Journal of Economics and Sustainable Development
ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online)
Vol.5, No.15 2014

Effect of Inflation and Unemployment on Economic Growth in Pakistan

Muhammad Shahid
National University of Modern Language, Sector H-9, Islamabad, Pakistan
E-mail: shahid.majeed88@gmail.com

Abstract
This study found the impact of inflation and unemployment on economic growth in Pakistan. The time series data used for the time period of 1980 to 2010 which is collected from world data bank. The unit root ADF and phillipperron shows that economic growth is stationary on level as well as 1st difference but unemployment and inflation are stationary on 1st difference. The ARDL result shows that there is a long run relationship between the variable. Furthermore, the results of White Heteroskedasticity, Ramsey reset and Breusch-Godfrey Serial Correlation LM test shows that there is no problem of heteroskedasticity, misspecification of model and serial correlation respectively.
Keywords: Inflation, Unemployment, Economic Growth.

1.1) Introduction

The Gross Domestic Product describes as the value of final goods and service which were produced within the boundaries of countries during the time period of one year. When people are actively seeking for a job but they are unable to find a work is called unemployment. International Labor Organization (ILO) defines unemployment as people looking for a work for past four week but they cannot found a work. Increase in general price level of goods and services over specific time period in an economy is called inflation. There is two type of inflation in economy first one is cost pull inflation and second is demand pull inflation. Demand pull Inflation occur when the aggregate demand of the goods and services then aggregate supply of goods and services in the economy. Cost pull inflation occur when the cost of inputs like raw material increases. Unemployment and inflation are macroeconomic variables and it has very important effect on economic growth. According to Pigou (1993) under developed nations want to attain the higher economic growth rate in minimum time period. These countries received the advanced technology from western countries but adopted unsuitable policies to achieve the higher economic growth due to this reason unemployment increased very sharply. Aghion & Howitt (1994) explore that higher economic growth introduced a new technique and technology. These techniques and technology create a job destruction in the economy. Lin(2004) investigates that developing nations adopted capital intensive policies and these policies cannot helpful to make competitive market. These policies distortion is the major cause of failure to achieve the higher economic growth. According to the Amjad and Ahmad (1989) at the time of inception Pakistan had agricultural economy, exporting the agricultural commodities like cotton and jute and importing the consumer Goods. The performance of Pakistan's cannot be stable since her inception in 1947 due to unstable policies of Government. The economic growth of Pakistan has been very inspiring in 1960s and 1970s that is 6.7% and 6.1% respectively. On the other hand unemployment has been very serious issue for Pakistan because the policies major focusing on economic growth and job creation has secondary preference of these policies. Initially in 1970s Pakistan just facing 0.52% Unemployment rate but in 2000s it was increases to 3.41%.

This study using the time series data for the time period of 30-years 1980 to 2010 to estimate the impact of inflation and unemployment on economic growth in Pakistan. In economic model this study employed the Cobb-Douglas Production Function, economic growth is dependent variable, inflation and unemployment are independent variables. In econometric model initially this study using the Unit Root Test to check the stationary of the variable then decided either this study using Ordinary Least Square Method or Co-integration test etc.

1.2) Objective of the study:-

- To find the impact of unemployment on Economic Growth.
- To find the impact of Inflation on Economic Growth.
- To suggest some important policy about inflation and unemployment and Economic Growth.

1.3) Hypothesis:-

Ho: Unemployment has no impact on Economic growth in Pakistan.
H1: Unemployment has impact on Economic growth in Pakistan.
Ho: Inflation has no impact on Economic growth in Pakistan.
H1: Inflation has impact on Economic growth in Pakistan.

2. Literature Review

2.1. Introduction of the Chapter:-

There is lot of work has been done on national level or international level to estimate the impact of inflation on economic growth and impact of unemployment on economic growth. In first section of this literature review this study discussing the Theoretical Frame Work, in second section mention the Empirical Frame Work and in third section conclude this chapter.

2.2. Literature Review:-

Gandelman and Murillo (2009) investigated the impact of inflation and unemployment on subjective personal and country evaluations. They used the Gallup world poll data and this data consist on number of countries. The data set of Gallup World poll data contain on 70,000 individuations in 75 countries. Initially In first step they are using Ordinary Least Square method on individual characteristics and the result shows that personal or country satisfaction that is not explained by individual characteristics. In second step they run Ordinary Least Square on country level and results shows that impact on well being from a 1% point change in either inflation or unemployment. However, overall results of this study showed that inflation and unemployment negatively effect to the personal individual assessment.

Ansari, Mohamad and Alias *at el.* (2011) found the Multivariate Time Series Analysis on correlation between Inflation Rate and Employment Rate with Gross Domestic product. They are using the time series data for the year of 1982 to 2006 of Malaysia. They are using the econometric techniques to estimate like Unit Root Tests, Co-Integration Test and Granger Causality Test. The result shows that in unit root test all variables are stationary on first difference, Johansen Co-integration shows that GDP and the explanatory variables moves closely to achieve the long run equilibrium. Overall results intimate that inflation and employment have unidirectional with Gross Domestic Product in short run.

Umaru and Zubairu (2012) found the effect of Inflation on the Growth and Development of the Nigerian Economy. They are using the time series data for the time period of 1970 to 2010 from Central Bank of Nigeria. They used the Unit Root Test and Granger Causality Test to estimate the impact of inflation on economic growth. The results shows that all variables are stationary on first difference they are using Granger Causality Test. The result of Granger Causality Test shows that there is one way causation flowing from GDP to inflation.

Muhammad, Saidu and Nwokobia *at el.*(2013) found the effect of Unemployment and Inflation on Wages in Nigeria. The Ordinary Least Square Method initially used t-statistics shows that unemployment significantly affects wage rate, Durbin-Watson statistics which shows that the model is not spurious. The Unit Root Test results reveals that all variables are stationary on 1%, 5% and 10%.The Granger Causality Results shows that unemployment and inflation does not granger causes wage rate. This results indicates one-way causation flowing from unemployment to wage rate not inflation to wage rate. The unemployment has a positive effect on wage rate but on the other hand inflation cannot effect on wage rate.

Jaradat (2013) found the impact of unemployment and inflation on Jordanian Gross Domestic Product (GDP). He used the time series data from the year of 2000 to 2010. He collected the data from global bank database. He used the liner regression method through SPSS to estimate the relation between dependent and independent variables. His results indicates that when we increase 0.906% Inflation then GDP will increases by 1% on the other hand when Unemployment decreases 0.697% then GDP will increases by 1%. Overall results intimate that GDP and Unemployment have negative significant relationship but on the other hand GDP and Inflation have a strong positive significant relationship.

Hussain, Siddiqi and Iqbal (2010) investigated a coherent relationship between Economic Growth and Unemployment in Pakistan. They used the time series data since 1972 to 2006. They used the Augmented Dicky Fuller test for Unit Root, all the variable are stationary on first level difference then they used the Johansen Co-integration to find the long run relationship between variables. The results of Co-integration test intimate that GDP Growth, Unemployment, Labor, Capital, Openness of Trade have long run relationship. The overall results intimate that GDP growth has negative relationship with unemployment.

Khan, Khattak and Hussain (2012) investigated the inter-relationship of Gross Domestic Product Growth and Unemployment in Pakistan. They used the time series data from the time period of 1960 to 2005. Initially they used the Augmented Dickey-Fuller (ADF) test, the results are stationary on first difference then they used the Johansen Co-integration test. Their results intimate that 1% increase will reduce unemployment 0.63%. On the other hand 1% decrease in unemployment will increase the GDP growth by 7.25%. The results intimates that GDP Growth in long run has negative relationship with Unemployment in long run.

Umar and Razaullah (2013) found the impact of GDP and inflation on unemployment rate in Pakistan. They are using the time series data since 2000 to 2010 and run regression through SPSS. The results indicate that the F-test value is very low and below the value of 4.00. R square has limited variation i.e 0.70% and 22.8% from the inflation to Gross Domestic Product and unemployment. They found that inflation have negative for Gross Domestic Product and have negative correlation with unemployment.

2.3. Conclusion

The above literature reviews shows that inflation is vary form economy to economy but most of the studies indicate that there is a positive relationship between inflation and economic growth or GDP. On the other hand the above literature reviews showed that there is a negative relationship between unemployment and economic growth or GDP.

3. Data and Methodology

3.1) Introduction of the Chapter

This chapter described that what kind of data and econometric techniques are used to estimate the impact of Inflation and Unemployment on Economics Growth and also discussed that what kind of methodology adopt and why used those variables to estimates the impact. In first section of this chapter discussed about the variables and data and in section focusing on the methodology. In third section elaborates the economic techniques which we are using and in fourth section we conclude this chapter.

3.2) Selection of Variables and Data

The data used in this study are time series data for the time period of 1980 to 2010. The data collected from *Hand Book of Statistics* published by State Bank of Pakistan and *World Data Bank* published by World Bank. This study used the Economic Growth as Dependent Variable, Inflation and Unemployment as explanatory variables. Literature Reviews shows that there is negative relationship between Unemployment and Economic Growth but positive relationship between Economic Growth and Inflation.

Data Description				
S.No.	**Variable**	**Time Period**	**Data Type**	**Source of Data**
1.	GDP	1980 to 2010	Time Series	World Data Bank
2.	Unemployment	1980 to 2010	Time Series	-do-
3.	Inflation	1980 to 2010	Time Series	-do-

3.3) Methodology

Therefore, this study used the Cobb-Douglas Production Function then the model specified as follow:-

$Y= \beta o\ inf^{\alpha 1} .unep^{\alpha 1}$ (i)

$Y= \beta_o + \beta_1 inf + \beta_2 unemp + et$ (ii)

$LogY= \log \beta_o + \beta_1 \log inf + \beta_2 \log unemp + et$ (iii)

Y = GDP / Economic Growth

Inf = Inflation

Unemp = Unemployment

3.4) Economic Techniques

To estimate the impact of inflation and unemployment on economic growth initially this study used the Augmented Dicky Fuller test for Unit Root to check whether variables are stationary or station. Gross Domestic Product (GDP) and Inflation are stationary on level and intercept and unemployment is stationary on first difference then used the ARDL model. To used the ARDL method this study used the wald test to find out the long run relationship between the variables.

3.5) Conclusion

Fifth Chapter, Methodology and Data discussing about the data type, data time period and data source. Further developed an equation in this chapter that showing the variables and also mentioned what kind of econometric techniques are used in this study to estimate the impact of inflation and unemployment on economic growth.

4. Empirical Results

Previous studies show that the Gross Domestic Product (GDP) has a negative relationship with unemployment and positive relationship with inflation (Gandelman and Murillo 2009). Inflation has negative for Gross Domestic Product and have negative correlation with unemployment in Pakistan (Umar and Razaullah 2013). Further this study used the Autoregressive-Distributed Lag (ARDL) model to find out the long run relationship between the unemployment, inflation and economic growth.

Unit root Test (Augmented Dickey Fuller and Phillip Perron Tests):

Variable	ADF		Philip Perron	
	Level	**First Difference**	**Level**	**First Difference**
GDP	-3.897848*	-7.598275*	-3.833471*	-14.58290*
Unemployment	-1.535782	-7.491979*	-1.535782	-7.431544*
Inflation	-3.182056**	-5.966626*	-3.221323 **	-7.271777*

Three levels of critical value 1%, 5% and 10%. Number of " * " signs show that at how many levels of critical values, variable is stationary. E.g. at level of ADF test foreign exchange rate (-3.182056**) variable is stationary at second levels of critical values.

The unit root test shows that variables are stationary or non-stationary. The two tests augmented dickey fuller and Phillip Perron tests are used to check the stationary. The results intimate that GDP is stationary at level and intercept in augmented dickey fuller as well as Phillip Perron. Unemployment is stationary at first difference and intercept in ADF as well as Phillip Perron and on the other hand inflation is stationary on level and intercept in ADF and Phillip Perron. All the variables are not stationary on same level so this study used the Autoregressive Distributive Lag (ARDL) model technique.

ARDL.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
@TREND	-0.057640	0.020774	-2.774664	0.0111
LN_INF(-1)	-0.143131	0.189622	-0.754824	0.4584
LN_UNP(-1)	-1.196232	0.607055	-1.970550	0.0615

According to the results of ARDL inflation (Ln_Inf) has negative insignificant impact on GDP and Unemployment has negative significant impact on GDP.

Wald Test:			
Test Statistic	**Value**	**df**	**Probability**
F-statistic	7.764785	(3, 21)	0.0011
Chi-square	23.29436	3	0.0000

The wald test F-statistics is 7.764785 is higher then the lower and upper bond values which shows there is co-integration exist between the variables and it also shows that there is a long run relationship between the variables.

5. Conclusion

This study found the impact of inflation and unemployment on economic growth in Pakistan. The time series data used for the time period of 1980 to 2010 which is collected from world data bank. The previous studies show that there is a negative relationship between unemployment and economic growth but on the other hand inflation have a positive impact on economic growth. This study results of unit root ADF and philliperron shows that economic growth is stationary on level as well as 1st difference but unemployment and inflation are stationary on 1st difference. This study also used the Autoregressive Distributive Lag (ARDL) Model technique. The ARDL results shows that co-integration exist between the variables that shows there is a long run relationship between the variable. Furthermore, the results of White Heteroskedasticity, Ramsey reset and Breusch-Godfrey Serial Correlation LM test shows that there is no problem of heteroskedasticity, misspecification of model and serial correlation respectively.

6. Policy and Planning

- Encourage the self-employment / entrepreneurship to overcome the unemployment.
- Government spending also very helpful to creating a new jobs.
- Political stability is very important to reduce the unemployment and increase the economic growth.
- Controlling the population growth rate.
- Proper education system is very helpful to overcome the unemployment.
- Higher inflation rate is very harmful for economic growth so, also control the inflation rate.
- In a long run more output is produced at a low per unit cost that is helpful to attain the persistent economic growth.

7. References

Gandelman, N., & Hernández-Murillo, R. (2009). The impact of inflation and unemployment on subjective personal and country evaluations. *Federal Reserve Bank of St. Louis Review*, *91*(3), 107-26.

Umaru, A., & Zubairu, A. A. (2012). Effect of Inflation on the Growth and Development of the Nigerian Economy: An Empirical Analysis. *International Journal of Business and Social Science, 3 (10)*.

Khan, A. Q. K., Khattak, N. U. R. K., & Hussain, A. H. (2008). Inter-dependencies and Causality in the Macroeconomic Variables: Evidence from Pakistan (1960-2005). Sarhad J. Agric. 24 (1): 199-205.

Hussain, T., Siddiqi, M. W., & Iqbal, A. (2010). A Coherent Relationship between Economic Growth and Unemployment: An Empirical Evidence from Pakistan. *International Journal of Human and Social Sciences*, *5*(5), 332-339.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
http://www.iiste.org

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: http://www.iiste.org/journals/ All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: http://www.iiste.org/book/

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library , NewJour, Google Scholar