Inflation in India:Theory,Measure, Policy and Trend

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ABSTRACT: *Inflation is one of the most burning issue of all times in macroeconomics. When economies are growing, states always have difficulties in managing pace of economic growth as well as keeping inflation in control. In this paper, with brief explanation of economic theories of inflation, effort is to examine the policy adopted by Indian monetarist for inflation and study the recent trends in inflation rate to conclude the consequences of the monetary policy adopted. The paper starts with a brief introduction which include outlook of the inflation phenomenon and basic idea of what inflation actually is. Following by theoretical concept of inflation, in which important works of eminent economists of history are covered. Next, different indices used to measure inflation in India are studied and then an overview of monetary policy adopted by India so far including major changes or decisions taken. At the end, recent trends of inflation in India are analysed to verify the results of inflation targeting policy adopted.Measure of inflation used in this paper is combined Consumer Price Index and Wholesale Price Index. Annual average data of CPI-C and WPI is used to study the inflation rate from 2013-14 to 2017-18. By plotting a simple chart of WPI inflation and combined CPI inflation, trends of inflation in these recent years are analysed.*

Key Words*: Inflation, India, Monetary Policy, Targeting, CPI, WPI.*

Introduction

Inflation is a macroeconomic concept. Inflation is the quantitative measure of rate at which general price level of a basket of selected goods and services increase over a period of time. Inflation results in a low purchasing capacity of an amount of money than in prior periods. The loss of purchasing power of money due to inflation affect the general cost of living for the common people which finally leads to deceleration in economic growth. Inflation is just opposite to deflation, which indicates decline in general price level of goods and services i.e. deflation is when inflation rate is < 0. Three types of inflations are observed in various economies in different circumstances: demand-pull, cost-push, built-in. Inflation is positive for the people who are holding assets like, property or stock commodities, as value of their asset increase with inflation. Inflation is negative for the people holding cash as with inflation, value of money declines. Inflation brings up major challenges in the developed as well as developing economies. In India also, inflation is a serious issue as it significantly affects the economic growth, employment, interest rates and other macroeconomic variables in the economy. In this paper, with this brief introduction of concept of inflation, a short note is provided on economic theories of inflation which talks about the determinants of price level or inflation rate. After theories, background of monetary policy measures adopted in India and current monetary policy of inflation targeting is discussed. The recent trends in the inflation rate from 2013-14 to 2017-18 are shown with the annual average data of WPI and CPI-C.

Theories of Inflation

Monetary theories of inflation –these are the theories which consider changes in money supply as a cause for changes in price level. These include quantity theory of Irving Fisher, Alfred Marshall, Milton Friedman. Irving Fisher formulated a comprehensive version of the quantity theory of money. According to him, $MV = PT$; (equation of exchange) where M is the amount of money in circulation, V is velocity of circulation of money, P is price level and T is the real volume of transactions. According to fisher, V remain stable over long periods. So, if T remains constant, changes in the price level will be exactly proportionate to changes in the quantity of money. Alfred Marshall modified the quantity theory and introduce the element of ‘desire to hold money’. $M=kPO$; (cash balance equation of exchange) where M is quantity of money, P is price level, O is output, k is that fraction of real income over which people wish to hold in the form of money. Thus, in Marshallian approach, liquidity preference is taken as an important factor. Psychological aspect must be considered along with money supply. Milton Friedman and other economists of Chicago school of economics restate the quantity theory. They give theory of money demand rather than money supply and output. Friedman treated money not only as a medium of exchange but as an asset too. Money demand is function of income level and interest rates so, these two factors are also important in price determining.

According to Keynesian theory, people demand money for three purposes – transaction, precaution and speculativemotive. It is not the quantity of money but expenditure that determines what happens to the price level. The quantity of money is, however, an important determinant of total expenditure. Keynesian and monetary theory of inflation are based on demand pull that cause inflation.

Cost-based theory of inflation – inflation is not only the cause of increase in demand or increase in money supply but sometimes increase in cost of production is also responsible for inflation. Cost push inflation can be because of increase in wages, prices of raw material or increase in administrative prices etc. sometimes labour union get so powerful that they become capable of increasing wages every year so there arise cost push inflation. James l. Laughlin, J.R. Hicks, S.H. Slichter focussed on this side of inflation.

Structural theory of inflation – this theory is primarily related to developing economies. Basic idea of structural theory is that structural rigidities and social tensions are the main cause of inflation. According to Raul Prebisch, "Economic development calls for constant changes in the form of production, in the economic and social structure and in patterns of income distribution. Failure to make these changes in time or to undertake them partially and completely leads to maladjustments and stresses which release the ever-latent and extremely powerful inflationary forces in the country".

Measures of Inflation in India

In India, inflation is measured using various types of price indices. Two main indices used for measuring price level changes in India are – Wholesale Price Index (WPI) and Consumer price index). WPI is published by Office of Economic Adviser, Ministry of Commerce and Industry. It is being published regularly from 1947. In WPI, prices are quoted from the wholesalers. CPI is based on the retail prices. There are different indices in which CPI is calculated that are CPI for Industrial Workers (CPI-IW), CPI for Agricultural Labourers (CPI-AL), CPI for Rural Labourers (CPI-RL) and a combined all India CPI. Central Statistical Office (CSO) of Ministry of Statistics and Program Implementation (MOSPI) is engaged in the construction of rural, urban and combined CPIs. These are published from 2011 onwards. The labour bureau, Ministry of Labour and Employment (MOLE) is responsible for constructing CPI-IW, CPI-AL, CPI-RL. WPI served as a nationwide indicator of inflation for a long period till the emergence of all India combined CPI. In April 2014, RBI decided to use all India CPI (constructed by CSO) as the inflation index to target inflation under its new inflation targeting monetary policy. The inflation target set by the central bank for monetary policy is now given in all India CPI-Combined (CPI-C). the most important category in the consumer price index is Food and beverages (45.86% of total weight), of which Cereals and products (9.67%), Milk and products (6.61%), Vegetables (6.04%), Prepared meals, snacks, sweets, etc. (5.55%), Meat and fish (3.61 percent), and Oils and fats (3.56%). Miscellaneous accounts for 28.32%, of which Transport and communication (8.59%), health (5.89%), and education (4.46%). Housing accounts for 10.07% ; Fuel and light for 6.84% ; Clothing and footwear for 6.53% ; and Pan, tobacco and intoxicants for 2.38%.

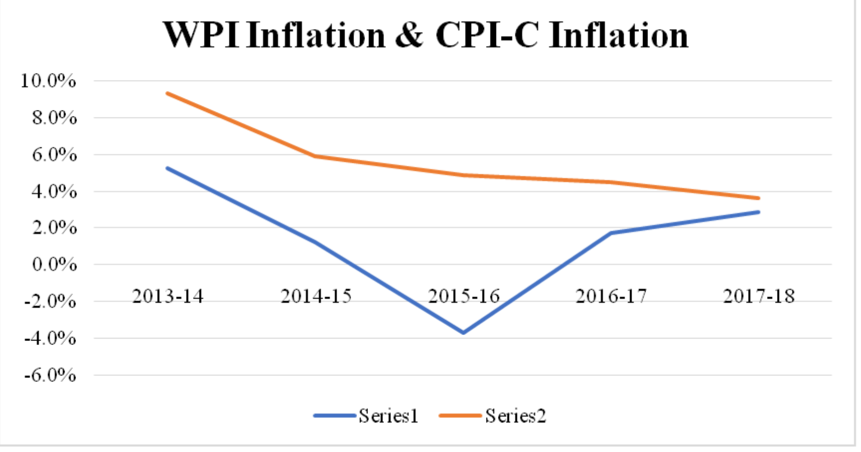
Background of Monetary Policy of India

Upto mid-1980's, the main function of monetary policy of India was to make available the credit at cheap administrated rates for purpose of economic development and public sector banks serve as the main intermediaries. In mid-1980s, monetary targeting was adopted and in late 1980s, Reserve Bank of India introduced a number of money market instrumentsalong with deregulation of interest rates on existing money market instruments. Cash Reserve Ratio was the primary tool of monetary policy to control overall money supply and check inflationary pressure. In April 1998, RBI announced that it would move to "multiple indicator approach" in which along with broad money, a group of macroeconomic variables like rate of interest in money market, capital market and government securities market and including many other types of data such as data on currency, trade, fiscal deficits, inflation rate, exchange rate etc. are placed with output data for drawing inferences in process of policy formulation. In 2000, a Liquidity Adjustment Facility(LAF) was set up, in this RBI can use repo rate and reverse repo rate as the main policy signalling rates. Another major initiative in monetary policy was introduction of Market Stabilization Scheme (MSS) in early 2004, under this scheme, government allow the RBI to issue treasury bills and dated securities and the proceeds of these bonds are held by the government in a separate identifiable cash account maintained and operated by RBI. Global financial crisis of 2008 led to large capital outflow with simultaneous pressure on foreign exchange market, Indian economy shows a rapid decline in growth rate in 2008-09 after continuous high growth in previous five years. To counter the effect of global financial crisis, RBI reduce the repo rate from 9% to 4.75% and reverse repo rate from 6% to 3.25% also significant reduction in CRR from 9% to

4.75%. According to World Bank report 2018, because of high budget and current account deficits and high inflation, Indian economy experienced significantly lower and deteriorating levels of macroeconomic stability between 2008 and 2012. RBI's multiple indicator approach was beneficial upto 2013, as it keeps the inflation in controlled or controllable rate but after 2013 the rate of inflation increased further to double digits. Thus, after the Raghuram Rajan took over as governor of RBI in September 2013 to counter the prevailing high rates of inflation, Indian monetary policy framework adopted the policy of inflation targeting and a Monetary Policy Framework Agreement (MPFA) was signed between GoI and RBI on Feb. 20,2015 targeting to bring down inflation below 6% by January 2016.

Recent Trends of Inflation in India

To show the recent trend in inflation rate in Indian economy, the time period here taken is from the year 2013-14 to 2017-18. Annual average data of WPI for all commodities and CPI-C is used to study the drift of inflation in India in recent years. The time period taken is the one in which central bank has adopted the policy of inflation targeting in the economy. In this time period only, RBI has shifted its standard of measuring inflation from WPI to CPI. So, here it is interesting to see the trend of both the inflation series, one is derived from WPI and the other one is from CPI-C. The data used to calculate these inflation trends is taken from 'Handbook of Statistics on Indian Economy' annually published by RBI.



In this chart, series1 shows the Inflation rate calculated from Wholesale Price index and series2 shows the inflation rate calculated from combined Consumer price Index. Interestingly the two series of inflation calculated from two different indices shows a lot of variation and behaviour of both is contradictory at some points. In whole time period undertaken in this study, inflation using CPI always shows more value than the inflation calculated from WPI. In 2013-14, series1 is at about 5.2% and series2 is at more than 9.3% so, there is a very significant gap between two inflation measurements. After that as Indian monetary policy become inflation targeting, both the series shows the declining trend where WPI inflation shows a very sharp decline and CPI inflation decline relatively slowly. In 2015-16, as shown in chart, series1 shows the negative value of nearly -3.7% where series2 is at 4.9%, at this point the gap between both the series is maximum. After 2015-16, WPI inflation shows a sharp incline and recorded 1.7% in 2016-17 and 2.9% in 2017-18. Whereas, CPI inflation series keeps on decreasing gradually at a slow pace and recorded as 4.5% in 2016-17 and 3.6% in 2017-18. The gap between these two series was 4.1% point in 2013-14, 2.7% point in 2014-15 and then raise up to 8.6% point in 2015-16 and then contract to 2.8% point in 2016-17 and further 0.7% point in 2017-18. Different reasons can be observed for this divergence between the two series. The main causes of divergences that can be pointed out are; 1. services including education, healthcare which accounts for 28.3% in CPI, have no weightage in WPI. 2. Commodity price like metal have high weightage in WPI as compared to CPI. 3. Fuel and power category has more weight in WPI than in CPI. 4. Prices of food articles could be the key driver for the divergence as in CPI food articles have weightage of 45.9% where in WPI it is 26.1% and food prices increased at higher rate than other categories resulting in higher value of CPI inflation.

Conclusion

To conclude the things observed in this paper, it is seen that inflation in India was at peak in 2012-13, after that Indian adopted the policy of Inflation targeting as the main agenda. Afterwards, Inflation targeting policy control inflation effectively and in 2017-18, inflation rate came down to nearly 2.5%. This paper studies theory of Inflation and monetary policy of Indian government or central bank at primarily basis. No doubt inflation targeting policy work effectively to control inflation in India but there might be some adverse effect of this policy on other macroeconomic variables like employment, fiscal deficit or interest rate etc. Negative impact of inflation targeting are not included in scope of this paper. So, another work can be done to analyse the impact of inflation targeting at other variables.

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