Inflation And Its Effects On The Indian Economy

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INTRODUCTION

The objective of this paper is to review inflation and its effects on the Indian economy. For the economy, the financial and industrial system of the country is considered. The growth and performance of the Indian economy is explained in terms of Gross Domestic Product (GDP) . The growth rate has been used to evaluate the health of the Indian economy. The focus of this paper is to develop a relationship between inflation and economic growth. High rate of inflation can have adverse consequences for an economy's rate of real growth in the long-term. It is generally accepted that inflation has a negative effect on growth (Fischer, 1993; Barro, 1995; Boyd and Smith 1998; Bruno and Easterly, 1998). Further, inflation can reduce a country's international competitiveness by making its exports relatively more expensive, which in turn reduce investment levels, thus impacting the balance of payments. In general, studies have shown that the high rate of inflation can have a severe impact on the financial sector. This affects the ability of the financial sector to allocate resources effectively, as rate of inflation drives down the real rate of return on money and assets (Barnes et al., 1999). In addition, an increase in the inflation rate could adversely affect the financial system through credit market frictions, which will have negative consequences on both banks and equity market performance and ,therefore, on long-term economic growth (Huybens and Smith, 1998, 1999). However, this is not always true. Maheshwari and Biyani (2011) discussed the influence of inflation on interest rates of housing loans. There are various theoretical channels by which inflation may affect economic growth. However, very few efforts have been made to examine the relationship between inflation and the Indian economy. Therefore, the present research work was taken up to study inflation and its effects on the Indian economy. The authors are aware that this task is not simple as growth of the Indian economy is also affected by other factors such as agricultural output and variation in demand of Indian products in the global market. However, it is assumed that factors other than inflation remain more or less stable.

LITERATURE OVERVIEW

Fischer (1993) in his cross-sectional and panel regressions for a large set of countries found a negative relationship between inflation and growth. This is because inflation reduces growth by reducing investment and productivity. Bruno and Easterly (1998) examined the relationship between inflation and economic growth for Latin American countries between 1960 and 1992. They argued that a negative association between inflation and growth is due to a long period of high inflation. A growing theoretical literature describes mechanisms that the rate of inflation interferes with the ability of the financial sector to allocate resources effectively. As a result, the financial sector offers fewer loans; resource allocation is less efficient, and intermediary activity diminishes with adverse implications for capital investment (Choi et al., 1996; Huybens and Smith, 1999). Singh and Yadav (2010) investigated the effect of global financial crisis on India's economic growth. Srinivasan (2010) presented a nexus between FDI and economic growth in India. Bhattacharya et al. (2010) analyzed the effect of global crisis on the policies of RBI. The financial system of any country includes financial markets. The economy's financial structure depends on the financial market. The Indian financial markets can be grouped in 4 categories, i.e. **(a)** Money market, **(b)** Capital market **(c)** Forex market and **(d)** Credit market. All markets are influenced by inflation; however, the effects of influence on the money market are largest and the same has been considered in this paper. In India, the money market is regulated by the Reserve Bank of India (RBI).

INFLATION AND THE INDIAN ECONOMY

Inflation is a major economic factor that influences the country's economy. The inflation means a reduction in the value

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of money or an increase in the price of goods and services that forecast a nation's economy. An increase in inflation occurs when there is an increase in the average level of prices in goods and services. This is because **(a)** The money supply grows faster than production and due to that, the value of money decreases; **(b)** There is more demand and less supply of the goods. In a nutshell, there are fewer goods and more buyers; this will result in an increase in the price of the goods. Governments often strive for an inflation rate of around 2 to 3 percent per year. Such low inflation is beneficial for the economy, as it encourages consumers to buy goods and services. It also makes more appealing to borrow money, since interest rates are usually low during low inflation periods. Maintaining low inflation is ,therefore, an important goal for the Government and the central bank. The problems faced due to high inflation are :

☸ Balance between supply and demand goes out of control; consumers could change their buying habits, forcing the manufacturers to cut down on production.

☸ A price increase can worsen the poverty, affecting low income households.

☸Inflation creates economic uncertainty . It means that the investment climate shows slow growth that reduces savings and thereby, consumption.

☸ The producers would not be able to control the cost of raw material and labor, hence, the price of the final product. That will affect the profit, which means less profit or in some extreme cases, no profit.

☸ Manufacturers would not have an incentive to invest in new equipment and technology.

☸ Uncertainty would force people to withdraw money from the banks and convert it into products with long lasting value like gold, silver etc.

Though low inflation is good for the economy, but high inflation is not beneficial as it can reduce the people's confidence in their own currency and economy starts to decline. The consequences of high rate of inflation (more than 10%) for a long duration are :

1. A high rate of inflation erodes the purchasing power of money. Fixed income earners and pensioners see a decline in their disposable income and standard of living.

2. Economies that are not fully adjusted to a given rate of inflation usually suffer from relative price distortions caused by inflation.

3. High inflation is unstable - means there is uncertainty about the future inflation rate. So, it reduces the efficiency of an investment and discourages potential investors.

4. If the inflation rate is increasing faster than those in other countries, then domestic products become less competitive, which has an adverse impact on growth, employment and the balance of payments.

5. High inflation worsens inequality due to arbitrary redistribution of income, where the poor suffer and the rich can hedge against inflation.

6. Tax collections are based on nominal incomes of an earlier year and public utility prices are not raised in line with inflation, so that tax collections do not keep up with inflation.

High inflation, therefore, often has a harmful effect on economic growth. If inflation gets too high, a country's central bank may intervene by raising its interest rates and thus, discourage the creation of money. Governments need to control high levels of unpredictable inflation, since it can severely disrupt the economy, cause uncertainty in financial decisions, and redistribute wealth unevenly. The tools for controlling inflation are monetary policy (increase or decrease in money supply), fiscal policy (change the amount of taxes and governmental spending), and various controls on prices, tariffs, and monopolies etc. Generally, monetary policy is chosen as the primary tool, since it has proven to be very effective, it is less disruptive to market operations, easier and quicker to implement. Also, adjusting the money supply does not require legislative approval as would, for instance, changing the tax structure.

☸**Price Indices :** A Price Index is an indicator of the average price movement over time of a fixed basket of goods and services in the country. Price changes in India are measured both at the wholesale and retail levels, which are defined as Wholesale Price Index (WPI) and Consumer Price Index (CPI) respectively. WPI is used to measure the change in the average price level of goods traded in the wholesale market, while the CPI captures the retail price movement for different sections of consumers. There are four main series of retail price indices compiled at the national level: Consumer Price Index for Industrial Workers (CPI-IW); Consumer Price Index for Agricultural Laborers (CPI-AL);

Consumer Price Index for Rural Laborers (CPI -RL) and Consumer Price Index for Urban Non-Manual Employees (CPI-UNME). Effect of inflation on growth and economy can be better explained using CPI, and the same has been discussed in detail.

TRENDS IN INFLATION BASED ON CPI

Consumer Price Index (CPI) was introduced in 1970s. It is a measure of the average price that consumers spend on goods and services in a retail market. CPI is a statistical time-series based on the weighted average of rate of change in prices of a set of goods, and services purchased by consumers. Thus, the CPI is much more comprehensive, and it is based on the inflation value from the end-consumer's side, rather than from the wholesale seller's side. The CPI is normally measured monthly. The Table 1 presents monthly variation in all four CPIs of the last two financial years (2008-09 and 2009-10). It can be observed that inflation rates based on all four CPIs were in the double digits for the nine consecutive months (July 2009 to March 2010). The data shows growth in CPI-IW, CPI-UNME, CPI-AL and CPI-RL rose from 8.0%, 9.3%, 9.5% and 9.7% in March 2009, to 14.9%, 14.9%, 15.8% and 15.5% in March 2010, respectively. Thus, all the four indices increased substantially by a margin of about 70% in just one year.

Table 1: Monthly Variations (in %) In Four CPIs For Financial Years 2008-09 and 2009-10*

Months	CPI-IW		CPI-UNME		CPI-AL		CPI-RL	
	08-09	09-10	08-09	09-10	08-09	09-10	08-09	09-10
April	7.8	8.7	7.0	8.8	8.9	9.1	8.6	9.1
May	7.8	8.6	6.8	9.7	9.1	10.2	8.8	10.2
June	7.7	9.3	7.3	9.6	8.8	11.5	8.8	11.3
July	8.3	11.9	7.4	13.0	9.4	12.9	9.4	12.7
August	9.0	11.7	8.5	12.9	10.3	12.9	10.3	12.7
September	9.8	11.6	9.5	12.4	11.0	13.2	11.0	13.0
October	10.4	11.5	10.4	12.0	11.1	13.7	11.1	13.5
November	10.4	13.5	10.8	13.9	11.1	15.7	11.1	15.7
December	9.7	15.0	9.8	15.5	11.1	17.2	11.1	17.0
January	10.4	16.2	10.4	16.9	11.4	17.6	11.1	17.4
February	9.6	14.9	9.9	15.8	10.8	16.5	10.8	16.5
March	8.0	14.9	9.3	14.9	9.5	15.8	9.7	15.5

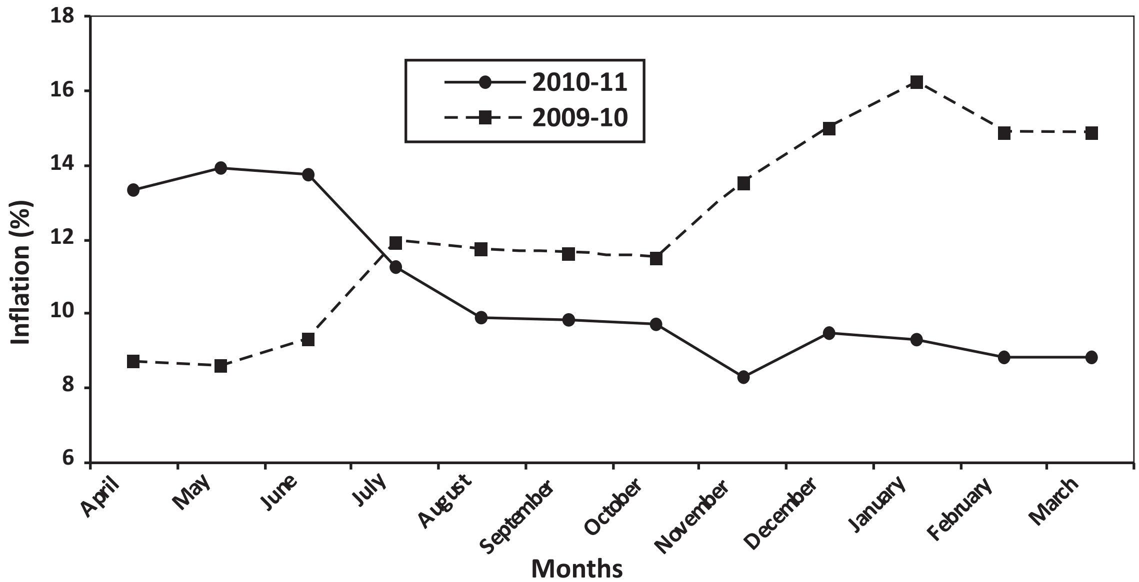
*Source: Indian Ministry of Labor, (http://www.tradingeconomics.com)

Since out of the 4 CPIs, the CPI-IW is more significant, therefore, for further analysis, only the CPI-IW has been used. The Table 2 shows inflation based on CPI-IW in India during the last 5 financial years. It can be observed that the rate of inflation was in the double digits during July 2009 to July 2010. Its peak value was 16.22% in January 2010. Furthermore, the rate of inflation was at a low level of 5.26% during April 2006. It can be observed that in the last five years, the average inflation rate has continuously been on the rise, this is because of the continuous increase in the prices of food items, which has a 46% weightage in the evaluation of CPI-IW. Also, the prices of the service sector have been increased. The last financial year (2009-10) witnessed the highest average rate of inflation, i.e. 12.32%. The data suggests that inflation rate in May 2010 was 13.91%. After that, due to the monetary control by the Central Bank and with the interference from the Government, inflation rate started to decline and at the end of November 2010, inflation rate was 8.33%. It means that the inflation rate reduced by 5% in just 6 months, which was a remarkable achievement.

The Figure 1 presents the monthly variation in CPI-IW for the last 2 fiscal years (2009-2010; 2010- 2011). The values of inflation were significantly different in these 2 years. From April to June (i.e. the first 3 months of the year), for each month, the inflation in 2010 was significantly higher than that reported in 2009. However, the difference decreased in the month of July, whereas inflations for both 2009 and 2010 years were almost the same. However, from August to March, the position was reversed and inflation in 2010-11 reduced very much as compared to that reported in 2009-10. Thus, in brief, in the last 2 fiscal years, the inflation was maximum in January 2010 - at a peak value of 16.22%, which

Table 2: Inflation (in %) Based On CPI-IW In India During The Last 5 Years*												
Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
2011-12	9.41	8.72	8.62									
2010-11	13.33	13.91	13.73	11.25	9.88	9.82	9.70	8.33	9.47	9.30	8.82	8.82
2009-10	8.70	8.63	9.29	11.89	11.72	11.64	11.49	13.51	14.97	16.22	14.86	14.86
2008-09	7.81	7.75	7.69	8.33	9.02	9.77	10.45	10.45	9.70	10.45	9.63	8.03
2007-08	6.67	6.61	5.69	6.45	7.26	6.40	5.51	5.51	5.51	5.51	5.47	7.87
2006-07	5.26	6.14	7.89	6.90	5.98	6.84	7.63	6.72	6.72	6.72	7.56	6.72
*Source: Indian Ministry of Labor (http://www.tradingeconomics.com)												

Figure 1: Monthly Variation In Inflation Based On CPI-IW For The Last 2 Fiscal Years



came down to a low value of 8.82% in March 2011. This happened due to central bank's control and government interference. However, both fiscal years witnessed relatively high rate of inflation, which varied from 8% to 16%.

GROWTH TREND OF THE INDIAN ECONOMY

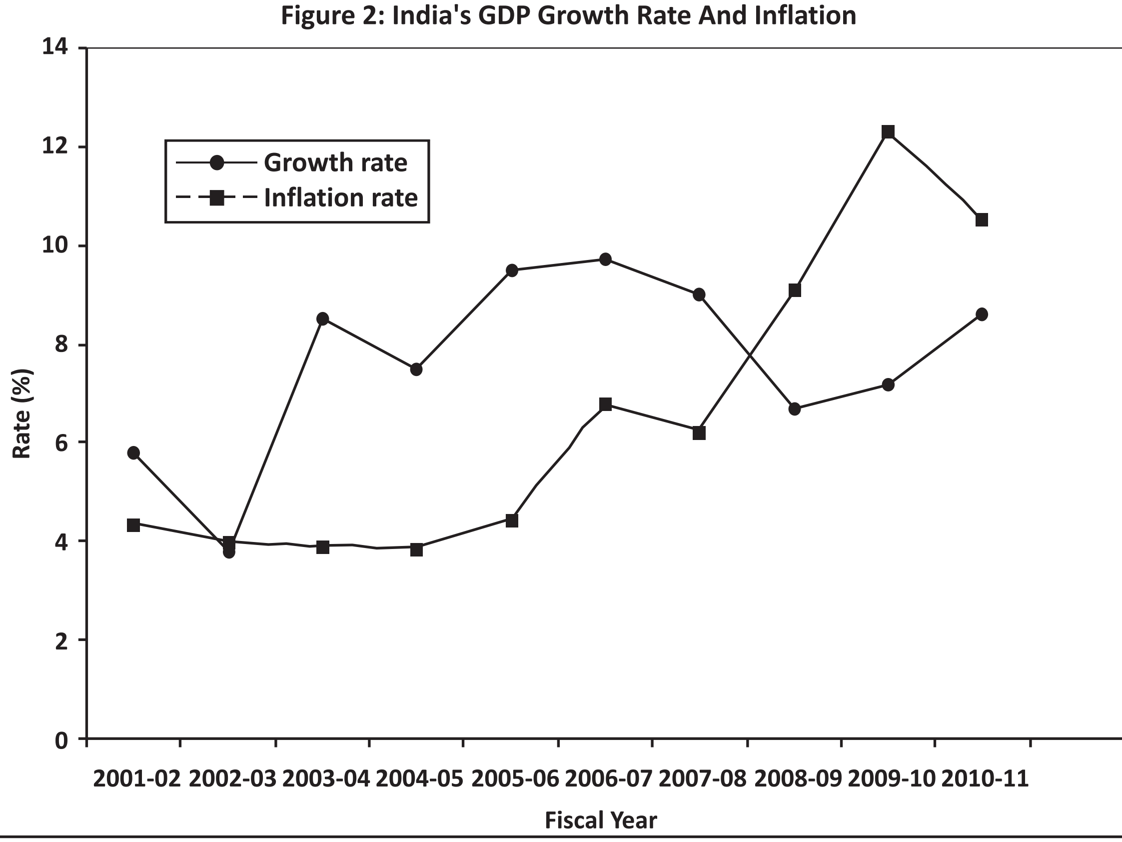
Economic growth is the increase in value of the goods and services produced by an economy. It is conventionally measured as the percent rate of increase in real Gross Domestic Product (GDP). In economics, *"economic growth"* typically refers to growth of potential output, i.e., production at *"full employment"* , which is caused by growth in aggregate demand or observed output. The economic growth is measured as the annual percent change of National Income, and it has all the advantages and drawbacks of that level variable. However, people tend to attach a particular value to the annual percentage change, since it tells them what happens to their paycheck. The real GDP per capita of an economy is often used as an indicator of the average standard of living of individuals in that country, and economic growth is ,therefore, often seen as an indication of an increase in the average standard of living. However, there are some problems in using GDP per capita to measure the general well being. It does not provide any information relevant to the distribution of income in a country. GDP per capita does not take into account negative externalities from pollution consequent to economic growth. Thus, the amount of growth may be overstated once we take pollution into account. Furthermore, GDP per capita does not take into account positive externalities that may result from services such as education and health. GDP per capita excludes the value of all the activities that take place outside the market place. Economists are well aware of these deficiencies in GDP, thus, it should always be viewed merely as an indicator and not an absolute scale. The flaws of GDP may be important when studying public policy, however, for the purposes of economic growth in the long run, it tends to be a very good indicator. The growth and performance of the Indian economy in the world market is explained in terms of statistical information provided by the various economic parameters. However, the role of GDP is the most important and ,therefore, used for further analysis. Table 3 compares the average growth rate of the Indian economy with average rate of inflation for the last 10 years.

Table 3: Average Inflation v/s Average Growth Rate

Year	Inflation (%) (CPI-IW)	Growth Rate (GDP)
2001-02	4.31	5.8
2002-03	3.98	3.8
2003-04	3.87	8.5
2004-05	3.83	7.5
2005-06	4.41	9.5
2006-07	6.76	9.7
2007-08	6.21	9.0
2008-09	9.09	6.7
2009-10	12.32	7.2
2010-11	10.53	8.6

Source: RBI Hand Book (http://www.rbi.org.in)

Figure 2: India's GDP Growth Rate And Inflation

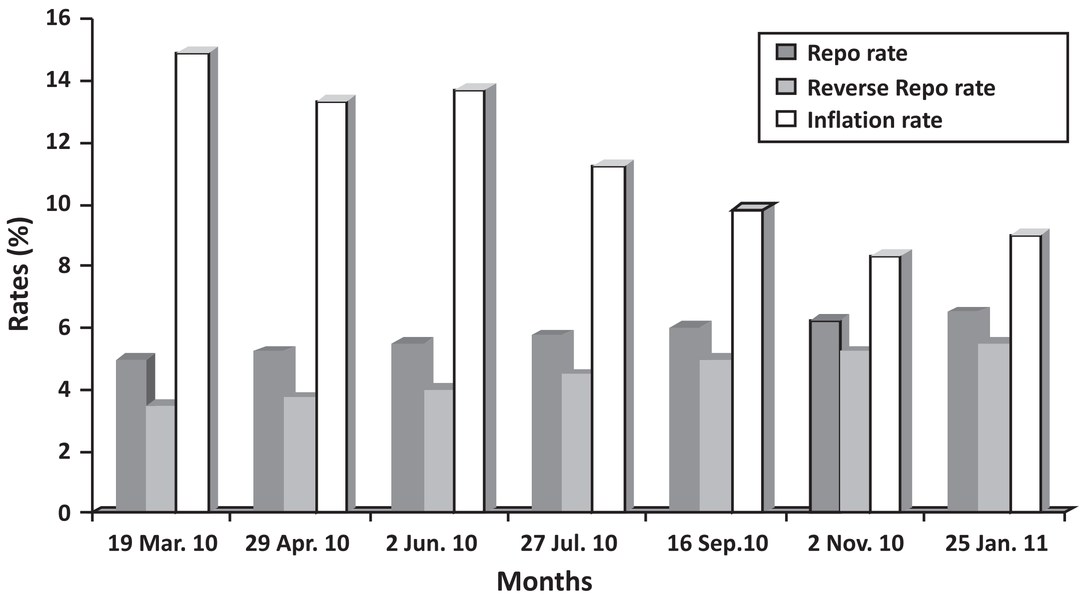


The Figure 2 presents India's annual average GDP growth rate and inflation for the last 10 years. It can be observed that the growth rate witnessed the highest jump from 3.8% during 2002-03 to 8.5% during 2003-04, i.e. it more than doubled in just a one year period, even though there was not much change in the rate of inflation. This is attributed to the other factors such as higher agricultural production, boom in the service sector, and infrastructure development. The growth rate was more than 9% for a three-year period (2005-08). In 2005-06, the growth rate jumped to 9.5% from 7.5% during the previous year (2004-05) , which means an increase of about 25%, even though there was only a marginal increase in inflation. The growth rate was the highest ever in 2006-07, and touched the 9.7% growth rate, a little short of a double digit figure. Though the growth rate was highest in this year, but inflation was not the least, rather it was in the medium range. Later, the growth rate reduced to 9% in 2007-08. For the next three-year period (2008-11), the rate of inflation was more than 9%, and as a result, growth rate varied in the range of 6.7% to 8.6%. However, it shall be noted that 2008 and 2009 marked the worst recession the world had witnessed since the Great Depression of 1930s. Even during these 2 years, the rate of growth in India was 6.7% and 7.2%, although many other countries of the world recorded either a very low or negative growth rate during the recession years. This is a very admirable and positive factor for the Indian and Chinese economies, which helped the world to come out of the worst recession (up to a certain extent). However, the growth occurred at the expense of higher rate of inflation. The inflation was on its peak in 2009-10 at 12.32%. After that, the Govt. as well as the Central Bank applied controlling measures, the inflation reduced to 10.53% and there was an increase in growth rate to 8.6%. Thus, it can be inferred that there is no direct exclusive relationship between growth rate and inflation, as the growth rate depends on many other factors besides rate of inflation. Unless these other factors are isolated, any proposed relation will be a misrepresentation. However, from the data of Table 3 and Figure 2, it can be established that to achieve a growth rate of more than 9%, the rate of inflation shall be less than 7%. Based on this, it can be said that to achieve a double-digit growth rate in the Indian economy, inflation shall be in a single digit.

MEASURES TO CONTROL INFLATION

To control inflation, normally, the Reserve Bank of India executes two measures - Monetary Measures and Liquidity Measures. Monetary Measures are Cash Reserve Ratio (CRR), Bank Rate (BR), Repo Rate (RR), Reverse Repo Rate (RRR), Changes in Risk Weight for calculating Capital Adequacy Ratio (CAR). Liquidity Measures are Statutory Liquidity Ration (SLR), Open Market Operation (OMO).

Figure 3: Relationship Between Inflation (CPI-IW) And Monetary Measures



As per the economic requirement, RBI raised its key policy rates to make money more expensive and to contain rising inflation in the world's second fastest-growing economy. In the last one year (March 2010 to January 2011), RBI vigorously tried to manage and control inflation (Figure 3). For this purpose, as per the requirement, RBI changed the rates and ratios time to time. Although RBI increased all of its rates as per the inflation's position, but RBI increased its 2 key rates (i.e. RR and RRR) frequently, which were followed by the banks raising the interest rates for loans. This was done with the basic assumption that with an increase in the interest rates, the demand in the economy will decrease, and this will lead to a reduction in the inflation rate. Upto some extent, this remedy seems to have worked, as it helped in decreasing the inflation rate. These monetary measures helped in reducing the inflation rate (CPI-IW), which was at its peak during January 2010. It can be observed from the Figure 3 that in March 2010, RR, RRR and Inflation Rate were 5%, 3.5% and 14.9%, respectively. To reduce inflation, RBI gradually increased both RR and RRR by a margin of 0.25% (or 0.5% later). As a result, inflation gradually reduced. In January 2011, RR, RRR and Inflation Rate were 6.5%, 5.5% and 9% respectively. Thus, it may be concluded that these measures are very much helpful in reducing the inflation. The analysis indicated that the inflation affected the Indian economy badly, as during 2008-09, growth rate reduced to 6.7% from 9% in the previous year. To recover the losses, banks charged high interest rates from the customers, RBI increased CRR, RR and RRR. Between the fiscal years, 2005-06 and 2007-2008, India had experienced an average growth rate of more than 9%, but the global crunch pinched the economy so hard that the economy gave up into the adverse external shocks, and few sectors experienced a slump. However, the fundamentals of the Indian economy continue to be strong and robust, and as a result, average annual growth rate jumped to 8.6% in 2010-11.

CONCLUSION

In this paper, effect of inflation on the Indian economy has been investigated. Inflation in the Indian economy is explored in detail. Trends of inflation are investigated using CPI indices. Monthly variations in 4 CPIs for the last 2 financial years have been presented. Monthly inflation based on CPI-IW for last 5 years is presented, which indicates that the inflation is almost continuously raised (from 5.26% to 16.22%). Measures taken by RBI (changes in CRR, RR and RRR) to control inflation are reviewed. Effects of these measures on inflation are investigated and it has been found that these measures are effective to check the inflation up to a certain extent only, as there are other factors controlling inflation. India's growth trend (GDP) in the last one decade is discussed. It appeared that in the last three fiscal years (2008-11), the high inflation (CPI - greater than 9%) was responsible for reduced rate of growth (less than 8.6%). However, this is true only up to a certain extent, as there are many other factors such as global recession, agricultural production etc., which influence the growth rate. In brief, there is no direct exclusive relationship between growth rate and inflation, as the growth rate depends on many other factors besides rate of inflation. Nonetheless, it can be concluded that very high inflation has negative implications for economic growth, and causes unemployment and poverty. Therefore, it is necessary to reduce the inflation to lead the Indian economy at the path of high growth rate. To achieve a double-digit growth rate, the inflation must be in a single lower digit.

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