2.1. Introduction

Inflation is a common phenomenon in a modern capitalistic economy. It does not mean that it is ruled out in case of socialist countries. In the case of socialist countries the inflation is either will be suppressed or controlled effectively so that severity to this phenomenon is not realised much as it is felt as in the case of capitalistic countries. Inflation is a controversial term, which has undergone several modifications since it was first clarified by neo-classical economists. According to them, inflation is a galloping increase in the price levels because of an excessive rise in the quantity of money supply in an economy. They considered inflation as a destroying disease born out due to a lack of monetary control whose results undermined the rules of business, creating chaos in the markets and financial ruin of even the prudent.

Keynes in general theory removed all such types of fear. As he did not have any confidence in full employment like neo-classical economists, he showed that rise in money supply results increase in the aggregate demand employment and output. This is possible because of an underemployment equilibrium. Hence, Keynes succeeded to make distinction between inflation before full employment and after full employment. He named former as semi-inflation or true inflation. (Al Haj, 2005, p212).

Inflation is a major economic phenomenon that has been engulfed entire world since the Second World War. In this period, it has remained a source of great controversy among economists,
general public and economists during the latter period of 1950s in United States, unemployment was higher in comparison to the immediate post-war period and yet prices still seemed to be increasing. Simultaneously, fear of post-war recession had belatedly been replaced by serious concern about problem of inflation. Result was a never ending debates.

On one side, there was cost-push school of thought which believe that there was no excess demand and on the other side was demand-pull school. There also developed a third school of thought associated with name of Charles Schultz which advanced sectored demand shift theory of inflation. When this controversy was going on, a new approach of inflation and anti-inflationary policy was developed by A.W. Phillips.(Chakraborty, 2012, p205).

2.2. Meaning of Inflation:

Inflation has been defined differently by various authors. These have been much differences in opinion among economists over the definition of inflation and it has causes to confusion which parades entire theory of inflation. Quantity theory type of approach. For example. R.G. Hawtrey associates inflation with issue of too much purchasing capacity. Essential feature of inflation is process of rising price levels. Increase in quantity of stock of money may not necessarily cause a rise in the price level unless spent. Above all, prices may have a increasing tendency although stock of money remained unchanged. Another line of thought regarding definition of inflation is that problem essentially is to be a matter of disproportionate rise in money incomes composed with changes in output of goods and services. Friedman, Paish, Coulborn, Kemmerer, Golden wiser, Pigou, Emile James consider inflation a monetary
phenomenon manifested by disequilibrium between stock of money or money income and volume of commodities and services—whereas Coulborn defined inflation as too much money chasing too few goods. Kemmerer states that inflation is too much money and deposit currency that is, too much currency in relation to the physical volume of business being done. In the words of Goldenweier, inflation occurs when volume of money activity bidding for goods and serves increase faster than available supply of goods, when growth of national income in money units is greater than its growth in physical units. (Mithani, 2010, p105).

Pigou opines that, inflation takes place when money income is expending relatively to output of work done by the prod active agents for which it makes payment. In the words of Keynes, true inflation occurs when aggregate demand exceeds aggregates supply at full employment levels. Emile James said that inflation is self-perpetuating and irreversible upward movement of prices caused by excess of demand over capacity of supply. These sets of definition regarding expansion of money stock or money expenditure as a cause and increase in prices as effect. Again, these definitions treat inflation as induced simply by an excess of demand and ignore the factors like costs, wages, prices moving in an upward spiral. (Bozyan & Abdel Haq, 2007, p219).

To clear cub-web of dentitions, I would recognise that it is an important phenomenon on related to a process of increasing prices. Harry Johnson, Milton Friedman and Gardner Ackley define inflation as a process of increasing prices. According to Gardner Ackley, inflation is persistent and appreciable rise in general level of prices. In this context, I should clear over conception regarding inflation. A
mere increase in prices is not to be named inflation. On contrary, it is only a process of rising prices that is termed as inflation. This concept is also emphasised by crow the, who states that inflation is a state where value of money is declining. Milton freedman also supported this idea and comments that inflation is sustained and steady increase in price levels. Likewise, Harryg G. Johnson clarify inflation as a sustained increase in prices. (Jhingan, 2010, p105).

Few limitations have to be made in considering every increase in price as inflation. It may be that current rise in price levels may be simply ups and down phenomenon around a constant level or due short-run expansion of output or it may be because of a once for all adjustments of few modifications externally because of disequilibrium. In each causes, element of chronic and self-sustaining process of increasing prices.

In order to accept that inflation is sustained increase in price levels, certain problems have to be solved first of all, what price index should be referred to for computing inflation secondly, whether index should be that of wholesale prices or retail prices or a GNP deflator which comprises of all final commodities entering GNP thirdly, whether prices should be measured including or excluding taxes. Fourthly, while government suppresses inflation what procedure is to be followed price control measures or subsidies. (Chakraborty, 2012, p206).

Fifthly, if price change measured by indices are accurate, question arises-what will be rise in rate of price so that situation will become inflationary.

Holzman and Bronfenbrenner have summed up all controversies about definition of inflation by providing alternative definition of inflations.
1) Inflation is increase in price with additional characteristics or conditions.

2) Inflation is a situation of generalised excess demand, in which too much money chases too few goods.

3) Inflation is increase in money income or stock of money either in total or per capita. (Frisch, 1990, p9).

2.2.1. Inflation rate

According to proof Rowan, inflation is the process of price increase. Rowan suggests the following formula to measure the percentage rate of inflation:

$$\rho(\tau) = \frac{\Delta \rho(\tau)}{\rho(\tau - 1)} \times 100$$

Where \( \Delta \rho(\tau) = \rho(\tau) - \rho(\tau - 1) \), \( \rho = \) the price level and \( \tau, \tau - 1 \) are the periods of calendar time to which the observation are made. (Alshamory, 2000, p207).

Following are some of the important definition of inflation: Inflation is like an elephant to the blind men. Different economists have defined inflation differently. I may, thus, enlist a few important definition of inflation as under which would give us a comprehensive idea about this intricate problem.

i. According to Kemmerer, inflation is too much money and deposit currency.

ii. In the words of Pigou, inflation takes place when money income is expending relatively to the output of work done by productive agents for which it makes payment. (Alshamary, 2010, p207).

iii. According Hawtrey, inflation is issue of too much currency.

iv. In the words of Colburn, inflation is too much money chasing too few goods.
v. According to the opinion of Goldenweiser, inflation occurs while volume of money actively bidding for goods and services rises faster than available supply of goods, when growth of national income in money units in greater than its growth in physical units.

vi. Crothers, similarly defines inflation as "a state in which the value of money is falling, i.e. prices are rising."

vii. In the words of Milton Friedman, inflation is a steady and sustained rise in prices. (Jhingan, 2010, p106).

viii. Edward Shapiro, puts it thus "Recognising the ambiguities our words contain, we will define inflation simply as a persistent and appreciable rise in the general level of prices.

ix. Prof. Samuelson puts it thus "inflation occurs when the general level of prices and costs is rising. (Nordhouse & Samuelson, 2001, p. 608)

2.3. History of inflation

Major economic tragedy of inflation that has affected the world during and after second world war. It has remained a source of great controversy among the economists, general public and politicians. There is no doubt that inflation has become a dominant economic problem. During earlier days of recorded history, human beings were puzzled and anxious due to ever increasing prices. Through entire ancient period, the Mediterranean civilization, frequently suffered increased price treads for discoveries of new gold mines and improved techniques of mining gold. The Mediterranean wars also lead to inflation for consequently releasing money accumulated through pillage. Conquer of Persian (Iran) gold hoards by Alexander the Great was probably biggest inflationary act of ancient period.
Frequently debasements of wins in Ancient china, Rome and Greece result in inflation.

Adoption of paper money contributed much to inflation and it began to occur regularly. In U. S. A. inflation accrued due to issue of dollars by the government to finance war of independence. Likewise, France issued paper currency to reduce burden of debts, resulted inflation. Prices rose to soaring heights. German hyperinflation in early twenties was worst everyone memory, which gripped the German economy in 1923 with ever increasing prices daily. Price of a cup of coffee during entering cafe was 4000 marks increased to 8000 marks after 10 minutes, Experience of Hungary was worse than Germany. In Germany prices not issues continued with country economy slipping deeper and deeper into financial insolvency with all its. Horrible economic and social consequences. In Canada inflation observed between 1914-20 and 1947-48, Brazil, North America and also several other countries suffered due to inflation either in single digit or in double digit. Annual rates of inflation in excess of 2.3 per cent has been noted in general.(Chakraborty, 2012, p208).

2.4. Types of inflation:

On different grounds, economists have classified inflation into various types. A few important categories are discussed below chart 1 Pinpoints the classification of inflation.

2.4.1. Moderate, Galloping and Hyperinflation:

The severity of inflation is often measured in terms of the rapidity of price rise.

2.4.1.1. Moderate inflation:

It is a mild and tolerable from of inflation. It occurs when price are rising slowly, when the rate of inflation is less than 10 per cent
annually, or it is a single digit annual inflation rate, it is considered to be moderate inflation in the present-day economy. The moderate inflation is typical today in most industrialised countries. The following are the major characteristic of this type of inflation.

i. There is a single digit inflation rate (less than 10 per cent) annually.

ii. It does not disrupt the economic balance.

iii. It is regarded as stable inflation in which the relative price do not get for out of line.

iv. People’s expectations remain more or less stable under moderate inflation.

v. Under allow inflation rate, the real interest rate is not too low or negative, so money can serve its role as a store of value without difficulty.

vi. There are modest inefficiencies associated with moderate inflation. (Samuelson & Nordhouse, 2001, p. 611).

2.4.1.2. Running and Galloping Inflation:

When the movement of price accelerates rapidly running inflation emerges. Running inflation may record more the 100 per cent rise in prices over a decade. The when prices rise by more than 10 per cent a year, running inflation occurs.

Economist have not described the range of running inflation. But, we may say that a double digit inflation of 10-20 per cent annum is a running inflation. If it exceeds that figure, It may be called 'galloping' inflation. Galloping inflation is really a serious problem. It causes economic distortions and disturbances. (Haberlar, 1960, p36).
2.4.1.3. **Hyperinflation:**

In the case of hyperinflation, price rise every movement, and there is no limit to the height to which price might rise. Therefore, it is difficult to measure its magnitude, as prices rise by fits and starts.

In quantitative terms, when price rise over 1000 per cent in a rear, it is called hyperinflation. The main features of hyperinflation are.

i. During hyperinflation, the price rise is severe the price index moves up by leaps and bounds. Its over 100 per cent year. There is at least a so 50 per cent price rise in a month so that in a year it rises to most 130 times.

ii. It represents the most pathetic deterioration in peoples purchasing power.

iii. It is apparently generated by a massive fiscal dislocation.

iv. It is amplified by wage-price spiral.

v. Hyperinflation is a monetary disease.

vi. The velocity of circulation of money increase very fast.

vii. The structure of the relative price of goods become highly unstable.

viii. The real wages tend to decline fast.

ix. In qualities increase.

x. Overall economic distortions take place.

These speed categorise of inflation are graphically depicted as in figure 2.2 where t represents time variable and p denotes increases in the price level. (Baljelah, 2010, p145).
2.4.2. War, post-war and peace-time Inflation. On the basis of the nature of time period of occurrence we have:

2.4.2.1. War-time inflation:

In is the outcome of certain exigencies of war, on account of increased government expenditure on defence which is of an unproductive nature. By such public expenditure, the government apportions a substantial production of goods and services out of total availability for war which causes a downward shift in the supply as a result, an inflationary gap may develop.

2.4.2.2. Post-war inflation:

It is a legacy of war. It the immediate post-war period, it usually experienced. This may happen when the disposable income of the community increases, when war-time taxation is withdrawn, or public debt is repaid in the post-war period.

2.4.2.3. Peace-time inflation:

In this type the rise in prices during the normal period of the peace. Peace-time inflation is often a result of increased government out lays on capital projects having along gestation period; so a gob between money income and real wage goods develops. In a planning era; thus, when government expenditure increases, price may rise. (Mithani, 2010, p110).

2.4.3. Comprehensive and sporadic Inflation From the coverage or scope point of view, we have:

2.4.3.1. Comprehensive inflation:

When prices of every commodity throughout the economy rise, it is called economy-wide or comprehensive inflation. It is normal inflationary phenomenon and refers to arise in general price level.
2.4.3.2. Sporadic inflation:

This is a kind of sectional inflation. It consists of cases in which the averages of a group of prices rise because of increases in individuate prices due to abnormal shortage of specific goods. When the supply of some goods became inelastic, sporadic inflation has its sway. For instance, during drought conditions when there is a failure of crops, food grain prices shoot up. Sporadic inflation is a situation in which direct price control, it skilfully used, is most likely to be beneficial to the community at large. (Hethat, 2006, p42).

2.4.4. Open and Repressed Inflation:

An inflation is open or repressed according to the governments reaction to the prevalence of inflationary forces in the economy.

2.4.4.1. Open inflation:

When the government does not attempt to prevent a price rise, inflation is said to be open. Thus, inflation is open when prices rise without any interruption. In open inflation, the free market mechanism is permitted to fulfil its historic function of rationing the short supply of goods and distribute them according to consumers ability to pay. Therefore, the essential characteristics of an open inflation lie in the operation of the price mechanism as the sole distributing agent.

2.4.4.2. Repressed Inflation:

When the government interrupts a price rise, there is a repressed or suppressed inflation. Thus, suppressed inflation refers to those condition in which price increases are prevented at the present time through an adoption of certain measure like price controls and rationing by the government, but they rise on the removal of such
controls and rationing. The essential characteristic of repressed inflation, in contrast to open inflation, is that the former seeks to prevent distribution through price rise under free market mechanism and substitutes instead a distribution system based on controls. Thus, the administration of controls is an important feature of suppressed inflation. (Coleman, 2007, p213).

2.4.5. Types of inflation based on the causes inducing inflation: According to the cause of rising prices, one can consider several types of inflation as follows:

2.4.5.1. Credit inflation:

Inflation which is caused by excessive expansion of bank credit or money supply is referred to as credit or money inflation.

2.4.5.2. Deficit inflation:

It is the inflation caused by deficit financing. When the government budgets continuing heavy deficit financing, through creating new money, the purchasing power in the community increases and price rise. Thus may be referred as to as deficit-induced inflation. During a planning era, when government launches upon heavy investment, it usually re-sorts to deficit financing, when adequate resources are not found. An inflationary spiral develops due to deficit financing, when the production of consumption goods fails to keep pace with the increased money expenditure. (Hethat, 2006, p45).

2.4.5.3. Scarcity inflation:

Whenever scarcity of real goods occurs or may be artificially created by the hoarding activities of unscrupulous traders and speculators which may result into black-marketing, thereby causing
prices to go up such type of inflation may be described as scarcity inflation.

2.4.5.4. Profit Inflation :

According to Keynes, the price level of consumption goods is a function of the investment boom as a reflection of profit boom. Inflation is unjust in its distribution effect. It redistributes income in favour of profiteers and against the wage-earning class. During inflation, Thus, the entrepreneur class may tend to expected an upward shifting of the marginal efficiency of capital (MEC); hence, entrepreneur are induced to invest more even by borrowing at higher interest rates eventually, investment exceeds savings and economy tends to reach a higher level of money income equilibrium. If economy is operating at full employment level or if there are bottlenecks of market imperfections, real output will not rise proportionately, so the imbalance between money income and real income is corrected through rising prices.(Campbell, 1983, p458).

2.4.5.5. Foreign - Trade Induces Inflation :

For an international economy, I can categories the following types of inflation as being caused by factors pertaining to the balance of payments.

(i) Export-Boom Inflation :

When a country having a sizeable export component in its foreign trade experiences a sudden rise in the demand for its exportable against the inelastic supply of exportable in the domestic market, it obviously implies an excessive pressure of demand which is revealed in terms of persistent inflation at home. Again, trade gains and sudden influx of exchange remittances may lead to an increase in
monetary liabilities which is further reflected in the rising pressure of demand for domestic output causing an inflationary spiral to get further momentum. Such a permanent case for an export-boom inflation is, however, ruled out in the development economy, because neither export trade is a significant portion of domestic national product nor is there a continuous boom of export-demand, causing terms of trade to move up favourably all the time.

(ii) Import price hike inflation:

When prices of import components rise due to inflation abroad, the domestic costs and prices of goods using these imported parts will tend to rise. Such an inflation is referred to as an imported inflation. For instance, hike in oil prices by the Arab countries was responsible for accelerating inflationary price rise in many oil-importing countries. (Baljelah, 2010, p15).

2.4.5.6. Tax inflation

Year to year increase in commodity taxation such as excise duties and sales tax may lead to rise in prices of travel goods. Such an inflation is termed as tax inflation or tax-induced inflation. (Andolfato, 2005, p292).

2.4.5.7. Cost inflation:

When inflation emerges on account of a rise in cost factor, it is called cost inflation. It occurs when money incomes (wage rate, particularly) expend more than real product. Cost inflation has its course through the level of money costs of the factors of production and in particular through the level of wage rate. Due to a rising cost of living index, workers demand higher wages, and higher wages in their turn increase the cost of production, which a produce generally by
raising prices. This process of spiralling may reach higher levels. In this case, however, cyclical anti-inflation remedies of monetary controls are not relative effective.

Wage inflation is an important variant of cost inflation wage push inflation occurs when money wages are raised without corresponding improvement in the productivity of the workers. (Haberler, 1960, p36).

**2.4.5.8. Demand Inflation:**

When there is an excess of aggregate, demand against the available aggregate supply of goods and services, prices tend to rise. It is called demand-induced inflation. Population-growth, rising money income, etc. are forces that play a significant role in generating demand inflation. (Mithani, 2010, p110).

**2.5. Stagflation:**

This is a typical type of inflation where expansion of currency is associated with static output and employment or ever decreasing output and employment. Stagflation refers to period of recession and rising unemployment along with positive rates of inflation. This type of situation compels entrepreneurs to rise price to increase profit margin. As a result, they succeed only partially in increasing prices, they are faced with a situation of decreasing output and investment. Therefore on the one hand there is increase in the general price level and with other hand there is a decline in output and employment. In figure (2.3), original price $p'$ is determined by intersection of
aggregate supply (s's') and aggregate demand curve (D' D'). If aggregate supply curve shifts backward from s' s' to s'_1 s'₁ then output falls with a inverse in price level from p' to p'₁. Inflation and declining output are found side by side. Hence, stagflation is typical result of adverse supply shift.( Frisch, 1990, p187).

2.5.1. Causes of stagflation:

1. Root cause of is world - wide continuous inflation. As a result demand fall which lead to recession.
2. There is growing imbalance between supply of capital stock and Labour force.
3. Predominance of cost-push elements of inflation resulted in a rise is unemployment and serious shortfall of production.
4. Excessive rise in prices will affect exports adversely and create a slump which will be passed on to other industries.
5. Even in those countries which have adopted an anti-inflationary policy, there has not been any consistency in pursuit of this policy.( Chakraborty, 2012, p216).

2.6. Major Theories of Inflation:

Different views have been put forward by different economists on the phenomenon of inflation. We may survey briefly the main different approaches to inflation.

The are two basic approaches to the problem of the sources of inflation the first is the Quantity theory of money Approach and the Excess Demand.

2.6.1 The Quantity theory of money approach.

According to this approach, other things being equal, if the money supply increases, prices rise and inflation occurs as a
consequence Economists like Friedman, Hawtrey, Goldenweiser who looked upon inflation as a pure monetary phenomenon, vigorously advocated this theory.

It follows from the Fisherian quantity theory version that since:

$$\rho = \frac{MV}{T}$$

When V and T remain constant under full-employment equilibrium condition of the economy, an increase in the stock of money M implies a direct proportionate rise of the price level P. Likewise, the income theory equation too implies the same thing. Thus, when.

$$\rho = \frac{y}{Q}$$

When, if the real output Q remain constant under full-employment, an increase in Y, the money income caused by an increased flow of money supply M tends to cause the price level Prise. But the QTM, however, does not explain the phenomenon of hyper-inflation, where it is the rise in prices that may cause a further rise in price.

In fact, the phenomenon of money and prices chasing each other in a vicious spiral is so indivisible that it is not very easy to determine which is cause and which is effect. Moreover, the theory is quite misleading and confusing if one were to analyse a situation of depression in which the government resorts to the usual fiscal and the result is both increase in money supply and a rise in prices. A price rise which is necessary for revival of economic activity should not be considered as inflationary because inflation is generally harmful to economy. (Khalil, 1994, p1046).
2.6.2. Types of Monetary Inflation:

There are three distained categories of monetary inflation:

I. The purely monetary inflation.

II. The monetary over - investment inflation.

III. The monetary over - consumption inflation.

In all the three cases, the basic causative factor is persistent growth of excessive money supply. The characteristic features of these three types of monetary inflation, however, are not the same.

2.6.2.1. The purely monetary inflation, as per Hawtrey's thesis, influences consumption and investment in a like manner. It remains natural in affecting production, distribution and growth when all nominal incomes and assets are instantly index-linked, so that the nominal incomes rate is fully adjusted with the inflation rate in a closed economy model. (Snowdon, 2005, p243).

Monetary over - investment inflation, as per Hayek's, thesis, is the product of excessive monetary expansion which is instrumental for causing forced savings. Under this type of inflation, the positive inflation rate is not index - linked with income. There is no adjustment of nominal rate of interest with the rate of inflation. Hence, the real interest prevailing in the financial markets tends to be below the true real rate. Consequently the capital intensity of the financial system tends to be of a higher order then the normal course.

A lower real interest rate induced more borrowings for investment resulting into over - investment in monetary terms against real saving. Over - investment in capital goods sector tends to imply a shortage in consumption goods, in the process with the widening of the gap between these two vital sectors of the economy. There
reversed itself through a phenomenon of shortened gestation and production period investment. So that the nominal and real interest rates may again move up forced savings process assumed by Hayek, according to Brahmananda, is not easily permitted under planning with a passive and tolerant labour force in the rural sector and in majority.

2.6.2.2. The Excess Demand Hypothesis:

It is a more correct approaches to the phenomenon of inflation developed by a group of writers comprising of Wicksell and Bent Hansen, the Swedish economists, and Lord Keynes, the Cambridge economist. In their view, "just as the price of any goods is determined be the demand for it and the supply of it, so also the general price level is determined by the demand for it and the supply of the group of goods concerned, the prices of which determines the price level.

They, thus, define inflation as a condition in which the total demand for goods as shown by the volume of money offered is in excess of supply of goods at the prevailing prices.

According to this approach, inflation is initiated by some factors which make it impossible to satisfy the whole of demand for goods coming forth at the prevailing prices. This means that inflation arises when a rise in demand takes place in a situation where there is no possibility of satisfying it fully because of the impossibility of satisfying it fully because of the impossibility of increasing production by a corresponding amount. Such a situation of excess demand is possible usually in the following cases:

1. During war-time when government expenditure is stepped up to a high-level and constitutes a substantial increase in demand for various goods;
2. During the planning period when the public sector investment or government expenditure on public programmes increases, and the total demand naturally rises; and

3. When inventions and technological progress open up opportunities and investment expenditures of the entrepreneurs may increase and contribute to a rise in demand.

However, there is not much difference between the fundamental postulates of the above two approaches in as much as in the "excess demand approach," the excess demand approach can become effective only by means of an increased supply of money. In both these approaches, the money supply is the causal factor.

But a notable difference between these two approaches is that while the quantity theory of money approach explains the position as it exists and points to the origin of the trouble, the excess demand approach explains the means by which the causal factors work themselves out in an inflation process.

A clarification of the Excess-Demand Hypothesis can be sought in Keynes' saving-investment approach to the value of money.

The main thesis of saving-investment theory is that an expansion of bank credit or an increase in money supply may cause investment to exceed savings, which, in turn, leads to rise in the level of income in the community. With the rise in income, obviously, the aggregate expenditure of the community also rises. This increased total outlay constitutes an increase in the required goods and services. If, however, there is a simultaneous rise in the output of the required goods and services, the supply and demand in general will be adjusted without any rise in the price level. But, in a market-oriented economy, if the aggregate supply fails to keep pace with the rise in aggregate
demand, the price level will tend to rise. Keynes further pointed out that economy at under-employment equilibrium position will not face the problem of inflation till it reaches the full employment ceiling. Because, under the condition of underemployment, an expansion of credit or money supply will release idle resources into the productive channels so that real investment, employment, income and output will rise without any price rise. However, there may be some interval between the time of increase in money supply and that of output, or between the rise in total demand and that of supply. Hence to that extent a temporary excess demand situation may appear on the scene and prices may rise during this interval. But such a price rise is considered by Keynes as semi-inflation only. When once full employment stage is reached, the excess of investment over savings will lead to an increased expenditure constituting excess demand, as output cannot be increased with it, and thus prices will rise. Such a rise in the price level is regarded as "pure inflation." Thus, it is only after the stage of full employment is reached that prices will rise in proportion to the increase in money supply.

Other important theories of inflation are also put forward in recent times of which important ones have been discussed below.(Mithani, 2010, p114).

2.6.2.3. Phillips Curve Hypothesis

Recently, an empirical theory of inflation was presented by A.M. Phillips, known as the Phillips Curve Hypothesis.

The Philips Curve is a technique of expressing empirical wage-price-employment relation as depicted in Fig.2.4.
On the x-axis, the rate of unemployment is measured. On the y-axis, annual rate of change of money wages or price is measured. The Phillips Curve depicts an inverse relationship between these two variables. Thus, the rate of wages increase declines with the increase in the rate of unemployment and vice versa. When the unemployment level is very low, general excess demand will exist, which will cause a demand pull on wages, so the wage rates will be high. But, when unemployment increases, trade union demands will become weaker gradually while employer's resistance will become stronger, so the rate of wage increase will tend to diminish. Samuelson compresses Phillips' thesis in one sentence thus: "The softer the job market, the weaker are wage pressures. (Eklund & Charias, 1984, p317).

From a--given relationship between wage rates and unemployment rate, it is easy to draw a relationship between inflation (price rise) and unemployment rate, because price level is closely associated with the wage cost in a competitive market. Thus, assuming that the price level changes in accordance with the wage rate, the Phillips Curve also represents the expected rate of price changes at varying rates of unemployment. It, thus, follows that if we desire to have a lower rate of inflation, we must be prepared to accept a higher rate of unemployment. (Coleman, 2007, p217).

Economists like Milton Friedman and E.S.Phelps have, however, pointed out that this type of Phillips Curve expresses only a transitory short-period relationship. For a long-term phenomenon,
they have introduced the concept of "natural rate of unemployment," referring to the rate of unemployment corresponding to a real wage which tends to clear off from the labour market. Thus, a decline in unemployment below the natural rate that is induced by a rising effective demand will be a temporary affair. Because, the rising prices lower the real wages, and once the workers realise this they will bargain for higher and higher money wages. Thus, unemployment tends to return to its natural rate. According to these economists, thus, the long-run Phillips Curve is a vertical straight line intersecting the x-axis at a point of natural rate of unemployment, as in Fig. 2.5.

The long-run Phillips Curve, thus, shows that there is no possibility of any trade-off between unemployment and inflation. This long-run Phillips Curve hypothesis is yet to be tested in practice. (Frisch, 1990, p 33).

2.6.2.4. Weintraub's Wage-Income Theory

his "Wage-Income Theory." The gist of his theory is that inflation is Recently, Sidney Weintraub’s has also put forward an explanation for inflation in basically due to wage-push. He gives a wage-cost-mark-up equation of price level as under

\[ P = \frac{KW}{A} \]

where,

- P = average price level,
- k = average mark-up of price over unit labour cost
- W = average wage rate.

\[ V = \frac{Q}{N} \]
(where, \( Q = \) total output and \( N = \) total number of workers) = average productivity of worker.

Weintraub regards \( k \) as the "magic factor", because of the fact that it remains unchanged even in a long period which has been empirically established.

Thus, when \( k \) is constant, and if \( A \) is also steady, then it follows from the equation that money wage rates have a significant influence over the price level in an economy. This means, if the average productivity of a worker does not rise with a rise in wage rate, the price level will definitely rise in the same direction and in the same proportion to the change in the wage rate. Indeed, there is some truth in this theory that when money wage level rises without a corresponding rise in labour productivity, inflation gains momentum.(Mithani, 2010, p115).

2.7. DEMAND-PULL INFLATION:

This represents a situation where the basic factor at work is the increase in aggregate demand for output either from the government or the entrepreneurs or the households. The result is that the pressure of demand is such that it cannot be met by the currently available supply of output. If, for example, in a situation of full employment, the government expenditure or private investment goes up, this is bound to generate an inflationary pressures in the economy. Keynes explained that inflation arises when there occurs an inflationary gap in the economy which comes to exist when aggregate demand exceeds aggregate supply at full employment level of output. Basically, inflation is caused by a situation whereby the pressure of aggregate demand for goods and services exceeds the available supply of output (both being counted at the prices ruling at the
beginning of a period. In such a situation, the rise in price level is the natural consequence. Now, this imbalance between aggregate demand and supply may be the result of more than one force at work. As we knew aggregate demand is the sum of consumers' spending on consumer goods and services, government, spending on consumer goods and services and net investment being contemplated by the entrepreneur’s. The ordinary functioning of an economy should result in distributing and spending income such a manner that aggregate demand for output is equivalent to the cost of producing total output including profits and taxes. (Malyka, 2007, p87).

At times, however, the government, the entrepreneurs or the households may attempt to secure a larger part of output than would thus accrue to them. If other sectors are not prepared to acquiesce in this increase in the share of output used by any one sector, all of the sectors together will be trying to get more of the national output than production has provided. This is the basic cause for inflation to start. When aggregate demand for all purposes consumption investment and government, expenditure exceeds the supply of goods at current prices, there is a rise-in prices.

It is important to note that Keynes in his booklet Flow to Pay for the War published during the second World War explained inflation in terms of excess demand for goods relative to the aggregate supply of their output. His notion of the inflationary gap which he put forward in his booklet represented excess of aggregate demand over full-employment output. This inflationary gap, according to him, leads to the rise in prices. Thus Keynes explained inflation in terms of demand-pull forces. Therefore, the theory of demand-pull inflation is associated with the name of Keynes. Since
beyond full-employment level of aggregate supply, output cannot increase in response to increase in emend this results in rise in prices under the pressure of excess demand. (Ahuja, 2012, p515).

Demand-pull inflation can be illustrated with aggregate demand and supply curves. Consider Fig. 2.6 in which aggregate demand and aggregate supply are measured along the X-axis and general price level along the Y-axis. Curve AS represents the aggregate supply which rises upward in the beginning but when full-employment level of aggregate supply \( OY_F \) is reached, aggregate supply curve AS takes a vertical shape. This is because after the level of full employment, supply of output cannot be increased. When aggregate demand curve is \( AD_1 \), the equilibrium is at less than full-employment level where price level \( op_1 \) is determined. Now, if the aggregate demand increases to \( AD_2 \), price level rises to \( OP_2 \) due to the emergence of excess of demand at price level \( OP_1 \). It will be noticed that here the rise in price level has also fought about increase in aggregate output supplied from \( OY_1 \) to \( OY_2 \). If the aggregate demand further increases to \( AD_3 \), the price level rises to \( OP_3 \) under the pressure of more demand. But since the aggregate supply curve is yet sloping upward, increase in aggregate demand from \( AD_2 \) to \( AD_3 \) has caused the increase in output from \( 0Y_1 \)to \( 0Y_F \) If aggregate demand further increases, say to \( AD_4 \), only price level rises to \( OP_4 \) with output remaining constant at \( Y_F \). \( OY_F \) is the full-employment level of output and aggregate supply curve is perfectly inelastic at \( Y_F \). (Chakraborty, 2012, p213).
2.7.1. Demand-Pull Inflation and Wage Price Spiral

If the total claims on output exceed the available supply of output, prices will rise. The rise in prices provides the necessary mechanism whereby the real resources being currently used by live sectors are reduced so that they should be used by the more active sectors. If, for example, initiative for the inflationary pressure comes from the government demand for more resources, only way that the government can have more resources is by the consumers and private entrepreneurs having less of them (assuming that all the resources are fully employed already) If they are not willing to reduce their claims on resources voluntarily, the prices will rise and the result will that the value of spending by these sectors will be reduced and to that extent resources will be made available for use by the government.

But that will not be the end of the story. A rise in prices reduces the real consumption of the wage earners. They will, therefore, press for higher money wages to compensate them for the higher cost of living. Now, an increase in wages, if granted, will raise the prime cost of production and, therefore, entrepreneurs will be tempted to raise the prices. This adds fuel to the inflationary fire. A further rise in prices Miles the cost of living still bather and the workers ask for still higher wages. In this way, wages and prices chase each other and the process of inflationary rise in prices gathers momentum. If unchecked, this may lead to hyper-inflation which signifies a state of affairs where wages and prices chase each other at a very quick speed.(Ahuja, 2012, p518).

2.7.2. Monetarist Theory of Inflation

We have explained above the Keynesian theory of demand-pull inflation. It is important to note that both the original quantity
theorists and the modern monetarists, prominent among whom is Milton Friedman, also explain inflation in terms of excess demand for goods and services. But there is an important difference between the monetarist view of demand-pull inflation and the Keynesian view of it. Keynes explained inflation as arising out of real sector forces. In his model of inflation excess demand comes into being as a result of autonomous increase in expenditure on investment or consumption, that is, the increase in aggregate expenditure or demand occurs independent of any increase in the supply of money. On the other hand, monetarists explain the emergence of excess demand and the resultant rise in prices on account of the increase in money supply in the economy. To quote Friedman, "Inflation as always and everywhere a monetary phenomenon and can be produced only by a more rapid increase in the quantity of money than in output.

Friedman holds that when money supply is increased in the economy, then there emerges an excess supply of real money balances with the public over the demand for money. This disturbs the equilibrium. In order to restore the equilibrium, the public will reduce the money balances by increasing expenditure on goods and services. Thus, according to Friedman and other modern quantity theorists, the excess supply of real monetary balances results in the increase in aggregate demand for goods and services. If there is no proportionate increase in output, then extra money supply leads to excess demand for goods and services. This causes inflation or rise in prices. The whole argument can be presented in the following scheme:

\[ M^s > KPY \rightarrow AD \uparrow \rightarrow P \uparrow \]

\( M \) stands for quantity of money and \( P \) for the price level. Therefore, \( \frac{M}{P} \) represents real cash balances.
Y stands for national income and k for the ration of income which people want to keep in cash balances. Hence ky represents demand for cash balances (i.e., demand for money).

AD represents aggregate demand for or aggregate expenditure on goods and services which is composed of consumption demand (C) and investment demand (I).

In the above scheme it will be seen that when the supply of money (M*) is increased, it creates excess supply of real cash balances. This is expressed by M*>kPY. This excess supply of real money balances leads to (→) the rise (↑) in aggregate demand (AD). Then increase (↑), in aggregate demand AD) leads to (→) the rise (↑) in prices (P).

Friedman's monetarist theory of inflation can be better explained with quantity equation $P = \frac{MV}{Y} = \frac{M}{Y} \cdot \frac{1}{k}$ written in percentage from which is written as below taking V or k as constant

$$\frac{\Delta P}{P} = \frac{\Delta M^s}{M^s} - \frac{\Delta Y}{Y}$$

$\frac{\Delta P}{P}$ is the rate of inflation, $\frac{\Delta M^s}{M^s}$ is the rate of growth of money supply and $\frac{\Delta Y}{Y}$ is the rate of AP growth of output. Thus, according to equation (2), rate of inflation $\frac{\Delta P}{P}$ is determined by growth of is money supply $\frac{M^s}{M}$ and rate of growth of output $\frac{\Delta Y}{Y}$, with velocity of circulation (V) or k remaining constant. Friedman and other monetarists claim that inflation is predominantly a monetary phenomenon which implies that changes in velocity and output are small.( Al Habeeb, 1994, p 512).
It thus follows that when money supply increases, it causes disturbance in the equilibrium, that is $M^s > KPY$. According to Friedman and other monetarists, the reaction of the people would be to spend the excess money supply on goods and services so as to bring money supply in equilibrium with the demand for money. This leads to the increase in aggregate demand or expenditure on goods and services which, k remaining constant, will lead to the increase in nominal national income (PY). They further argue that the real national income or aggregate output (i.e., Y in the demand for money function stated above) remains stable at full employment level in the long run due to the flexibility of wages. Therefore, according to Friedman and his followers (modern monetarists), in the long run, the increase in nominal national income (PY) brought about by the expansion in money supply and resultant increase in aggregate demand will cause a Proportional increase in the price level. However, in the short run, like Keynesians, they believe that the economy may be working at less than full employment, that is, in the short run there may prevail excess capacity and unemployment of labour so that expansion in money supply and consequent increase in nominal income partly induces expansion in real income (Y) and partly results in rise in the price level as shown in Fig. 2.7. To what extent price level increases depends upon the elasticity of supply.

Or aggregate output. It will be seen from Fig. 2.7 that effect of increase in money supply from $M_0$ to $M_1$ and resultant increase in
aggregate demand curve for goods and services from $AD_0$ to $AD_1$ is split up into the rise in price level (from $P_0$ to $P_1$) and the increase in real income in aggregate (from $Y_0$ to $Y_1$)

It should be noted that Friedman and other modern quantity theorists believe that in the short run full-employment of labour and other resources, may not prevail due to recessionary conditions and therefore, they admit the possibilities of increase in output But they emphasise that when the in money supply is greater than the growth in output, the result is excess demand for goods and services which causes rise in prices or demand-pull inflation.

It follows from above that both Friedman and Keynesian explain inflation in terms of excess demand for goods and services. Whereas Keynesians explain the emergence of excess demand due to the increase in autonomous expenditure independent of any increase in money supply. Friedman explains that inflation is caused by proportionately greater increase in money supply than the increase in aggregate output. In both views inflation is of demand-pull variety. (Khalil, 1994, p1028).

2.7.3. Money sad Sustained Inflation

Many economists believe in the monetarist view of inflation. Increase in money shifts the aggregate demand curve to the right and if the economy is operating at full capacity (i.e. along the vertical part of the aggregate supply curve). The upward shift in aggregate demand curve will cause price level to rise. A big drawback of this approach is that it assumes that supply of output does not increase sufficiently to counter this effect of expansion in money supply on aggregate demand. In this context there is a need to distinguish between a one-time increase in the price level and sustained Inflation which occurs
when the general price level continues to rise over a long period of time. It is generally believed by most of the economists that whatever be the initial cause of (demand-pull, cost-push or inflationary expectations), for the price level to continue rising, period after period, it must be accommodated by expansion in money supply. Sustained inflation is therefore considered as a purely monetary phenomenon. It is not possible for the price level to continue rising if the money supply remains constant. The increase in money supply continues shifting the aggregate demand curve to the right, if aggregate supply does not increase sufficiently to match the increase in aggregate demand, price level will continue rising.

Sustained inflation can be better understood when Government increases its expenditure without raising taxes. This leads to the increase in aggregate demand which, aggregate supply remaining constant, will cause a rise in price level. It is important to know what happens when the price level rises. The higher price level raises the demand for money to rise for transaction purposes. With supply of money remaining constant, the greater demand for money causes interest rate to rise. The rise in interest rate crowds out private investment if the Central Bank of a country wants to prevent the fall in the private investment, it will expand the money supply to keep the interest constant. But this expansion in money supply through its effect on aggregate demand will cause the price rise further if increase in more supply of output is not possible. This further rise in price level will again cause greater demand for money leading to higher interest rate. And the Central Bank, if it is committed to keep the interest rate constant so that private investment does not decline, it will further expand the money supply which will cause further inflation. This process could lead to hyperinflation which represents a rapid and
continuous rise in price level, period after period. The historical experience shows this hyperinflation in some countries when the Central Bank or Government of these countries kept pumping in more and more money either to finance its persistent budget deficit of the government year after year or to prevent the interest rate to rise. However, as mentioned above, hyperinflation disrupts the payment system and people's loss of credibility of the currency. This leads to a deep crisis in the economy if hyperinflation is to be avoided, then the process of rapid expansion in money supply must be halted. (Ahuja, 2009, p1360).

2.7.4. Inflationary Expectations

Inflationary expectations are an important cause of inflation. The expectations of future prices play a significant role in decision-making by firms regarding price and output. If a firm expects that its rival firm will raise their prices, it may also raise its own price in anticipation. Suppose inflation has been occurring at a rate of 8 per cent per annum in the past, a firm will expect this inflation rate to continue in future too and therefore it will raise its price by 8 per cent. If every firm expects that other firm will raise their prices by 8 per cent, everyone will raise its prices by 8 per cent. As a result, inflation rate of about 8 per cent will occur. This is how inflationary expectations cause inflation. Elaborating on this, Case and Fair write, "Expectations can lead to an inertia that makes it difficult to stop an inflationary spiral. If prices have been rising and if people's expectations are adaptive, that is, if they form their expectations on the basis of past pricing behaviour that firms may continue raising prices even if demand is slowing. Therefore, to check inflation, steps should be taken to break the inflationary expectations." (Al Habeeb, 1994, p623).
2.8. COST-PUSH INFLATION

We can visualise situations where even though there is no increase in aggregate demand, prices may still rise. This may happen if there is increase in costs independent of any increase in aggregate demand. Three such autonomous increases in costs which generate cost-push inflation have been suggested. They are:

1. Wage-push inflation
2. Profit-push inflation
3. Increase in prices raw materials. Especially energy inputs such as: in crude oil prices. It may be noted that rise in prices of raw materials, especially of energy inputs (petroleum products) which have a cost push effect are also called supply shocks. We discuss these below:

2.8.1. Wage-Push Inflation.

It has been suggested that the growth of powerful trade union is responsible for the spread of inflation, especially in the industrialized countries. When trade unions push for higher wages which are not justifiable either on grounds of a prior rise in productivity or of cost of living they produce a cost-push effect. The employers in a situation of high demand and employment are more agreeable to concede to these wage claims because they hope to pass on these rises in costs to the consumers in the form of hike in prices. If this happens we have cost-push inflation. It may be noted that a result of cost-push effect of higher wages, aggregate supply curve of output shifts to the left and,
given the aggregate demand curve, this results in higher price of output. (Ahuja, 2012, p522).

2.8.2. Profit-Push Inflation:

Besides the increase in wages of labour without any increase in its productivity, there is another actor responsible for cost-push inflation. This is the increase in the profit margin by the firms working under monopolistic or oligopolistic conditions and as a result charging higher prices from the consumers. In the former case when the cause of cost-push inflation is the rise in wages it is called wage-push inflation and in the latter case when the cause of cost-push inflation is the rise in profit margins, it is called profit-push inflation. The increase in profit margins also produces a cast-push effect and results in shift in the aggregate supply curve to the left. (Khalil, 1994, p1064).

2.8.3. Rise In Raw material Prices or Oil Price Shock

In addition to the rise in wage rate of labour and increase in profit margins, in the seventies the other supply-shocks causing increase in marginal cost of production became more prominent in bringing about cost-push inflation. During the seventies, rise in prices of raw materials, especially energy inputs (hike in crude oil price made by OPEC resulting in rise in prices of petroleum products). The sharp rise in world oil prices during 1973-75 and again in 1979-80 produced significant supply shocks resulting in cost-push inflation. (Ahja, 2009, p 1313).

The cost-push inflation can also be illustrated with the aggregate demand and supply curves. Consider Fig. 2.8, where aggregate supply and demand are measured along the X-axis and price level along the Y-axis. AD is the aggregate demand curve and
AS₁ and AS₂ curves are aggregate supply curves. Now, when wages increase, and as a result, cost of production rises, the supply curve would shift upward to the level AS will be seen in Fig. 2.8 when there is an upward shift in the aggregate supply curve from AS₁ to AS₂ due to the rise in wages, price level rises from OP₁ to OP₂. Thus, in this case when aggregate demand curve remains the same, price level rises due to rise wages which has caused leftward shift in the supply curve. An important feature of cost-push inflation is that this causes not only sires in price level but brings about a fail in aggregate output. Thus in Fig. 26.3 when price level rises from OP₁ to OP₂, aggregate output falls from OY₁ to OY₂. (Chakrabrabrtty, 2012, p213).

2.8.4. Indirect Effect of Increase in oil prices or other raw material prices.

In addition to the direct effect of oil price shocks and increase in other raw material prices, there are indirect effects of such supply shocks which cause for- the rise in rate of inflation. It may be noted that an aggregate supply curve is drawn assuming given price level expectations over time. When a certain event occurs, the workers will revise their price expectations. Now, when due to increase in raw material prices or oil price shock price level of output has risen as a result of cost-push effect, the workers would revise upward their expectations of price level. With this, the expected real wage rate \( W_p \) will decline and therefore less labour will be supplied at a given
money wage rate. Thus, with the increase in expected price level, aggregate supply curve will further shift to the left as a result of this indirect effect through the upward revision of expected price level. This indirect effect is illustrated in 2.9. Initially, aggregate demand curve AD and aggregate supply curve AS₁ (with P₁ as the expected price level) determine price level P₁, and output Y₁. Now, due to oil price shock, aggregate supply curve shifts to the left to AS₂ (P₁) and price level rises to P₂. Since price Joel has risen, workers will adjust their expected price level upward. Say to P₂ and demand higher wages. The hike in wages will cause a further shift in the aggregate supply curve to AS₃(P₂) and further rise in price level to P₃. (Campbell, 1984, p461).

2.8.5. Interaction between Demand-Pull and Cost-Push Inflation.

Many economists think inflation in the economy is generally caused by the interaction of the demand pull and cost-push factors. The inflation may be started in the first instance either by cost-push factors or by demand pull factors both work and interact to cause sustained inflation over time. Thus, according to Machlup, "there cannot be a thing as cost push inflation because without an increase in purchasing power and. demand, cost increases will lead to unemployment and depression, not to inflation". Likewise, Cairncross writes, "there is no need to pretend that demand and cost Inflation do nor interact or that excess demand does not aggravate wage Inflation, of course it does. (Ahuja₂, 2012, p1366).

We will explain this interaction, first with inflationary process starts with cost push factor and then secondly when inflation begin with shift in aggregate demand In both cases rate of inflation over time is the result of interaction of demand-pull and cost-push factors.
Let us consider the Figure 2.10 where to begin with aggregate demand curve AD and aggregate supply curve AS intersect at point E₀ and determine price level P₀ and output level Y₀. Further suppose that Y₀ is the full capacity (i.e., hill-employment) level of output and therefore long-run aggregate supply curve LAS is vertical at Y₀ level of output. Suppose there is increase in oil prices which causes shifts in aggregate supply curve to the left from AS₁ to AS₂. As a result, price level rises to P₁ but output falls from Y₀ to Y₁. With decline in output unemployment will also increase This is a con-push inflation which has caused a recessionary conditions in the economy. The Government and Central Bank are likely to adopt expansionary monetary and fiscal policies in order to avoid recession. Consequent to the adoption of expansionary policies, (for example, increase in money supply or increase in Government expenditure or reduction in taxes), aggregate demand curve will shift to the right, say to AD₁, which intersects AS₁ curve and LAS curve at point E₂. Though as a result of this accommodatory policy while output level has increased to the original full capacity level Y₀, price level has further risen to P₂ level. This later rise in price level from P₁, to P₂ is the result of demand-pull Inflation. It is thus clear that both cost-push and demand-pull inflation interact to cause inflation in the economy.

2. Let is now explain inflationary process which starts with demand-pull inflation in the first instance. Consider Figure 26.6. Where to begin with aggregate demand curve AD₀ and aggregate supply curve
\( \text{AS}_0 \) intersect at \( E_o \) and determine level of price \( P_o \), and aggregate output \( Y_o \). Assume long-run aggregate supply curve \( \text{LAS} \) also passes through point \( E_o \) so that equilibrium level of output.

\( Y_o \) also represents full-employment level of output (that is, at \( Y_o \) only natural unemployment exists) and price level \( P_o \) also represents long-run equilibrium price level.

Now suppose due to increase in Government expenditure financed by creation of new money aggregate demand curve shifts from \( \text{AD}_o \) to \( \text{AD}_1 \). The new aggregate demand curve \( \text{AD}_1 \) intersects the short-run aggregate supply curve \( \text{AS}_o \) at point \( E_1 \). As a result, in the short run price level rises to \( P_1 \) and output to \( Y_1 \). It may be recalled, short-run aggregate supply curve is drawn assuming a expected price level by the workers which is usually the price level prevailing in the last few years which is here taken to be \( P_o \). Now that as a result of increase in aggregate demand price level has actually risen to \( P_1 \), workers' real wages would decline. Therefore, in order to restore their real wages, they would demand higher money wages. When their demand for higher wages are conceded to, short-run aggregate supply curve will shift to the left. With this leftward shift in the aggregate supply curve, price level will rise further. In this way wage-price spiral will go on counting until short-run aggregate supply curve shifts to the level \( \text{AS}_2 \) and together with aggregate demand curve \( \text{AD}_1 \) determine a long-run equilibrium at point \( E_2 \). It will be seen that both demand-pull inflation and cost-push inflation have operated together to raise price level from \( P_o \) to \( P_2 \).
To conclude, demand-pull inflation and cost-push inflation are intertwined and operate together to determine rate of inflation over time. It is difficult to say in actual practice what part of inflation is due to demand-pull factors and what Jae to cost-push factors, though, as seen above, theoretically speaking, we can distinguish between demand-pull and cost-push inflation. (Malyka, 2007, p95).

2.9. STRUCTURE LIST INFLATION

Most of theories of inflation discussed above pertain to the situation of developed economies and have little direct relevance to the developing economics. Inflation in developed countries may be regarded as a full-employment policies. But what about the underdeveloped or newly-developed economies; The structural theory of inflation is the important theory of inflation which explain inflation in the developed-countries in a slightly different way. (Mithani, 2010, p115).

The structuralists argue that increase in investment expenditure and the expansion of money supply to finance it are the only proximate and not the ultimate factors responsible for inflation in the developing countries. According to them, one should go deeper into the question as to why aggregate output, especially of food grains, has not been increasing sufficiently in the developing countries to match the increase in demand brought about by the increase in investment expenditure, and money supply. Further, they argue why investment expenditure has not been fully financed by voluntary savings and as a result excessive deficit financing has been done. (Campbell, 1983, p462).

Structural theory of inflation has been put forward as an explanation of inflation in the developing countries especially of
Latin America. The well-known economists, Myrdal and Streeten who have proposed this theory have analysed inflation in these developing countries in terms of structural features of their economies. Recently Kirkpatrick and Nixon have generalised this structural theory of inflation as an explanation of inflation prevailing in all developing countries.

Myrdal and Streeten have argued that it is not correct to apply the highly aggregative demand supply model for explaining inflation in the developing countries? According to them, there is a lack of balanced integrated structure in them where substitution possibilities between consumption and production and inter-sectoral flows of resources between different sectors of the economy are not quite smooth and quick so that the inflation in them cannot be reasonably explained in terms of aggregate demand and aggregate supply. In this connection it is noteworthy that Prof. V.N. Pundit of Delhi School of Economics has also felt the need for distinguishing price behaviour in the Indian agricultural sector from that in the manufacturing sector. (Ahuja, 2012, p524).

Thus, it has been argued by the exponents of structural theory of inflation that economies of the developing countries of Latin America and India are structurally underdeveloped as well as highly fragmented due to the existence of market imperfections and structural rigidities of various types. The result of these structural imbalances and rigidities is that whereas in some sectors of these developing countries, we find shortages of supply relative to demand, in others under-utilisation of resources and excess capacity exist due to lack of demand. According to structuralists, these structural features of the developing countries make the aggregate demand-
supply model of inflation inapplicable to them. They therefore argue for analysing disaggregative and sectoral demand-supply imbalances to explain inflation in the developing countries. They mention various sectoral constraints or bottlenecks which generate the sectoral imbalances and lead to rise in prices. Therefore, to explain the origin and propagation of inflation in the developing countries, the forces which generate these bottlenecks or imbalances of various types in the process of economic development need to be analysed. A study of these bottlenecks is therefore essential for explaining inflation in the developing countries. These bottlenecks are of three types: (1) Agricultural bottlenecks which make supply of agricultural products inelastic, (2) resources constraint or Government budget constraint, and (3) foreign exchange bottleneck. Let us explain briefly how these structural bottlenecks cause inflation in the developing countries. (Ahuja, 2009, p1367).

2.9.1. Agricultural Bottlenecks:

The rust and foremost bottlenecks raced by the developing countries relate to agriculture and they prevent supply of food grants to increase adequately. Of special mention of the structural factors are disparities in land ownership, defective land nature system which act as disincentives for raising agricultural production in response to increasing demand for them arising from increase in people's incomes, growth in population and urbanisation. Besides, use of backward agricultural technology also hampers agricultural growth. Thus, in order to control inflation, these bottlenecks have to be removed so that agricultural output grows rapidly to meet the increasing demand for it in the process of economic development. (Ahuja, 2012, p526).
2.9.2. Resources Gap or Government's Budget Constraint:

When the public sector is widely expanded of industrial development in these countries, the government, the government aggravates the problem of resources gab. Owing to the backward socio-economic, political structure of less developed country, her government always find it difficult to raise sufficient resources through taxation, public borrowing and profit expenditure in intensive and extensive dimensions. As such, under the pressure of the resources gap, the government has to resort to heavy dose of deficit financing, despite prone. Similarly, the resources gap in the privet sector, caused by how voluntary savings and high-cost economy, presses for over-expansion of money supply through bank credit which by and large, results in an acceleration of inflationary spiral in the economy. (Mithani, 2010, p 116).

2.9.3. Foreign Exchange Bottleneck:

Developing economies suffer from fundamental structural disequilibrium in the balance of payments due to high imports and low exports on unfavorable terms of trade; hence they usually suffer from foreign exchange scarcity problem. In recent years, day by day, rising import bills due to high oil prices have aggravated the problem further. This foreign exchange bottleneck comes in the way of necessary imports to check domestic inflation. Again, the need to boost exports to meet the growing deficits in the balance of payments puts an extra pressure on the marketable surplus meant for domestic requirements.

This eventually leads to a heavy price rise of exportable commodity in the domestic market. (Mithani, 2010, P 116).
2.9.4. Physical Infrastructural Bottlenecks:

Further, the structuralists point out various bottlenecks such as lack of infrastructural facilities i.e., lack of power, transport and fuel which stands in the way of adequate growth in output. At present in India, there is acute shortage of these infrastructural inputs which are hampering growth of output. Sluggish growth of output on the one hand, and excessive growth of money supply on the other have caused what is now called stagflation, that is inflation which exists along with stagnation or slow economic growth.

According to the structuralist school of thought, the above bottlenecks and constraint, are rooted in the social, political and economic structure of these countries Therefore, in its view a broad-based strategy of development which aims to bring about social, institutional and structural changes in these economies is needed to bring about economic growth without inflation. Further, many structuralists argue for giving higher priority to agriculture in the strategy of development if price stability is be ensured. Thus, we see that structuralist view is greatly relevant for explaining inflation in the developing countries and far the adoption of measures to control it. Let us further elaborate the causes of inflation in the developing countries. (Ahuja, 2009, p1370).

2.10. Inflation and Interest Rate: The Fisher Effect

Interest rate is an important macroeconomic variable as it determines saving and investment in the economic that play an important rate in the determination of national income and employment. Through its effect on saving and investment, interest links the present with the future. It is therefore important to understand the relation between interest rate and inflation. To
understand the relation between interest rate and inflation, it is necessary to know the distinction between nominal interest rate and real interest rate.(Robert, 1987, p303).

Nominal interest rate is the stated interest rate which a bank provides to its depositors on the saving account and the fixed deposits of different maturity periods. Nominal interest rate is also the agreed nominal rate at which the lenders lend money to the borrowers. If your bank gives you 8 per cent interest rate on the fixed deposit of one year, then 8 per cent in the nominal interest rate.

On the other hand, real interest rate means how fast the purchasing power of your deposits in the bank increases over a year. The rate of increase in purchasing power of your money deposits over time depends not only on the nominal interest rate but also on the inflation rate that takes place over time. Thus real interest rate can be obtained from nominal interest rate by adjusting for inflation rate that takes place in a year. Thus relationship among the real rate of interest, nominal rate of interest and inflation rate can be stated as under.

Real interest rate = nominal interest rate - inflation rate If we denote real interest rate by \( r \), nominal interest rate by \( i \), and inflation rate by \( \pi \), then

\[
\nu = i - \pi
\]

The previous equation is called fisher equation. (Dombusch & Fischer, 2010, p492).

2.10.1. Fisher equation and Effect:

An important principle of classical theory is that money is neutral, that is, it does not affect the real variables change in money
supply determine only the changes in the price level or rate of inflation in the economy. This principle has an important application in the determination of relation between nominal interest rate, real interest and inflation rate.

Rearranging the equation (1) we have

Nominal interest rate = real interest rate + rate of inflation ..(2)

\[ i = v + \pi - -(2) \]

The above to the reasons :

(i) Change in real interest rate.

(ii) Change in rate of inflation.

The relationship between nominal interest rate, real interest rate and inflation rate described in equation (2), namely nominal interest rate is the sum of real interest rate and inflation rate is called Fisher equation. Irving Fisher (1867-1947) who first of all economist stated this relation.(Alshamary, 2010, p317).

2.11. Portfolio Adjustment Theory of Inflation:

In the portfolio adjustment model, there will be inflation if at the full employment level of income, the supply of money is greater than the demand of money. This is illustrated in figure.

When there is full employment, the labour market is in equilibrium, and at the prevailing level of wages the supply of labour is equal to the demand in. As shown is the figure 2.11, if the money supply were increased from \( M_1 \) to \( M_2 \), the quantity of money supplied at the full employment level of income, \( Y_{F1} \) would exceed the demand.

This would cause price to rise because total spending would increase if people have more money than they want the rise in prices
would cause income to rise to $Y_{\text{infl}}$. As prices rise, the quantity of money demanded would increase, because people would want to hold more money in order to have the same real convenience in purchasing goods. And services and the same real protection in case of contingencies. In the portfolio adjustment theory, inflation may also be caused by a decrease in the demand for money, even though historically an increase in the money supply has been the predominant cause. The decrease demand of money to exceed the demand at the full employment level of income. Income and prices must rise so as to increase the quantity of money demanded until it's equal to the supply. The I schedule might shift upward because of greater optimism or expectation of inflation. In countries in which people have begun to anticipate a more rapid rate of inflation, the demand for money has usually decreased and caused prices to rise even faster. (Campbell, 1983, p458).

2.12. Causes of Inflation:

Inflation is a complex phenomenon which cannot be attributed to single factor. We may summarise the major causes of inflation thus:

2.12.1. Increase of money supply:

Inflation is caused by an increasing in the supply of money which leads to increase in aggregate demand. The higher the growth rate of the nominal money supply, the higher is the rate of inflation. Modern quantity theories do not believe that true inflation starts after the full employment level. This view is realistic because all advanced countries are faced with high levels of unemployment and high rates of inflation. (Chakraborty, 2012, p220).
2.12.2 Expansion of Bank credit :

Rapid expansion of bank credit is also responsible for the inflationary trend country.

2.12.3. Deficit Financing :

In order to meet its mounting expenses, government resorts to deficit financing by borrowing from the public and even by printing more notes. This raises aggregate demand in relation to aggregate supply thereby leading to inflationary rise in price. This also known as deficit - induced inflation.

2.12.4. Other Monetary Factors :

Among other monetary factors influencing the price trend in an economy, the major ones listed here

i) High non-development Expenditure. The countries increasing in public expenditure, and especially the growth of defence and non-development expenditure.

ii) Huge plan Investment. The huge planned investment and its high rate of growth in every plan may lead to an excess demand in the capital goods sector, so that industrial prices may rise.

iii) Black money. The existence of black money in all countries due to corruption, tax evasion, etc., increase the aggregate demand. People spend such unearned money extravagantly, thereby creating unnecessary demand for commodities. This tend to raise the price level further.

iv) High Indirect Tax Inflationary situation has been intensified because of increase in indirect rate. (Jhingan, 2010, p110).

2.12.5. Non-Monetary Factors :

There are various non-monetary and structural factors that may cause a rising price tend in a country. These are.
a. A high population growth. Undoubtedly, the rising pressure of demand, resulting from of population and money income, will cause a high price rise in an over-populated country.

b. Natural calamities and Bad weather conditions. Vagaries of monsoon, bad weather conditions, droughts and failure of agricultural crops have been responsible for price spurs, from time to time, in many underdeveloped countries. Agricultural prices are most sensitive to inflationary forces in these countries. Natural calamities also contribute occasionally to the inflationary boost in a country. Events such as cyclones and floods, which destroy village economies, also aggravate the inflationary pressure.

c. Speculation and Hoarding. Hoarding and speculative activities, corruption at every level, in both private and public sectors, are also responsible to some extent for aggravating inflation in a country.

d. High prices of imports, Inflation has also been inflicted on some countries through the import, Inflation has also been inflicted on some countries through the import content used by their industries prices of petroleum products have been increased in many countries due to price-hikes by the oil producing countries.

e. Monopolies. Monopolies profits and unfair trade practices by big industrial housed are also responsible for the price rise in countries.

f. Underutilisation of Resource. Non-utilisation of installed capacities in large industries is also contributory factor to inflation.
Inflation in country may be regarded as a symptom of deep-seated malady, born of structural deficiencies involved in the functioning of its economic system, which is characterised by inherent weaknesses, wastages, and imbalances. (Mithani, 2010, p131).

2.12.6. Gaps and Bottlenecks:

To understand the true nature of inflation in an underdeveloped country, one has to examine the bottlenecks and gaps of various types which obstruct the normal growth process, causing prices to rise with the generation of money income without an appropriate rise in real income. These gaps or bottlenecks may be enlisted as follows:

a) Market imperfections. Market imperfections like factor immobility, price rigidity, ignorance of market condition, rigid social and institutional structures, and lack of specialisation and training in underdeveloped economies do not allow and optimum allocation and utilisation of resources. Hence, increase in money supply and increased money income remain unaccompanied by increased supply of real output, causing a not price rise of an inflationary nature in these economies.

b) Capital Bottleneck: On account of a very low rate of capital formation and consequent capital deficiency, a poor country is caught in a vicious circle of poverty, and any excessive money supply instead of breaking this vicious circle, tends to create a chronic inflationary spiral, thus, in a poor country, there is inflation because by virtue of its internal backwardness, it is prone to chronic inflation.

c) Entrepreneurial Bottleneck: Entrepreneurial in underdeveloped countries lack skill, spirit of boldness and adventure. They prefer trading or safer traditional investment rather than attempt risky innovations. Absence of adequate industrial capital, prevalence of
merchant capital and a colossal amount of private investment in such unproductive fields as land, jewellery, gold, which is a gross socio-economic waste, starves the developing economy of its much needed capital resource. Thus, increase money supply or savings in terms of money makes little impact on real output and monetary equilibrium is just attained through a galloping price rise in the various sector of the economy.

d) Food Bottleneck: Due to slow growth of agriculture, over-pressure of growing population on land, primitive methods of cultivation, defective land tenure system, lack of adequate irrigation facilities and many other reasons, agriculture output, specially food supply which constitutes a large part of wage-good, has failed to keep pace with the growing demand for it from the growing population and increased rural employment in the rural industrialisation process in these countries. This food bottleneck has created the problem of price rise in food grains, and it has become the cornerstone in the whole price-structure in the developing economics.

e) Infrastructural Bottleneck: These refer to power shortages and economics. Industrial, agricultural and commercial sector and cause under-utilisation of capacity in the economy as a whole. Under-utilisation of resources dose not absorb the full increase in money supply and reflects upon the rising prices.

f) Foreign Exchange Bottleneck: Developing economics suffer from a fundamental disequilibrium in the balance of payments due to high imports. And low export on unfavourable terms of trade; hence, they usually suffer from foreign exchange problem. In recent years, day to day, rising imports bills due to high oil prices have aggravated the problem further. This foreign exchange bottleneck comes in the
imports to check domestic inflation. Again, the need to boost exports to meet the growing defects in the balance of payment puts an extra pressure on the marketable surplus meant for domestic requirements. This eventually leads to a heavy rise to exportable commodities in the domestic market.

g) Resources Gap : When the public sector is widely expanded for industrial development in these countries, the government aggravates the problem of resources gab. Owing to the back ward socio-economic political structure of the less developed country, its government always finds it difficult to raise sufficient resources through taxation, public borrowings and profit of state enterprises, to meet the ever-increasing public expenditure in intensive and extensive dimensions. As such, under the pressure of the resources gab, the government has to resort to a heavy doses of deficit financing, despite knowing its dangers. This makes the economy inflation-prone-similarly, the resources gab in the private sector, doused by low voluntary saving and high cost economy, presses for over-expansion of money supply through bank credit which, by and large, results in the acceleration of inflationary spiral in the economy.(Mithani, 2010, p124).

2.13. The Cost of Inflation :

One of the gales of modern government is to control inflation and ensure price level stability in the economy. The finance minister of a country has to ensure that his budget proposals do not contribute to rise in inflation rate in the economy. Similarly, the central bank of a country such has to manage the growth of the money supply in the economy in a way that does not cause inflation. Generally, the central bank of country announce a target rate within that limit, it takes appropriate monetary measures. (Ahuja, 2012, P 533)
Now, in what follows we explain why inflation is of serious concern for both policy makers and the general public.

Is there an inflation fallacy? The widespread view among people is that inflation is had because it reduces the purchasing power of their hard-earned money income when price rise, each dollar of income earned buys a smaller amount of goods and services. In this way, according to popular perception, inflation erodes real income of the people and therefor lowers their living standards. However, some economists on the basis of classical theory callees it as inflation fallacy. According to them, when inflation occurs, the buyers of goods and services pay more for what they buy, but the same time sellers of goods and services receive more for what they sell. Thus, according to this view, on account of inflation, people lose with one hand, but gains with the other. As a result, there is on net loss due to inflation. According to this view, people earn their income by selling their services, physical or mental. When inflation takes place prices of services also rise to the some extent along with the rise in the prices of goods. Thus inflation dose not reduce the real income of the people.

According to this view, people believe in this common fallacy about the adverse effect of inflation on purchasing power because they do not recognise that expansion in money is neutral in its effect on real variables such as real income. The real income or purchasing power of the people is determined by their productivity which in turn depends on the availability of physical capital, human capital, natural resources and production technology used for production on the other hand, nominal incomes of the people are determined by inflation rate which depends on the growth of money supply. According to this
view, inflation incomes that is caused by growth of money supply determines only nominal incomes and not real incomes or purchasing power.

A critical Evaluation. Though this so-called fallacy about inflation is often emphasised by some American economists and believe that there are no or little social costs of inflation, it is not true under all circumstances and in all countries. If prices of all services increase to the same extent when price all goods increase, then there is no problem about inflation, In the United States, where prices of services may increase in response to anticipated inflation, nominal incomes from services keep pace with the rising prices of goods, there is no adverse effect of inflation on real income of the people. But what is true of the United States is not true of all countries.

2.13.1. The Social cost of Inflation:

Having discussed the so called inflation fallacy we proceed to explain in detail the social cost of monopoly. Apart from reducing the purchasing power of peoples incomes, inflation inflicts some other costs on the socially. To explain such costs of inflation it is necessary to distinguish between anticipated inflation and anticipated inflation. As noted above, in case of anticipated inflation, the expected rise in price level is taken into account while making economic transactions. (Ahuja, 2012, p534).

2.13.2. Cost of Anticipated Inflation

Suppose in an economy there has annual inflation rate of s percent for a long time in the past and everybody expects that rate of inflation will continue in the future too. In such case all contracts made by the people such as loan agreements with borrowers wage contracts with labour, property lease contacts will provide for s per
cent annual rise in rate of interest, wage, rent to compensate for inflation of that order. That is, in any contract in which passage of time is involved that rate of inflation will be taken into account and rates will be agreed to rise at the inflation expected the following two types of costs-shoe-leather costs and mence costs which are not very high. We explain below both of types of costs.( Ahuja$_2$, 2012, p 1382).

2.13.2.1. Shoe-leather costs.

This type of cost occurs because on account of inflation cost of holding money in the form of currency rise with the increase in inflation rate, such cost arises because no interest is paid on holding currency, while money kept in deposits with the bank or used for keeping bonds earns interest, when inflation rate rises, the nominal interest rate on bank deposits rises, the interest lose by holding currency for transaction purposes, Accordingly, at a time people will hold less currency with them and keep as long as possible greater amount of money in bank deposits that yield interest. Therefore, rather than withdrawing a large amount of currency from banks at a time, they will with draw less money which is sufficient for meeting daily expenses for a few days, say for a week. But for doing so the people will make more trips to with draw cash. More trips to a bank in a month involves grater cost to the people. These costs have to be incurred on spending on petrol if car is used for making trips, a trip.(Ahuja$_1$, 2009, p 533).

2.13.2.2. Menu Costs.

Menu cost arise because high inflation requires them to change their listed prices more often-changing prices is somewhat more expensive because the firms have to print new catalogues listing new
price and distribute them among their customers, they have even to insure expenditure on advertisements to inform the public about their new prices. (Ahuja, 2009, p1368).

2.13.2.3. Macroeconomic inefficiency in resource allocation.

A third cost of inflation arises because firms having menu costs change their prices quite infrequently. Given the reluctance to change price frequently, the higher the rate of inflation, the greater the variability in relative prices of a firm. Suppose a firm issues a new catalogue listing prices of its products once in a year, say in the month of January of every year. If during the year inflation occurs, there will be change in the relative prices of a firm to the general price level.

2.13.2.4. Inconvenience of Living.

The inconvenience of living in a world with a changing price level. Money is the yardstick with which we measure the value of transactions. When inflation is taking place the value of money changes and as a result it become difficult to correctly estimate the value of transaction in real terms every time a transaction is made during a year. The rising price level makes it difficult to make optimal decisions about saving and investment and thus do the rational finance planning covering a long period of time.

2.13.3. Cost of Unanticipated Inflation.

Unanticipated inflation has a more substantial and harmful effect as compared to the cost of anticipated inflation rate. The significant effect of Unanticipated inflation is that it arbitrarily re-distribution wealth among individuals.
2.14. Effects of Inflation

Inflation affects different people differently. This is because of the fall in the value of money. When price rise or the value of the money is falls, some groups of the society gain, some lose and some stand in between, Broadly speaking, there are two economic groups in very society, the fixed income group and the flexible income group. People belonging to the first group lose and those in the case of different goods, services, are not uniform. When there is inflation, most prices are rising, but the rates of increase of individual prices differ much. Prices of some goods and services rise fastly, of others slowly and of still others remain unchanged. Below I discuss the effect of inflation on the different factors.

2.14.1. On Distribution of Income and Wealth:

Inflation tends to increase inequalities in the distribution of income and wealth. The poor and middle classes suffer because their wages and salaries are more or less fixed but the prices of commodities continue to rise. They become more impoverished. On the other hand, businessmen, industrialists, traders, real estate holders, speculators, and others with variable incomes gain during rising prices. The latter category of persons become rich at the cost of the former group. There is an unjustified transfer of income and Wealth from the poor to the rich. As a result, the rich roll in wealth and indulge in conspicuous consumption, while the poor and the middle classes live in abject misery and poverty. The effects of inflation on different groups of society are discussed below. (Campbell, 1983, p463).


During periods of rising prices, debtors gain creditors lose. When prices rise, the value of money falls. Though debtors return the
same amount of money but they pay less in terms of goods and services. This is because the value of money is less than when they borrowed the money. Thus the burden of the debt is reduced and debtors gain. On the other hand, creditors lose. Although they get back the same amount of money which they lent, they receive less in real terms, because the value of money falls. Thus there is transfer of wealth from creditors to debtors.

2.14.1.2. Salaried Persons. Salaried workers such as clerks, teachers, and other white collar persons, lose when there is inflation. The reason is that their salaries are slow to adjust when prices are rising.

2.14.1.3. Wage Earners. Wage earners may gain or lose depending upon the speed with which their wages adjust to rising prices. If their unions are strong, they may get their wages linked to the cost of living index. In this way, they may be able to protect themselves from the bad effects of inflation. But the problem is that there is often a time lag between the raising of wages by employers and the rise in prices. So workers lose because by the time wages are raised, the cost of living index may have increased further. But where the unions have entered into contractual wages for a fixed period, the workers lose when prices continue to rise during the period of contract. On the whole, the wage earners are in the same position as the white collar persons. (Ahuja, 2012, p 537).

2.14.1.4. Fixed Income Group. Pensioners, recipients of interest and rent belong to the fixed income group. Pensioners get fixed pension. Similarly the rentier class consisting of interest and rent receivers get fixed payments. The same is the case with the holders of fixed interest bearing securities, debentures and deposit. All such persons lose
because they receive fixed payments, while the value of money continues to fall with rising prices.

2.14.1.5. Equity Holders or Investors. Persons who hold shares or stocks of companies gain during inflation. For when prices are rising, business activities expand which increase profits of companies. As profits increase, dividends on equities also increase at a faster rate than prices. But those who invest in debentures, securities, bonds, etc. which carry a fixed interest rate lose during inflation because they receive, a fixed sum while the purchasing power is falling.

2.14.1.6. Businessmen. Business of all types, such as producers, traders and real estate holders gain during periods of rising prices. Take producers first. When prices are rising, the value of their inventories (goods in stock) rise in the same proportion. So they profit more when they sell their stocked commodities. The same is the case with traders in the short run. But producers profit more in another way. Their costs do not rise to the extent of the rise in the prices of their goods. This is because prices of raw materials and other inputs and wages do not rise immediately to the level of the price rise. The holders of real estates also profit during inflation because the prices of landed property increase much faster than the general price level. (Baljelah, 2010, p153).

2.14.1.7. Agriculturists. Agriculturists are of the three types, landlords, peasant proprietors, and landless agricultural workers. Landlords lose during rising prices because they get fixed rents. But peasant proprietors who own and cultivate their farms gain. Prices of farm products increase more than the cost of production. For prices of inputs and land revenue do not rise to the same extent as the rise in the prices of farm products. On the other hand, the landless
agricultural workers are hit hard by rising prices. Their wages are not raised by the farm owners, because trade unionism is absent among them. But the prices of consumer goods rise rapidly. So landless agricultural workers are losers.

Conclusion thus inflation redistributes income from wage earners, and fixed income groups to profit recipients, and from creditors to debtors. In so far as wealth redistributions are concerned, the very poor and the very rich are more likely to lose than middle income groups. This is because the poor hold what little wealth they have in monetary forms and have few debts, whereas the very rich hold a substantial part of their wealth in bonds and have relatively few debts. On the other hand, the middle income groups are likely to be heavily in debt and hold some wealth in common stock as well as in real assets. (Jhingan, 2010, 118).

2.14.2. Effects on Production:

When prices start rising production is encouraged. Producers earn windfall profits in the future. They invest more in anticipation of higher profits in the future. This tends to increase employment, production and income. But this is only possible up the full employment level. Further increase in investment beyond this level will lead to severe inflationary pressures within the economy because prices rise more than production as the resources are full employed. So inflation adversely affects production after the level of full employment. The adverse effects of inflation on production are discussed below.

2.14.2.1. Misallocation of Resources. Inflation causes misallocation of resources when producers divert resources from the production of essential to non-essential goods from, which they expect higher profits.
2.14.2.2. Changes in the System of Transactions. Inflation leads to change in transactions pattern of producers. They hold a smaller stock of real money, holdings against unexpected contingencies than before. The devote more time and attention to converting money into inventories or other financial or real assets. It means that time and energy are diverted from the production of goods and services and some resources are used wastefully. (Campbell, 1983, p471).

2.14.2.3. Reduction in Production. Inflation adversely affects the volume of production because the expectation of rising prices along with rising costs of inputs bring uncertainly. This reduces production.

2.14.2.4. Fall in Quality. Continuous rise in prices creates a sellers' market. In such a situation, producers produce and sell sub-standard commodities in order to higher profits. They also indulge in adulteration of commodities.

2.14.2.5. Hoarding and Black-marketing. To profit more from rising, prices, producers hoard stocks of their commodities. Consequently, an artificial scarcity of commodities is created in the market. Then the producers sell their products in the black market which increase inflationary pressures.

2.14.2.6. Reduction in Saving. When prices rise rapidly, the propensity to save declines because more money is needed to buy goods and services than before. Reduced saving adversely affects investment and capital formation. As a result, production is hindered.

2.14.2.7. Hinders Foreign Capital. Inflation hinders the inflow of foreign capital because the rising costs of materials and other inputs makes foreign in-vestments less profitable.

2.14.2.8. Encourage Speculation. Rapidly rising prices create uncertainly among producers who indulge in speculative in order to
make quick profits. Instead of engaging themselves in productive activities, they speculative in very types of raw materials required in production.(Chakraborty, 2012, p219).

2.14.3. Other Effects

Inflation leads to a number of other effects which are discussed as

2.14.3.1. Government. Inflation affects the government in various way. It helps the government in financing its activities through inflationary finance. As the money income of the people increases, government collects that in the form of taxes on income and commodities. so the revenues of the government increase during rising price moreover, the real burden of the public dept decreases when prices are rising. But the government expenses also increase with in administrative expenses as price and wages rise. on the whole, the government gains under inflation for rising wages and profits spread an illusion of prosperity within the country.

2.14.3.2. Exchange rate. When prices rise more rapidly in the home country than in foreign countries, it lowers the exchange rate in relation to foreign currencies.

2.14.3.3. Balance of payments. Inflation affect’s adversely the balance of payments of a country. When prices rise more rapidly in the home country than in foreign countries, domestic products become costly compared to foreign products. This tends to increase imports and reduce exports, thereby making the balance of payment unafavourable for our country.(Baljelah, 2010, p153).

2.14.3.4. Social. Inflation is socially harmful. By widening the gulf between the rich and the poor, rising price create discontentment
among the masses pressed by the rising cost of living, workers report to strike which lead to loss in production. Lured by profit, people resort to hoarding, black marketing, adulteration, manufacture of substandard commodities, speculation. corruption spreads in every walk of life. All this reduce the efficiency of the economy

2.14.3.5 Collapse Of The Monetary System. If hyperinflation persists and the value of money continuous to fall many times in a day, it ultimately leads to the collapse of the monetary system.(Ahuja, 2012, p546).

2.15. The Control Of Inflation :

Inflation is a complex phenomenon. It should be attacked from various angles. The following are the broad categories of instruments commonly used in order to control inflation in modern economy: (1) Monetary policy, (2) Fiscal policy, (3) Direct control, and (4) Miscellaneous measures.

2.15.1. Monetary Policy|:

Inflation is primarily a monetary phenomenon. Hence, the most logical solution to check inflation is to check the flow of money supply by devising appropriate monetary policy and carefully implementing monetary measures.

Broadly speaking, to control inflation, it is necessary to control total outlays because under conditions of full employment, increase in total outlays will be reflected in a general rise in prices, that is, inflation. Monetary policy used to control inflation is based on the assumption that a rise in prices (inflation) is due to excess of monetary demand for goods and services by the people because easy bank credit is available to them. (Chakraborty, 2012, p123).
Monetary policy, thus, pertains to banking and credit availability of loans to firms and households, interest rates, public debt and its management, and the monetary standard. Monetary management is aimed at the commercial banking system, and through this action, its effects are primarily felt in the economy as a whole. Monetary management, by directly affecting the volume of cash reserves of the banks, can regulate the supply of money and credit in the economy, thereby influencing the structure of interest rates and the availability of credit. Both these, factors affect the components of aggregate demand (consumption plus investment) and the flow of expenditure in the economy.

The central bank's monetary management methods, the devices for decreasing or increasing the supply of money and credit for monetary stability is called monetary policy. Central banks generally use the three quantitative weapons, namely: (i) bank rate policy, (ii) open market operations, and (iii) variable reserve ratio to control the volume of credit in an economy. To curb inflationary pressures, a dear money policy is usually followed by using the quantitative methods, the total volume of credit is depleted. In this regard, (i) bank rate may be raised; (ii) open market sales operation may be undertaken; and (iii) in severe cases, the reserve requirement ratio may be increased.

However, there are various limitations on the effective working of the quantitative measures of credit control adopted by the central, banks and, to that extent, monetary measures to control inflation are weakened. In fact, in controlling inflation moderate monetary measures, by themselves, are relatively ineffective. On the other hand, drastic monetary measures are not good for the economic system
because they may easily turn the economy into a tail spin. Prof. Galbraith doubts very much the effectiveness of the dear money policy in controlling inflation. He suggests that, in times of high earnings, that is, when the marginal efficiency of capital is high. (Mithani, 2010, p131).

Indifferent to the movement of interest rates. Another reason for the ineffectiveness of the dear money policy lies in the failure of the authority to come to grips with real investment. A third reason is that, the policy, very often, is so mildly applied that it hardly has any impact on inflation.

In a developing economy there is always an increasing need for credit. Growth requires credit expansion but to check inflation, there is need to contract credit. In such a conflict, the best course is to resort to credit control, restricting the flow of credit into the unproductive, inflation-infected sectors and speculative activities, and diversifying the flow of credit towards the most desirable needs of productive and growth-inducing sector.

Indeed, the greatest advantage of monetary policy is its flexibility. Prof. Hansen assigns a secondary role to monetary policy in the control of inflation. It cannot be the primary measure. This is so, because, if the monetary and banking system are to perform their normal functions, they must necessarily be highly flexible. There is no doubt that a sufficiently sharp curtailment of the money supply may quickly end the inflation. A programme to stop an inflationary development merely by reducing the quantity of money is a dangerous device. Therefore, "moderately used, monetary policy courts the failure of the ineffectiveness pushed to the needed, fanatical extremes, it courts disaster.
It should be noted that the impression that the rate of spending can be controlled rigorously by the contraction of credit or money supply is wrong in the context of modern economic societies. In modern community, tangible, wealth is typically represented by claims in the form of securities, bonds, etc., or near moneys, as they are called. Such near moneys are highly liquid assets, and they are very close to being money. They increase the general liquidity of the economy. In these circumstances, it is not so simple to control the rate of spending or total outlays merely by controlling the quantity of money. Thus, there is no immediate and direct relationship between money supply and the price level, as is normally conceived by the traditional quantity theories. However, as a secondary measure, there should be a judicious use of the monetary policy in order to control inflation. During inflation some monetary restraint is necessary and desirable in a period of inflationary pressure, it does not make sense to feed inflation with easy credit. When there is inflation, monetary restraint can, in conjunction with other measures, plays a useful role. (Mithani, 2010, p132).

2.15.2. Fiscal policy:

Fiscal policy is a budgetary policy in relation to in the total expenditure can be effected by fiscal measures. To combat inflation, fiscal measures would involve increase in taxation and decrease in government spending. During inflation the government is supposed to counteract an increase in private spending. Obviously, during a period of full-employment inflation, the aggregate demand in relation to the limited supply of goods and services is reduced to the extent that government expenditures is curtailed.
A certain public expenditure alone is not sufficient. Government must simultaneously increase taxes to effect a cut in private expenditure also, in order to minimise inflationary pressures. As we know, when more taxes are imposed, the size of the disposable income diminishes, as also the magnitude of the inflationary gap, given the available supply of goods and services. Inflationary pressure is significantly weakened by the simultaneous curtailment of government expenditure and an increase in taxation because, more resources are released for expanding the productive capacity in the private sector; the supply curve of aggregate goods and services shifts upwards with a contraction of monetary demand due to a decline in disposable income with people. (Ahuja, 2009, p1380).

It has been argued that a tax policy can be directed towards restricting demand without restricting production. For instance, excise duties or sales tax on various commodities take away the buying power from the consumer goods market without discouraging the expansion of production capacity. However, some economists point out that this is not a correct way of combating inflation because of its regressive nature. On the other hand, this may lead to a further rise in prices of such commodities, and inflation can spread from one sector to another and from one commodity to another. But, during inflation, a progressive direct tax is considered best; it is also justified in the interest of social equity.

Briefly, then, a reduction in public expenditure, and an increase in taxes produces a cash surplus in the budget.

Keynes, however, suggested a programme of compulsory savings, such as "deferred pay" or "forced savings" as an anti-inflationary measure. Deferred pay implies that the consumer defers a
part of his pay by buying savings bonds (which, of course, is a sort of public borrowing), which are redeemable after some time. Such a scheme of compulsory savings is expedient during wartime or during a post-war hyperinflation, but is hardly practicable in peacetime in a democratic state.

Private savings have a strong disinflationary effect on the economy and an increase in these is an important measure for controlling inflation. Government policy should, therefore, include devices for increasing savings. A strong savings drive reduces the spendable income of the people, without any harmful effect of the kind associated with higher taxation. (Al Habeeb, 1994, p 611)

Moreover, the effects of a large deficit budget, which is mainly responsible for inflation, can be partly counteracted by covering the deficit through public borrowings. It should be noted that it is only government borrowing from non-bank lenders that has a disinflationary effect. Further, public debt may be managed in such a way that the supply of money in the country may be controlled. The government should avoid paying back any of its past loans during inflation in order to prevent an increase in the circulation of money. Anti-inflationary debt management also includes cancellation of public debt held by the central bank out of a budgetary surplus.

Briefly, fiscal policy alone may not be very effective. An effective programme for combating inflation should combine fiscal and monetary tools in a manner complementary to one another. (Mithani, 2010, p131).

2.15.3. Supply Management through imports:

To correct excess demand relative to aggregate supply, the latter can also be raised by importing goods in short supply. In India,
to check the rise in prices of food grains, edible oils, sugar etc., the Government has often taken steps to increase imports of goods in short supply to enlarge their available supplies. When inflation is of the type of supply-side inflation, imports are increased to augment the domestic supplies of goods. To increase imports become cheaper and therefore their imports help in containing inflation.

At times of inflations, expectations, there is a tendency on the part of businessmen to hoard goods for speculative purposes. The attempt by the Government to import goods in short supply would compel the hoarders to release their hoards stocks. The will have a favourable impact on prices of these goods. However, when international prices of commodities are high, their imports cannot be very helpful for tackling domestic inflation. (Mithani, 2010, p128)

2.15.4. Incomes policy: Freezing Wages:

Another anti-inflationary measure which has often been suggested in the avoidance of wage increases which are unrelated to improvements in productivity. This requires exercising control over wage-income. As seen in the previous chapter, it is through wage-price spiral that inflation gets momentum. When cost of living rises due to the, initial rise in prices, workers demand higher wages to compensate for the rise in cost of living. When their wage demands are conceded to, it givers rise to cost-push inflation. And this generates inflationary expectations which add fuel to the hue. To check this vicious circle of wages-chasing prices, an important measure will be to exercise control over wages. However, if wages are raised equal to the increase in the productivity of labour, then it will have on inflationary effect. Therefore, the proposal has been to freeze wages in the short run and wages should be linked with the
changes in the level of productivity over a long period of time. According to this, wage increases should be allowed to the extent of rise in labour productivity only. This will check the net growth in aggregate demand relative to aggregate supply of output.

However, freezing wages and linking it with productivity only irrespective of what happens to the cost of living has been strongly opposed by trade unions. It has been validly pointed out why freeze wages only to ensure social justice the other kinds of income such as rent, interest and profits should also be freeze similarly. Indeed, effective way to control inflation will be to adopt a broad-hsed incomes policy which should cover not only wages but also profits, interest and rental incomes. (Jhingan, 2010, p123).

It is thus clear that with the adoption of various monetary, fiscal and other policy measures, the aggregate demand can be reduced on the one hand and the aggregate supply of output can be increased on the other. This would help in bridging the gap between aggregate demand and aggregate demand and aggregate supply which would enable us to contain the inflationary pressures in the economy.