

**A STUDY OF THE NATURE, CAUSES AND
REMEDIES OF INFLATION IN INDIA SINCE
1991**

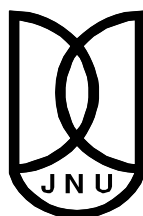
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MASTER OF PHILOSOPHY

DHARMENDRA KUMAR



CENTRE FOR ECONOMIC STUDIES AND PLANNING

SCHOOL OF SOCIAL SCIENCES

JAWAHARLAL NEHRU UNIVERSITY

NEW DELHI 110067

2012

DEDICATED TO MY FATHER



CENTRE FOR ECONOMIC STUDIES & PLANNING
SCHOOL OF SOCIAL SCIENCES
JAWAHARLAL NEHRU UNIVERSITY
NEW DELHI- 110 067 (INDIA)

Phone : 91-11-26742575, 26741557,
26742676 Ext. 4421
Direct : 26704421
Fax : 91-11-26741504, 26741586

Date: 26.07.2012

CERTIFICATE

I declare that the dissertation entitled "A Study of the Nature, Causes and Remedies of Inflation in India since 1991" submitted by me in partial fulfilment of the requirements for the award of the degree of Master of Philosophy of this University is my own work and has not been previously submitted for any degree of this or any other University

Dharmendra Kumar

We recommend that this dissertation be placed before the examiners for evaluation.

Prof. Pradipta Chaudhury
Supervisor
CSP/ISS/JNU

Prof. Arun Kumar
Chairperson
CSP/ISS/JNU
Chairperson

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Dharmendra Kumar

Abbreviations

CPI-AL:	CONSUMER PRICE INDEX – AGRICULTURAL LABOUR
CPI-IW:	CONSUMER PRICE INDEX – INDUSTRIAL WORKER
CPI-RL:	CONSUMER PRICE INDEX – RURAL LABOUR
CPI-UNME:	CONSUMER PRICE INDEX – URBAN NON MANUAL EMPLOYEE
CRR:	CASH RESERVE RATIO
CSO:	CENTRAL STATISTICAL ORGANISATION
FCI:	FOOD CORPORATION OF INDIA
FRBM:	FISCAL RESPONSIBILITY AND BUDGET MANAGEMENT
IMF:	INTERNATIONAL MONETARY FUND
LAF:	LIQUIDITY ADJUSTMENT FACILITY
MMTC:	MINERALS AND METALS TRADING CORPORATION
MSS:	MARKET STABILISATION SCHEME
NAFED:	NATIONAL AGRICULTURAL CO-OPERATIVE MARKETING FEDERATION OF INDIA
OMO:	OPEN MARKET OPERATIONS
PDS:	PUBLIC DISTRIBUTION SYSTEM
RBI:	RESERVE BANK OF INDIA
RPDS:	REVAMPED PUBLIC DISTRIBUTION SYSTEM
SLR:	STATUTORY LIQUIDITY RATIO
TPDS:	TARGETED PUBLIC DISTRIBUTION SYSTEM
WPI:	WHOLESALE PRICE INDEX

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Chapter One

INTRODUCTION

Price stability is an essential condition for stability in economic life as well as economic growth. Fluctuations in prices, on the contrary, create an atmosphere of uncertainty which is not very conducive to development activity. Further, if prices rise steadily over a long period, a redistribution of national income and wealth takes place to the disadvantage of the poor, which eventually influences demand pattern. In a market economy, producers carefully study the demand for their products and take decisions accordingly. Therefore, whatever be the changes in prices, they will ultimately influence the production. Investors also have to study the behaviour of prices in order to estimate the profitability of a particular investment. In a state of uncertainty investments get discouraged. Hence price stability is viewed as a necessary condition to ensure the desired development performance of the economy.

But the stability of prices must not be construed to be zero inflation. The price stability implies doing away with excessive fluctuations in price level. The economists are, in fact, unanimous on the necessity of having a mild inflation rate to keep an economy dynamic. So, maintaining price stability implies preventing prices from falling below a threshold limit or going above that limit.

The trend of continuous rise in the general price level is referred to as inflation. Prices rise because of either excess demand for a commodity or rise in the costs of production. Excess demand may arise either because of increase in demand (demand-pull factors) or supply shortage (supply-shock). Basically inflation is a situation in which too much money chases too few goods, i.e. there is excess of liquidity in the economy. Different theories of price determination have explained the phenomenon of price determination in different ways. The classical theory considers a direct relation between supply of money and the price level. The Keynesian approach sees only an indirect relation between the two variables. Monetarist reemphasises the role of money supply in determining the price level. But, irrespective of differences of opinions on the determination of price level, one can broadly conclude that the supply of money does play an important role in determining price level in an economy. This is the reason that monetary policy is still regarded as the most effective weapon for price control in almost all the countries of the world.

In 1991, the Government of India embarked on the path of a comprehensive economic reforms programme involving a large scale deregulation of industrial and services sectors and promoting liberalisation, privatisation and increased integration of Indian economy with the rest of the world. This initiative of economic reforms programme has always been much talked-about and much hyped phenomenon. It is believed that it has helped India achieve a higher growth rate which has trickle down impacts on our economy leading to higher purchasing power in the hands of the people. It is this over-heating of our economy which has caused a mild inflation which very well goes with the hypothesis that there is an inverse relation between inflation and growth rate, i.e. growth always comes with a price which is inflation here. So inflationary tendencies are inherent in growth efforts of a country and there is no harm in putting up with a mild inflation if the growth process is to be sustained in an economy.

But there are other set of people who have argued against this rosy picture of economic reforms. They believe that the economic reforms have made India pay more than what it has achieved. It has caused a highly skewed distribution of income in favour of the rich and away from the poor. Not only this, it has made Indian economy unstable. This has exposed our domestic economy to the fluctuations in the international market. Mobility of capital has further added to the vulnerability. This has accordingly influenced our domestic prices also. Prices being the signal to different economic agents to undertake their economic activities, there is a need to ensure price stability if the uncertainties in the economy are to be avoided.

It has been exactly two decades since the reform process started in India. So it becomes pertinent here to have a look over the performance of different economic phenomena during the reform period. Stability of prices being so important for an economy, it becomes worthwhile to attempt an analysis of prices in India in the post reform period. This work is an attempt towards analysing how prices have fared in India during the post-reform period. It also takes a look over how the government has tried to deal with the issue of inflation during this period.

OBJECTIVES

The objective of this work is to study the nature and causes of inflation in India in the post-reform period and the macroeconomic policies adopted as its remedy through a survey of a wide-range of literature in this area. This work aims at looking into the following aspects.

- A brief review of the basic macroeconomic theories on price determination is done. This is important in order to have an understanding of the causes and remedies of inflation.
- A brief review of the measurement issues related with inflation in India is done followed by an analysis of trend of inflation in India since 1991.
- A review of the major drivers (causes) of inflation in India in the post-reform period.
- A critical examination of the macroeconomic policies adopted as inflation control measures in India after 1991 is attempted. Hence, the monetary, fiscal and other government policies aimed at controlling inflation in India in the post-reform period are critically investigated.

SOURCES OF DATA

To see the trend of inflation, because of its wider coverage and easy availability, the Wholesale Price Index has been used. The data on the WPI and inflation has been collected from the website of the Office of Economic Adviser, Department of Industrial Policy and Promotion, Ministry of Commerce and Industry and the Economic Surveys, Government of India.

PLAN OF THE DISSERTATION

The remainder of this dissertation is divided into three main chapters dealing with three different aspects of this study. Chapter two contains a brief overview of different macroeconomic theories dealing with the general price level. This chapter is aimed at giving theoretical insights on how prices vary and what should be done to regulate them. The

theories reviewed are namely classical, neo-classical, Keynesian, monetarist and new classical. Chapter three presents an analysis of the trend of inflation in India in the post-reform period. On the basis of the trend studied and literature surveyed, this chapter will try to find out the major causes of inflation in India in this period. Chapter four contains a critical examination of monetary, fiscal and other government policies which have been undertaken to control inflation in India in the post-reform period. This chapter tries to see to what extent these policies have been effective and also if there have been some adverse effects of these policies on the Indian economy? The last chapter (Chapter Five) puts together some concluding observations.

Chapter Two

MACROECONOMICS OF PRICES

The study of causes, impacts and remedies of inflation has given rise to probably one of the most significant debates in the field of economics. The debate started with the introduction of the Quantity Theory of Money which established a direct relation between the quantity of money and the price level. This classical approach of price determination was criticised by Keynes and his followers who contradicted the classical perspective on determination of price level and introduced some new insights into the theory of price level. The debate continued with the introduction of the monetary approach of Milton Friedman and some others who tried to redefine the Quantity Theory of Money and re-established the importance of money in influencing the price level which was de-emphasised by Keynesians. The new classical economists used the concept of rational expectations to further strengthen the classical position on prices and output.

A single theory of inflation may not be sufficient to explain the phenomenon of inflation in every country. Different countries are faced with different economic scenarios and placed with different resource scarcity and abundance. In fact, in a single country, multiple numbers of significant factors are at play in deciding its domestic price scenario. Factors responsible for inflation are usually different in developed countries as compared to developing countries. In general, the cause of inflation in developed countries is broadly identified as growth of money supply. In developing countries, in contrast, inflation is not a purely monetary phenomenon. Besides, factors typically related to fiscal imbalances, higher growth of money and exchange rate depreciation arising from a balance of payments crisis dominate the inflation process in developing countries.

As this work is an attempt towards presenting an analysis of the nature, causes and remedies of inflation in India, it becomes pertinent to have an understanding of different theories on inflation and see its relevance in the Indian case. This chapter, therefore, mainly attempts to review and analyze the competing and complementary theories of inflation. This chapter is divided into two sections- definition of and concepts relating to inflation and different theories of inflation.

DEFINITION OF INFLATION

Inflation means a rise in the general level of prices of goods and services in an economy over a period of time. When the general price level rises, each unit of currency buys fewer goods and services. Consequently, inflation also reflects erosion in the purchasing power of money – a loss of real value in the internal medium of exchange and unit of account in the economy. So, Inflation can be defined as a sustained or continuous rise in the general price level or, alternatively, as a sustained or continuous fall in the value of money. Several things should be noted about this definition. First, inflation refers to the movement in the general level of prices. It does not refer to changes in one price relative to other prices. These changes are common even when the overall level of prices is stable. Second, the rise in the price level must be somewhat substantial and be continuous over a period longer than a day, week, or month.

There are three important types of inflation- demand-pull inflation, cost-push inflation and structural inflation. The **demand-pull** inflation occurs when aggregate demand exceeds aggregate supply at the full employment level. The aggregate demand comprises consumption, investment, government expenditure and net exports (value of exports minus value of imports). Keynes was the chief proponent of this demand-pull inflation. The **cost-push** inflation is basically a supply-side phenomenon. When input prices rise due to their reduced supply or increased costs, it results in higher product prices. Cost-push inflation may be further because of upward adjustment of wages to compensate for rise in cost of living which is known as wage-push inflation. Another cause of Cost-Push inflation is profit-push inflation. Oligopolist and monopolist firms raise the price of their products to offset the rise in labour and cost of production to earn higher profits. **Structural inflation** is caused by structural factors. There are certain inherent structural bottlenecks in an economy. These bottlenecks cannot be overcome in a short-period of time. So, a kind of inflation naturally occurs in an economy without any particular triggering event. This kind of inflation which is built into the very economic system of a country is known as structural inflation.

THEORIES OF INFLATION

There are basically five important approaches dealing with the macroeconomics of prices. They are classical approach, neo-classical approach, Keynesian approach, monetarist approach and new classical approach.

Classical Approach

The classical approach basically deals with the quantity theory of money which shows a direct relation between quantity of money and price level. The income version of the quantity theory of money is in fact based on an identity expressed as

$$M V = P Y$$

Where 'M' is quantity of money, 'V' is income velocity of money (the number of times a unit of money is used in a transaction involving current output 'Y') and 'P' is the price level.

The classical economists considered 'V' to be constant as it depended on institutional factors which remained constant in the short-run. They regarded 'Y' to be supply-determined and dependent on real factors which again remain constant in the short-run. 'M' was considered to be an exogenous variable controlled by the monetary policy authority. So, given that 'M' and 'V' are constant, the classical approach establishes a direct and proportional relation between quantities of money and price level.

Neo-classical Approach

The Cambridge economists such as Marshall, Pigou and others gave a money demand function showing demand for money as a constant fraction of total nominal income (PY). They gave the following equation

$$M^d = k P Y$$

where 'M^d' is the demand for money which is a constant fraction 'k' of the product of 'P' and 'Y' (i.e. the nominal income). Since, in equilibrium, demand for money equals supply of money (M), the above equation can be expressed as

$$M = k P Y$$

Since 'k' is assumed to be a constant and 'Y' is a supply determined variable which remains constant in the short-run, the neo-classical approach also shows a direct and proportional relation between 'M' and 'P'.

Here the mechanism works in following way. Suppose there is an initial equilibrium between demand and supply of money and then there is an increase in 'M'. The excess supply of money over the amount demanded will be used by people for spending on consumption and investment. So there will be an increase in demand for commodities. This increase in demand will put upward pressure on prices. In the language of classical economists, there is too much money chasing too few goods.

Keynesian Approach

According to the Keynesians, inflation occurs when aggregate demand for final goods and services exceeds the aggregate supply at (or near) full employment level. The Keynesians do not see any direct relation between supply of money and price level and consider monetary policy to be very less effective than fiscal policy in influencing output, employment and price level. Keynes argued that changes in supply of money first change the rate of interest which in turn influences private spending and then the change in aggregate demand due to the change in private spending leads to changes in price level. Here the link between the supply of money and price level is not only indirect but also weak because of many other factors. The other factors include slope of money demand function and the slope of investment demand schedule.

If the money demand function is flatter, there will not be any significant change in the rate of interest and thus a very small change in private spending. Moreover, if the investment demand schedule is steeper, there will be a very small change in investment and thus aggregate demand even if there was a significant change in the rate of interest. This was the reason that the Keynesians did not show much trust in monetary policy.

Keynes developed his theory in the backdrop of the Great Depression of the 1930s when the rate of interest and level of income were very low. At such a low level of the interest rate, the elasticity of money demand would be high, a situation approaching liquidity trap case. It gives rise to a flat LM curve. Further, in depression conditions, Keynes believed

the investment demand curve to be interest-inelastic. This gave rise to a quite steep IS curve. Because of this reason Keynes and early Keynesians had little trust in monetary policies.

Monetarist Approach

Monetarists also explain inflation in terms of excess demand for goods and services. But they differ from Keynesians in considering the factors responsible for increase in aggregate demand. Keynesians explained inflation as arising out of real sector forces. They explained the emergence of excess demand due to the increase in autonomous expenditure, independent of any increase in output. On the other hand, monetarists explained the emergence of excess demand and the resultant rise in prices on account of the increase in money supply in the economy. *“Inflation is always and everywhere a monetary phenomenon.....and can be produced only by a more rapid increase in the quantity of money than in output”¹*.

Monetarists hold 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. So, excess supply of real money balances results in increase in aggregate demand for goods and services. If there is no proportionate increase in output, extra money supply leads to excess demand for goods and services.

Milton Friedman, the most important monetarist, reformulated the quantity theory of money and gave the demand for money equation in following way.

$$M^d = M = k (r_b, r_e, r_d) P Y \quad ^2$$

Where k is a function of r_b = nominal interest rate on bonds, r_e = nominal return on equities, and r_d = nominal return on durable goods.

Friedman assumed these rates of return to be less influential and thus considered ‘k’ to be nearly constant. If the above expression is converted into rate of change equation, then it becomes

¹ Friedman, M. (1968), p. 11.

² This equation is a simplified version on Friedman’s equation. ‘k’ is a function of many other factors also.

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

If the rate of growth of money supply ($\frac{\Delta M}{M}$) is greater than the rate of growth of output ($\frac{\Delta Y}{Y}$), there will be inflation ($\frac{\Delta P}{P}$). Friedman and other monetarists claim that inflation is predominantly a monetary phenomenon which implies that growth of output is small.

New Classical Approach

The new classical economics developed against the background of the high inflation and unemployment of the 1970s and the accompanying dissatisfaction with the prevailing Keynesian orthodoxy. Both monetarism and new classical economics have their origins in aspects of classical economics and the two schools of economists reach similar noninterventionist policy conclusions. The new classical economics, however, is a more fundamental attack on the Keynesian theoretical system than is monetarism. The new classical economists have attacked the Keynesian theoretical structure as “fundamentally flawed”.

The new classical approach of determining the relation between money supply and price level can be explained with a basic rational expectations model. A rational expectations model assumes that agents make use of whatever information is available to them and that expectations are formed in a manner consistent with the way the economy actually operates.

The quantity theory of money equation is given as

$$M V = P Y.$$

Taking natural log of both sides of the equation and then expressing the log variables in the form of lowercase letters, the above equation can also be expressed as

$$m + v = p + y$$

$$\text{or, } p = m + v - y \quad (1)$$

The equation (1) also represents the aggregate demand equation of classical theory.

In a similar fashion, a simple short-run aggregate supply curve, one that emphasises the role of price expectations, can be expressed as

$$p = p^e + \alpha (y-x) \quad (2)$$

where p^e is the expected price level, y is actual output, x is potential output and the parameter α is the slope of aggregate supply curve.

The equation (1) and (2) can be combined to solve for price as

$$p = \frac{\alpha}{1+\alpha} (m + v - x) + \frac{1}{1+\alpha} p^e \quad (3)$$

Now, to see how the model operates when the tool of rational expectations is introduced, suppose economic decision makers expect the money supply to equal m^e . If the actual money supply turns out to be m , then the agents' money forecast error will be

$$e_m = m - m^e$$

$$\text{or, } m = e_m + m^e \quad (4)$$

and similarly for potential output, it will be

$$e_x = x - x^e$$

$$\text{or, } x = e_x + x^e \quad (5)$$

The rational expectations theory assumes that on average rational forecast errors equal zero.

Putting (4) and (5) in (3), the expression converts into

$$p = \frac{\alpha}{1+\alpha} (e_m + m^e + v - e_x - x^e) + \frac{1}{1+\alpha} p^e \quad (6)$$

Now, taking expectations on both sides of the above equation, it gives

$$p^e = \frac{\alpha}{1+\alpha} (m^e + v - x^e) + \frac{1}{1+\alpha} p^e$$

$$\text{or, } p^e = m^e + v - x^e \quad (7).$$

The equation (7) can be substituted back into the equation (6), to get an expression for price as

$$p = m^e + v - x^e + \frac{\alpha}{1+\alpha} (e_m - e_x)$$

From this final expression, it can be observed that under rational expectations an expected increase in money supply (m^e) has one-to-one impact on price level. In other words, other things remaining constant, a one percent increase in m^e will increase p by one percent.

From a survey of different theories of inflation, it can be argued that irrespective of the controversy over the nature of inflation, i.e. whether it is entirely a monetary or fiscal phenomenon or a combination of both, inflation occurs due to excess of aggregate demand over aggregate supply. Be it classical economists, Keynesians, monetarists or new classical economists, they all are unanimous on the role of aggregate demand in determining output, employment and prices, the difference is only in the procedure that cause changes in aggregate demand. For example, the classical economists, monetarists and new classical economists see a direct relation between changes in money supply and resultant changes in aggregate demand, whereas Keynesians accept this role of money in determining aggregate demand but via the mechanism of changes in interest rate which finally influences the aggregate demand.

Chapter Three

NATURE AND CAUSES OF INFLATION IN INDIA

End of year 2011 marks the completion of 20 years of economic reforms that was started in 1991. This period can be broadly characterized as a period of vigorous liberalization and inflation. Inflation has been one of the most important macroeconomic variables which have always drawn the attention of Indian policy-makers entrusted with the responsibility of formulating developmental policies. It has been the most baffling question in front of the policy makers. This is because high “*inflation is widely believed to impede economic growth and is inimical to social justice, thereby lending credence to emergence of low and stable inflation as a key objective of economic policy*”³

Since 1991, India has been witnessing several neo-liberal economic reforms resulting in gradual integration of the Indian economy with the rest of the world. One set of people believe that increased interaction of Indian economy with the rest of the world has made its domestic price level more volatile and more vulnerable to fluctuations in international macroeconomic factors. In order to examine this claim and to understand the nature and causes of inflation in India since 1991, it would be worthwhile to present an analysis of the trend of price level in India since the initiation of the process of economic reforms.

For the purpose of analysis of the trend, it would be pertinent to distinguish between headline inflation and core inflation. Headline inflation includes the entire set of commodities in the general price index; in this case, the WPI. On the other hand, core inflation is a measure of inflation that excludes items that face volatile price movement, notably food and fuel. It follows that supply shocks that arise from a poor crop yield or hikes in international prices of fuel will lead to increases in headline inflation. In contrast, core inflation would not be affected by these shocks and would only serve as an indicator of the price levels of commodities that have relatively non-volatile prices. It is, therefore, a preferred tool for framing long-term policy. In India and most other developing countries, food articles are significantly weighted in the price index. The recent surge in inflation resulting into double-

³ Pattnaik, R. K. and Samantaraya, A. (2008), p. 1

digit inflation was primarily because of an explosive rise of prices of food articles. As such, a measure of core inflation may not provide a complete picture of the price scenario. Further, owing to the fact that the availability of official data on core inflation is limited, policy and academic discussions are based on headline inflation. The analysis of the trend of inflation which is the subject matter of this chapter will be in terms of headline inflation.

MEASURING INFLATION

Inflation is defined as the rate of change of general price level, which is computed as the weighted average of prices of individual goods and services. Weights assigned for constructing the general price index normally reflects the relative importance of the goods and services included. Thus, the general price index captures the overall magnitude of prices of the goods and services. There are broadly three measures of inflation used in India: the wholesale price index (WPI), the consumer price index (CPI) and the implicit GDP deflator. The WPI is available for all tradable goods including for various groups, subgroups and individual commodities. CPI reflects the cost of living of a homogeneous group of consumers for which it is constructed and is based on retail prices of commodities generally consumed by the group. The **GDP deflator** is derived from the national accounts as a ratio of GDP at current prices to GDP at constant prices.

Wholesale Price Index

India is one of the few countries where the WPI is considered as the headline inflation measure by the central bank. *“The International Monetary Fund (IMF) statistics reveals that 24 countries use WPI as the official measure to track inflation, compared to 157 countries which use CPI”*⁴. The Wholesale Price Index (WPI) is used extensively as a measure of inflation and important monetary and fiscal policy changes are often linked to it. The WPI indices are also used for the purpose of escalation clauses in the supply of raw materials, machinery and construction work. The weekly index numbers of wholesale prices have acquired considerable significance over time, since this is the only index which gives an idea of the week-to-week fluctuations in the prices of all the traded commodities (from the year

⁴ Economic Survey 2008-09, p. 63

2012, the WPI is being released on monthly basis). Since 2010, the government has started to publish the new series of WPI changing the base year from 1993-94 to 2004-05. The new series was approved on September 9 by the Committee of Secretaries based on the recommendations of the working group earlier set up under the chairmanship of Planning Commission member Abhijit Sen. The working group submitted its technical report in May 2008 and recommended the change of the base year to 2004-05. The new series will have 676 items compared to the 435 commodities earlier, while the number of quotations or sources for collecting the price data would be 5,482, an increase from 1,918 previously. There have been some changes in weight diagrams in the new series (base year 2004-05) of the WPI. This is given below in the Table No. 1.

TABLE NO. 1: WEIGHT OF COMMODITIES IN WPI

Major Groups/Groups	Weight (2004-05)	Weight (1993-94)
ALL COMMODITIES	100	100
I. PRIMARY ARTICLES	20.12	22.03
(A) Food Articles	14.34	15.40
(B) Non-Food Articles	4.26	6.14
(C) Minerals	1.52	0.48
II. FUEL & POWER	14.91	14.23
(A) Coal	2.09	1.75
(B) Mineral Oils	9.36	6.99
(C) Electricity	3.45	5.48
III. MANUFACTURED PRODUCTS	64.97	63.75
(A) Food Products	9.97	11.54
(B) Beverages, Tobacco & Tobacco Products	1.76	1.34
(C) Textiles	7.33	9.80
(D) Wood & Wood Products	0.59	0.17
(E) Paper & Paper Products	2.03	2.04
(F) Leather & Leather Products	0.84	1.02
(G) Rubber & Plastic Products	2.99	2.39
(H) Chemicals & Chemical Products	12.02	11.93
(I) Non-Metallic Mineral Products	2.56	2.52
(J) Basic Metals, Alloys & Metal Products	10.75	8.34
(K) Machinery & Machine Tools	8.93	8.36
(L) Transport, Equipment & Parts	5.21	4.29

Source: Office of the Economic Advisor, http://eaindustry.nic.in/Download_Data_0405.html

This chapter uses the WPI index of 1993-94 series. So, in order to make the data comparable to the 1993-94 series, the data of 1981-82 series and that of the 2004-05 series have been changed by using suitable linking factors.

Consumer Price Index

Currently, four categories of CPI are available in India. They are CPI for agricultural labours (CPI-AL), CPI for rural labours (CPI-RL), CPI for urban non-manual employees (CPI-UNME) and CPI for industrial workers (CPI-IW). Among the four, CPI-IW is very popular with better coverage whereas CPI-AL and CPI-UNME are designed to measure the impact of inflation on rural and urban poverty, respectively [Reddy 1999].

The Central Statistics Office has taken up a new initiative for compilation of CPI (urban), CPI (rural) and CPI (rural+urban) for all States/UTs and all India by considering all sections of the urban and rural population. The CSO released the new CPI with base year 2010 (Jan-Dec=100) on 18 February in 2011. The following are some of the important features of the new CPI series:

- The new CPI is disaggregated at the rural and urban level. The all India CPI is a weighted average of the two. This is different from the earlier CPIs that represented specific classes of population (industrial workers, agricultural labourers, rural labourers, etc).
- The new series has a better geographical as well as commodity coverage than the earlier series. The share of food in the new CPI has seen a small dip in comparison to the CPI-IW while the share of services has risen. The share of housing has also seen a sharp rise. The new CPI will cover the entire population and not a specific group like agricultural labourers or industrial workers. Moreover, the weights in the new CPI are taken from a recent consumer survey. The CSO has indicated that the weights shall be revised with next round of NSSO consumption expenditure survey in 2011-12.
- The weights have been derived from the 61st round of the NSSO consumer expenditure survey (2004-05).
- Data for the urban CPI numbers is to be collected from 310 towns (compared to 78 in the current CPI-IW, for all India) whereas for rural CPI numbers, 1,181 villages have been selected broadly on patterns of population distribution. Field officers of the NSSO and officials from the Department of Posts are to be the price collection agents for urban and rural centres, respectively. The basket of consumer goods in the new CPI has also risen from 25 to 250.

- As the two series are not comparable, inflation numbers based on the new CPI will be available only from February 2012.

The weights of the different components of the new CPI have been given below in the Table No.2. The CSO has indicated that the weights shall be revised with next round of NSSO consumption expenditure survey in 2011-12.

TABLE NO. 2: WEIGHTS OF DIFFERENT COMPONENTS OF THE NEW CPI, 2010

Sub Group	Rural	Urban	Rural+Urban
Food, beverages and tobacco	59.31	37.15	49.71
Fuel and light	10.42	8.4	9.49
Clothing, bedding and footwear	5.36	3.91	4.73
Housing	0	22.53	9.77
Miscellaneous	24.91	28	26.31
Total	100	100	100

Source: Central Statistical Office, mospi.nic.in/csso_test1.htm

There have been a great deal of debate on which index should be used to measure inflation in India. Some authors argue that CPI is a better measure of inflation as it represents the basket of commodity consumed by the common man. It happens that WPI inflation remains very low even if the prices of essential commodities are high causing difficulties for common masses. *“In most countries, the CPI is the most widely understood and recognised measure of inflation. It is available relatively frequently, and it is typically not subject to revisions. The overall CPI is meant to represent the cost of a representative basket of goods*

*and services consumed by an average urban/rural household*⁵. But CPI has not found a very acceptable position in India because of more reliance on core inflation as policy guidelines rather than food inflation (food items constitute the largest component of each CPI) which is very volatile in India. This is also because CPI contains a very small number of items and thus may not represent a picture of whole economy. Moreover, data on CPI are available only on monthly basis.

Some authors have argued in favour of using GDP deflator as the measure of inflation in India as it, unlike the WPI which excludes services, provides an aggregate index of both goods and services. But, some observers find the GDP deflator of little use and believe that it hardly provides any information more than the WPI. **Patnaik, et al (2011)** argue that though the suggestion of using GDP deflator as a measure of inflation is theoretically appealing, it does not take into account the actual procedures used to estimate this deflator in India. *“For quarterly accounts, the production approach GDP estimates are first obtained using proxy indicators of quantity (e g, industrial production) and then inflated to current price estimates. This operation, especially for the most recent quarters, is performed using the overall WPI series. It should not, therefore, come as a surprise that the dynamics in the deflator closely resemble the ones of WPI. Thus, by construction, the most recent figures on the quarterly GDP deflator contain little information beyond the already visible WPI and the CPI.”*⁶

Though now i.e. from January 2012, even WPI is being released on monthly basis, earlier it was available on weekly basis. It was the higher frequency of release of WPI data and the coverage of a large number of items which made it the most popular and acceptable measure of inflation in India. The biggest deficiency of this index is that it does not contain the price of services which constitutes around 55 per cent of India's GDP. To overcome this problem, the Government of India is planning to introduce a separate service price index and for its construction a committee has been constituted.

⁵ Patnaik, Ila, Shah, Ajay and Veronese, Giovanni (2011), p. 57.

⁶ Ibid., p. 59.

TREND OF INFLATION IN INDIA⁷

The Indian economy underwent a severe economic crisis in 1991 mainly triggered by a balance of payment problem and manifestation of underlying imbalances emanating from an adverse impact of high fiscal and current account deficits of the 1980s. The year 1991-92 witnessed low economic growth of 1.3 per cent and foreign currency assets at around US \$ 1 billion were barely sufficient to finance two weeks of imports in July 1991. During the crisis year of 1991-92, inflation was 13.7 per cent. As a response to this crisis, an entire gamut of reforms covering external, industrial and financial sectors were introduced and the reform initiatives significantly contributed to a moderation of inflation.

The government took several initiatives during 1991-92 and 1992-93 to restore price stability. At the macro-economic level the efforts of the government included fiscal stability by reducing the fiscal deficit and moderating the growth of money supply. Moreover, a good kharif harvest and excellent prospects for next rabi crop eased the pressure on supply of essential goods. As a result, the rate of inflation declined steadily. The annual rate of inflation as measured by the WPI came down from 13.7 per cent to 6.8 per cent in the third week of January 1993. The declining trend was, however reversed in mid-August. The immediate factors included disruption in movement due to truckers' strikes and a regional dry spell in a few States which led to speculative increase in prices of oilseeds and rice. Faster monetary growth driven by fiscal pressure provided the undercurrent to the buoyancy in market prices. In August 1993, the inflation rate was 8 per cent which increased to 8.8 per cent by September, 1993 and then to 9 per cent in January, 1994. The upward trend in prices continued through the first quarter of 1994-95, with the annual inflation rate peaking at 12 per cent by late April 1994. The upward trend in prices continued during 1994-95 also as the annual WPI inflation remained at double-digit level of around 10.4 per cent in this financial year. This upward trend was caused mainly by demand side factors arising out of the excess liquidity in the system.

The financial year 1995-96 witnessed a substantial dip in inflation rate. Reasonably good rainfall and comfortable food stock situation together with liberal imports of some essential commodities to make up for the shortfall in domestic supply aroused expectations of

⁷In this section, the data on inflation to show the trend of inflation as well as causes of variations in prices have been directly taken from the various issues of Economic Surveys, Government of India.

a declining trend in the prices. These expectations were sustained by the sharp drop in monetary growth. The year experienced an annual inflation rate of around 4.5 per cent. The financial year 1996-97 experienced an increase in inflation by one per cent. The major highlight of the price behaviour in the current financial year was that the overall annual inflation rate based on wholesale prices at the end of second week of January, 1997 was 7.6 per cent; prices of agricultural products rose sharply by about 11.7 per cent; fuel and energy prices rose by about 17.4 per cent; and the manufactured commodity group prices rose very modestly by about 3.6 per cent.

Overall price stability characterized 1997-98. The annual rate of inflation touched an eleven year low of 3.4 per cent in August 1997. This decline occurred despite the increase in the administered prices of petroleum products and electricity. Towards the end of the year, some upward trend was seen in primary product prices pushing up the annual inflation rate close to 6 per cent level by mid-January 1998. This upward trend was rather mild and by the end of March 1998, the growth in prices again showed some deceleration. Fiscal 1997-98 ended with an annual inflation rate (point to point) of just 4.5 per cent. The decline in the inflation rate in the first half of the fiscal year was indicative of reasonable success achieved in moderating the money supply growth and keeping fiscal deficit within prudent limits. A record rabi harvest in April 1997 helped further reduce the inflationary pressures in primary articles. Inflationary pressure escalated during the 1998-99 due particularly to the sharp rise in the prices of primary products, especially vegetables, fruits, oilseeds and pulses. Wholesale price of primary articles increased by 16.3 per cent and accounted for over 60 per cent rise of the annual inflation of 8.84 per cent by the last week of September 1998. The year witnessed an annual point-to-point inflation of 5.3 per cent.

The year 1999-2000 saw an increase of only about one per cent in the rate of inflation due to favourable supply factors. Prices of vegetables like onions and potatoes were lower than last year (by 55.2 percent and 17.0 per cent respectively) for the week ending January 15, 2000. Increase in prices of edible oils recorded during 1998-99 due to detection of adulteration in mustard oil, shortfall in groundnut oil production and high international prices was reversed during 1999-2000. Prices and supply of edible oils remained comfortable during the current year, aided by a sharp decline in international prices and consequent imports in large volumes. The annual inflation rate based on WPI for the period from 1992-93 to 1999-2000 is given in the table below.

TABLE NO. 3: ANNUAL RATE OF INFLATION IN WPI (BASE YEAR 1993-94)

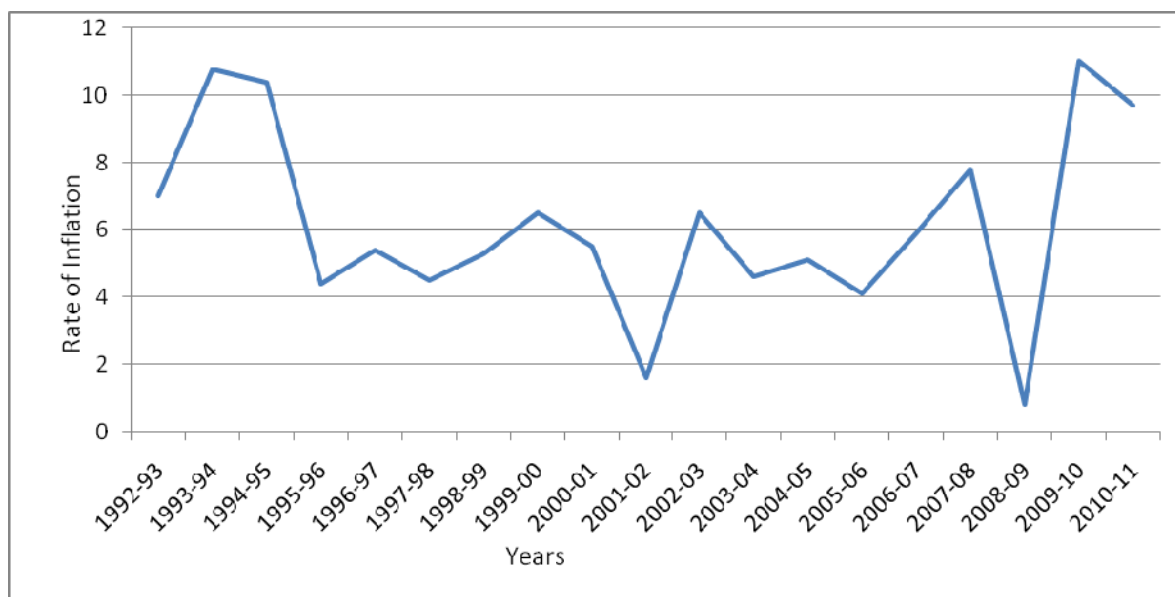
Years	Headline Inflation (%)
1992-93	7
1993-94	10.8
1994-95	10.4
1995-96	4.4
1996-97	5.4
1997-98	4.5
1998-99	5.3
1999-00	6.5
2000-01	5.5
2001-02	1.6
2002-03	6.5
2003-04	4.6
2004-05	5.1
2005-06	4.1
2006-07	5.9
2007-08	7.8
2008-09	0.8
2009-10	11.04
2010-11	9.72

Source: Various Economic Surveys, Government of India and the Office of the Economic Advisor, http://eaindustry.nic.in/Download_Data_0405.html.

Good performance on the agricultural front in 1999-2000, adequate buffer stocks of foodgrains and improved supply of essential commodities like edible oils, sugar and pulses, helped contain the prices of primary articles during the current fiscal year. Prices of manufactured products too remained below the 3 per cent level during much of the year. Stability in prices of the primary and manufactured products had a sobering effect on the inflation rate despite the sharp increase in administered prices of energy products. So the year 2000-01 witnessed a lower inflation rate of 5.5 per cent. During 2001-02, inflation rate was one of the lowest in recent years. The point to point annual inflation rate in the first six months of 2001-02 (April-September) remained close to the 5 percent level, somewhat lower than the 6 percent inflation rate recorded in the corresponding period last year. The inflation rate started declining after September 2001, to fall to a low of 2.2 percent by December 2001,

which was the lowest rate recorded since December 1999. Record public stocks of foodgrains with the Food Corporation of India (58 million tonnes in January 2002) together with active private trade accorded stability to prices of foodgrains. Prices of other essential commodities like sugar, salt, some pulses, tea, milk, coarse cereals, chillies and coconut oil also remained low for much of 2001-02 compared to last year. Besides, the large shortfall in domestic availability of commodities like edible oils and pulses was met through liberal imports of these commodities.

FIGURE 1. ANNUAL WPI INFLATION RATE (BASE YEAR 1993-94)



The year 2002-03 again witnessed sudden rise in prices. The annual rate of inflation was 6.5 percent. This was mainly because of the upward trend in petroleum prices and the drought that occurred during 2002. On account of heavy import dependence of India on crude oil (about 70 per cent), global price movement of crude oil have a direct impact on domestic energy prices. The year had witnessed an upward trend in crude prices. Brent crude oil prices rose by more than 15 per cent during 2002. The problem further got aggravated by disruption in oil production in Venezuela and adverse political climate in the Middle East. The year 2003-04 ended with an annual point-to-point inflation rate of 4.6 per cent. This was because with the ebbing of hostilities in Iraq and the end of the war gradually eased off the pressure on crude prices, giving temporary relief on the inflation front.

The annual point-to-point inflation increased to 5.1 from 4.6. This was because erratic and delayed monsoon in 2004-05 with uneven distribution of rainfall over time and space had an adverse impact on the expectation about the kharif crops and fuelled inflation of some agro-based products. Inflationary pressures were exacerbated by hardening of international prices of crude oil, minerals and metal related products. With prices of these items shooting up in world markets, imported inflation played a crucial role in domestic inflation in 2004-05. In 2005-06, the annual point-to-point inflation declined by 1 percent. It was 4.1 percent during 2005-06. The decline in the rate of inflation was mainly because of improvement in supply position due to a better harvest during the year. Fiscal discipline practiced during the previous year further contributed to the decline in inflation rate.

The year 2006-07 witnessed reversal of the trend. The annual point-to-point rate of inflation reached to 5.9 per cent during this year. The rise in inflation was contributed by inflation in food articles and manufactured goods. Though, the inflation rate for the fuel group declined from 7.84 percent a year ago to 3.67 per cent, it increased from 5.87 per cent to 9.76 per cent for primary articles and from 2.32 per cent to 5.67 per cent for manufactured products. Shortfall in domestic production vis-a-vis domestic demand and hardening international prices were the major causes for the increase in prices of these commodities.

Inflation in terms of the wholesale prices started firming up from June 2006. This owed substantially to an increase in the prices of wheat, pulses and edible oils in the "primary articles" group and mineral oils in the group "fuel and power". The increase in the international prices of crude (Brent) from an average of US\$ 38/bbl in 2004 to US\$ 54/bbl in 2005 and further to US\$ 70/bbl during April-June 2006 necessitated an upward revision in the prices of petrol and diesel in the domestic market. The increase in the prices of wheat, pulses and edible oils was largely because of the shortfall in the domestic supply relative to demand and firm international prices. The annual point-to-point WPI inflation reached to 7.8 per cent during 2007-08.

The fiscal year 2008-09 was a very unusual year, marked by extremes in price movements. The sub-prime mortgage crisis-led global economic slow-down caused a drastic fall in the price levels of different countries of the world. The first half of the financial year 2008-09 was marked by high wholesale price index (WPI)-based inflation, primarily due to

the rise in global commodity and fuel prices. The subsequent global economic meltdown starting September 2008 reversed the trend and WPI inflation slipped into negative territory during June to August 2009. This was due to the decline in commodity prices globally and the base effect. The global recession combined with a high base of the last financial year caused the annual WPI inflation rate of 0.8 per cent during 2008-09.

The year 2009-10 experienced a high annual WPI inflation of around 11 per cent. The upward trend witnessed was mainly because of three reasons. First, the global recession of the year 2008, which continued during this year also, forced government to go for a huge fiscal deficit of around 6.5 per cent. Second, the unfavourable south-west monsoon during 2009-10 put an upward pressure on food prices resulting into double-digit food inflation. The third factor was the very low base of the year 2008-09. As the world economy began to stabilize in the aftermath of the global crisis, inflation re-emerged as a major concern particularly in the fast-recovering developing economies. The major pressure on prices emanated from the food and energy sectors both at global and domestic levels. Notwithstanding slow recovery in the advanced economies, international commodities particularly, oil, food, industrial inputs, and metals witnessed rising prices towards the end of 2010. International crude prices also briefly crossed US\$ 90 a barrel. The renewed inflationary pressure became evident in December 2010 as headline wholesale price index (WPI) inflation increased to 8.4 per cent from 8.1 per cent in November 2010. However, in January 2011 it moderated to 8.2 per cent. In addition to fuel, metal and mineral prices also put pressure on the domestic economy.

CAUSES OF INFLATION IN INDIA

The foregoing analysis was basically aimed at understanding the nature of inflation in India which was dealt with presenting a year-wise analysis of the trend of inflation in India since 1992. This section will be dealing with the analysis of the causes of inflation in India. In India, there are several factors which make domestic prices volatile and sometimes result into very high inflation. Important among them are demand-side factor such as high fiscal deficit, high growth of money supply and on the supply side are the factors such as shortage of food (resulting into food inflation), fuel prices (resulting into cost-push inflation), etc. These factors have been perennially determining the price situation in India. But, apart from all these factors, a new factor which has also become important in causing inflation in India is

the inflow of capital which has increased by leaps and bounce since the reform process started in our country.

Foreign Capital and Inflation

The components of foreign capital flows are foreign investment (direct as well as portfolio), NRI deposits, external commercial borrowings and external assistance. There is no any direct relation between inflow of foreign capital and inflation. Foreign capital first affects external reserve of a country which in turn affects the supply of money of that country and finally the change in supply of money leads to variation in the domestic prices of that country as stipulated by the quantity theory of money and also supported by the monetarists.

Before 1991, India had a closed capital account with capital mobility being restricted through administrative controls and outright prohibition. These controls were influenced by the balance of payments situation, exchange rate movements and India's import-substituting pattern of development. In the aftermath of the balance-of-payments crisis in 1991, India embarked upon an economic reform programme aimed at transforming the controlled economy into a market-driven one. Following changes in exchange rate regime as well as trade and investment policies' reform, there was a spurt in capital flows into the country. So, ever since the process of economic reforms started in our country, the size of foreign exchange reserves of India has been increasing. Different countries tend to exhibit different responsiveness with various macroeconomic implications of inflow of foreign capital. This is because of this reason that there is a big debate over the issue of impacts of foreign capital on the domestic price level of a country.

The issue of openness of an economy and its impact on inflation started with the classic paper by **Romer** (1991), who attempted to study the relation for the U.S.A. and found the relation to be negative. Later on many economists like **Batra** (2001), **Boschen** et al (2003), **Evans** (2007), etc. supported the finding that more open an economy is the lower the rate of inflation is there in the economy. But, almost all such studies have been for developed countries which tend to have strong fundamentals as well as better capability to fight any unexpected shock that may come due to excessive inflow or flight of foreign capital. Similar studies for developing countries do not support the above arguments. The findings of **Terra, C.** (1998) and and that of **Zakaria** (2010) for Pakistan do not substantiate to the idea and come up with a positive relation between inflation and openness.

Most of the studies for India find that inflows of foreign capital in India since the reform process started have been inflationary in nature. **Mohd. Izhar Ahmad and Tariq Masood** (2009) attempt to analyse the behaviour of some of macroeconomic variables in response to total capital inflows in India using quarterly data for the period 1994Q1-2007Q4 (here Q stands for Quarter). They find that with increase in foreign capital over the period “*gap between real and nominal effective exchange rate increases which means price level in India increases in relation to trading partners*”⁸. **Arvind Virmani** (2007), also believes that a positive relationship between inflow of capital and inflation exists in India. “*In the conventional rational expectation model an exogenous increase in capital inflows (positive capital shock) must result in a real appreciation, either through a nominal appreciation or through higher inflation*”.⁹

Ghose, Ajit, K. (2011) believes that inflow of capital is associated with upward pressure on domestic price level. “*Developing countries need stable real exchange rates in order to pursue export-oriented growth. This obliges them to guard against appreciation of their currencies on the one hand and rise in inflation on the other. An exogenous increase in capital inflow, therefore, poses a rather awkward problem of macroeconomic management: pre-emption of nominal exchange rate appreciation requires substantial expansion of money supply, which threatens to accelerate inflation*”¹⁰. **Dr. Sumanjeet** (2009) believes that large capital flow may become inflationary in India. “*Large capital inflows often are associated with inflationary pressures, a real exchange rate appreciation, and deterioration in the current account.*”¹¹ **Deepak Mohanty** (2012) finds inflow of capital to India inflationary as the “*excess capital inflows could result in asset price inflation and loss of competitiveness through over-valuation of exchange rate*”¹²

Errol D’Souza (2008), believes that excessive inflow of foreign capital in India in terms of portfolio investment is inflationary. “*Recent capital flows to India have been*

⁸ Ahmad, M. H. and Masood, T. (2009), p. 145.

⁹ Virmani, Arvind (2007), p. 26

¹⁰ Ghose, Ajit, K. (2011), p.102.

¹¹ Sumanjeet (2009), p.22.

¹²Deepak Mohanty,(2012), p. 3.

predominantly portfolio flows and they have been associated with a deteriorating current account position. To induce foreign savings to finance current account deficits requires the interest rate in India to rise. When capital flows are associated with rising investment expenditure, economic growth is viewed as sustainable and foreign capital's willingness to share in the upside benefits through the acquisition of equity increases. To prevent the exchange rate appreciation associated with rising capital flows, the Reserve Bank of India has been accumulating foreign exchange reserves. This results in a rise in liquidity and a build-up of inflationary pressures”¹³.

So, we can say that inflow of foreign capital in India has been largely inflationary. Though some studies go against this proposition, but they are more applicable to the case of developed countries. Rightly argued by **Ravi Batra** (2001), *“economists universally regard tariffs to be inflationary and free trade to be deflationary, a view that this paper challenges. It is argued that while protectionism has generally created inflation in developing economies, the experience of the United States was totally different.”¹⁴*

Food Prices and Headline Inflation in India

There is significant evidence available on a very high correlation between food prices and the headline inflation in most of the developing countries. Food prices have been one of the biggest drivers of overall inflation in India. Food inflation, particularly in developing economies, is transmitted into nonfood inflation in a significant and important way. In both rich and poor countries, large upward food price shocks are propagated into nonfood prices relatively quickly. However, this effect is much more pronounced in poor countries than in rich countries: *“in rich countries, a one percent shock to food prices on average results in a 0.15 percent increase in nonfood prices, but in poor countries the average is around 0.3 percent.”¹⁵* **Kaldor** (1976) argued that any substantial increase in commodity prices will have a powerful inflationary effect on industrial costs and prices. Very recently, in the monetary policy statement for 2011-12, the Reserve Bank of India (RBI) had also shown serious

¹³ D’Souza, Errol (2008), “Globalisation’s Underbelly: Capital Flows and Indian Economy”, Economic & Political Weekly, p. 37.

¹⁴ Batra, Ravi (2001), “Are tariffs inflationary?”, Review of International Economics, p.373.

¹⁵ . Walsh, P. James (2011), p. 20.

concern regarding inflationary risks emanating from rising commodity prices and its downside risks to growth due to rise in inflation.

The very high association between the food prices and overall inflation can be seen from the following Table No. 4 and the FIGURE 2 and also with the fact that the correlation co-efficient between the WPI of food articles and the WPI of all commodities works out to be around 0.9 per cent in the post-reform periods. It can be observed that food inflation and headline inflation have moved in almost same direction across the period. It can also be noticed that food prices have remained more volatile than the overall headline inflation though the volatility does not entirely get reflected in the headline inflation. This was wholly because of the weights assigned to the food articles in the Wholesale Price Index. The aggregate weight assigned to the food items in the primary article group as well as manufactured articles group was around 27 per cent (15.4+11.5) as per the base year 1993-94. The weight for food products has been reduced to 24.2 per cent (14.3+9.9) in the new 2004-05 series of the Wholesale Price Index (given in the Table No. 1).

Food prices have remained very volatility after 1995-95 till the end of 1990s. After 2008-09, food prices have continuously risen and rose to as high as around 18 per cent in 2010-11. The fluctuations can be explained in terms of excessive dependence of Indian agriculture on monsoon which generally remains uncertain and affects the farm production accordingly. The argument applies for the fluctuations in food prices during the entire period.

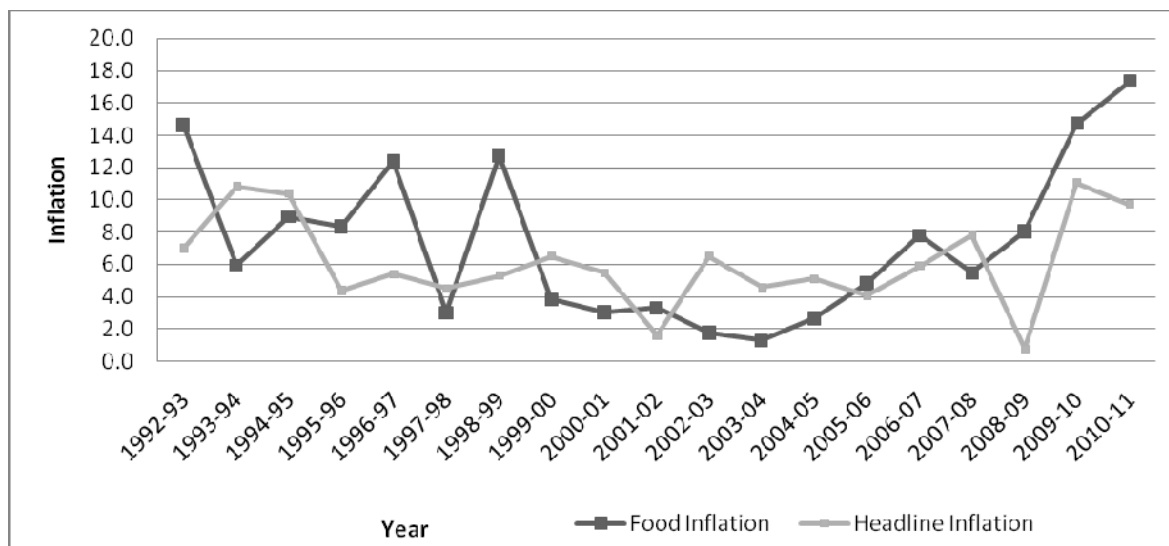
**TABLE NO. 4: TRENDS IN WPI INFLATION FOR ALL COMMODITIES AND
FOOD ITEMS (IN PER CENT)**

Years	Food Inflation	Headline Inflation
1992-93	14.6	7
1993-94	5.9	10.8
1994-95	9.0	10.4
1995-96	8.3	4.4
1996-97	12.4	5.4
1997-98	3.0	4.5
1998-99	12.7	5.3
1999-00	3.8	6.5
2000-01	3.0	5.5
2001-02	3.3	1.6
2002-03	1.8	6.5
2003-04	1.3	4.6
2004-05	2.6	5.1
2005-06	4.8	4.1
2006-07	7.8	5.9
2007-08	5.5	7.8
2008-09	8.0	0.8
2009-10	14.7	11.04
2010-11	17.3	9.72

Note: To make the data comparable, they have been converted to the same base (1993-94) by using suitable linking factor. For the data of 2004-05 series, 1.8 has been used as the linking factor and the data of 1981-82 series have been divided by 2.7.

Source: Office of the Economic Advisor, Ministry of Commerce and Industry.

FIGURE 2. RATE OF INFLATION IN WPI FOR FOOD ITEMS AND ALL COMMODITIES AND FOOD ITEMS (IN PER CENT)



Role of Fuel Prices in Headline Inflation

Hike in fuel prices is one of the constituents of supply shock responsible for cost push inflation. Higher domestic fuel prices resulting from stubborn crude prices, has a significant impact on inflation both directly (from higher prices of petrol and cooking fuels) and indirectly. The direct impact is that it forms one of the components of wholesale price index with a weight of around 7 per cent and thus increases the index if there is any rise in the fuel prices. The indirect impact is in terms of increase in cost of production. India being road intensive in its transport structure and mostly dominated by diesel-powered trucks, higher diesel prices increase transportation costs and subsequently overall costs of production. RBI in its Report on Monetary & Macro Economic Developments (2nd May 2011) in the context of passing of higher crude oil price to domestic consumers states , “*Empirical estimates show that every 10 per cent increase in global crude prices, if fully passed through to domestic prices, could have a direct impact of 1 percentage point increase in overall WPI inflation and*

the total impact could be about 2 percentage points over time as input cost increases translate to higher output prices across sectors.”¹⁶

An observation of the trend of oil and headline inflation, in the post-reform period, shows that the oil inflation has remained more volatile than the overall inflation. Moreover both the variables move almost in the same direction. Some big jumps in the oil inflation connote fluctuations of then international energy prices. For example, the year 2000-01 saw a very high inflation. In fact, the Fuel, Power, Light & Lubricants sub group of the WPI, which has a weight of 14.91 (14.23 in 1993-94 series) in the new series of WPI, comprises mainly of energy products which fall within the purview of the Administered Price Mechanism (APM). Domestic fuel prices are linked to international prices of crude oil, and global price changes get translated into administered price changes of energy products. Consequent to the crude oil price rise during 1999-00, administered prices of energy products were raised twice during 2000-01 which resulted into about 30.1 per cent rise in the oil price.

During 2008-09, the global slowdown kept the overall inflation very low, even though there was a small increase in the international energy prices. This can be traced by a gap between the two lines corresponding to the period 2008-09. During 2009-10, there was a fall in the international fuel prices. This combined with a high base gave a negative figure for oil inflation. At the same time, the overall inflation started picking up, mainly driven by food inflation and added by a low base effect. This is the reason that a wide gap appears between the two lines corresponding to the period 2009-10.

¹⁶ Reserve Bank of India, Macroeconomic & Monetary Developments, May 2011, p.3

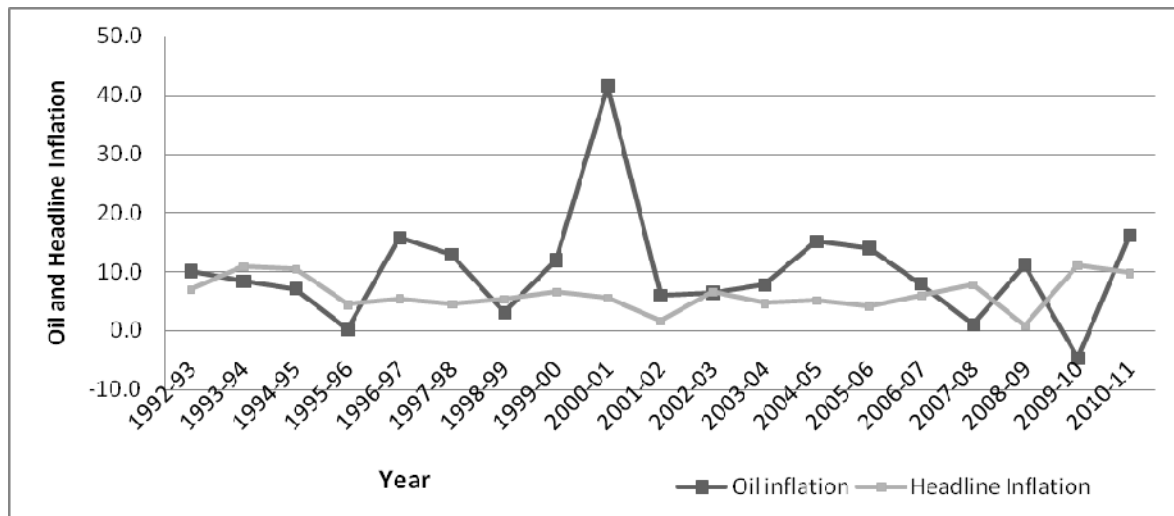
TABLE NO. 5: OIL AND HEADLINE INFLATION SINCE 1992 (IN PER CENT)

Years	Oil inflation	Headline Inflation
1992-93	10.1	7
1993-94	8.4	10.8
1994-95	7.0	10.4
1995-96	0.1	4.4
1996-97	15.7	5.4
1997-98	12.9	4.5
1998-99	3.0	5.3
1999-00	11.9	6.5
2000-01	41.5	5.5
2001-02	5.9	1.6
2002-03	6.3	6.5
2003-04	7.7	4.6
2004-05	15.1	5.1
2005-06	13.9	4.1
2006-07	7.9	5.9
2007-08	0.9	7.8
2008-09	11.1	0.8
2009-10	-4.8	11.0
2010-11	16.1	9.7

Source: Office of the Economic Advisor, Ministry of Commerce and Industry.¹⁷

¹⁷ To make the data comparable, they have been converted to the same base (1993-94) by using suitable linking factor. For the data of 2004-05 series, 1.8 has been used as the linking factor and the data of 1981-82 series have been divided by 3.4.

FIGURE 3. OIL AND HEADLINE INFLATION SINCE 1992 (IN PER CENT)



Fiscal Deficit and Inflation in India

The fiscal deficit refers to the difference between the government's total expenditure and its total receipts (excluding borrowing). The elements of the fiscal deficit are (a) the revenue deficit, which is the difference between the government's current (or revenue) expenditure and total current receipts (that is, excluding borrowing) and (b) capital expenditure. The fiscal deficit can be financed through borrowings from the Reserve Bank of India (which is also called deficit financing or money creation) and market borrowing (from the money market that is mainly from banks). In order to relate high fiscal deficit to inflation, some economists believe that the portion of fiscal deficit, which is financed by obtaining funds from the Reserve Bank of India, directs to rise in the money stock and a higher money stock eventually heads towards inflation.

There is a debate over the issue of relation between fiscal deficit and inflation. Two arguments are generally given in order to link a high fiscal deficit to inflation. The first argument is based on the fact that the part of the fiscal deficit which is financed by borrowing from the RBI leads to an increase in the money stock. A higher money stock automatically leads to inflation since more money chases the same goods. The second argument linking

fiscal deficits and inflation is that in an economy in which the output of some essential commodities cannot be increased, the increase in demand caused by a larger fiscal deficit (which results due to increased level of expenditure) will raise prices. But there exists one set of thoughts which believe that the immediate effect of deficits may be inflationary, but in the long run, the excess of expenditure leads to increase in output and employment and have downward impacts on prices by increasing the availability of goods and services.

In their study, **Habibullah, M.S. et al** (2011), attempt to determine the long-run relationship between budget deficit and inflation in thirteen Asian developing countries, namely; Indonesia, Malaysia, the Philippines, Myanmar, Singapore, Thailand, **India**, South Korea, Pakistan, Sri Lanka, Taiwan, Nepal and Bangladesh. Using annual data for the period 1950-1999 within the error-correction model (ECM) framework, they find that all variables involved (budget deficits, money supply and inflation) are integrated of order one and thus find the existence of a long-run relationship between inflation and budget deficits. Thus, they prove that budget deficits are inflationary in Asian developing countries.

Aghevli and Khan (1978) find out a spiral in the relationship, *“while government expenditures rise concomitantly with inflation, government revenues would tend to fall behind in real terms owing to collection lag. Thus financing of this inflation-induced lag deficit would then increase the money supply and generate further inflation.”*¹⁸ **Chattopadhyay and Chaudhuri** (2004), in their study, question the rationale behind targeting fiscal deficit as a tool for stabilization. They have studied the issue by taking the case of a developing economy, India, by examining the relationship between money, output and price level. They find the presence of a bi-directional causality between money and price level and furthermore that money is non-neutral. So they conclude that money is not exogenous in the Indian context in the long run and there is no systematic relationship between money, fiscal deficit and/or high-powered money. But, **Parida, et al** (2001), using vector autoregression (VAR) econometric methodology for the period 1960-61 to 1999-2000 for India, find that fiscal deficits and money supply are both influenced by each other and further that the price level does not influence either the fiscal deficit or money supply but rather is being influenced by both the variables.

¹⁸ Aghevli, B. and Khan, M. S. (1978), p. 409

An observation on the trend of fiscal deficit and overall inflation in India since 1992 (as given in the table and the figure below) shows that both tend to move almost in the same direction barring a few years such as the years 2001-02 and 2008-09. The fiscal year 2001-02 witnessed an unprecedented decline in headline inflation because of certain favourable supply side factors. The effect of the rise in prices of the fuel group experienced during 2000-01, due to an increase in administered prices of fuel products evened out during 2001-02. The annual price rise in the manufactured sector remained negligible during the year 2001-02 and was only 0.1 percent at the week ended January 19, 2002. The price rise in the primary products group also remained mild during the year, causing overall deceleration in the inflation rate in the fiscal year 2001-02. The decelerating trend further got added by the record public stocks of foodgrains with the Food Corporation of India (58 million tonnes in January 2002) together with the policy of active private trade accorded stability to prices of foodgrains. Prices of other essential commodities like sugar, salt, some pulses, tea, milk, coarse cereals, chillies and coconut oil also remained low for much of 2001-02 compared to last year. Besides, the large shortfall in domestic availability of commodities like edible oils and pulses was met through liberal imports of these essential commodities. The downward trend in inflation was further added by a good agricultural performance of kharif 2001-02.

The Fiscal Responsibility and Budget Management Act was passed in 2003 and implemented from 2004. So the government remained very much attentive towards fiscal prudence by adopting the path of a disciplined fiscal policy. This was the reason that a declining trend in fiscal deficit can be observed since 2003-04 onward. But the trend got reversed in 2008-09 because of the adverse global economic scenario that arose during 2007 and 2008 due to the sub-prime mortgage crisis in the USA. The government went for some fiscal stimulus measures to combat the recessionary trend engulfing the global as well as Indian economy. The year, therefore, witnessed a substantial increase in fiscal deficit but prices remained very low because of recessionary trend in the economy due to the global economic slowdown.

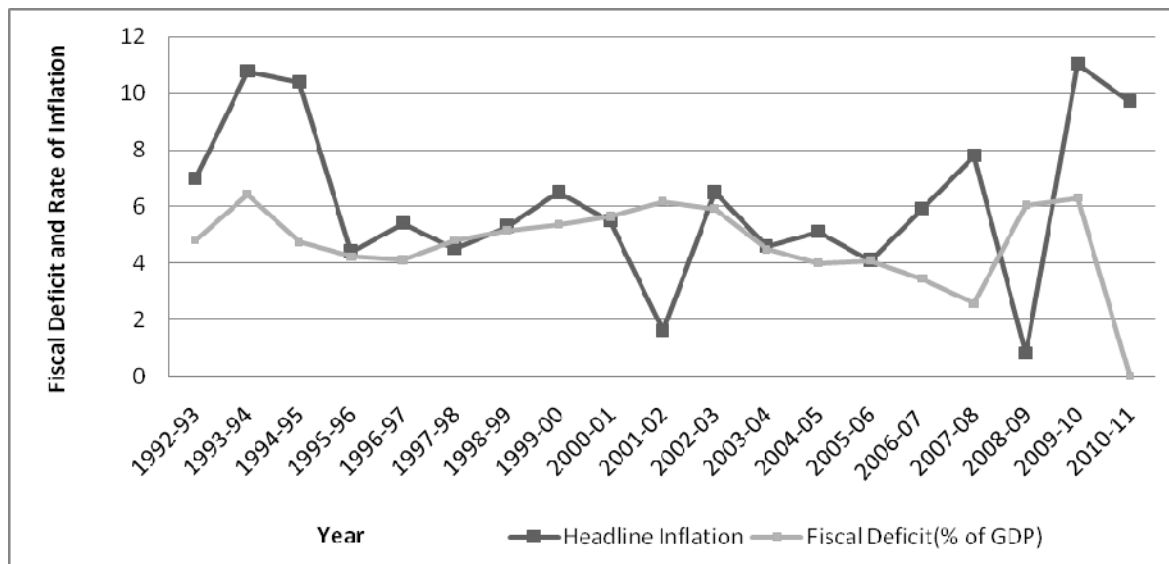
There is a perceptible relationship between fiscal deficit and inflation in India. **Khundrakpam et al** (2010), through an empirical study show that one percentage point increase in the level of the fiscal deficit could cause as much as 0.6 percentage point increase in WPI. They also show that high fiscal deficit in India may not only exert pressure on actual inflation but also condition inflation expectations.

**TABLE NO. 6: FISCAL DEFICIT AND HEADLINE INFLATION IN INDIA SINCE
1992**

Years	Fiscal Deficit (% of GDP)	Headline Inflation (%)
1992-93	4.8	7
1993-94	6.4	10.8
1994-95	4.7	10.4
1995-96	4.2	4.4
1996-97	4.1	5.4
1997-98	4.8	4.5
1998-99	5.1	5.3
1999-00	5.4	6.5
2000-01	5.7	5.5
2001-02	6.2	1.6
2002-03	5.9	6.5
2003-04	4.5	4.6
2004-05	4.0	5.1
2005-06	4.1	4.1
2006-07	3.5	5.9
2007-08	2.6	7.8
2008-09	6.0	0.8
2009-10	6.3	11.0
2010-11	4.84	9.7

Source: Office of the Economic Advisor, Ministry of Commerce and Industry and various Economic Surveys, Government of India

FIGURE 4. FISCAL DEFICIT AND INFLATION IN INDIA SINCE 1992 (IN PER CENT)



Role of Expectations in Overall Inflation

Inflationary expectations have an important role in shaping inflation. Once economic agents such as firms & households start expecting inflation, they start factoring it in wage agreements, and hence prices of final products, which in turn leads to further inflation. Empirical studies also indicate that high and climbing inflation could easily seep into people’s anticipation of future inflation and linger. As per the RBI’s latest survey, ‘Inflation Expectations Survey of Households’, respondents expected year end 2011 inflation to be 13.1%. The petrol price hike might lead to increase of inflationary expectations, especially given the sensitive nature of the product. Inflation expectations actually need to be anchored at a low and moderate level, as rising prices beyond a point feed on themselves.

Inflation expectations have for long been regarded as occupying a central role in the analysis of monetary policy and business, at least since Milton Friedman’s presidential address to the American Economic Association in 1968. How much do expectations matter, what are their characteristics – whether they are adaptive or rational - , how to measure them,

how quickly they respond to policy changes are some of the many facets of the intense debate that has coursed through the literature. On each of these issues, there is considerable disagreement and this has spurred the widening search for better techniques and methods of information acquisition and processing.

In the post-reform period, expectations regarding prices have started to play a significant role in determining inflation in India. It was because of this urgency that since September 2005, the RBI conducts a quarterly inflation expectations survey of households for its internal monitoring. The survey covers 4,000 households using quota sampling, across 12 cities across the four regions of the country. The survey design is purposive and the respondents are chosen in such a way that there is a good geographical and gender representation. The survey seeks (i) qualitative responses on price changes (general prices as well as prices of specific product groups) in the next three months and the next one year and (ii) quantitative responses on current, three month ahead and one year ahead rates of inflation. But, the biggest problem is how to measure it. Different people have different understandings of what inflation is and what it is likely to be. *“Nevertheless, at the cost of broad generalization, there are three main approaches to estimating inflation expectations - inflation-indexed government bonds with implied inflation expectations being the difference between the yield on an ordinary bond and the yield on an inflation-indexed bond with the same maturity; inflation swaps which provide a hedge against inflation risk which is reflected in the premium; and surveys which derive gauges of inflation expectations by asking people what they think, especially when there are perceived problems with the manner in which financial markets signal inflation ahead.”*¹⁹

CONCLUSION

An assessment of the inflation record of India since the reform process started on a large scale i.e. from 1991 reveals that the trend of inflation can broadly be classified into two categories. One category consists of the periods which is largely characterised by stability in the rate of inflation. This category refers to the periods of 1995-96 to 2000-01 and 2002-03 to 2007-08. During these periods, the annual WPI headline inflation remained largely stable around 5 per cent. The remaining periods which fall in the second category seem to have

¹⁹ Patra, M.D. and Partha, R. (2010), p.8

experienced very volatile prices in which most of the periods experienced an inflation of even more than 10 per cent. Periods between 1992-93 to 1994-95 and 2008-09 to 2010-11 come under this category. The first instance of volatility and a very high inflation between 1992-93 and 1994-95 arose because of the domestic macroeconomic crisis which started with balance of payments crisis during 1990-91. The second phase of 2008-09 to 2010-11 started with a very low inflation and the factor responsible was the global economic slowdown. Later on the rate of inflation remained very high during this period mainly because of very high food and fuel inflation.

As far as the causes of inflation in India are concerned, supply shocks both due to a setback in agricultural production and international oil prices, and monetary expansion due to automatic monetisation of the fiscal deficit were the major contributory factors to higher inflation. Later on gradually rising stock of foreign exchange reserves also contributed to inflationary pressure in the domestic price level of India. It can be noticed that apart from the traditional supply side forces in the form of agricultural production and fuel prices, the external forces such as inflow of foreign capital, global macroeconomic scenario, etc. also have significantly contributed to inflation in India. This has become possible mainly because of the growing integration of Indian economy with the rest of the world in reform period.

Chapter Four

INFLATION CONTROL MEASURES IN INDIA SINCE 1991

The phenomenon of inflation needs to be taken very seriously as it has adverse impacts on the real economy. A high and persistent inflation imposes significant socio-economic costs. A high inflation by itself can lead to distributional inequality as the burden of inflation is disproportionately large on the poor. Therefore, for a welfare-oriented economic policy, low inflation becomes a critical element for ensuring balanced progress. Moreover, high inflation distorts economic incentives by diverting resources away from productive investment to speculative activities. It reduces household savings as they try to maintain the real value of their consumption. This further leads to fall in overall investment in the economy and subsequently reduces its potential growth. As inflation rises beyond a threshold level, it has adverse impacts on overall growth. The Reserve Bank of India currently considers the threshold level of inflation for India to be in the range of 4-6 percent. If inflation persists beyond this level, it could lower economic growth over the medium-term.

Inflation in India is caused by multiple numbers of factors. Though supply side factors are dominant, demand side factors also influence inflation significantly. So, there is a need to have multi-pronged approach towards dealing with this phenomenon. In a rapidly growing developing economy like India, both structural and idiosyncratic factors could play a significant role in the determination of inflation. Since 1991, India has gradually become an outward looking economy. Activities in almost all the sectors in varying degrees are influenced by global factors, be it trade in commodities, provision of services, financing conditions, or consumers' preferences. Consequently, domestic prices are more influenced by changes in global commodity prices for a wide range of goods signifying a remarkable change from the 1970s and 1980s when crude prices were major global influencing factors. So, the policies adopted in India, to deal with the problem of inflation, have gone through a remarkable change and is influenced more by international considerations.

This chapter aims at presenting a critical examination of different policies adopted by the government in the post-reform period to deal with the issue of inflation and stabilising prices. It involves a critical examination of monetary and fiscal policies as well as the policies related to distribution, export-import and the measures aimed at improving supply situation.

MONETARY MEASURES

In a developing country like India, the central bank is not expected to be very rigid about the quantity of money. It should normally follow a policy of controlled expansion of money supply. Judging by this criterion the, the policies of the Reserve Bank of India does not seem to be satisfactory. Over the years while meeting the demand for money made by the Central Government for meeting its budgetary deficits the RBI has actively contributed to creating inflationary pressures in the economy. Only when the price situation appeared to be somewhat out of control, it undertook various monetary control measures in a somewhat ad hoc manner for preventing further rise in prices.

As per macroeconomic principles, an inflationary trend requires a policy of monetary tightening and a deflationary trend warrants monetary expansion. *“In a standard textbook sequence, monetary expansion reduces interest rates and augments aggregate demand through increase in investment and consumption spending. This increase in aggregate demand exerts a temporary influence on real output, while the upward pressure on prices is presumed to be of a permanent nature. In a similar fashion, monetary tightening leads to reduction of prices and a temporary output loss”*.²⁰

Among monetary measures, the tools adopted by the RBI are variations in its five policy rates including CRR, SLR, bank rate and the two short-term rates called repo rate and reverse repo rate covered under the Liquidity Adjustment Facility (LAF) of the RBI, open market operations and Market Stabilisation Scheme (MSS). It has been customary for RBI to announce a set of measures of both short-term and structural nature in the two bi-annual statements on monetary and credit policy normally released in April and October of each year.

Policy rates of the RBI²¹

Policy rates of the RBI include bank rate, CRR, SLR, repo rate and reverse repo rate. If there is inflationary trend in the economy, the RBI increases its policy rates to reduce the supply of money in the economy and to curb inflationary trend but simultaneously ensuring that growth

²⁰ Samantaraya, Amaresh (2009), p.46

²¹ The description on different policy rates of the RBI and changes in them have been taken from different issues of the Economic Survey, Government of India.

objectives are not compromised. Before the process of economic reforms started in 1991, the RBI heavily relied on the instruments like bank rate, cash reserve ratio (CRR) and statutory liquidity ratio (SLR). On account of institutional deficiencies, open market operations were not undertaken to combat inflationary pressures. The CRR was 15 per cent in July 1989, the SLR was raised upto 38.5 per cent in September 1990 and the bank rate was as high as 12 per cent in October 1991. Later on, on the recommendations of the Narasimham committee, the government abandoned the policy of relying on CRR and SLR to control inflation. The RBI accordingly reduced both CRR and SLR in a phased manner. The objective behind reducing SLR was to make Government securities an attractive instrument for banks and financial institutions to hold voluntarily. *“The phased reduction of the SLR is designed to bring down the level of pre-emption of resources by the Government at below market rates. This is accompanied by an effort to make Government securities an attractive instrument for banks and financial institutions to hold voluntarily”*²².

During 1993-94, monetary policy and financial sector reforms continued with reductions in both cash reserve ratio and statutory liquidity ratio. SLR was brought down by three percentage points for total and five percentage points for incremental net demand and time liabilities of the scheduled commercial banks. CRR was also reduced by one percentage point. CRR was reduced from 15 per cent to 14.5 per cent effective April, 1993 and further to 14 per cent effective May 15, 1993. The SLR was reduced from 37.75 per cent at the beginning of 1993-94 to 37.25 on September 18, 1993. During 1994-95, the basic objective of monetary policy was to bring about a reduction in inflation rate which had increased 7.2 per cent in March 1993 to 10.8 per cent at the end of March 1994. So, the CRR was increased from 14 per cent to 15 per cent in three phases from June to August, 1994. This was also done to meet the monetary pressures arising from large capital inflow. Average effective SLR declined from 29.5 per cent in March 1995 to 28.7 per cent in September 1995.

The monetary and credit policy for 1997-98 sought to target broad money growth in the range of 15.0 -15.5 per cent on the basis of a projected real GDP growth rate of about 6 per cent and an assumed inflation rate of the same order. The CRR was reduced by two percentage points in eight phases of 0.25 percentage point each. The CRR was reduced to 10 per cent with effect from the fortnight beginning April 11, 1998. However, effective from

²² Economic Survey, 1993-94, p. 36

August 29, 1998, the CRR was raised by 1 percentage point to 11 per cent. In October 1997 the multiple SLR prescriptions were replaced by a single uniform SLR of 25 per cent for entire net demand and time liabilities (NDTL) of the scheduled commercial banks. The Bank Rate was increased by 2 percentage points to 11 per cent with effect from the close of business on January 16, 1998. However, this measure was designed to address specifically the unusual movements in the foreign exchange market. The RBI subsequently reviewed the monetary and credit situation and reduced the Bank Rate to 10.5 per cent and 10.0 per cent with effect from the close of business on March 18, 1998 and April 2, 1998 respectively. The monetary and credit policy announced on April 29, 1998 further reduced the Bank Rate to 9 per cent.

The financial sector reforms announced as part of the monetary and credit policy for 1999- 2000 included the interim liquidity adjustment facility (ILAF) through repos and lending against collateral of Government of India Securities and introduction of rupee derivatives to enable market players to hedge interest rate risks. In order to ensure adequate liquidity for promoting industrial revival, the policy statement also announced reduction in CRR to 10 per cent with effect from the fortnight beginning May 8, 1999. The mid-term review of monetary and credit policy for 1999-2000 announced further reduction in CRR by 1 percentage point in two phases involving half-a-percentage point reduction each with effect from the fortnights beginning November 6 and November 20, 1999 respectively.

The most important policy development of the financial year 2000-01 was implementation of full-fledged **Liquidity Adjustment Facility (LAF)**. The LAF was to operate through reverse repo auctions, i.e. the sale of government securities from RBI portfolio for absorption of liquidity and repo auctions, i.e. buying of government securities for injection of liquidity on daily basis. Over the years, repo rate and reverse repo rate have become the most important monetary policy instruments of the RBI for managing liquidity and dealing with inflation in India. Keeping in view the decline in inflation rate as well as the importance of lower real interest rates in accelerating industrial growth and boosting India's competitiveness abroad, RBI announced on April 1, 2000, reduction of bank rate from 8 per cent to 7 per cent, CRR from 9 per cent to 8 per cent and repo rate was fixed at 5 per cent. In April 2004, one more significant monetary policy initiative was **Market Stabilisation Scheme (MSS)**. It was introduced to provide the RBI with an additional instrument of liquidity management and to relieve the LAF from the burden of sterilisation operations. The

MSS is an arrangement between Government of India and the RBI to mop up excess liquidity generated due to accretion of foreign exchange assets of the Bank to neutralise the monetary impact of capital flows.

Going on the path of phased reduction of CRR and SLR, the SLR was brought down to 24 per cent by November 2008. The CRR was reduced to 4.5 per cent by June 2003. The bank rate had been reduced to 6 per cent with effect from May 2003. However, to check liquidity overhang in the system, the RBI raised the CRR to 5 per cent in two phases in October 2004. Then it remained constant till 2006. Cash Reserve Ratio (CRR) was also raised by 25 basis points on four occasions during the year, thereby bringing it to 6 per cent on March 3, 2007. During financial year 2007-08, in the backdrop of increased capital inflows, changes in the policy rates mainly involved the cash reserve ratio (which was increased by 150 basis points from 6.0 per cent as it prevailed on April 1, 2007 to 7.5 per cent w.e.f. November 10, 2007); the repo rate at 7.75 per cent and the reverse-repo rate at 6.0 per cent were left unchanged. CRR has been used extensively as a measure to control inflation in this country. It was raised to 9 per cent in August 2008. However, it was again reduced in phases to 5 per cent by January 2009 in an attempt to revive the demand which had suffered setback due to economic slowdown in 2008-09.

The liquidity constraint that had emerged consequent to the global financial crisis, led the RBI to maintain an accommodative monetary policy stance since September 2008 which continued during 2009-10. The slew of measures introduced after September 2008 to enhance liquidity position in the system included a series of downward revisions in policy rates covering repo rate, reverse repo rate, CRR and SLR, along with providing specified windows for accommodating distressed sectors. These measures had a salutary effect on the overall liquidity situation. Though the policy during 2009-10 continued with the accommodative stance, the monetary authority reviewed the emerging economic situation from time to time. Keeping in view the comfortable liquidity position, the SLR was restored to its earlier level of 25 per cent of NDTL with effect from November 7, 2009.

The stance of monetary policy as announced by the Reserve Bank of India in its various annual policy statements has been to ensure the provision of adequate liquidity to meet credit growth and encourage investment and export demand in the economy while keeping a very close watch on the movements in the price level and to pursue an interest rate

environment that is conducive to maintaining the momentum of growth and macroeconomic stability. But, inflation has always been the most important factor determining monetary policy stance of the RBI. This can be noticed from the fact that despite being the situation of sluggish growth rate in the economy due to gloomy business environment and higher rate of interest, the RBI raised policy rates 13 times since March 2010. This was because towards the second half of 2009-10, inflationary pressure started building up in the economy and in March 2010, the inflation rate was as high as 10.06 per cent. Therefore, the RBI raised the CRR in stages. In April 2010, CRR was raised to 6 per cent.

The measures including 13 consecutive increases in policy rates of the RBI helped contain inflation and anchor inflationary expectations, although both remained at elevated levels. The task appeared to be difficult due to supply-side factors contributing to food inflation, low interest rates and repeated liquidity injections by industrial nations battling recessionary tendencies, and rise in international commodity prices. High inflation and some of the measures to control liquidity had also had detrimental effect on growth in the short run. The priority, however, had been to control rise in price level so that long-term growth prospects are not affected. With inflation projected to follow a downward trend and downside risks to growth increasing, the RBI in the Third Quarter Review of Monetary Policy 2011-12 on 24 January 2012, lowered the Cash Reserve Ratio (CRR) by 50 bps from 6.0 per cent to 5.5 per cent of net demand and time liabilities (NDTL) of scheduled banks to ease the liquidity situation in the banking system and revive growth. Repo rate and reverse repo rate remained unchanged at 8.5 per cent and 7.5 per cent, respectively.

Open Market Operations

The liquidity adjustment facility (LAF) combined with open market operations (OMO) emerged as a major tool of liquidity management in the economy. The shift towards indirect instruments has provided the monetary authority with greater flexibility in the conduct of monetary policy. Indirect instruments have also enabled the RBI to promptly respond to emerging situations without any major shift in policy. The indirect instruments rely more on market forces and help in the development of the financial market. OMOs are conducted by the RBI via the sale/purchase of government securities to/from the market with the primary aim of modulating rupee liquidity conditions in the market. OMOs are an effective

quantitative policy tool in the armoury of the RBI, but are constrained by the stock of government securities available with it at a point in time.

Since 1992-93 there was a steep rise in foreign exchange reserves with the RBI which impacted on the composition of reserve money. This had potential consequences for domestic monetary expansion and inflationary pressure. The RBI thus chose to contain monetary expansion through sterilisation of accumulated reserves via open market operations where it sold government securities. The net sales open market operations of the RBI during 1993-98 amounted to Rs. 27,782 crore. In 1998-99, the net sales open market operations of the RBI amounted to Rs. 29,669 crore which were larger than the net sales open market operations of the previous five years combined. The net sales open market operations of the RBI rose to Rs. 42,262 crore in 1999-00 but declined to Rs. 27, 164 crore in 2000-01.

With the objective of more effective liquidity management and to ensure a non-disruptive market borrowing programme of the Government, the scope of the OMO was widened with effect from February 19, 2009 by including purchases of government securities through an auction-based mechanism in addition to purchases through the negotiated dealing system-order matching (NDS-OM) segment. In March only of 2009, the OMO purchases through auctions and NDS-OM were placed at Rs. 41, 640 crore and Rs. 4,475 crore respectively.

Inflation Targeting

Inflation targeting has gradually evolved as a significant monetary policy framework in both developed and developing economies. Some experts have argued that for developing economies undergoing sustained financial liberalization and integration in world financial markets, inflation targeting is an attractive monetary policy framework. Inflation targeting is an economic policy in which a central bank estimates and makes public a projected or target inflation rate and then attempts to steer actual inflation towards the target through the use of interest rate changes and other monetary tools. *“However, in practice, the central bank is assigned a socially optimal inflation target by the government to be achieved in the medium term while the bank has the freedom to choose the instruments”*²³. Decision makers in India have advocated that an inflation rate of around 6 per cent should be made the goal of

²³ Singh, Kanhaiya (2006), p. 2958.

monetary policy and should be seen as consistent with price stability. For example, C. Rangarajan has argued that, “ *keeping the price and growth objectives in view, the money supply growth should be so modulated that the inflation rate comes down initially to 6 to 7 per cent and eventually to 5 to 6 per cent. That indeed must be the goal of monetary policy.*”²⁴

EVALUATION OF MONETARY POLICY IN INDIA

Growing integration of Indian economy with the rest of the world has exposed it to several vulnerabilities of international market. Recent macroeconomic crises present the best examples of this vulnerability. Since 1991, domestic prices in India are influenced more by international factors such as rise in international crude prices, rising commodity prices in international market, etc. Monetary policies, therefore, in dealing with inflation in India, does not provide an effective solution to the problem. The monetary policies adopted by the RBI has been criticised on several grounds.

One of the shortcomings of Indian monetary policy is its too much pre-occupancy with inflation management. Several authors have questioned the rationale of monetary policy of RBI of having inflation as its primary target and caring less about economic growth. “*The current day orthodoxy of central banking -- namely, that the top priority goal for central banks is to keep inflation in the low single digits – is, in general, neither optimal nor desirable. This orthodoxy is based on several false premises: first, that moderate rates of inflation have high costs; second, that in this low inflation environment, economies will naturally perform best, and in particular, will generate high levels of economic growth and employment generation; and third, that there are no viable alternatives to this "inflation-focused" monetary policy. In fact, moderate rates of inflation have very low or no costs; countries where central banks have adopted formal or informal inflation targeting have not performed better in terms of economic growth or employment generation and even the impacts of these regimes on inflation itself is a matter of dispute. And there are viable alternatives to inflation targeting, historically, presently, and looking forward*”²⁵

²⁴ Quoted in Reddy, Y. V. (2000), p.49

²⁵ Epstein, Gerald and Yeldan, Erinc (2007), p. 21.

There are a wide range of literature and empirical studies suggesting that inflation in India is a supply driven phenomenon which cannot be dealt with by demand management as is done by monetary policies in India. Factors responsible for rising domestic prices in India are not monetary. Shortage of supply of foodgrains in some year leads to inflationary rise in food prices. Almost 80 per cent of our requirement of crude oil is met by imports. So, if there is rise in international crude prices, it gets reflected in increase in wholesale price index of India. This leads not only to rise in fuel prices, fuel being one of the biggest determinants of transportation costs; it also leads to higher cost of production and subsequent rise in product prices. All these supply side factors work together to push up headline inflation. So, an ideal solution to the problem of inflation here rests in increasing the supply of these items rather than curtailing their demands. Monetary policy, therefore, does not provide an acceptable solution to inflation under these circumstances. It is regressive to target demand when supply is the devil. It has dampening impacts on growth by curtailing aggregate demand.

Whenever there is inflation in the economy, the RBI goes for monetary squeeze. So, it increases its policy rates. But, higher policy rates and constrained money supply work together to increase market rate of interests and thus discourage private investment in the economy. This further leads to slowdown in an economy and decline in economic growth. Current situation on Indian economy substantiate this claim. Because of 13 consecutive rise in the policy rates of the RBI, the market rate of interest increased leading to decline in investment and growth rate. *“Domestic factors, namely the tightening of monetary policy, in particular raising the repo rate in order to control inflation and anchor inflationary expectations, resulted in some slowing down of investment and growth, particularly in the industrial sector.”*²⁶ The GDP growth rate of India was only 5.3 per cent in March, 2012, which happens to be nine-year low. This is because the *“rate of gross fixed capital formation has declined to less than half of the more than 15 percent growth registered during the pre-global economic crisis period of 2008-09”*²⁷.

Moreover, Indian economy has got more and more integrated with the rest of the world economy since 1991. So, a major fraction of fluctuations in WPI (which is actually used in India as a measure of inflation) is because of the fluctuations in international prices of

²⁶ Economic Survey, 2011-12, Government of India, p. 3

²⁷ Subbarao, D. (2012), in a speech delivered at 104th annual general meeting of Indian Merchants' Chamber.

the commodities like metals, steel, etc. Domestic inflation due to rise in the prices of these commodities in international market is apparently not because of mismatch in domestic demand and supply conditions. So, targeting domestic demand by adopting contractionary monetary policy signifies an inappropriate diagnosis of the malady. *“The domestic WPI is thus strongly influenced by the fluctuations of global prices of tradable and the fluctuations of the rupee. Domestic monetary policy has no impact on global tradables prices. In addition, now that India has moved towards a flexible exchange rate policy, domestic monetary policy does not involve an administrative control of the exchange rate”*.²⁸

Many authors have argued against the policy of inflation targeting in India. Rakesh Mohan (2006) has argued that a single objective for monetary policy in the form of inflation targeting is a luxury that India cannot afford, at least over the medium term. *“Apart from the legitimate concern regarding growth as a key objective, there are other factors that suggest that inflation targeting may not be appropriate for India. First, unlike many other developing countries we have had a record of moderate inflation, with double digit inflation being the exception, and which is largely socially unacceptable. Second, adoption of inflation targeting requires the existence of an efficient monetary transmission mechanism through the operation of efficient financial markets and absence of interest rate distortions. In India, although the money market, government debt and forex market have indeed developed in recent years, they still have some way to go, whereas the corporate debt market is still to develop. Though interest rate deregulation has largely been accomplished, some administered interest rates still persist. Third, inflationary pressures still often emanate from significant supply shocks related to the effect of the monsoon on agriculture, where monetary policy action may have little role. Finally, in an economy as large as that of India, with various regional differences, and continued existence of market imperfections in factor and product markets between regions, the choice of a universally acceptable measure of inflation is also difficult”*²⁹.

Moreover, the inflation targeting framework reduces the flexibility available to a central bank in reacting to a central bank in reacting to shocks. Not only this, inflation targeting has not been found to have any beneficial effect on the level of long term interest

²⁸ Patnaik, Ila, Shah, Ajay and Veronese, Giovanni (2011), p. 58

²⁹ Mohan, Rakesh (2006), p. 22

rates either. Empirical experience of a number of emerging market economies shows that the deviation of inflation from its targets has been large and common in them. Accordingly inflation targeting by itself is not a condition for success. *“In view of the above, the characterisation (by some) of inflation targeting as being the gold standard for stabilising monetary policy is misleading”*³⁰. Thus, in Rakesh Mohan’s opinion (2010), it would be a better policy to retain multiple objectives of monetary policy. This is what the RBI did in 1997 by introducing LAF and moved on the path of having multiple objectives of monetary policy since 1998 [Samantaraya, 2009].

But despite these weaknesses, monetary policy is widely considered as the most effective instrument of curbing inflation in the short-run. In the long-run, the macroeconomic implications of stable prices are far more advantageous than the cost incurred due to fall in growth rate in the short-run which occurs due to contractionary monetary policies. *“Since monetary policy operates largely through demand compression in the short run, the expectation is that this policy will in fact bolster long-run growth”*³¹

A better feel for the aggregate impacts of monetary policy comes from an economy-wide analysis. Kanhaiya Singh and K.P. Kalirajan have provided one of the most sophisticated and recent empirical exercises. They modelled the responses of the economy to changes in RBI policy variables, and the RBI’s own reactions to changes in economic conditions such as inflation and growth. In their model of the Indian economy, a positive shock to the interest rate results in a sharp decline of real broad money demand followed by an initial fall in output (growth), a fall in inflation, and a depreciation of the rupee. This suggests that the interest rate is an effective inflation-fighting tool in India even though, as the authors say, *“the financial market in India is not yet matured.”*³²

FISCAL MEASURES

Whereas monetary policy deals with the supply of money in the economy and the rate of interest, fiscal policy deals with the taxation and expenditure decisions of the government. In most modern economies, the government deals with fiscal policy while the central bank

³⁰ Ibid., p. 23.

³¹ Economic Survey, 2011-12, p. 3

³² Singh and Kalirajan (2006), p. 183.

undertakes the responsibility of monetary policy. “*Fiscal policy is composed of several parts. These include, tax policy, expenditure policy, investment or disinvestment strategies and debt or surplus management*”³³. Fiscal policy is an important constituent of the overall economic framework of a country and is therefore intimately linked with its general economic policy strategy.

Fiscal policy and monetary policy tend to interact with each other. Fiscal policy feeds into economic trends and influences monetary policy. Surplus arises when the government receives more than it spends. When the government spends more than its receipts, it results into deficits. So, to meet the additional expenditures, the government borrows from domestic or foreign sources, draws upon its foreign exchange reserves or prints an equivalent amount of money. This, consequently, tends to influence other economic variables. Generally, excessive printing of money results into inflation. When the government draws down on its foreign exchange reserves, a balance of payments crisis may arise and when it borrows too much from abroad it leads to a debt crisis. Excessive domestic borrowing by the government may lead to higher real interest rates which may crowd out private domestic investment. Sometimes a combination of these two can occur. It has been empirically proved that the impact of a large deficit on long run growth and economic well-being is negative. Therefore, it is not considered economically prudent for a government to go with an unduly large deficit. However, in case of developing countries, where the need for infrastructure and social investments may be substantial, it is sometimes argued that running surpluses at the cost of long-term growth might also not be wise (**Fischer and Easterly, 1990**). The challenge then for most developing country governments is to meet infrastructure and social needs and simultaneously maintain macroeconomic stability and foster long-term growth.

A Brief Overview of Fiscal Policy since 1991

Following the balance of payments crisis of 1991 and a very high inflation, the country commenced on a path of economic liberalisation whereby the private sector was encouraged, the system of quotas and licences were dismantled and the economy was opened up to foreign investment and trade. Fiscal policy was accordingly re-oriented to be in coherence

³³ De, Supriyo (2012), p. 4

with these changes. The Tax Reforms Committee constituted under Kelkar provided a design for reforming both direct and indirect taxes. Its primary focus was to increase the share of domestic consumption taxes by converting the excise into a VAT, reduce the proportion of trade taxes in total tax revenue and enhance the contribution of direct taxes to total revenue. Its recommendations included reduction in the rates of all major taxes, minimizations of exemptions and deductions, simplifications of laws and procedures, improvement of tax administration and increase in computerisation and information system modernisation (**Rao and Rao, 2006**).

Though, fiscal policy can be effectively employed for checking inflation, their effectiveness in underdeveloped countries is, however, much less.. In western countries due to built-in-flexibility, manipulations in public expenditure, taxation and public debt give the desired results. Nonetheless, fiscal tools have been employed by the government in India for curbing the inflationary price rise. First, the government has often claimed that it has always attempted to keep its non-developmental expenditure within reasonable limits. The developmental expenditure has, however, been allowed to increase rapidly as it assists in expanding the growth potential of the economy. Secondly, various tax incentives have been provided to producers in the private sector. These measures are expected to improve the supply position in course of time. Finally efforts are being made to avoid deficit financing as far as possible. These claims made by the government are often disputed by the experts. In the face of steadily growing public expenditure and increasing reliance on deficit financing, it is difficult to believe that the Government has effectively employed all the available fiscal tools for curbing inflation. However, the budget for 1991-92 made an attempt to eliminate fiscal imbalance by bringing down fiscal deficit of the central government from 7.8 per cent to 5.5 per cent of GDP. It seems that there was some laxity in pursuing this approach thereafter. Thus, in 1993-94, fiscal deficit once again rose to a high level of 7 per cent of GDP and stood at 6.2 per cent of GDP in 2001-02 and 5.9 per cent of GDP in 2002-03.

The Government adopted the **Fiscal Responsibility and Budget Management Act**³⁴ (FRBM Act) in 2004 and committed itself to bring down the fiscal deficit. *“This Act gave a medium term target for balancing current revenues and expenditures and set overall limits to the fiscal deficit at 3 percent of GDP to be achieved according to a phased deficit reduction*

³⁴ The FRBM Act was passed in 2003 only but it was implemented in 2004.

roadmap. The FRBMA enhanced budgetary transparency by requiring the government to place before the Parliament on an annual basis reports related to its economic assessments, taxation and expenditure strategy and three-year rolling targets for the revenue and fiscal balance. It also required quarterly progress reviews to be placed in Parliament. A large number of state governments also brought out their own fiscal discipline legislations”³⁵. Thus, moving on the path of mandatory fiscal consolidation, the Central Government brought down its fiscal deficit to 4 per cent in 2005-06, 3.3 per cent 2006-07 and further to 2.6 per cent in 2007-08. Because of economic slowdown in 2008-09 following global recession, the Government of India announced various fiscal stimulus packages involving massive public expenditure programmes in this year to boost economic recovery. As a result, fiscal deficit of the Central Government rose to as high as 6 per cent of GDP in 2008-09. The fiscal deficit rose further to 6.3 per cent of GDP in 2009-10. After that because of withdrawal of some of the fiscal stimulus packages, the deficit came down to 4.8 per cent in 2010-11 which further declined to 4.6 per cent in 2011-12.

Fiscal policy aimed at curbing inflation in India has been focused not only on reducing deficit but also on giving tax concessions on certain importable items in order to improve their supply condition. This is because inflation in India has been a supply-driven phenomenon. So, occasional tax concessions on certain essential import items provided some useful respite from inflationary trend in Indian economy. Since 1991, two initial financial years 1993-94 and 1994-95 experienced a very high inflation. After that inflation rate remained more or less moderate till 2008-09. So, there was no any significant anti-inflationary fiscal measure taken during this period apart from the FRBM Act which aimed at ensuring overall fiscal stability. It was the year 2009-10 which started with a very high inflation mainly driven by very high food inflation. So, along with monetary policy, the government took some fiscal measures also. For example, the Government of India took following anti-inflationary fiscal measures during 2009-10, when headline inflation was more than 10 per cent mainly because of shortage of food items.³⁶

³⁵ De, Supriyo (2012), p. 6

³⁶ Economic Survey, 2009-10, p. 74.

- Reduced import duties to zero—for rice, wheat, pulses, edible oils (crude) and sugar; and for maize (under TRQ of 5 lakh tonnes per annum, beyond which 15 per cent duty will apply);
- Reduced import duties on refined and hydrogenated oils and vegetable oils to 7.5 per cent;
- Allowed import by sugar mills of raw sugar at zero duty under open general licence (OGL) up to August 1, 2009 (notified on April 17, 2009). This has since been extended to December 31, 2010.
- Allowed import of white/ refined sugar by STC/MMTC/PEC and NAFED up to 1 million tonnes by August 1, 2009 under OGL at zero duty (notified on April 17, 2009). This has since been extended up to March 31, 2010. Furthermore, the duty-free import of white/refined sugar under OGL has been opened to other Central/ State Government agencies and to private trade in addition to existing designated agencies.
- Removed levy obligation in respect of all imported raw sugar and white/ refined sugar.

The financial year 2010-11 also was experiencing a very high inflation of more than 9 per cent which necessitated following two fiscal measures during that year.³⁷

- Import duties were reduced to zero on rice, wheat, pulses, edible oils (crude), butter, and ghee and to 7.5 per cent on refined and hydrogenated oils and vegetable oils;
- Import of raw sugar was allowed at zero duty under open general license (OGL).

Though there was a little moderation in inflation during 2011-12, still it was high enough to generate inflationary expectations in the economy. Seeing this situation, along with monetary measures, the government took following fiscal measures³⁸.

- Reduced import duties to zero for rice, wheat, onion, pulses, edible oils (crude) and to 7.5 per cent for refined and hydrogenated oils and vegetable oils.

³⁷ Economic Survey, 2010-11, p. 80.

³⁸ Economic Survey, 2011-12, p. 88.

- Permitted National Dairy Development Board (NDDB) to import 50,000 tonnes of skimmed milk powder and whole milk powder and 15,000 MT of butter, butter oil, and anhydrous milk fat at zero duty under tariff rate quota.
- Permitted the State Trading Corporation of India (STC)/Minerals and Metals Trading Corporation (MMTC)/Project Equipment Corporation (PEC) and National Agricultural Cooperative Marketing Federation of India (NAFED) to import duty-free white/refined sugar initially with a cap of 1 million tonnes. Later duty-free import was also allowed by other central / state government agencies and private trade without any cap on quantity.

EVALUATION OF ANTI-INFLATIONARY FISCAL MEASURES IN INDIA

Inflation in India is primarily a supply-driven phenomenon. It arises mainly because of shortage of certain essential goods such as food items, crude oils, etc. So, the fundamental solution to this problem lies in improving supply situation of these essential items. In this respect, fiscal policy can be considered a more effective tool of inflation control than monetary policy. This is because it works for supply management also along with demand management. The fiscal measures enlisted above in the preceding section are basically supply management measures. They are aimed at increasing the supply of those essential commodities which tend to make domestic prices very sensitive due to variations in their supply.

Apart from these short-term supply improving measures which aim at unleashing supply of some commodities from the existing production of world market, fiscal measures have certain long-term implications also. Fiscal policies involving increase in productive public expenditure on infrastructural development, development of agriculture, oil exploration, development of non-conventional sources of energy, etc. help in improving supply of required goods and suppress inflationary tendencies of future. Government of India has taken many steps in this area. For example, there has been substantial increase in public expenditure in agriculture to increase the production of foodgrains by introducing the schemes the like National Food Security Mission (NFSM), Rashtriya Krishi Vikas Yojana (RKVY), Bringing Green Revolution in Eastern States (BGRES), etc. Similarly, expenditures on alternative sources of energy such as nuclear energy, wind energy, hydel power, etc can

help in reducing too much dependence on oil imports and save domestic prices from being vulnerable to fluctuations in international prices of crude oil.

But, despite these benefits, fiscal policy in India has not received recognition of a reliable anti-inflationary measure. Monetary policy has always taken precedence over fiscal policy as far as the objective of curbing inflation is concerned. If there is macroeconomic instability in the economy, it instantly needs to be taken care of. In this situation, monetary policy becomes a useful short-term measure and it is justified also. If long-term growth objectives are to be realised, short-term macroeconomic stability is essential and monetary policy becomes very effective in this regard. Moreover, India's fiscal situation is not sound enough to undertake any effective policy measure to deal with adverse macroeconomic issues. *"India's current fiscal situation is potentially grave, and could lead to an economic crisis (fiscal, monetary and/or external) with severe short-term losses of output and even political turmoil, or, alternatively and more subtly, many years of continued underperformance of the economy."*³⁹ Pinto and Zahir also find India's fiscal situation deteriorating in the post-reform period. *"We have presented evidence showing that public finance fundamentals have deteriorated after 1997/98 even when compared to the period that preceded the 1991 fiscal-BoP crisis. The recent record lows in interest rates have not softened this deterioration because of slowing growth and because public debt dynamics are driven by the average cost of the whole stock of debt, not just the marginal cost of new borrowings. Moreover, while low interest rates help at the margin, the low inflation environment that produced them hurts to the extent that high nominal interest rates on dated securities were contracted in past years."*⁴⁰

Janak Raj et al have shown that positive impacts of fiscal policy are highly short-lived. Moreover, rather than being counter-cyclical to stabilise an economy, fiscal policy is pro-cyclical and thus further aggravate the problem. *"Even after the elimination of automatic monetisation of fiscal deficit in 1997 and prohibiting RBI from buying government securities in the primary market under the FRBM Act from April 2006, fiscal policy continues to substantially influence the conduct of monetary policy. Specifically, the reaction of the two policies to shocks in inflation and output is mostly in the opposite direction. While monetary*

³⁹ Singh, Nirvikar and Srinivasan, T. N. (2004), p.2

⁴⁰ Pinto, Brian and Zahir, Farah (2004), p. 3

*policy reacts in a counter-cyclical manner, fiscal policy reaction is primarily pro-cyclical in nature. The positive impact of expansionary fiscal policy on output is highly short-lived, while there is a significant negative impact in the medium to long- term*⁴¹. Rother believes that fiscal policy may lead to inflation volatility and he supports it with evidences. *“Discretionary fiscal policies may have contributed to higher inflation volatility. Possible channels through which fiscal policies can affect inflation include their impact on aggregate demand, spillovers from public wages into private sector as well as taxes affecting marginal costs and private consumption. In addition, fiscal policy can affect inflation through public expectations regarding the ability of future governments to redeem the outstanding public debt.”*⁴²

Criticizing the FRBM legislation, Amiya Bagchi says that FRBM mandate may compromise with basic services that people receive from government. *“If restrictions are imposed on the government to reduce revenue deficit, the real possibility is that the government may cut down social sector spending- especially on basic health and basic education- very severely”*⁴³. Mihir Rakshit believes that FRBM targets will reduce productive capital expenditure in India. *“The targets for reduction of fiscal deficits and the programme for using revenue surpluses in order to retire part of the public debt will prevent any increase in government investment over the next decade”*⁴⁴. It has actually happened also. The capital expenditure-GDP ratio has fallen from 3.6 per cent in 2004-05 to 1.8 per cent in 2008-09.

Despite these fallacies in the fiscal policies of India, fiscal policy remains one of the most effective weapons in the hands of the Government of India to promote long-run growth while maintaining fundamental macroeconomic stability. Since 1991, along with monetary policies, the government has used fiscal policies also to curb inflationary tendencies in the economy. Monetary policy as short-term measure and fiscal policy as long-term measure have for long been handy and effective in dealing with macroeconomic issues in India. *“In*

⁴¹ Raj, Khundrakpam & Das (2011), p. 2

⁴² Rother, Philipp C. (2004), p. 8

⁴³ Bagchi, A. K. (2004), p. 3574.

⁴⁴ Rakshit, Mihir (2001), p. 2061

reality, both the policies are interdependent and supplement each other rather than being rivals”⁴⁵

PUBLIC DISTRIBUTION SYSTEM

Over the years, supplies of essential consumer goods have fallen short of their demand forcing rapid increase in general price level. To deal with this situation an efficient management of the supplies of essential consumer goods is of crucial importance. The government admitted long ago that, in the given situation, public distribution alone would ensure supplies of essential consumer goods of mass consumption to people at reasonable prices. This system has also been found necessary for operating the dual pricing arrangement in case of certain essential commodities. So, there was a need to develop a comprehensive public distribution programme for essential goods to have a check on their prices when there was shortage.

Food inflation alone happens to be the largest driver of overall inflation in India as seen in the last two years. In December, 2009, it touched the mark of 20 per cent. Because of uncertainty of weather condition and heavy dependence of agriculture on weather, there are different phases of shortage and surplus of foodgrains in India and this accordingly influences food prices. Food items being one of the major constituents of wholesale price index, food inflation becomes a major driver of headline inflation in India. Keeping this in mind, the Government of India started the Public Distribution System (PDS) which aimed at providing foodgrains to the people at affordable prices and purchase foodgrains from the farmers at affordable prices. So, it serves two purposes- ensures food security by providing foodgrains at affordable prices and at the same time saves the farmers from distressed sales in case of excessive production. In order to deal with food inflation there is a need to have adequate storage of foodgrains to meet with excess demand for foodgrains when there is shortfall in production. Also, there is a need to have an efficient distribution network to equitably distribute the stored foodgrains in the deficit areas. The Public Distribution System, therefore, was basically designed to fight with undue rise in food prices.

The Public Distribution System facilitates the supply of food grains and distribution of essential commodities to a large number of poor people through a network of Fair Price

⁴⁵ Raj, Khundrakpam & Das (2011), p. 21.

Shops at a subsidized price on a recurring basis. With a network of more than 4 lakh Fair Price Shops claiming to distribute annually, commodities worth more than Rs 15,000 crore to about 16 crore families, the PDS in India is perhaps the largest distribution network of its type in the world. This system of public distribution encountered several problems later on. Exclusion of worthy beneficiary and corruption were the biggest among them. So, the government decided to introduce targeting in the system. The initiative to improve the delivery of foodgrains to the beneficiaries was in terms of region specific approach. So, in 1992, the **Revamped Public Distribution System (RPDS)** was introduced which aimed at providing foodgrains to all the people of a backward region. Later on, to make the approach of targeting even more effective and solve the problem of exclusion of deserving beneficiaries a new scheme called the **Targeted Public Distribution System (TPDS)** was introduced.

The Targeted Public Distribution System was introduced in 1997. TPDS envisaged that the Below Poverty Line (BPL) population would be identified in every State and every BPL family would be entitled to a certain quantity of food grains at specially subsidized prices. While BPL population were offered food grains at half the economic cost, the APL, who were not to have a fixed entitlement to food grains, were supplied grains at their economic cost. Thus, TPDS intends to target the subsidized provision of food grains to 'poor in all areas'. Later on in 2001, Antodaya Anna Yojana was introduced to further deepen the targeting. This scheme aimed at identifying poorest among the poor and providing them with 35 Kg of foodgrains per month comprising rice at Rs.3 per Kg. and wheat at Rs.2 per Kg. This scheme did provide a solution to the problem of exclusion to some extent, but, gradually it also turned out to be a big failure like its predecessor. This system is mired with corruption with an annual estimate of leakages of around 50 per cent. The foodgrains distributed are of very inferior quality and it hardly has any impact on rising food prices. *"The prices of food articles have increased by around 40 per cent over the last two years"*⁴⁶

AN EVALUATION OF PUBLIC DISTRIBUTION SYSTEM

On the basis of the past experience in this country an efficient public distribution system requires a nexus between production, procurement, storage, transportation and distribution of essential consumer goods. In India, until recently, these activities lacked proper coordination.

⁴⁶ Economic Survey, 2011-12, p. 81

However, there is no denying the fact that the country now has an elaborate infrastructure for public distribution. At the national as well as the State level, arrangements exist for procuring essential commodities and supplying them through the public distribution outlets. But, despite these arrangements, the scheme remains one of the most corrupt and inefficient public sector initiatives.

Many studies show that an astonishingly high fraction of the foodgrains meant to be given to the poor and vulnerable through the Public Distribution System get diverted, presumably sold off at illegal high prices or wasted. A study by Khera (2010) shows that, in 2001-02, 39% of foodgrains meant to reach the poor through India's Public Distribution System was lost to leakage and diversion. Another recent study by her (Khera, 2011) shows that the problem has got worse. In 2007-08, the diversion of foodgrains was at 43.9%. It had risen to as high as 54% in 2004-05. This disappointing story reflects the fact that only a fraction of the poor get their food from Public Distribution System stores. In 2004-05 only 17% of the poorest quintile households received food from fair price shops. *“And for some poor states, such as Bihar and UP this figure is as low as 2% and 6% respectively”*⁴⁷.

This level of leakages is clearly unacceptable, since it tends to bloat fiscal expenditure, causing inflation across the board. There is a need to have a major overhaul of our public distribution system and give subsidies, as far as possible, by making direct transfers to the poor, who should then be allowed to buy their food from any store, private and public. The government has, fortunately, taken steps to move towards a major overhaul, with the announcement in the last Union Budget to move over to direct transfers to a targeted population, in lieu of the earlier system of trying to deliver subsidized kerosene, LPG and fertilizers to all. There has also been some discussion in government arguing that improving supply chain management through modern retailing by allowing FDI in retail sector can help cut down the gap between farm gate price and retail price. But, there are also some voices of dissent on this.

⁴⁷ Basu, Kaushik (2011), p. 18

SUPPLY SIDE MEASURES

In order to improve supply position of essential commodities the government has often allowed their imports. During 1995-96 from this point of view, imports of edible oils (except coconut oil), palmolein, sugar and pulses were allowed. Further, the food corporation of India continued its open market sale of rice and wheat to prevent increases in their market prices. Finally, with the abolition of quantitative controls, import of essential commodities can be made easily to augment their supply. This will naturally keep inflation under control.

These measures have succeeded temporarily in the past in moderating rapid increase in the general price level, but they will not be effective enough to stabilise prices in the long-run. The government itself has admitted, “*Sustained increase in production in response to rising demand holds the key to price stability*”⁴⁸. This solution, however, is not easy to implement. From the macroeconomic point of view, the maintenance of a reasonable stability in prices is a rather difficult task under the existing conditions.

CONCLUSION

Macroeconomic instability mainly because of a very high inflation remains a big challenge before the policy-makers of this country. Domestic prices in India have become even more volatile in the post-reform period because of increased exposure of Indian domestic market to the fluctuations in international market. Now an increased number of tradable commodities whose prices are more vulnerable to fluctuations in the international market constitute the WPI and thus cause fluctuations in it accordingly. Increased influence of volatile international market on domestic prices makes domestic stabilisation policy less effective. Monetary policy, fiscal policy and other administrative policies of government have not been sufficiently successful in inflation management in India primarily because of increased economic integration of Indian economy with international market. Moreover there are many fallacies and deficiencies in Indian economic policies which are used to deal with rising prices.

⁴⁸ Economic Survey 2008-09, p. 67.

Chapter – 5

CONCLUSION

It has been exactly two decades since the reform process started in India. So it becomes pertinent here to have a look over the performance of different economic phenomena during the reform period. Stability of prices being so important for an economy, it becomes worthwhile to attempt an analysis of prices in India in the post reform period. This work is an attempt towards analysing how prices have fared in India and what have been important reasons of inflation during the period. It also takes a look over how the government has tried to deal with the issue of inflation with a critical examination of the policies adopted by the government during this period.

This is basically a literature review work which tries to cover some of the aspects of inflation in India since 1991 by going through certain literature on this issue. The objectives of this work are to present a brief review of the basic macroeconomic theories on price determination. This becomes important to have a theoretical understanding of the causes and remedies of inflation. Then, it aims at presenting a brief review of measurement issues related with inflation in India and subsequently giving a year-wise analysis of inflation in India since 1991. This work further presents a review of the major drivers (causes) of inflation in India in the post-reform period. Moreover, it also presents a critical examination of the macroeconomic policies adopted as inflation control measures in India after 1991. So, it will have a critical examination of monetary, fiscal and other government policies aimed at controlling inflation in India during the period.

A single theory of inflation may not be sufficient enough to explain the phenomenon of inflation in every country. Different countries are faced with different economic scenario and placed with different resource scarcity and abundance. In fact in a single country, multiple numbers of significant factors are at play in deciding its domestic price scenario. Factors responsible for inflation are usually different in developed countries as compared to developing countries. In general, the cause of inflation in developed countries is broadly identified as growth of money supply. In developing countries, in contrast, inflation is not a purely monetary phenomenon. Moreover, factors typically related to fiscal imbalances such

as higher money growth and exchange rate depreciation arising from a balance of payments crisis dominate the inflation process in developing countries.

Inflation can be defined as a sustained or continuous rise in the general price level or, alternatively, as a sustained or continuous fall in the value of money. Inflation is primarily a result of excess of demand over supply. Several approaches have tried to explain the factors which explain determination of general price level in an economy. Classical approach which finds quantity of money as the only determinant of inflation is contradicted by Keynes and his followers who believe that only an indirect relation exists between quantity of money and prices. But, monetarists re-emphasise the role of money and believed in the idea that inflation is always and everywhere a monetary phenomenon.

From a survey of different theories of inflation, it can be argued that irrespective of the controversy over the nature of inflation, i.e. whether it is entirely a monetary or fiscal phenomenon or a combination of both, inflation occurs due to excess of aggregate demand over aggregate supply. Be it classical economists, Keynesians, monetarists or new classical economists, they all are unanimous on the role of aggregate demand in determining output, employment and prices, the difference is only in the procedure that cause changes in aggregate demand. For example, the classical economists, monetarists and new classical economists see a direct relation between changes in money supply and resultant changes in aggregate demand, whereas Keynesians accept this role of money in determining aggregate demand but via the mechanism of changes in interest rate which finally influences the aggregate demand.

There have been several debates on measurement of inflation in India. There are broadly three measures of inflation used in India: the wholesale price index (WPI), consumer price index (CPI) and implicit GDP deflator. The WPI is available for all tradable goods including for various groups, subgroups and individual commodities. CPI reflects the cost of living conditions of a homogeneous group of consumers for which it is constructed and based on retail prices of commodities generally consumed by the group. The GDP deflator is derived from the national accounts as a ratio of GDP at current prices to GDP at constant prices. The CPI is further divided in four categories representing four different groups of consumers. But, because of certain superiorities such as wider coverage, frequency of data

dissemination etc. the WPI has been a preferred measure of inflation over the other two measures.

An assessment of the inflation record of India since the reform process started on a large scale i.e. from 1991 reveals that the trend of inflation can broadly be classified into two categories. One category consists of the periods which is largely characterised by stability in the rate of inflation. This category refers to the periods of 1995-96 to 2000-01 and 2002-03 to 2007-08. During these periods, the annual WPI headline inflation remained largely stable around 5 per cent. The remaining periods which fall in the second category seem to have experienced very volatile prices in which most of the periods experienced an inflation of even more than 10 per cent. Periods between 1992-93 to 1994-95 and 2008-09 to 2010-11 come under this category. The first instance of volatility and a very high inflation between 1992-93 and 1994-95 arose because of the domestic macroeconomic crisis which started with balance of payments crisis during 1990-91. The second phase of 2008-09 to 2010-11 started with a very low inflation and the factor responsible was the global economic slowdown. Later on the rate of inflation remained very high during this period mainly because of very high food and fuel inflation.

As far as the causes of inflation in India are concerned, supply shocks both due to a setback in agricultural production and international oil prices, and monetary expansion due to automatic monetisation of the fiscal deficit were the major contributory factors to higher inflation. Later on, gradually rising stock of foreign exchange reserves also contributed to inflationary pressure on the domestic price level of India. It can be noticed that apart from the traditional supply side forces in the form of agricultural production and fuel prices, the external forces such as inflow of foreign capital, global macroeconomic scenario, etc. also have significantly contributed to inflation in India. This has become possible mainly because of the growing integration of Indian economy with the rest of the world in reform period.

The phenomenon of inflation needs to be taken very seriously as it has adverse impacts on the real economy. A high and persistent inflation imposes significant socio-economic costs. A high inflation by itself can lead to distributional inequality as the burden of inflation is disproportionately large on the poor. Therefore, for a welfare-oriented economic policy, low inflation becomes a critical element for ensuring balanced progress. Moreover, high inflation distorts economic incentives by diverting resources away from productive

investment to speculative activities. It reduces household savings as they try to maintain the real value of their consumption. This further leads to fall in overall investment in the economy and subsequently reduces its potential growth. As inflation rises beyond a threshold level, it has adverse impacts on overall growth.

So, in order to control inflation, government has been adopting multi-pronged approach including monetary, fiscal and administrative policies. Attempts have been made to curb temporary excess of demand with monetary measures and at the same time long-term measures have been undertaken to improve supply conditions in which fiscal and administrative policies have played significant role. Among monetary measures, the tools adopted by the RBI are variations in its five policy rates including CRR, SLR, bank rate and the two short-term rates called repo rate and reverse repo rate covered under the Liquidity Adjustment Facility (LAF) of the RBI, open market operations and Market Stabilisation Scheme (MSS). Fiscal policy deals with taxation and expenditure decisions of the government. Administrative measures deal with ensuring better and sufficient availability of food and other necessary commodities by improving distribution network, for example the Public Distribution System of India and undertaking supply side measures.

The inflation control measures of the Government have not been very effective due to either lack of appropriate implementation or poor diagnosis of the problem. Inflation in India has been primarily a supply-driven phenomenon which arises because of supply shortage. So, monetary policy has not been very effective as it works from demand side. Moreover, increased integration of Indian economy with rest of the world has made it difficult for monetary policy to exercise effective control on domestic economy. Fiscal measures tend to have adverse impacts on private investment and growth due to revenue loss arising from tax deductions and exemptions or due to crowding out of private investments arising from increased public expenditures. Administrative measure like public distribution system is mired with corruption and leakages and thus unable to give intended benefits.

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