

## Nexus Between Inflation And Economic Development In India

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### I. INTRODUCTION

There is a great controversy over the question whether inflation promotes economic development or not. The relationship between inflation and growth remains a controversial one in both theory and empirical findings. A group of economists including Keynes is of the opinion that inflation is a factor which helps economic growth. It is argued that inflation tends to redistribute income and wealth. Keynes favours mild inflation on the ground that it tends to stimulate business optimism through rising prices, resulting in high profit expectation which stimulates further investments, employment, output and income. A majority of economists hold that inflation is a child of growth process. Some degree of inflation is probably unavoidable in the process of economic development. Another group of economists is of the view that inflation does not stimulate economic development but on the contrary, works as an inhibitory factor. Milton Friedman, for instance, totally disagrees with the policy of "development through inflation".

The objective of this study is to find out the trade off between inflation and economic development in India and also discuss the measurement of Inflation in India.

### II. OBJECTIVES

To discuss the measurement of inflation in India

To study the trade off between inflation and economic development in India

### III. METHODOLOGY

This study has been based on secondary data. All the sources were subject related and the sources used were books, journals, newspapers and websites. The paper will be divided in following sections

Section 1 Introduction

Section 2 Review of literature

Section 3 Measurement of inflation in India

Section 4 Nexus between inflation and economic development in India

Section 5 Conclusions

### IV. REVIEW OF LITERATURE

Review of literature is very important in case of any study because we can find out what others have done on these lines and what we are going to do. Understanding the relationship between inflation and real growth has all along been a key concern in macro-economic research. Earlier works (for example, Tun Wai, 1959) failed to establish any meaningful relationship between inflation and economic growth. Some cross-country studies, found that inflation affecting economic growth negatively, includes Fischer (1993), Barro (1996) and Bruno and Easterly (1998). Fischer (1993) and Barro (1996) found a very small negative impact of inflation on growth. Yet Fischer (1993: 281) concluded —however weak the evidence, one strong conclusion can be drawn: inflation is not good for longer-term growth. Barro (1996) also preferred price stability because he believed it to be good for economic growth. De Gregorio (1993) presents evidence from 12 Latin American countries over the period 1950–85. He finds a significant negative correlation between inflation and growth. Though both inflation and its variance have negative effects on growth, since they are highly correlated in cross-11 country evidence, the results cannot discriminate whether it is the level or the variability that negatively affects growth. Even when high inflation countries were eliminated from the regression, the impact of inflation was both negative and significant. Another study by Paul, Kearney and Chowdhury (1997) involving 70 countries (of which 48 are developing economies) for the period 1960–1989 found no causal relationship between inflation and economic growth in 40 % of the countries. Malik and Chowdhury (2001) observed the relationship between inflation and GDP growth for four South Asian countries which is Bangladesh, India, Pakistan and Sri Lanka. They established two results that inflation and economic growth are positively and statistically significantly related for all four countries and the sensitivity of growth to changes in inflation rates is smaller than that of inflation to changes in growth rates. Another study by Faria and Carneiro (2001) claimed

a divergent view from Malik and Chowdhury (2001). They have measure the relationship between inflation and economic growth in the context of Brazil which has been undergone severe inflation until recently. They took the annual data for the period between 1980 and 1995, they argued that although there is a negative relationship between inflation and economic growth in the short run, but in the long run, economic growth does not affected by inflation.

Girija and Anis (2001) use co integration and error correction models to empirically test the long run and short run dynamics of the inflation-economic growth relationship for the four South Asian Countries viz., Bangladesh, India, Pakistan and Srilanka. Using the Annual Data, this study finds that there is long run positive relationship between growth and inflation. Prasanna V Salian, Gopakumar seeks to examine the relationship between inflation and GDP growth in India. An empirical evidence is obtained from the cointegration and error correction models using annual data collected from the Reserve Bank of India. The result shows that there is a long-run negative relationship between inflation and GDP growth rate in India. Inflation is harmful rather than helpful to growth. These results have important policy implications. Cross-country evidence appears to support a cross-country negative relationship. In general, countries with higher growth are those with lower inflation rates. A World Bank study finds that the high-performing East Asian countries, that have had sustained high growth for the last three decades, have each had a stable macroeconomic environment that fostered high rates of investment and economic growth (World Bank 1993). Macroeconomic stability has been defined as inflation being kept under control, internal and external debt remaining manageable, and resolving the macroeconomic crisis that emerged within a year or two.

**MEASUREMENT OF INFLATION IN INDIA :** Inflation is usually measured based on certain indices. Broadly, there are two categories of indices for measuring inflation i.e. Wholesale Prices and Consumer Prices. There are certain sub-categories for these indices. An Index number is a single figure that shows how the whole set of related variables has changed over time or from one place to another. Many developing countries use changes in the Consumer Price Index (CPI) as their central measure of inflation. However, this method is unsuitable for use in India, for structural and demographic reasons. CPI numbers are typically measured monthly, and with a significant lag, making them unsuitable for policy use. In India we use five major national indices for measuring inflation or price levels. The Wholesale Price Index is usually considered as the headline inflation indicator in India. In addition to Whole Price Index there are four different consumer price indices which are used to assess the inflation for different sections of the labour force. In addition to above five indices, the GDP deflator as an indicator of inflation is available for the economy as a whole and its different sectors, on a quarterly basis.

**Wholesale Price Index (WPI) :** This index is the most widely used inflation indicator in India. This is published by the Office of Economic Adviser, Ministry of Commerce and Industry. WPI captures price movements in a most comprehensive way. It is widely used by Government, banks, industry and business circles. Important monetary and fiscal policy changes are linked to WPI movements. It is in use since 1939 and is being published since 1947 regularly. The base year of WPI has been revised on number of occasions. The current series of Wholesale Price Index has 2004-05 as the base year. Latest revision of WPI has been done by shifting base year from 1993-94 to 2004-05 on the recommendations of the Working Group set up with Prof Abhijit Sen, Member, Planning Commission as Chairman for revision of WPI series. This new series with base year 2004-05 has been launched on 14th September, 2010.

A brief on the historical development of this WPI is given below: -

**Table 1: Historical development of this WPI**

Base Year	Year of Introduction	No of Items in Index	No of Price Quotations
Week ended 19th August 1939	1942	23	23
End August 1939	1947	78	215
1952-53 (1948-49 as weight base)	1952	112	555
1961-62	July 1969	139	774
1970-71	January 1977	350	1295
1981-82	July 1989	447	2371
1993-94	April 2000	435	1918
2004-05	September 2010	676	5482

Methodology, Basket and Weights Adopted for Revised Index Numbers of Wholesale Prices in India with Base Year 2004-05 = 100. WPI and Inflation Data up to 2010 based on new series with base year 2004-05

Thus the latest WPI has a basket of 676 items with 5482 quotations. There are three major categories which have different weights.

**Table 2: Weights of different categories under WPI**

Category	Weight
Primary Articles	20.12%
Fuel & Power	14.91%
Manufactured Products	64.97%

Thus we can say that the WPI measures the price of a representative basket of wholesale goods. In India, this basket is composed of three groups: Primary Articles, Fuel and Power and Manufactured Products. Food Articles from the Primary Articles Group account for 14.3% of the total weight. The most important components of the Manufactured Products Group are Chemicals and Chemical products (12%); Basic Metals, Alloys and Metal Products (10.8%); Machinery and Machine Tools (8.9%); Textiles (7.3%) and Transport, Equipment and Parts (5.2%). WPI numbers are typically measured weekly by the Ministry of Commerce and Industry.

The general criticism of WPI is that it considers the wholesale price which is not relevant for consumers because they purchase on retail prices. In this context, a major problem identified by the Reserve Bank of India (RBI) is the measurement of inflation in India:

"Which inflation index do we target? Our headline inflation index is the WPI and that does not, by definition, reflect the consumer price situation."

(Subbarao (2010a)

Secondly WPI has been criticised due to non exclusion of services.

The multiplicity of inflation indices available in India has often been described as problematic and has been used as an argument for not adopting a full fledged inflation targeting framework.

#### **NEXUS BETWEEN INFLATION AND ECONOMIC DEVELOPMENT IN INDIA :**

To attain sustainable economic growth with price stability continues to be the central objective of macroeconomic policies for most countries in the world today. In the outcome of the global financial crisis in 2008, as growth gradually recovered, inflation gained momentum in India. Inflation remained higher and persisted at above the comfort level of the Reserve Bank of India. The debate of growth-inflation trade-off and the role of monetary policy reappeared and have once again acquired centre stage of recent policy debate. High output growth and low inflation are among the most important objectives of macroeconomic policy. But there are perceived trade-offs between lowering inflation and achieving high growth. Empirical evidence emphasizes that the growth-inflation relationship depends on the level of inflation—at some low levels, inflation may be positively correlated with growth, but at higher levels inflation is likely to be harmful to growth. In other words, the relationship between inflation and output growth is non-linear. If such a non-linear relationship exists, then it should be possible to estimate the inflection point, or threshold, beyond which output growth becomes costly. In this context, several studies have examined the relationship between inflation and long-run growth in a non-linear framework. There are different economic theories which ascertain consensus on the inflation – growth

relationship. Classical economics recalls supply-side theories, which emphasise the need for incentives to save and invest if the nation's economy is to grow. Keynesian theory provided the AD-AS framework, a more comprehensive model for linking inflation to growth. Monetarism reemphasised the critical role of monetary growth in determining inflation, while Neoclassical and Endogenous Growth theories sought to account for the effects of inflation on growth through its impact on investment and capital accumulation. A plethora of research has extensively examined all the dimensions and aspects of the relationship between inflation and growth including the nature of their interaction and the direction of causality.

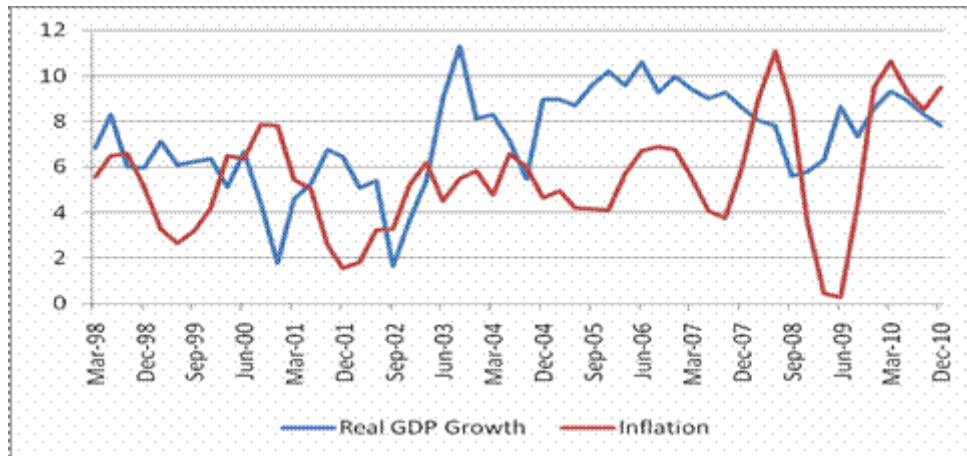
Bruno and Easterly (1996) also found using different panels, that episodes of high inflation corresponded with negative growth in output. Ghosh and Phillips (1998) interestingly noticed that during low inflation period, there is a significant positive impact on growth, but beyond a certain limit (2 to 3 percent per year), inflation however negatively affects growth in output. Furthermore, they have found that decline in inflation positively influences growth. While there is a consensus suggesting that in the long run, high inflation is correlated with a lower level of economic growth, several other studies have examined this finding for a single country over time. Rangarajan (1997) analyzed data for India and established the range of 5-7 percent which has been further confirmed by Samantaraya and Prasad (2001) who suggested that 6.5 percent is the estimated threshold. Mubarik (2005) studied data for Pakistan for a wide sample period of 1973-2005 and concluded that beyond 9 percent, inflation affects growth adversely, while at a moderately low level of 5 percent, inflation positively influences growth. Krishna Veni and Pradeep Kumar Choudhury concluded on the basis of their study ,

Based on data of Indian economy during 1981-2004, that the two variables inflation and growth are not co integrated. Therefore, it is evident that there is no long run relationship between these two variables in India. It is also clear from this study that since the growth of the economy is not related to inflation, acceleration of growth should be focused forever as one of the foremost economic objectives of the nation. Similarly, inflation may take place due to supply side and demand side factors. Apart from these, the monetary factors and the international factors also may lead to inflation. Based on the circumstances, the government has to take the timely measures to control the inflation in order to maintain economic stability in the economy.

In her paper Saumitra N Bhaduri concluded the negative correlation between the inflation and growth for India, the original series is small and weak. However, after decomposing the data and extracting the long run and short run components, a stronger and persistent negative relationship emerges between the growth and inflation while it is insignificant for the longer term. Using the monthly wholesale price index and index of industrial production as the proxies of inflation and output growth respectively Bipradas Rit have constructed a bivariate GARCH model of inflation and growth to find the relationship between inflation, inflation uncertainty and output growth of India. They find strong evidence of positive relationship between inflation and inflation uncertainty and between growth and growth uncertainty. But no statistically significant relationship between inflation uncertainty and output growth rate has been empirically observed. This analysis suggests that price stability must not be the main focus of policy prescription.

.Deepak Mohanty, A B Chakraborty, Abhiman Das and Joice John examine the issue of the existence of threshold effects in the relationship between inflation rate and real GDP growth in India using 3 different approaches. Their empirical analysis uses data for the period of Q1:1996-97 to Q3:2010-11 in order to capture the more recent picture of the growth inflation nexus and results suggest that there exists statistically significant structural break in the relation between output growth and inflation in between 4.0 and 5.5 per cent of inflation above which inflation retards growth rate of GDP and below the threshold level, there is a statistically significant positive relationship between inflation rate and growth. Thus substantial gains can be achieved if inflation is kept below the threshold.

**Fig. 1: Recent Trend of Real GDP Growth and Inflation in India**



Source:Inflation Threshold in India: An Empirical investigation\*

If we talk about threshold inflation in India, there are a number of studies in Indian context which provided different views on inflation threshold. Chakarvarty Committee (1985) referred to it as the acceptable rise in prices at 4 per cent. Rangarajan (1998), who pioneered the concept of threshold inflation, brought central bank focus on inflation rate at 6–7 per cent known as “acceptable level” of inflation.

## V. CONCLUSION

High output growth and low inflation are among the most important objectives of macroeconomic policy. If we take the case of Indian Economy there are a number of studies which did not find any significant relationship between inflation and economic development. Low level of inflation is beneficial for development but above a certain level it retards economic development. In Indian context this is also true. Considering the relationship between inflation and economic development in India, Inflation targeting should be done which suggest an acceptable level of inflation.

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