or decrease in the potential for Euro-dollar holdings depends directly upon U.S. deficits and surpluses, respectively.

7. **The Euro-dollar market has two facets:**

   (i) It is a market which accepts dollar deposits from the non-banking public and gives credit in dollars to the needy non-banking public.

   (ii) It is an inter-bank market in which the commercial banks can adjust their foreign currency

   position through inter-bank lending and borrowing.

8. **Freedom to Commercial banks:** The existence of Euro-dollar market in a country, however, depends on the freedom given to the commerical banks to hold, borrow and lend foreign currencies-especially dollars - and to exchange them at fixed official exchange rate.

7.7.3 **Benefits of the Euro-dollar Market:**

Following benefits seem to have accrued to the countries involved in the Euro-dollar market:

1. It has provided a truly international short-term capital market, owing to a high degree of mobility of the Euro-dollars.
2. Euro-dollars are useful the financing of foreign trade.
3. It has enabled the financial institutions to have greater flexibility in adjusting their cash and
4. It has enabled importers and exporters to borrow dollars for financing trade, at cheaper rates than otherwise obtainable.
5. It has helped in reducing the profit margins between deposit rates and lending rates.
6. It has enhanced the quantum of funds available for arbitrage.
7. It has enabled monetary authorities with inadequate reserves to increase their reserves by borrowing Euro-dollar deposits.
8. It has enlarged the facilities available for short-term investment.
9. It has caused the levels of national interest rates more akin to international influences.

7.7.4 EFFECTS OF EURO-DOLLAR MARKET ON INTERNATIONAL FINANCIAL SYSTEM:

Euro-dollar market has affected the international financial system in the following ways:

1. The position of dollar has been strengthened temporarily, since its operations of borrowing of dollars has become more profitable rather than its holdings.
2. It facilitates the financing of balance of payments surpluses and deficits. Especially, countries having deficit balance of payments tend to borrow funds from the Euro-dollar Market, thereby, lightening the pressure of their foreign exchange reserves.
3. It has promoted international monetary cooperation.
4. Over the last decade, the growth of Euro-dollar has helped in easing of the world liquidity problem.

7.7.5 THE MAJOR DRAWBACKS OF THE EURO-DOLLAR MARKET MAY BE MENTIONED AS UNDER:

1. It may lead banks and business firms to over-trade.
2. It may weaken discipline within the banking communities.
3. It involves a grave danger of sudden large-scale withdrawal of credits to a country.
4. It has rendered official monetary policies less effective for the countries involved.
5. There is the danger of over-extension of the dollar credit by domestic banks of the country: consequently, high demand pressure on the official foreign exchange may take place.
6. The Euro-dollar market appears as another channel for the short-term international capital movement for the country, so that, the country's volume of outflow or inflow of capital may increase which may again endanger the foreign exchange reserves and the effectiveness of domestic economic policies.
7. It has destabilization effect. It increases the pressure on exchange rate and official foreign exchange reserves. This may require additional liquidity. If such additional reserves are not provided, it may endanger the existence of the present gold-exchange standard.

Above, all, the Euro-dollar market has caused the growth of semi-independent interest rates, on which there can be no effective control by a single country or an institution.

7.8 QUESTIONS

1. Discuss the features of a Good International Monetary System.
2. Explain the advantages and drawbacks of Good International Monetary System.
3. Explain the collapse of Bretton Wood system.
4. Write an explanatory note on Euro Currency Market.
5. Discuss the Maastricht Treaty

8

INTERNATIONAL MONETARY SYSTEM – 2

Unit Structure:

8.0 OBJECTIVES

- To study about Asian Infrastructure Investment Bank (AIIB) in detail.
- To study about New Development Bank (NDB) in detail.

8.1 ASIAN INFRASTRUCTURE INVESTMENT BANK (AIIB)

8.1.1 Introduction:

The Asian Infrastructure Investment Bank (AIIB) is a new international development bank established on 25 December, 2015, 25 and started its operation in 2016. It has 104 approved members worldwide. It provides finance for infrastructure projects in Asia.

The proposal for an 'Asian Infrastructure Investment Bank (AIIB) was first made by the vice-chairman of China Centre for international economic exchangesin April 2009. On 25 December, 2015, the Article of Agreement entered into force and on 16th January, 2016 the bank started to operate.

8.1.2 Membership:

The Articles of Agreement forms the legal basis for the bank. There are 57 Prospective Founding Members (PFM) of the agreement who are eligible to sign and ratify the articles, thus becoming members of the bank. Other states which are parties to the International Bank for Reconstruction and Development (IBRD) or Asian Development Bank (ADB) may become members after approval. The 57 members are the Founding Members. In March 2017, 13 other states were granted prospective membership.In May 2017, 7 states were granted prospective membership. Subsequently more countries became members. As on 20 July, 2021, there were 103 members.

8.1.3 Objectives:

i) To finance rail-road ports infrastructure along the ancient silk route to help China's maritime policy.

ii) To counter US-Japan dominated IMF and ADB.

iii) To invest China's huge forex reserves in its 50% of AIIB capita holding so as to earn income from its investment.

8.1.4 Capital Structure:

The authorised capital stock of the bank is 100 billion US dollars divided into 1 million shares of 1,00,000 dollars each. 20 percent are paid in shares and 80 percent are callable shares. The shares an based on the size of the economy - calculated by using GDP nominal 60 percent and GDP-PPP, 40 percent. The votes of the members a of three types, that is - basic votes, share votes and founding members votes. The basic votes are equal to all members and constitute percent of the total votes. Share votes constitute 85 percent an founding member votes 3 percent. China has the largest prospective founding members votes and Maldives has the smallest.

8.1.5 Governance:

The governance of the bank is carried out by the Board of Governors which is the top-level and highest decision making body. It is composed of one governor for each member state of the bank. The Board of Governors meets once in a year. The Board of Directors composed of 12 governors, are responsible for the daily operation. There are two non-regional directors - one from Euro countries and the other from other European countries.Mr. Jin Liqun (China) is the current President of the AIIB.

8.1.6 Lending:

AIIB is one of important lenders for the infrastructure project. As in October 2021, AIIB approved 144 projects. 33 members were beneficiary of the loans granted for infrastructure projects. More than 11 areas with 33 different projects were financed by AIIB. The important projects financed, comprise-energy, financial institutions, ICT, public health, transport, water, urban development, rural infrastructure and agriculture development.

Project Preparation and Special Fund Financing of about 30.14 USD (million) is done by the AIIB. This indicate its involvement to build up the basic requirement, in the form of various infrastructure facilities to promote development. AIIB is expected to fill in the gap thedeveloping countries' growth faces due to the lack of infrastructure facilities.

8.2 NEW DEVELOPMENT BANK (NDB)

8.2.1 Introduction:

The New Development Bank (NDB) formerly known as BRICS Development Bank, is a multilateral development bank, established by BRICS states (Brazil, Russia, India, China and South Africa). India

proposed the idea of setting the NDB at the 4th BRICS in 2012. On the first day of 6th BRICS Summit held in Fortaleza, Brazil on 15 July, 2014, the BRICS nations signed the agreement on the New Development Bank. The NDB was not established as a challenge to the existing international financial institutions like IBRD (World Bank) and IMF, but rather complement them.

8.2.2 The need for NDB:

The need of NDB was felt as BRICS countries' do not have the influence or impact in world institution like World bank, IMF according to their economic strength even though China, Brazil and India have become bigger donors to the low-income countries. The political influence of BRICS has increased substantially, specially among the developing countries. This dissatisfaction with IMF and IBRD made the leading developing countries to take initiative to establish alternate institutions. BRICS countries account for more than one-fifth of the global economy but they wield about 11 percent of votes at the IMF. All reforms suggested and introduced at the Bretton Woods institutions have not succeeded in increasing their role in decision making inspite of their economic strength.

8.2.3 Objectives:

To contribute to the development plans set up nationally through projects that are socially, environmentally and economically sustainable. Promote infrastructure and sustainable development projects with a significant development impact in member countries. Establish an extensive network of global partnerships with other multilateral development institutions and national development banks. Build a balanced project portfolio giving a proper respect to their geographic location, financing requirements and other factors.

8.2.4 Membership:

All the BRICS countries - Brazil, Russia, India, China and South Africa. All the members of the United Nations could be members of the NDB.The shares of BRICS nations can never be less than 55 percent of voting power. More membership is considered to be crucial to its long-term development.

The NDB plans to expand membership gradually so as not to overly strain its operational and decision-making capacity. The bank's membership is open to any member of the United Nations. The bank is targeting the big emerging economies like Mexico and Indonesia. At present there are 8 members in NDB.

8.2.5 Corporate Governance: The NDB is governed by:

(i) Board of Governors

(ii) Board of Directors

(iii) President and Vice-President

The NDB President is elected on a rotational basis from one of the founding members and there are four vice-presidents from each of the four founding members. Mr. K.V. Kamath from India, is the first elected President of the NDB. He was replaced by Marcos Prado Troyjo of Brazil since 7 July, 2020. The bank has its headquarters in Shanghai, China and an Africa Regional Centre is being established in Johannesburg, South Africa. Voting power within the board is based on each countries' shares in the bank. While new members can join the NDB, the five BRICS will retain a minimum of 55 percent of total shares.

8.2.6 Capital Structure:

The NDB has an initial subscribed capital of US $ 50 billion and initial authorised capital of US $ 100 billion. The initial subscribed capital was equally distributed among the founding members. The payment of the amount initially subscribed by each founding member will be made in dollars in 7 instalments. An individual member cannot increase its share of capital without the consent of other four members. The capital of BRICS countries cannot fall below 55 percent.

8.2.7 Lending:

The bank finances sustainable infrastructure development projects, renewable energy projects, projects promoting environment protection etc. As of 6 March 2019, the bank has approved 30 projects with loans aggregating over USD 8 billion.

8.4 SUMMARY

The NDB has been given $ 50 billion in initial capital. All the five members have equal share-voting. The capital is to be used to finance infrastructure and sustainable development projects in the BRICS initially, but other low-income countries will be able to obtain finance subsequently. BRICS countries have also created a $ 100 billion Contingency Reserve Arrangement (CRA) meant to provide additional liquidity protection to member countries during balance of payment problem. Additional capital was raised by issuing bonds.

8.5 QUESTIONS

1. Write an explanatory note on Asian Infrastructure Investment Bank (AIIB).

2. Write an explanatory note on New Development Bank (NDB).

Question Paper Pattern (For IDOL Students Only)
TYBA SEM VI (Economics) – for all Six papers

Time: Three Hours **Total Marks: 100 Marks**

Please Check whether you have got the right question paper.

N.B. 1) All questions are compulsory.Attempt Sub question (A) or (B) of Question no. 5
2) Figures to the right indicate marks.
3) Draw neat diagrams wherever necessary.

Q1. Answer any TWO questions of the following. 20

a.
b.
c.

Q2. Answer any TWO questions of the following. 20

a.
b.
c.

Q3. Answer any TWO questions of the following. 20

a.
b.
c.

Q4. Answer any TWO questions of the following. 20

a.
b.
c.

Q5. (A) Write short notes on any TWO of the following. 20

a.
b.
c.
d.

OR

(B) Multiple choice questions, select an appropriate option (20 MCQs) 20