

Inflation and unemployment relationship



**ASSIGN
BUSTER**

The purpose of this study was to analyze empirically the relationship between inflation and unemployment in Pakistan. For analysis secondary annual time series data over the period from 1972-2008 was taken. The basic data has been obtained from Pakistan Economic Survey (various issues), using reciprocal and semi-log reciprocal econometric models for empirical estimation of relationship between Inflation and Unemployment. The Ordinary Least Square (OLS) method has been used for the parameters estimation. The study has been found negative relationship between inflation and unemployment during the study period but the results found are statistically insignificant. The empirical result does not suggest any substantial trade-off between inflation and unemployment even in the short run in Pakistan. The insignificant results it could be account of stagflation problem in the country and error in data.

Keywords: Inflation, Unemployment, Regression Analysis, Pakistan

INTRODUCTION

Generally inflation refers to the persistent rise in general price level of a country during one year. Inflation may be due to “ demand-pull” and “ cost push” factors. The basic idea behind demand-pull inflation is that the price-level rises when demand in the economy exceeds its productive capacity. The origin of the term lies in the view of the economy propounded by Keynes[1]. In contrast to demand-pull inflation, cost push inflation raises prices by raising costs of production.

Now the question is that does inflation is insignificant for the economic development? The answer is not so easy while certainly a reasonable rate of

inflation, around 3 to 6 % for any country including Pakistan[2] is often viewed to have positive effects on the economy, since it encourages investment, production, allows growth in wages and also creates jobs. However, when inflation crosses the reasonable limits it delivers negative effects accordingly. It reduces the value of money in terms of foreign exchange. It also declines investment and economic growth. Usually inflation results in inefficient resource allocation and hence reduces potential economic growth. Inflation imposes high costs on economies and societies; excessively affecting the poor and fixed income groups and creates uncertainty throughout the economy and weakens macroeconomic stability. High inflation has always hurt the poor more than the affluent group, creating economic instability.

Likewise unemployment is a measure of the number of workers that want to work but do not have jobs or in simple terms, the unemployment rate is the number of people looking for work divided by the total number of people in the labor force. According to unemployment theory, there is always a negative relationship between inflation and unemployment and due to uncontrolled inflation, unemployment increases and vice versa.

REVIEW OF LITERATURE

Always goals of the monetary policy are almost multiple like price stability, achievement of higher economic growth, reducing unemployment, and minimizing deficit in balance of payment. Even if a central bank of a country has a single goal of maintaining price stability, like central banks of advanced countries like New Zealand, Canada, England, and Australia, etc., having such a single objective but this is not the case for all developing

<https://assignbuster.com/inflation-and-unemployment-relationship/>

countries because the structure of developing economies are much different from the developed economies³. The fact that unemployment usually hurts the economy more than inflation comes up empirically in various surveys conducted in advanced countries. This new strand of empirical investigation is known as “ happiness research”, which tries to measure the level of well-being of citizens. According to the recent findings, “ unemployment strongly reduces subjective of self-reported well-being, both personally and for society as a whole”(Bruno, 2002)⁴. This research further reports that the unemployment problem is 70 % more costly than the problem of inflation. In addition various studies carried out in developed and developing countries for the purpose to analyze the trade-off between inflation and unemployment using the Indian data over the period 1950-51 to 1984-85 (Dholakia, 1987)⁵. The study found no any substantial trade-off between inflation and unemployment even in the short run in the LDCs like India. Another study conducted by Pami

Riaz, (2005)

Bruno, (2002)

Dholakia, (1987)

(2006)⁶, concluded that in case of developed/mere developing countries like Japan, Korea, Singapore, and Hong Kong exist trade off while in case of developing countries like Thailand, Philippine, China and India the study found no trade off between inflation and unemployment. Khan et. al., (2008)⁷, established the linkage between GDP growth and unemployment in <https://assignbuster.com/inflation-and-unemployment-relationship/>

Pakistan. They verified Okun law by using secondary data for Pakistan. They found the threshold level of GDP where there will be no reduction in unemployment if this level is maintained, and found that one percent increase in GDP above threshold level will reduce unemployment by 0.63%.

OBJECTIVE OF THE STUDY

As theories says that there is a long and short run trade-off between inflation and unemployment rate. To prove upon the theory by using empirical evidence from Pakistan, would certainly help to affix valuable addition to the literature in general and to maintain desirable level of inflation and unemployment rate in the country. Low level of inflation and unemployment are the ultimate goals of policy makers, as both of these would lead to economic development. The main objective of this study is to evaluate empirically the relationship between inflation and unemployment in Pakistan during the study period.

Trade off between Inflation and Unemployment

Generally macroeconomics concentrated on three primary important areas of an economy. These are production, prices, and unemployment.

If policy-makers expand Aggregate Demand (AD), they can lower unemployment, in the short-run, but only at the cost of higher inflation.

If they reduce Aggregate Demand (AD), they can lower inflation, but at the cost of higher unemployment.

The Phillips Curve, the Aggregate Demand and the Aggregate Supply

If an economy the greater the aggregate demand for goods and services, the greater is the economy's output/production and the higher the overall price level.

In fact a higher level of output/production results in a lower level of unemployment.

Hence macroeconomic stabilization policies can shift the aggregate demand curve, thus moving the economy along the Phillips curve (in 1958, Phillips⁸ examined empirically the relationship between unemployment rate and wage inflation in the UK over a period from 1861 to 1957).

Pami (2006)

Khan et. al. (2008)

Phillips A. W. (1958)

TREND ANALYSIS

Figure 1 show that during 1972-76 unemployment was 2. 44% on average basis, while in the same period inflation rate was recorded 7. 04%.

Unemployment during 1977-81 at average rate was 3. 34%, while inflation during this period was 14. 28%, which shows high rate as compared with the other periods. During 1982-86 unemployment was 4. 52% and inflation was 11. 98%. From 1987-91 unemployment was estimated 4. 34% and inflation was 6. 14. Such as during 1992-96 unemployment was 6. 98% and inflation

<https://assignbuster.com/inflation-and-unemployment-relationship/>

rate was 12.76%. Unemployment was estimated 7.7% during 1997-01 while, inflation rate was 12.68%. Likewise during 2002-06 unemployment was estimated 9.51% which is comparatively the highest unemployment average rate during the study period. According to the Pakistan Economic Survey (2008-09), the total unemployment during 2006-07 was estimated 2.68 million and in percentages it was 6.66% and in 2007-08 it was 2.69 million and in percentage 8.5% respectively. While inflation rate during 2006-07 was estimated 7.77%, in 2007-08 was 12.00% and during 2008-09 inflation rate estimated 22.35% which is highest rate in the study period.

DATA DESCRIPTION AND METHODOLOGY

Analytical Framework

Regarding this model (see Gujarati (2003)⁹ for more detail.

Where

π_t = actual inflation rate at time t

U_t = actual unemployment rate prevailing at time t

U_n = natural rate of unemployment at time t (natural rate of unemployment defined as the rate of unemployment required to keep (wage) inflation constant).

$(U_t - U_n)$ = the deviation of unemployment from the natural rate (cyclical unemployment).

ϵ_t = Stochastic error term (this error term represents some kind of supply shocks).

While as $\pi^e_t = \pi_{t-1}$; that is the inflation expected this year is the inflation rate that prevailed in the last year. Equation (1) can be written as in the following standard form;

Where $\pi_t = \alpha + \beta \pi_{t-1} - \gamma \text{Un}_t$. Equation (2) states that the change in the inflation rate between two time periods is linearly related to the current unemployment rate. The equation (1) is called expectations-augmented Phillips curve (to indicate that π_{t-1} stands for expected inflation).

More specifically the above equation (3) can be written in the following form.

Where INF= Inflation and UNEMP= Unemployment.

Data Sources and Analysis

This analysis is based on secondary annual time series data ranging from 1972-2008, as this is a case study of Pakistan. The data has been obtained from the Economic Pakistan Survey (various issues) and State Bank of Pakistan annual reports (various issues) respectively.

Research Techniques

Reciprocal model in simple and semi log form would be used to examine the relationship between inflation and unemployment rate in Pakistan during the study period. Ordinary Least Square (OLS) method has been used as an analytical technique to estimate the parameters. E. View computer software has been taken used for computation analysis.

Gujarati (2003)

RESULTS AND DISCUSSION

Empirical results of this study are given in Table 1, 2 and 3 respectively.

Results of the estimated equation are as follows;

Table 1 shows results of the simple reciprocal regression model used for trade off between Inflation and unemployment. Though this model shows inverse relationship between inflation and unemployment but the overall model is insignificant.

Table 2 shows results of the simple reciprocal regression model used for relationship between inflation and unemployment but in the last equation (5) D-W value show the existing of autocorrelation problem. Thus, results of the equation (6) have been improved by applying first order autoregressive AR (1). The model is significant as the coefficient found -15.35 with 15% level of significance.

In Table 3 semi log reciprocal model has been used and the data on unemployment has been transformed into long form in order to check either results further improving or not. But the result shows no visible improvement. Though, the model is significant as the coefficient found -3.771247 with 15% level of significance.

SUMMARY AND CONCLUSION

The broad objective of this study is to evaluate the relationship between inflation and unemployment for Pakistan. To prove upon the theory by using empirical evidence from Pakistan, would certainly help to affix valuable addition to the literature in general and to maintain desirable level of

inflation and unemployment rate in the country. Low level of inflation and unemployment are the ultimate goals of policy makers, as both of these would lead to economic development.

Empirical results of equation (6) found are significant but did not show any visible and commendable trade -off between inflation and unemployment for Pakistan during the study period. Although the result are not satisfactory but it may be due to non-availability of accurate data on Pakistan or because of stagflation problem. Thus, on the basis of estimated regression result, it is somehow difficult to forecast any short or long run relationship i. e. trade-off between inflation and unemployment in case of Pakistan during 1972-2008. It is suggested that inflation and unemployment needs to be controlled by the adoption of appropriate macroeconomic stabilization policies (fiscal and monetary policies) in the country.