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**ASSIGNMENT**

## **INTRODUCTION**

National income is the measurement of flow of services and goods in economic system. The national wealth is the measurement of present assets available on a given time while the National income is the measurement of the production power of economic system in a given time period. The figures of National income are based on the financial year (i.e. from 1st April to 31st March). The base of one year is taken for calculating National income which is called base year, as all the seasons come in a year. The data of estimation of India's National income are issued by Central Statistical Organisation (CSO).

## **CONCEPTS OF NATIONAL INCOME**

National income is the money value of all goods and services produced by a country during a period of one year. National income consists of a collection of different types of goods and services of different types.

The main concepts of National Income are:

GDP, GNP, NNP, NI, PI, DI, and PCI.

These different concepts explain about the phenomenon of economic activities of the various sectors of the economy.

### **Gross Domestic Product (GDP)**

The most important concept of national income is Gross Domestic Product. Gross domestic product is the money value of all final goods and services produced within the domestic territory of a country during a year.

Algebraic expression under product method is,

$$\text{GDP} = (P * Q)$$

where,

GDP=Gross Domestic Product

P=Price of goods and service

Q=Quantity of goods and service

According to expenditure approach, GDP is the sum of consumption, investment, government expenditure, net foreign exports of a country during a year.

GDP includes the following types of final goods and services. They are:

1. Consumer goods and services.
2. Gross private domestic investment in capital goods.
3. Government expenditure.
4. Exports and imports.

There are various concepts of National Income. The main concepts of NI are: GDP, GNP, NNP, NI, PI, DI, and PCI. These different concepts explain about the phenomenon of economic activities of the various sectors of the various sectors of the economy.

### **Gross National Product (GNP)**

Gross National Product is the total market value of all final goods and services produced annually in a country plus net factor income from abroad. Thus, GNP is the total measure of the flow of goods and services at market value resulting from current production during a year in a country including net factor income from abroad. The GNP can be expressed as the following equation:

**GNP=GDP+NFIA (Net Factor Income from Abroad)** or,  $GNP=C+I+G+(X-M)+NFIA$

Hence, GNP includes the following:

Consumer goods and services.

Gross private domestic investment in capital goods.

Government expenditure.

Net exports (exports-imports).

Net factor income from abroad.

### **Net National Product (NNP)**

Net National Product is the market value of all final goods and services after allowing for depreciation. It is also called National Income at market price. When charges for depreciation are deducted from the gross national product, we get it. Thus,

**NNP=GNP-Depreciation** or,  $NNP=C+I+G+(X-M)+NFIA-Depreciation$

National Income is also known as National Income at factor cost. National income at factor cost means the sum of all incomes earned by resources suppliers for their contribution of land, labor, capital and organizational ability which go into the year's net production. Hence, the sum of the income received by factors of production in the form of rent, wages, interest and profit is called National Income. Symbolically,

**NI=NNP+Subsidies-Interest Taxes** or,  $GNP - Depreciation + Subsidies - Indirect Taxes$

or,  $NI=C+G+I+(X-)+ NFIA-Depreciation-Indirect Taxes Subsidies$

### **Personal Income (PI)**

Personal Income is the total money income received by individuals and households of a country from all possible sources before direct taxes. Therefore, personal income can be expressed as follows:

**PI=NI-Corporate Income Taxes - Undistributed Corporate Profits - Social Security**

**Contribution + Transfer Payments**

**Disposable Income (DI)**

The income left after the payment of direct taxes from personal income is called Disposable Income. Disposable income means actual income which can be spent on consumption by individuals and families. Thus, it can be expressed as:

**DI=PI-Direct Taxes**

From consumption approach,

**DI=Consumption Expenditure + Savings**

**Per Capita Income (PCI)**

Per Capita Income of a country is derived by dividing the national income of the country by the total population of a country. Thus,

**PCI=Total National Income/Total National Population**

## **LECTURE NOTES ON MANAGERIAL ECONOMICS FOR STUDENTS ACADEMIC USE BY DR.NEHA MATHUR MA'AM**

### **TRADE CYCLE, ITS FEATURES, PHASES AND THEORIES OF TRADE CYCLE**

#### **Meaning of Trade Cycle:**

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”.

#### **Features of a Trade Cycle:**

1. A business cycle is synchronic. When cyclical fluctuations start in one sector it spreads to other sectors.
2. In a trade cycle, a period of prosperity is followed by a period of depression. Hence trade cycle is a wave like movement.
3. Business cycle is recurrent and rhythmic; prosperity is followed by depression and vice versa.
4. A trade cycle is cumulative and self-reinforcing. Each phase feeds on itself and creates further movement in the same direction.
5. A trade cycle is asymmetrical. The prosperity phase is slow and gradual and the phase of depression is rapid.
6. The business cycle is not periodical. Some trade cycles last for three or four years, while others last for six or eight or even more years.

7. The impact of a trade cycle is differential. It affects different industries in different ways.

8. A trade cycle is international in character. Through international trade, booms and depressions in one country are passed to other countries.

### **Phases of a Trade Cycle:**

Generally, a trade cycle is composed of four phases – depression, recovery, prosperity and recession.

#### ***Depression:***

During depression, the level of economic activity is extremely low. Real income production, employment, prices, profit etc. are falling. There are idle resources. Price is low leading to a fall in profit, interest and wages. All the sections of the people suffer. During this phase, there will be pessimism leading to closing down of business firms.

#### ***Recovery:***

Recovery denotes the turning point of business cycle from depression to prosperity. In this phase, there is a slow rise in output, employment, income and price. Demand for commodities go up. There is increase in investment, bank loans and advances. Pessimism gives way to optimism. The process of revival and recovery becomes cumulative and leads to prosperity.

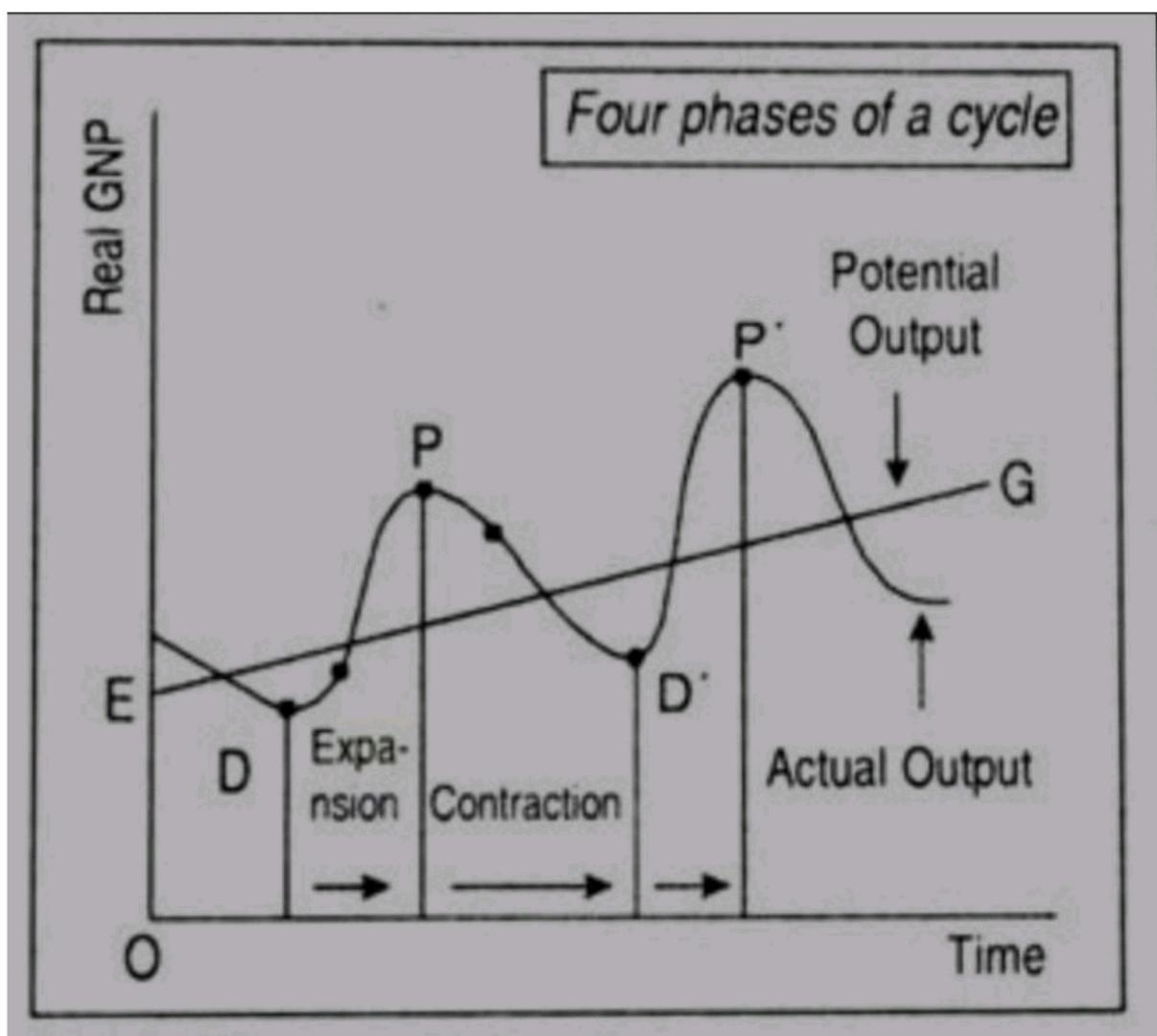
#### ***Prosperity:***

It is a state of affairs in which real income and employment are high. There are no idle resources. There is no wastage of materials. There is rise in wages, prices, profits and interest. Demand for bank loans increases. There is optimism everywhere. There is a general uptrend in business community.

However, these boom conditions cannot last long because the forces of expansion are very weak. There are bottlenecks and shortages. There may be scarcity of labour, raw material and other factors of production. Banks may stop their loans. These conditions lead to recession.

**Recession:** When the entrepreneurs realize their mistakes, they reduce investment, employment and production. Then fall in employment leads to fall in income, expenditure, prices and profits. Optimism gives way to pessimism. Banks reduce their loans and advances. Business expansion stops. This state of recession ends in depression.

**The four-phased trade cycle has the following attributes:**



- (i) Depression lasts longer than prosperity,
- (ii) The process of revival starts gradually,
- (iii) Prosperity phase is characterised by extreme activity in the business world,
- (iv) The phase of prosperity comes to an end abruptly.

## Theories of Trade Cycle:

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.

### *Non-Monetary Theories of Trade Cycle:*

#### **1. Sunspot Theory or Climatic Theory:**

It is the oldest theory of trade cycle. It is associated with W.S.Jevons and later on developed by H.C.Moore. According to this theory, the spot that appears on the sun influences the climatic conditions. When the spot appears, it will affect rainfall and hence agricultural crops.

When there is crop failure, that will result in depression. On the other hand, if the spot did not appear on the sun, rainfall is good leading to prosperity. Thus, the variations in climate are so regular that depression is followed by prosperity.

However, this theory is not accepted today. Trade cycle is a complex phenomenon and it cannot be associated with climatic conditions. If this theory is correct, then industrialised countries should be free from cyclical fluctuations. But it is the advanced, industrialised countries which are affected by trade cycles.

#### **2. Psychological Theory:**

This theory was developed by A.C. Pigou. He emphasized the role of psychological factor in the generation of trade cycles. According to Pigou, the main cause for trade cycle is optimism and pessimism among business people and bankers. During the period of good trade, entrepreneurs become optimistic which would lead to increase in production.

The feeling of optimism is spread to other. Hence investments are increased beyond limits and there is over production, which results in losses.

Entrepreneurs become pessimistic and reduce their investment and production. Thus, fluctuations are due to optimism leading to prosperity and pessimism resulting depression.

Though there is an element of truth in this theory, this theory is unable to explain the occurrence of boom and starting of revival. Further this theory fails to explain the periodicity of trade cycle.

### **3. Overinvestment Theory:**

Arthur Spiethoff and D.H. Robertson have developed the over investment theory. It is based on Say's law of markets. It believes that over production in one sector leads to over production in other sectors. Suppose, there is over production and excess supply in one sector, that will result in fall in price and income of the people employed in that sector. Fall in income will lead to a decline in demand for goods and services produced by other sectors. This will create over production in other sectors.

Spiethoff has pointed out that over investment is the cause for trade cycle. Over investment is due to indivisibility of investment and excess supply of bank credit. He gives the example of a railway company which lays down one more track to avoid traffic congestion. But this may result in excess capacity because the additional traffic may not be sufficient to utilise the second track fully.

Over investment and overproduction are encouraged by monetary factors. If the banking system places more money in the hands of entrepreneurs, prices will increase. The rise in prices may induce the entrepreneurs to increase their investments leading to over-investment. Thus Prof. Robertson has successfully combined real and monetary factors to explain business cycle.

This theory is realistic in the sense that it considers over investment as the cause of trade cycle. But it has failed to explain revival.

### **4. Over-Saving or Under Consumption Theory:**

This theory is the oldest explanation of the cyclical fluctuations. This theory has been formulated by Malthus, Marx and Hobson. According to this theory,

depression is due to over-saving. In the modern society, there is great inequalities of income. Rich people have large income but their marginal propensity to consume is less.

Hence they save and invest which results in an increase in the volume of goods. This causes a general glut in the market. At the same time, as majority of the people are poor, they have low propensity to consume. Therefore, consumption will not increase. Increase in the supply of goods and decline in the demand create under consumption and hence over production.

This theory is not free from criticism. This theory explains only the turning point from prosperity to depression. It does not say anything about recovery. This theory assumes that the amount saved would be automatically invested. But this is not true. It pays too much attention on saving and too little on others.

### **5. Keynes' Theory of Trade Cycles:**

Keynes doesn't develop a complete and pure theory of trade cycles. According to Keynes, effective demand is composed of consumption and investment expenditure. It is effective demand which determines the level of income and employment.

Therefore, changes in total expenditure i.e., consumption and investment expenditures, affect effective demand and this will bring about fluctuation in economic activity. Keynes believes that consumption expenditure is stable and it is the fluctuation in investment expenditure which is responsible for changes in output, income and employment.

Investment depends on rate of interest and marginal efficiency of capital. Since rate of interest is more or less stable, marginal efficiency of capital determines investment. Marginal efficiency of capital depends on two factors – prospective yield and supply price of the capital asset. An increase in MEC will create more employment, output and income leading to prosperity. On the other hand, a decline in MEC leads to unemployment and fall in income and output. It results in depression.

During the period of expansion businessmen are optimistic. MEC is rapidly increasing and rate of interest is sticky. So entrepreneurs undertake new investment. The process of expansion goes on till the boom is reached. As the

process of expansion continues, cost of production increases, due to scarcity of factors of production. This will lead to a fall in MEC. Further, price of the product falls due to abundant supply leading to a decline in profits.

This leads to depression. As time passes, existing machinery becomes worn out and has to be replaced. Surplus stocks of goods are exhausted. As there is a fall in price of raw-materials and equipment, costs fall. Wages also go down. MEC increases leading to recovery. Keynes states that, "Trade cycle can be described and analyzed in terms of the fluctuations of the marginal efficiency of capital relatively to the rate of interest".

The merit of Keynes' theory lies in explaining the turning points—the lower and upper turning points of a trade cycle. The earlier economists considered the changes in the amount of credit given by banking system to be responsible for cyclical fluctuations. But for Keynes, the change in consumption function with its effect on MEC is responsible for trade cycle. Keynes, thus, has given a satisfactory explanation of the turning points of the trade cycle, "Keynes consumption function filled a serious gap and corrected a serious error in the previous theory of the business cycle". (Metzler).

Critics have pointed out the weakness of Keynes' theory. Firstly, according to Keynes the main cause for trade cycle is the fluctuations in MEC. But the term marginal efficiency of capital is vague. MEC depends on the expectations of the entrepreneur about future. In this sense, it is similar to that of Pigou's psychological theory. He has ignored real factors.

Secondly, Keynes assumes that rate of interest is stable. But rate of interest does play an important role in decision making process of entrepreneurs.

Thirdly, Keynes does not explain periodicity of trade cycle. In a period of recession and depression, according to Keynes, rate of interest should be high due to strong liquidity preference. But, during this period, rate of interest is very low. Similarly during boom, rate of interest should be low because of weak liquidity preference; but actually the rate of interest is high.

## **6. Schumpeter's Innovation Theory:**

Joseph A. Schumpeter has developed innovation theory of trade cycles. An innovation includes the discovery of a new product, opening of a new market, reorganization of an industry and development of a new method of

production. These innovations may reduce the cost of production and may shift the demand curve. Thus innovations may bring about changes in economic conditions.

Suppose, at the full employment level, an innovation in the form of a new product has been introduced. Innovation is financed by bank loans. As there is full employment already, factors of production have to be withdrawn from others to manufacture the new product. Hence, due to competition for factors of production costs may go up, leading to an increase in price.

When the new product becomes successful, other entrepreneurs will also produce similar products. This will result in cumulative expansion and prosperity. When the innovation is adopted by many, supernormal profits will be competed away. Firms incurring losses will go out of business. Employment, output and income fall resulting in depression.

Schumpeter's theory has been criticised on the following grounds.

Firstly, Schumpeter's theory is based on two assumptions viz., full employment and that innovation is being financed by banks. But full employment is an unrealistic assumption, as no country in the world has achieved full employment. Further innovation is usually financed by the promoters and not by banks. Secondly, innovation is not the only cause of business cycle. There are many other causes which have not been analysed by Schumpeter.

### *Monetary Theories of Trade Cycles:*

#### **1. Over-Investment Theory:**

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Prof. Von Hayek in his books on "Monetary Theory and Trade Cycle" and "Prices and Production" has developed a theory of trade cycle. He has distinguished between equilibrium or natural rate of interest and market rate of interest. Market rate of interest is one at which demand for and supply of money are equal.

Equilibrium rate of interest is one at which savings are equal to investment. If both equilibrium rate of interest and market rate of interest are equal, there will be stability in the economy. If equilibrium rate of interest is higher than market rate of interest there will be prosperity and vice versa.

For instance, if the market rate of interest is lower than equilibrium rate of interest due to increase in money supply, investment will go up. The demand for capital goods will increase leading to a rise in price of these goods. As a result, there will be a diversion of resources from consumption goods industries to capital goods industries. Employment and income of the factors of production in capital goods industries will increase.

This will increase the demand for consumption goods. There will be competition for factors of production between capital goods and consumption good industries. Factor prices go up. Cost of production increases. At this time, banks will decide to reduce credit expansion. This will lead to rise in market rate of interest above the equilibrium rate of interest. Investment will fall; production declines leading to depression.

### **Hayek's theory has certain weaknesses:**

1. It is not easy to transfer resources from capital goods industries to consumer goods industries and vice versa.
2. This theory does not explain all the phases of trade cycle.
3. It gives too much importance to rate of interest in determining investment. It has neglected other factors determining investment.
4. Hayek has suggested that the volume of money supply should be kept neutral to solve the problem of cyclical fluctuations. But this concept of neutrality of money is based on old quantity theory of money which has lost its validity.

### **2. Hawtrey's Monetary Theory:**

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.