

Factors of Inflation on Pakistan Economy: An Empirical Investigation

By

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Introduction

Inflation is the rise in the prices of goods and services over a period of time or inflation can also be defined as when too much money chases too few goods or it can also be defined as the loss in the purchasing power of the consumer. Inflation rate is an important macroeconomic indicator and key variable. Most central banks around the world analyze when setting their main policy rate. A stable inflation not only gives a nurturing environment for economic growth, but also uplifts the poor and fixed income citizens who are the most vulnerable in society (Ishfaq and Qasim, 1996)

Most economists generally agreed that inflation and hyperinflation is everywhere a monetary phenomenon (Kemal2006). Monetary authorities handle the task of keeping the rate of inflation low and stable (Riazuddin2006). There are many causes of inflation like printing of new notes etc. inflation can be further divided into;

- (i) cost push inflation and
- (ii) demand–pull inflation

If prices of raw material increase, it will increase the price of final product. So the rise in inflation is the Cost-push inflation. If there is excess demand due to expansionary monetary policy then it is called Demand-pull inflation. There are many causes for inflation, depending on a number of factors. For example, inflation can happen when governments print an excess of money to deal with a crisis. (Parveen2008). Inflation can also be caused by international lending and national debts, a deep drop in exchange rate, adverse supply shock to the supply of food items, rising of oil prices and federal taxes put on consumer products (McCollen and Brue, 2003).

The popular opinion about the cost of inflation is that inflation makes everyone worse off by reducing the purchasing power of income, eroding living standards and adding in many ways to life's uncertainty (Lipsey *et al.*, 1982). 1995) so inflation effects income distribution and wealth associate with unexpected inflation, which affect economic activities and resource allocation of the country (Taslim and Chowdhury 1995).

Specific objectives of the study are to determine the factors that effect inflation, empirically analysis of the factors of inflation on Pakistan economy and suggest recommendation for future planning.

Research Methodology

Time series data was taken for the analysis and the time period of the data is taken from 1980-81 to 2007-08. Simple least square method was used to analysis the data and used SPSS

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for analysis. Secondary data was collected from Economic Survey of Pakistan (various issues). Federal Bureau of Statistic ISL, State Bank of Pakistan, International Monetary Fund (IFS Data)

General form of model

Inflation	=	f(GDP,IMP,TAX,EXP,GOVTLND)
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Where

GDP=Gross domestic product

IMP=Import prices

TAX=Govt direct taxes

EXP=Export prices

GOVTLND=Govt. Lending

Y_t = Inflation

Econometric Model for CPI

$\log Y_t$	=	$\alpha_0 + \beta_1 \log GDP + \beta_2 \log IMP + \beta_3 \log TAX + \beta_4 \log GOVTLND + \mu_i$
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Econometric Model for WPI

$\log Y_t$	=	$\alpha_0 + \beta_1 \log GDP + \beta_2 \log IMP + \beta_3 \log TAX + \beta_4 \log EXP + \mu_i$
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Results and Discussion

Empirical Results of CPI

The significance level of the GDP and Inflation (CPI) is 0.000 i.e. significant. The t- value is also high i.e. -7.06 and it is also significant. As there is a thumb rule that t-value should be greater than two. When we talk about t-values we mean that absolute value should be taken. So by ignoring the negative sign, the t-value is also significant. The coefficient of the GDP is negative which indicate the negative relationship between GDP and inflation rates. It indicates that when resources are fully utilized and production at its maximum level and there is no further increase in the demand of the goods and services then there will be excess supply in the market and as a result prices will come down and inflation will decreases which is according to the law of demand and supply. The result shows that if we increase GDP by one unit that it will reduce the inflation ten times and on the other hand if we decrease the GDP by one unit, it will increase the inflation 10 times. So, that the relationship between CPI and GDP is significant and according to the law of demand and supply theory. Empirically it is evident that Pakistan's economic growth is underscore that high and persistent inflation is harmful for growth. So, high inflation results in low growth.

The second relationship is between consumer price index and import prices. The probability is 0.000 which shows that result is significant. Secondly t-value is also high i.e. 5.355 and greater than two that is also indication of significance. There is a positive relationship between CPI and import prices. If import prices increases CPI also increases and if import prices decreases CPI will also decreases in the same way. The result indicates that if there is one unit change in import price, it will change the CPI by 5.75 units. As we import capital goods like machinery and if there is increase in import prices then it means that there is

increase in the cost of the final product. So, prices will rise and as a result inflation rate will be high.

The third relationship is between consumer price index and taxes. The probability is 0.004 that is significant and t-value is also high i.e. 3.202 and greater than two that is also significant. The results indicate that there is a positive relationship between taxes and inflation which is obvious. Because when Government imposes taxes, it increases the cost of the producer because he has to submit a major part of his income in the form of taxes. As profit maximization is the motive of every entrepreneur. So as a result he increases the prices of his commodities or shifted tax burden to consumer and as a result there is general increase in the prices of commodities which increases the inflation rate. The co-efficient of taxes is 4.660 which indicate that if there is one percent increase in tax rate then it increases the inflation by 4.660 percent.

The fourth relationship is between consumer price index and Government lending. The probability is 0.032 i.e. significant because probability less than 0.05 is significant. t-value is greater than two i.e. 2.284 also significant. The result indicates positive relationship between consumer price index and Government lending because when Government lending increases, it means that Government has increased its expenditure i.e. expenditure on road construction, health, education etc. as a result the income of the people increases and they demand more. So, when demand increases price also increases. The co-efficient of government lending is 0.442 which indicates that if there is one percent increase in government lending then it will increase the inflation by 0.442 percent. The results are over all significant.

The value of R^2 is 0.718. Model shows 71 percent explain variation between dependent and independent variable. The value of F- statistic and probability show that model is overall significant. The Durban Watson "d" value is 2.13 which indicate that there is no auto correlation.

Empirical Result of WPI

As results are shown in the GDP which indicates that probability is 0.000 which indicates that result is highly significant t-value is -4.184 which is also significant. As there is a thumb rule that if t-value is greater than two (neglecting minus sign or taken the absolute values) then it is significant. The value of coefficient β is -8.420 which indicate that there is negative relationship between GDP and inflation (WPI). It explain the situation if economy is working at its potential level, all factors of production are working at its potential level and there is no further increase in demand of goods and services. The further production will increase the supply and as a result the price will come down, which causes the reduction in the prices (according to the supply and demand mechanism) the results indicates that if there is one unit decrease in GDP, it will increase the inflation by 8.420 units. And if there is one unit increase in GDP, it will decrease the inflation by 8.420.

The second relationship is between wholesale price index and import prices. The probability or significance level is 0.009 which is significant. t-value is 2.862 which is also significant as it is greater than two. And coefficient is 0.943 which indicates that there is positive relationship between import price and inflation (WPI). If there is one percent increase in import prices it will increase the inflation rate by 0.943 percent. Because Pakistan exports heavy machinery for industrial sector electronic goods for house hold sector like TV, fridges. Machinery is necessary for industrial development if its prices increases, then it will increase the cost of the production and as a result prices will go up and inflation will prevail in the economy. Similar case with house hold sector because TV, fridge, iron etc are the basic

necessities of life. If its prices go up then consumer has to pay a lot that means high prices which is inflation.

The third relationship is between taxes and whole sale price index. The probability or significance level is 0.046 which is the significant because if probability is less than 0.05 then it is significant. The t-value is 2.108 which is greater than two according to thumb rule if t-value is greater than two then it is considered as significant. The coefficient of taxes is 5.563 which indicates that there is a positive relationship between taxes and inflation. Results indicate that if there is one percent increase in taxes then it will increase the inflation rate by 5.563 percent. When taxes are imposed it increases the prices of the commodities or we can say it will reduce the profit of the producer because producers have to pay a lot of amount in the form of taxes from this profit. So in order to keep his profit maximum, he transfers the tax to ultimate consumer which increases the price of the commodities and as a result inflation rate increases in the economy.

Export also causes inflation in the economy because demand increases and prices rise. But in case of Pakistan, the results are quite different as shown in the table. The probability and t-values are non-significant. The reason is that Pakistan's exports are very few things or perishable goods. Our major exports are the raw cotton, sports and surgical instruments. Secondly the quality of our product is not very much high as compared to other developed nations. Thirdly, the prices of our products are high as compared to other nations in the international market because there is a shortage of capital and lack of skilled labor. But still the coefficient β is 2.036 which shows that there is a positive relationship between inflation and export prices. If there is one percent increase in export then it will increase the inflation by 2.036 percent.

So the "d" value of our model is 2.34 which is an indication of no autocorrelation. The value of R^2 is 0.452 model shows 45 percent explained variation between dependent and independent variables. We can say that model is average fitted

Conclusion

The results show that there is a strong infusion of GDP, IMP, Taxes and Government lending. So there is need to adopt some measurement which can result to improve the condition of the economy. Inflation can be controlled through continuous growth in GDP because continuous growth of GDP only controls the inflation. Empirically it is evident that Pakistan's growth since 1970 is under source that high and persistent. Secondly Government Taxes is an important factor of controlling inflation. So Government should cut-down its unnecessary expenditures like expenditure on foreign tours of ministers etc. Pakistan should also be careful for expenditure on major programs. We should avoid loose policies and efficient people should be on the seats. If this thing happens in Pakistan then as a result the demand for domestic good will also increase and imports will decrease and there will be surplus in the balance of payments and we have more capital to invest. If these factors are properly controlled then we will be able to put inflation under effective control.

Recommendation

To control inflation we should also consider the following points.

- By keeping exchange rate control import price inflation could be lowered.

- Wheat export or its smuggling should be banned to meet the domestic requirements because food prices play a vital role in high inflation.
- Promote domestic industry and discourage imports of luxury items.
- Government should avoid deficit financing or lending from other financial institutions.
- The SBP should first and foremost focus its attention and policies to keep inflation close to its target.
- A moderate tax policy is required and do not put heavy taxes on basic necessities of life e.g. food items, life saving drugs etc.

References

- Kemal, M.A. 2006. Is inflation in Pakistan a monetary phenomenon? PDR., 45:2. 213-220.
- Khan, A. H and M. A. Qasim 1996 "Inflation in Pakistan revisited". PDR(4): 747-759.
- Lahiri, A. K. 1991. Money and inflation in Yugoslavia. International Monetary Fund IMF., 38(4): 751-788.
- Gujarati, D. McGraw Hill. International Ed. Economics Series. Chap 8: 239-262.
- Parveen, Z (2008) Inflation and its impact on Pakistan economy. Changes in exchange rate and the prices of goods and services. <http://www.thenews.com.pk>.
- Riazuddin, R. 2006. Monetary policy and inflation. PDR II. 961-974.

APPENDIX

Dependent variable is CPI

variables	Co-efficient	t-values	significance
Constant	1.609	-5.691	0.000
GDP	-10.738	-7.06	0.000
IMP	5.757	5.355	0.000
TAXES	4.660	3.202	0.004
GOVTLND	0.42	2.284	0.032

R-Squared =0.718

Adjusted R-Squared=0.669

Durban Watson =2.13

F-Statistic = 14.64

Dependent variable is WPI

variables	Co-efficient	t-values	significance
Constant	2.327	-2.842	0.009
GDP	-8.420	-4.184	0.000
IMP	0.943	2.862	0.009
TAXES	5.563	2.108	0.046
EXP	2.036	0.842	0.408

R-Squared =0.718

Adjusted R-Squared=0.669

Durban Watson =2.13

F-Statistic = 14.64