



## A STUDY OF INTERACTION BETWEEN GROWTH PATTERN AND INFLATION IN INDIAN ECONOMY IN THE POST LIBERALIZATION PERIOD

**Dr. Sonael Sharma**

UGC - NET qualified and holds M.Phil and Ph.D. degree in Economics.

Assistant Professor (Economics) on contractual basis with

Shri G. S. Institute of Technology and Science, Indore.

### ABSTRACT

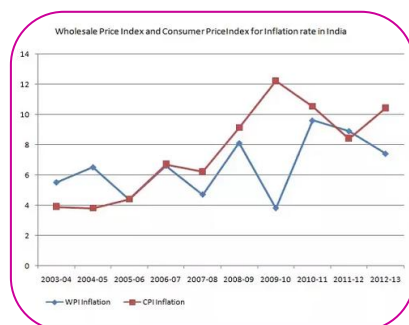
*Inflation and economic growth are deeply interconnected. Low and stable inflation are main objective of monetary policy for Reserve bank of India. However, achieving it is quite challenging. Inflation has huge effects on the consumption and growth pattern. Macroeconomic stability is very important for sustained growth. But high inflation has an adverse impact on growth in many ways as high inflation leads to uncertainty which impacts consumption, investment and growth. This paper attempts to study the trend of inflation in post liberalization period in India and also its interaction with the growth rate. Econometrics tools like semi regression log model and graphs are used to analyze the data.*

**KEY WORD:** Inflation, Growth pattern, Post liberalization period.

### INTRODUCTION

India has never had to face hyperinflation in the history. The highest inflation that India has ever seen in the past two centuries is 53.8%, due to famine year of 1943. But India has faced nothing like hyperinflation faced by Germany in the early 1920s or what Zimbabwe has to deal with in recent years. India has a good record in fighting the rising prices. The inflation rate accelerated gradually from an annual average of 1.7% during the 1950s to 6.4 % during the 1960s and further to 9.0 % in the 1970s before easing to 8.0 % in the 1980s. The surge in inflation rate from 1970s onwards reflected the impact of crop failures and fluctuation in crude oil prices. Also demand pressures from the balance of payment crises and huge fiscal imbalances, contributed to inflationary pressures in the 1980s.

High inflation has an adverse impact on growth in many ways. Firstly, high inflation leads to uncertainty which impacts investment and growth especially high inflation. Secondly, high inflation makes banks deposits less attractive and encourages investment in speculative activities, which leads to diversion of savings away from bank deposits. Thus reducing the domestic financial savings. Therefore high inflation has an adverse impact on investment and growth.



### LITERATURE REVIEW:

Most of the theoretical literature has mainly produced models where inflation has a negative impact on growth. One of the first theoretical studies concerning inflation and output is Tobin (1965), according to which inflation is beneficial to the output level because it lowers the interest rate and therefore the opportunity cost to invest. This increases the capital-labor ratio and therefore output. Stockman (1981) pointed to the possible existence of an inverse Tobin effect, whereby an increase in the inflation rate causes the capital stock to

decrease, supposing a cash in advance constraint for capital accumulation and given that inflation raises the cost of money holding.

Gylfason and Herbertsson (2001) proposed to insert real money balances into the production function and they found a negative effect of inflation on growth through three channels: it lowers the real interest rate and therefore savings; it reduces efficiency by driving a wedge between the returns to real and financial capitals, and finally it reduces financial depth, harming output.

In Paul and Smith (2001), the relationship between money growth and real growth is shown to be characterized by a threshold. At low money-growth rates, banks perceive a small opportunity cost in detaining reserves instead of lending funds for investments. As money growth rises, the nominal interest rate rises too, increasing the opportunity cost of holding reserves and spurring lending and therefore investment and growth.

Prasanna V Salian, Gopakumar. (2012) In this paper, the co-integration and error correction models have used to empirically examine long-run and short-run dynamics of the inflation-economic growth relationship in India using annual data. The main objective was to examine whether a relationship exists between economic growth and inflation and, if so, its nature. The result found in this study is that the inflation and economic growth are negatively related.

MuneeshKapur (2012) This paper focused on modeling and forecasting inflation in India using an augmented Phillips curve framework, time series econometrics such as univariate autoregressive moving average (ARMA) models or multivariate Vector Autoregressive (VAR) models for annual data for the period 1952-2010. Both demand and supply factors are seen as drivers of inflation. Demand conditions are found to have a stronger impact on non-food manufactured products inflation (NFMP) vis-a-vis headline WPI inflation; moreover, NFMP is found to be more persistent than headline inflation.

#### OBJECTIVES:

- 1) To study the trend of inflation in post liberalization period.
- 2) To find out the compounded growth of inflation in post reforms period.
- 3) To analyse the interaction between growth and inflation.

#### Variable and model used in the study:

The inflation and growth pattern of the Indian economy is studied for a time period of 25 years from 1992-93 to 2016-17. It is a secondary database of post liberalization period i.e., 1991 onwards to analyze the sustainability of the economic growth given the inflation. The source of data collection is the RBI (Reserve Bank of India) website. Inflation figures are studied as percent derived from GDP deflator and national income (NNPFC) at constant is studied in percentage. A combination of econometric model has been applied to study the above mentioned objectives. The research models used are Semi Logarithmic Regression Model. Also graphs are used to study the trend.

#### Analysis of inflation trend:

Inflation and economic growth are deeply interconnected. Low and stable inflation are main objective of monetary policy for Reserve bank of India. However, achieving it is quite challenging. Inflation has huge effects on the consumption and growth pattern. Macroeconomic stability is very important for sustained growth. Well contained inflation indicates macroeconomic stability and is favorable for investment. Unproductive expenditure should be curbed, which is bad for both growth and inflation. Inflation stability and the necessary infrastructure can result in promoting growth.

For comprehensive analysis of inflation in the past and to find the compound growth rate of inflation the following semi logarithmic regression equation is used. Where  $Y_t = \text{Log Inflation}$  and  $X_t = \text{Time}$

$$Y_t = \beta_0 + \beta_1 X_t + U$$

	$\beta$	Std. Error	t	Sig.	R <sup>2</sup>
Intercept	1.041	.065	15.985	.000	.539
Time	-.025	.006	-4.462	.000	

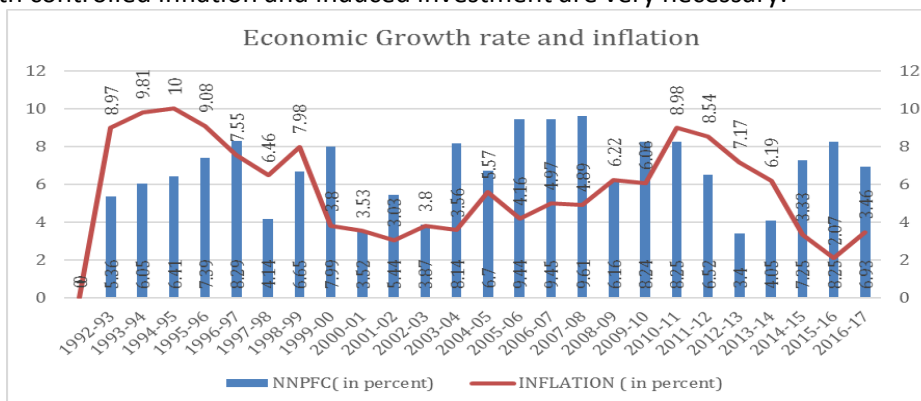
The results of regression show that the model is able to explain 53.9 percent variation in the inflation. The coefficient of time ( $\beta_1$ ) is negative and significant. It indicates the compound growth rate in inflation is 5.9 percent per annum. If we observe the inflation trend, the second half of the 1990s was marked by inflation control reflecting improvement in monetary policy. Price stability is must for monetary policy to achieve sustained and high growth. Monetary policy has to be futuristic i.e., act today in anticipation of future growth. Further a simple regression model is applied to analyze the interrelation between economic growth and inflation. Economic growth is taken as dependent variable whereas inflation is taken as independent variables. The model is as follows:

$Y_t = \beta_o + \beta_1 X_t + U_t$  Where  $Y_t$  = NNPC at constant prices taken as percent change over previous year,  $X_t$  = Inflation.

	$\beta$	Std. Error	t	Sig.	R <sup>2</sup>
Intercept	8.394	1.222	6.872	.000	.166
Inflation	-.306	.166	-1.839	.083	

The results of regression analysis show that the model is able to explain 16.6 percent variation in the economic growth. The coefficient of inflation ( $\beta_1$ ) is negative and significant at 10 percent level of significance. It shows that there is inverse relationship between inflation and economic growth and the value of slope given by ( $\beta_1$ ) is .306.

A higher rate of inflation adversely affects the growth. It is also observed that the inflation and economic growth are negatively related. In 1991 inflation was very high in double digits while the economic growth rate was low at 5.24. In 2000, the growth rate increased to 6.18 percent whereas inflation fell down to 3.8 percent. Post 2000 the inflation was well contained below 5 percent and growth exhibited gradual increase. This has important policy implications. The most suitable monetary for India is one in which inflation is on a lower side though India has kept the inflation levels under control. There have been episodes of high inflation but price rise has been controlled by various fiscal, and monetary measures. To achieve high sustainable growth controlled inflation and induced investment are very necessary.



Source: RBI website. Inflation is calculated from GDP deflator whereas growth rate is calculated from change in NNPC at constant prices.

In India inflation has been under control. For growth prospects and keeping inflation in check, budgetary deficits should be controlled. This can be attained by shifting expenditure from consumption to investment. The government should curb unnecessary expenditure, which is bad for growth and results in rise in inflation.

The relationship between inflation and growth remains a contradictory one in theory and analytical findings. The structuralists believe that inflation is good for economic growth, whereas the monetarists believe that inflation has adverse impact on economic progress. Friedman (1973) summarized the inconclusive nature of the relationship between inflation and economic growth as follows: “historically, all possible combinations have occurred: inflation with and without development, no inflation with and without development”.

### CONCLUSION:

- The results of regression analysis show that the model is able to explain 53.9 percent variation in the inflation. The coefficient of time ( $\beta_1$ ) is negative and significant. It indicates the compound growth rate in inflation is 5.9 percent per annum. If we observe the inflation trend, the second half of the 1990s was marked by inflation control reflecting improvement in monetary policy. The inflation trend in the second half of the 1990s was marked by inflation control reflecting improvement in monetary policy.
- The coefficient of inflation ( $\beta_1$ ) is negative and significant at 10 percent level of significance. It shows that there is inverse relationship between inflation and economic growth. A higher rate of inflation adversely affects the growth. It is also observed that the inflation and economic growth are negatively related.
- In 1991 inflation was very high in double digits while the economic growth rate was low at 5.24. In 2000, the growth rate increased to 6.18 percent whereas inflation fell down to 3.8 percent. Post 2000 the inflation was well contained below 5 percent and growth exhibited gradual increase.
- For growth prospects and keeping inflation in check budgetary deficits needs to be controlled. There have been episodes of high inflation but price rise has been controlled by various fiscal, and monetary measures. To achieve high sustainable growth controlled inflation and induced investment are very necessary.

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