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Relationship between inflation and unemployment in India: An analytical study (2010-2019)

Gulshan Kumar[1], Sanjeev Kumar Gangwar[2]
[1] Associate Professor, Rajshree Institute of Management & Technology, Bareilly, Uttar Pradesh, India
[2] Assistant Professor, Rajshree Institute of Management & Technology, Bareilly, Uttar Pradesh, India

Abstract
Inflation has been long the common man's concern about economy. In every day social life and conservation inflation is commonly used index for the price hike of the commodities. Because inflation is the economic parameter associated with the hike of the price, it affects the society and social concerns both. Unemployment is another major issue of person's social life in the present time. Problem of unemployment in India has been increasing continuously. The objectives were study on unemployment rate and inflation rate in India and examine relationship between unemployment and inflation in Indian economy. The present paper used secondary data in period from 2010 to 2019.

Keywords: inflation, inflation rate, unemployment, unemployment rate.

Introduction

Inflation is a rise in the general price level of goods and services in an economy over a definite period of time. When the general price level of goods and services rises, each unit of currency buys fewer goods and services. Actually, inflation reflects a reduction in the purchasing power per unit of money a loss of real value in the medium of exchange and unit of account within the economy. Inflation may be defined as a sustained increase in the general level of prices for goods and services. Inflation can be measured as an annual increase in percentage.

The rate at which the general price level for goods and services is rising and subsequently, purchasing power is falling. RBI attempt to stop severe inflation along with severe deflation in an attempt to keep the excessive growth of price to a minimum.

In other words we can define inflation is "too much money chasing too few goods". The last definition attributes the cause of inflation to monetary growth rate to the output / availability of goods and services in the economy. If the prices of only one commodity rise sharply but prices of other commodities fall it will not be termed as inflation, similarly due to rumours if the price of a commodity rises during the day itself, it will not be termed as inflation.

Features of Inflation

- Inflation involves a process of persistent rise in the prices. It involves rising trend in price level.
- Inflation is a state of disequilibrium.
- Inflation is scarcity oriented.
- Inflation is dynamic in nature.
- Inflationary price rise is persistent and irreversible.
- Inflation is caused by excess demand in relation to supply of all types of goods and services.
- Inflation is a purely monetary phenomenon.
- Inflation is post full employment phenomenon.
- Inflation is a long-term process.

Causes of Inflaton

Inflation refers to a rise in prices that causes the purchasing power of a nation to fall. Inflation is a normal economic development as long as the annual percentage remains low; once the percentage rises over a pre-determined level, it is considered an inflation crisis. There are many causes for inflation, depending on a number of factors.

Excess printing of money

Inflation can happen when governments print an excess of money to deal with a crisis. As a result, prices end up rising at an extremely high speed to keep up with the currency surplus. This is called the demand-pull, in which prices are forced upwards because of a high demand.

Rise in production costs

Another common cause of inflation is a rise in production costs, which leads to an increase in the price of the final product. For example, if raw materials increase in price, this leads to the cost of production increasing, this in turn leads to the company increasing prices to maintain steady profits. Rising labour costs can also lead to inflation. As workers demand wage increases, companies usually chose to pass on those costs to their customers.

International lending and national debts

Inflation can also be caused by international lending and national debts. As nations borrow money, they have to deal with interests, which in the end cause prices to rise as a way of keeping up with their debts. A deep drop of the exchange rate can also result in inflation, as governments will have to deal with differences in import/export level.

Rise in tax and duties

Finally, inflation can be caused by federal taxes put on consumer products such as cigarettes or fuel. As the taxes rise, suppliers

often pass on the burden to the consumer; the catch, however, is that once prices have increased, they rarely go back, even if the taxes are later reduced. Wars are often cause for inflation, as governments must both recoup the money spent and repay the funds borrowed from the central bank. War often affects everything from international trading to labour costs to product demand, so in the end it always produces a rise in prices.

Factors influencing inflation in India
There are several factors which becomes determinants to measure inflation in India, are Demand factors, Supply factors, Domestic factors, External factors, which become reasons for increasing inflation India. These determents which influence in different manner.

Demand Factors: This is the condition where total demand exceeds the total supply. This is the condition where huge money is available for few products, because supply is less.
For example country has a capacity to produce 10lakh products where demand is 20lakh products, if this is the condition the inflation will happen, here product demand is becoming major factor for inflation.

Supply Factors: This is a kind of inflation which happens due to Supply factors. This is the conditions which happen where unable to supply the products. The reasons might be Scarcity (or) drought (or) natural disaster. The scarcity in agricultural sector may leads to high prices. If labour expects more wages, this might be cause for higher prices of the products. This is also one of the considerable factors which effect on Inflation.

Domestic Factors: Inflation impact is high in the countries of developing economies and underdeveloped economies, because the financial market which creates a weak bounding between the interest rates and aggregate demand. In India this situation can be seen, the supply of money rapidly increasing where as the supply of goods takes due time which causes increased inflation in India. There are several other factors for the gold and silver commodities and their price hike. Surplus money and few products which causes, inflation in India. That's reason why money markets and capital markets plays prominent role in the creation of inflation in India.

External Factors: The exchange rate also one of the main determinant for inflationary pressures that arises in India. When prices of thee goods rises, which import from United States of America, those goods which are importing from USA to India automatically Increase. The exchange rates can be fixed exchange and flexible exchange rates, which impact on Inflation in India.

Unemployment in India
The unemployment rate is a measure of the prevalence of unemployment and it is calculated as a percentage by dividing the number of unemployed individuals by all individuals currently in the labour force. During periods of recession, an economy usually experiences a relatively high unemployment rate. Huge population in India is the main cause of increasing unemployment in India. Short of skilled labour, lack of capital etc are the major other causes of increasing unemployment rates in India.

Causes of unemployment in India
The main causes of unemployment in India are as follows:-
- Theoretical Education
- Lack of full employment in Industries
- Lack of alternative opportunities for agricultural workers
- Poor condition of small-scale industries
- Excessive burden of population on cultivation
- Rapidly increasing population
- Low productivity in agricultural sector
- Defective economic planning
- Large-scale production and mechanization

Types of Unemployment
There are following types of unemployment in India:-
Cyclical unemployment
Cyclical unemployment exists when individuals lose their jobs as a result of a downturn in aggregate demand. If the decline in aggregate demand is persistent, and the unemployment long-term, it is called either *demand deficient*, *general*, or Keynesian unemployment.

Demand deficient unemployment
This is caused by a lack of aggregate demand, with insufficient demand to generate full employment.

Structural unemployment
Structural unemployment occurs when certain industries decline because of long term changes in market conditions. Globalisation is an increasingly significant cause of structural unemployment in many countries.

Regional unemployment
When structural unemployment affects local areas of an economy, it is called 'regional' unemployment. Geographical immobility makes regional differences more extreme.

Classical unemployment
Classical unemployment is caused when wages are 'too' high. Classical unemployment is also called *real wage* unemployment.

Seasonal unemployment
Seasonal unemployment exists because certain industries only produce or distribute their products at certain times of the year. Industries where seasonal unemployment is common include farming, tourism, and construction.

Frictional unemployment
Frictional unemployment, also called *search unemployment*, occurs when workers lose their current job and are in the process of finding another one. There may be little that can be done to reduce this type of unemployment, other than provide better information to reduce the search time. This suggests that *zero unemployment* is impossible at any one time because some workers will always be in the process of changing jobs

Voluntary unemployment
Voluntary unemployment is defined as a situation when workers choose not to work at the current equilibrium wage rate. For one reason or another, workers may elect not to participate in the labour market. There are several reasons for the existence of

voluntary unemployment including excessively generous welfare benefits and high rates of income tax. Voluntary unemployment is likely to occur when the equilibrium wage rate is below the wage necessary to encourage individuals to supply their labour.

Literature Review

Honohan (2004) attempts to explore the association between financial depth, as measured by private credit, and the poverty ratio by using cross-country data available for more than 70 developing countries. He finds that financial depth is negatively associated with the poverty ratio, even after controlling for the mean income, the income share of the top 10%, and the inflation rate.

Powers (1995), Ravallion (1998), and Braumann (2004) reported that poverty and inflation are positively correlated. This direct relationship between the inflation and poverty was also observed in Pakistan by Chaudhry and Chaudhry (2008).

Ravallion and Datt (2002) scrutinised the association between the variables and concluded that inflation exerts a negative impact on poverty in India.

Talukdar (2012) showed that inflation has no impact on poverty in low-income countries.

Bildirici and Turkmen (2015), asymmetric models have more explanatory power than the linear models. This study contributes to the literature by considering asymmetries between poverty and its determinants. Consequently, poverty is modelled in an asymmetric framework.

Cardoso (1992) studied the effect of inflation on poverty between 1970 and 1990 in the Latin American countries. She argued that Inflation increases poverty in two ways. First, the inflation tax can reduce disposable real income. Second, if nominal wages increase less than the price of goods consumed by wage earners, workers' real income will decline. She found evidence that in Latin America, inflation affected the poor through inflation tax but the effect was very small. Higher rates of inflation had resulted in higher inflation taxes but unless the inflation was extremely high (above 100%) this increase in inflation tax was less than 1%. However, she showed that the main effect of inflation on poverty was manifested through real wages. She found that accelerating inflation reduces real wages and increases poverty. According to her results, real wages fall by 14 percent when inflation doubles.

Powers (1995) adopted a consumption-based approach to measure poverty in the United States. Analyzing data from 1959 through 1992, she found a robust and relatively large positive relationship between inflation and the consumption poverty rate. Powers argues that inflation affects the poor directly through a decline in their real wages owing to the short-run rigidity of nominal wages.

Romer and Romer (1998) studied the impact of the United States' monetary policy on unemployment, poverty and inequality. They found that regression of the change in poverty on the unanticipated change in inflation produced a small and insignificant coefficient. However, the relationship between the change in poverty and the anticipated change in inflation was significant. The point estimate implies that an anticipated increase in inflation of one percentage point is associated with a decline in poverty of 0.2 percentage points. According to Romer, unanticipated inflation reduces the real value of nominal assets and liabilities. It therefore causes real capital losses for nominal creditors and real capital gains for nominal debtors. If the poor are net nominal debtors, these effects benefit them. However, owing to the fact that the poor households usually hold liabilities of small size, these benefits from unanticipated inflation are insignificant.

Erosa and Ventura (2002) observe that poor households hold more cash relative to other financial assets than rich households do. The poor then pays a disproportionate share of the inflation tax and are hurt more by inflation.

According to Braumann (2004), the fall in real wages during inflation can also be linked to increasing poverty in Latin America during the last two decades. From an examination of the data for the period 1960 - 1997, he shows that poverty maxima coincided with inflation maxima. The living standards of the poor were most hurt by inflationary macro policies that intended to favor them. He, therefore, concludes that fighting inflation might thus be an important step towards reducing poverty.

Ravallion (1998) studied the impact of higher food prices with survey data spanning 1959-1994. He found that there was strong positive correlation between higher prices and poverty. Later, Datt and Ravallion (2002), using panel data on poverty from Indian states, showed that inflation adversely affected India's poor and attributed this effect primarily to adverse shocks on the real wage of unskilled labor.

Sugema, *et al.* (2010) have found evidence that inflation has a larger impact on poor households both in rural and urban area relative to non-poor household. They also found that rural poor households are more vulnerable to economic shocks, especially inflation. Furthermore, they find that price fluctuation on foods and its products has a larger impact on poverty relative to non-food commodity.

Objectives of the Study

The study is based on the following objectives:-

1. To study the meaning and definition of inflation.
2. To study the features of inflation.
3. To study on trends of unemployment and inflation rate in India
4. To study the relationship between unemployment and inflation in Indian economy.

Research methodology

The present study used secondary data in period from 2010 to 2019. The study is based on published sources of data collected from various sources. The data were gathered from the secondary sources such as journals, articles published online and offline on various newspapers and websites.

Data Analysis

Unemployment rate in India

The result and discussion based on objectives of the study firstly we have discussed about unemployment rate in India. The unemployment rate in India during 2010 to 2019, the table as given below:-

Table 1: Unemployment rate of India in percentage during 2010 -2019

Year	Unemployment Rate (in Percentage)
2010	5.64
2011	5.64
2012	5.65
2013	5.67
2014	5.61
2015	5.57
2016	5.51
2017	5.42
2018	5.33
2019	5.36

Source:-*www.macrotrends.net*

Interpretation: - Table 1 depicts that unemployment rate in 2013 is higher level indicate 5.67 percent compare to other years, while in the year 2018 the unemployment rate is very low of 5.33 percent. In 2014, 2015, 2016, 2017 and 2018 unemployment rate in India has gone down by 0.06 percent, 0.04percent, 0.06 percent, 0.09 percent and 0.09 percent respectively. Finally unemployment rate in 2019 was 5.36 percent in India.

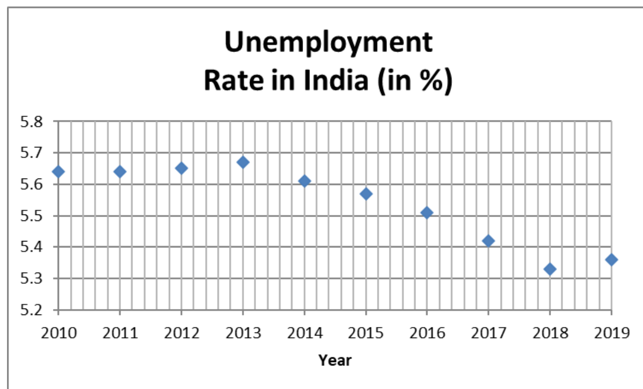

Fig1: Unemployment Rate (%) in India

Inflation rate in India

The result and discussion based on objectives of the study firstly we have discussed about inflation rate in India. The inflation rate in India during 2010 to 2019, the table as given below:-

Table2: Inflation rate of India in percentage during 2010-2019

Year	Inflation Rate (in Percentage)
2010	11.99
2011	8.86
2012	9.31
2013	10.91
2014	6.35
2015	5.87
2016	4.94
2017	2.49
2018	4.86
2019	7.66

Source:-*www.macrotrends.net*

Interpretation: - Table 2 depicts that inflation rate in 2010 is higher level indicate 11.99 percent compare to other years, while in the year 2017 the inflation rate is very low of 2.49 percent. In 2011, 2014, 2015, 2016 and 2017 inflation rate in India has gone down by 3.13 percent, 4.55percent, 0.48 percent, 0.93percent and 2.45 percent respectively. The biggest down fall in inflation rate in India in 2014 which was 4.55 percent. In 2010, 2012, 2013, 2018, 2019 inflation rate in India has gone up by 1.11 percent, 0.45 percent, 1.60 percent, 2.37 percent and 2.80 percent respectively. The highest rise in inflation rate in India in 2019 which was 2.80 percent.

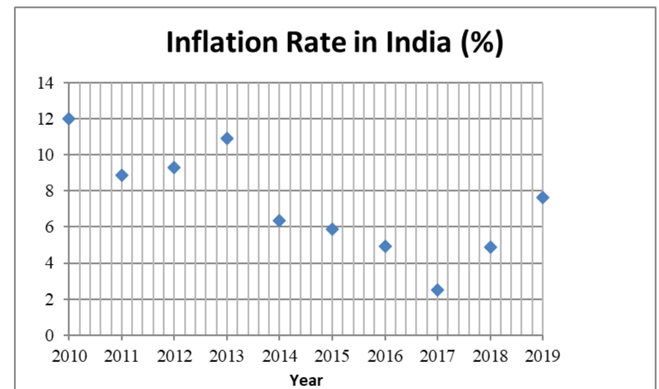

Fig2: Inflation Rate (%) in India

Relationship between unemployment and inflation in Indian economy during 2010-2019

The following table and figure expressed variation or change in unemployment and inflation in India.

Table 3: Relationship between Inflation-Unemployment in India

Year	Change in unemployment rate (%)	Change in Inflation rate (%)
2010	0.07%	1.11%
2011	0.00%	-3.13%
2012	0.01%	0.45%
2013	0.02%	1.60%
2014	-0.06%	-4.55%
2015	-0.04%	-0.48%
2016	-0.05%	-0.93%
2017	-0.09%	-2.45%
2018	-0.09%	2.37%
2019	0.03%	2.80%

Source: *Compiled by Author*

Interpretation: - Table 3 depicts the relationship between unemployment and inflation in Indian economy. In 2011 there is no change in unemployment rate whereas inflation rate changes

3.13 negatively. In 2018 registered above table unemployment rate change is 0.09 percent negatively whereas inflation rate change by 2.37 percent positively. Besides 2011 and 2018, unemployment and inflation rate are in the same direction. In 2010, 2012, 2013 and 2019 unemployment and inflation both increase positive respectively. On the other hand in 2014, 2015, 2016 and 2017 unemployment both increase negatively.

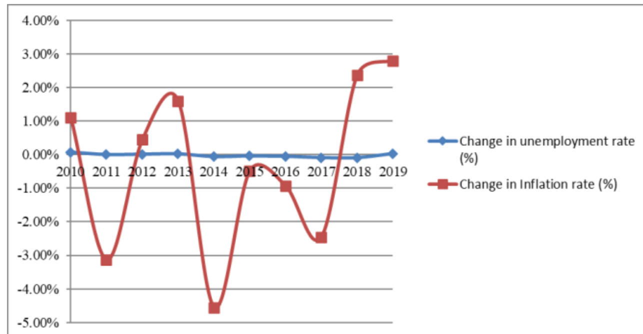

Fig 3: Relationship between Inflation-Unemployment in India

Conclusion

The unemployment rate is 2013 higher level indicate 5.67 percent compare to other years, while the year of 2018 unemployment rate is very low point of 5.33 percent. Average inflation rate (%) in India increased up to 11.99 percent in the period of 2010, inflation rate was high in 2011, 2012 and 2013 i.e. 8.86 percent, 9.31 percent and 10.91 respectively. After 2014 inflation rate was continuously gone down till 2017 i.e. 2.49 percent which was lowest in the last ten years. After 2017 once again it increased at a high rate.

In 2011 there is no change in unemployment rate whereas inflation rate changes 3.13 negatively. In 2018 unemployment rate change was 0.09 percent negatively whereas inflation rate change by 2.37 percent positively. Besides 2011 and 2018, unemployment and inflation rate are in the same direction. In 2010, 2012, 2013 and 2019 unemployment and inflation both increase positive respectively. On the other hand in 2014, 2015, 2016 and 2017 unemployment both increase negatively.

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