



Impact of Inflation, Unemployment and Poverty on Economic Growth: A Case Study of Pakistan

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ARTICLE DETAILS	ABSTRACT
History Revised format: May, 2021 Available Online: Jun, 2021 Keywords Poverty, inflation, Ordinary Least Square (OLS), ADF, Unemployment, Time Series.	The central intention of this paper is to examine the effect of Poverty, Inflation and Unemployment on growth of economy of Pakistan. The paper used annual time series data from 1990 - 2020. The study applied ADF Test to check data stationary. The study also applied (OLS) Ordinary Least Square method to estimate the association between dependent and independent variables. The result of OLS method shows positive impact of Unemployment and Government Expenditure, and negative impact of poverty and inflation on economic growth. The study suggests that expansionary fiscal policy can be used by government to stimulate the economy during a recession. The study suggests that, labor intensive products should be produce as against capital intensive. This will create employment level, because Pakistan is labor abundance country. This will lead to reduce poverty and increase growth of economy.

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1. Introduction

The economic growth of any country is majorly calculated by Gross Domestic Product. GDP is the finishing goods and services produce in a country over a specific period of time. Many factors contribute to promote economic growth in a country. But there are some factors that affect the overall growth process of the country. Some factors are inflation, unemployment and poverty. These factors affect the economic performance negatively and downward the performance. An enhancement in overall price level of goods and services within a year is called inflation. This is very serious issue of developing countries. It causes to reduce the purchasing power parity and affect the economic performance. Different types of inflation have different effect. Demand pulls inflation is an increase in aggregate demand of goods and services. This will lead to price high. Cost push inflation happen when cost of inputs increases. Both types of inflation is harmful for the developing country. Pakistan is also a developing country and facing the problem of high prices. According to economist, 3 or 4 % inflation is helpful for the economic performance.

Unemployment is another economic problem. It means people out of jobs, when peoples want to work but unable to find work. According International Labor Organization (ILO), unemployment is a phenomenon that takes place

when people are finding job but they do not find work. Many researchers discover the effect of unemployment on economic growth. Jaradat (2013), Umar and Razaullah (2013), Umaru et al (2013), indicates the strong and positive relationship between unemployment and GDP. Muhammad et al (2013) finds positive effect of unemployment on wages.

In Pakistan 5.00 % unemployment rate is expected at the end of 2021. Poverty is a situation in which people have lack of resources to fulfill their basic needs. Absolute poverty and relative poverty are two terms of poverty. Absolute poverty is a condition in which people have low income to fulfill his basic needs such as food. Relative poverty describe a condition in which household receive 50% less of average medium income. Poverty rate is 5% rises over in 2020. In 2020 According to the World Bank poverty rate rises from 4.4% to 5.4% and two million people live below the poverty line in Pakistan.

Pakistan is a developing country and facing many economic and socio problem. Inflation is one of them. Inflation is continuously increased over the last few years; this will lead to less purchase of goods and services. Many researchers finds positive impact of inflation on GDP, like Jaradat (2013), Umar and Razaullah (2013), Umaru et al (2013), according to them threshold level of inflation is harmful but stable level of inflation is positive for GDP growth.

The government and policy makers trying reduce the high inflation, but there are no positive results. Because of political instability and other social and political issues peoples hesitate to invest, lack of investment will lead to less growth and greater demand; this will lead to increase in prices. Pakistan is labor abounded country, and also facing the problem of unemployment. It is very serious problem; this will lead to increase in poverty. These problems will lead to decrease in growth of economy. The aim of the current paper is to find out the impact of poverty, inflation and unemployment on economic enlargement in case of Pakistan from 1980 - 2020 of Islamic Republic of Pakistan.

The presented study is prepared by different sections, sections first presented the introduction, section two will give related reviews of different studies, section three presented theoretical frame work, section four data and methodology and section five and six are represented results and policy recommendations respectively.

2. Literature Review

There are many studies of different countries which are relevant to the present paper; has been discussed. Some reviews of different studies are given below.

Oloyede (2014) observed the impact of poverty on economic development in Nigeria. The study used annual data from 1980 to 2010 by applying the Ordinary Least Square (OLS) Method. The outcome shows that economic development reduces poverty in Nigeria.

Umar and Razaullah (2013) investigate the inflation effect and GDP on level of unemployment in case of Pakistan. The study uses the data from 2000 to 2010 using regression through SPSS. The result shows that the inflation to Gross Domestic Product and unemployment F. test value is lower and R-Square has limited variance. The study shows that inflation negatively related with GDP, Inversely related unemployment.

Umaru et al(2013) exploring the influence of unemployment and inflation on growth of economy in Nigeria. The study applied Granger Causality and Ordinary Least Square (OLS) Method on data from 1986 to 2010. The result shows that unemployment and inflation positively effect on GDP growth.

Muhammad et al(2013),examines the influence of wages fluctuation on inflation and unemployment of Nigeria. The OLS Method used to measure the impact of unemployment on wage rate. Granger Causality Results indicates that unemployment effect wages not inflation. Wage rate is positively affected by unemployment, but inflation cannot effect on wage rate.

Jaradat (2013) investigated the effect of unemployment and inflation on growth of economy in case of Pakistan by using time series data from 2000 to 2010. Linear Regression Model used to measure the relationship between different variables such as dependent variable economic growth and independent variables are inflation and unemployment. It indicates the strong and positive relationship between inflation and GDP. Inflation increase GDP will also increase. But economic growth and unemployment negatively related with each other.

Shabir & Tahir(2012) investigated the effect of inflation and investment on economic growth. The data duration is from 1981 to 2010. Multiple Regression Analysis used for this purpose. The inflation negatively effect on economic growth while investment is positively related with economic growth.

Umaru and Zubairu(2012) investigated impact of rate of Inflation on economic development of Nigerian economy. Study used the time series data from 1970 to 2010. The study measure the impact of inflation on economic growth by using the test of Granger Causality. The outcome of the test illustrates positive affiliation among GDP and inflation.

Khatak and Hussain (2012) found the effect of unemployment on GDP growth of Pakistan by utilizing the data of time series since 1960 to 2005. The study used the ADF test to measure normality of the variables and Johansen Co-Integrated test also applied on it. The result shows that if the unemployment increases then the GDP will also decrease. If the unemployment decreased then the GDP will also increase. Both variables are negatively related with each other.

Atique & Malik (2012) investigated that Economic growth can be effected by external and domestic debt. The paper applied the OLS co-integration techniques. The result shows the inverse and significant affiliation among debt and economy expansion. The study shows that domestic debt and external debt indirect effect on economic growth.

Siddique and Iqbal (2010) found the connection among Unemployment and Economic Growth in case of Pakistan by using annual data from 1972 – 2006. The study employ ADF test to measure the variable of stationary purpose. The analysis indicates the long run association of economic growth and unemployment. Economic growth is inversely related with unemployment.

Hakim et al (2010) found the causal relationship of social capital and poverty in Malaysia. The study shows that poverty will be reduced by economic development. The study used OLS model which indicate the effect on economic development. This result shows that, institutions help to reduce the poverty and move economy to development.

Chaudhry & Rehman (2009) investigated that male and female ratio and the size of household have positive and significant impact on poverty. The literacy rate, health, class attendance has affected the rural poverty. The result of the study shows that education, employment opportunities reduce the poverty and increase the economic growth.

Gandelman and Murillo (2009) examine that how economic growth is affected by inflation and unemployment. The study used panel data of 75 countries. The study used Ordinary Least Square Method. The study shows when inflation and unemployment increase the growth will also decrease. So we can say inflation and unemployment negatively effect on economic growth.

Gillani. et al (2009), inspect the relationship among poverty, unemployment, crime and inflation in Pakistan. Annual data from 1975 to 2007 used by this paper. The paper also applied Granger Causality Test. Result shows the long run affiliation among unemployment, poverty, inflation and crime in case of Pakistan.

Qayyum (2006) observed the negative impact of macroeconomic variables inflation and investment effect on economic growth. The data can be used from 1960 to 2005. The results can be obtained by applying correlation technique.

Zagler (2003) observed that the economic growth effected by unemployment and inflation. The study used the data of different countries. Dickey Fuller and co-integration test can be used for estimating the result. The result shows that the increase of unemployment will reduce the growth rate in short run, while on the other hand, there is optimistic association among unemployment and GDP; in long run.

3. Theoretical Framework

In 1956 Robert Solow presented the model of economic growth within the framework of neoclassical economics. This model depends on exogenous factors such as population growth and capital Accumulation etc. Aigbokhan (2000a; 2000b) use the Solow Swan model for this study. According Aigbokhan this theoretical framework is apply to observe the association among economy growth, poverty and income inequality. In this model, Aigbokhan firstly confirm optimistic association among GDP growth and poverty. After than he change his model, both variable are inversely related with each other. Poverty negatively affect economic growth rate. The study used different variables in his study such as growth rate, unemployment, poverty and literacy rate.

4. Data and Methodology

Data of annually time series is utilized by this paper from 1980 to 2020 to discover the association between DV and IV. The data of different variables like GDP growth rate as Economic Growth, Government Expenditure as % of GDP, Unemployment, Poverty and GDP deflator is used as Inflation are collected from official website of World Development Indicator and the global economy.

Ordinary Least Square (OLS) Technique

The present study applied Ordinary Least Square (OLS) technique to find out the association among DV and IV. It is a technique of estimating the unidentified parameters in a Linear Regression Model. The estimated equation can be written as:

$$\text{GDPGR} = f(\text{Poverty, Unemployment, Government Expenditure, Inflation})$$

The Multiple Regression Model of the study is:

$$\text{GDPGR} = \beta_0 + \beta_1\text{POV} + \beta_2\text{UN} + \beta_3\text{GE} + \beta_4\text{INF} + \mu_i$$

5. Results and Discussion

In this division of the study, empirical data analysis will be present.

Descriptive Statistics:

	<i>GDPGR</i>	<i>INF</i>	<i>UN</i>	<i>POV</i>	<i>GE</i>
<i>Mean:</i>	4.154476	126.2168	5.951613	25.05457	10.78000
<i>Median:</i>	4.396457	91.85029	5.900000	16.60000	10.97000
<i>Maximum:</i>	7.705898	289.0164	8.300000	61.10000	15.14000
<i>Minimum:</i>	0.988829	20.88506	3.100000	1.190578	7.350000
<i>Std. Dev:</i>	1.766313	91.20877	1.194954	23.22292	1.892233
<i>Skewness:</i>	-0.019125	0.504756	0.234188	0.587581	-0.004315
<i>Kurtosis:</i>	2.429030	1.740543	3.214712	1.660198	2.835356

Sources: Calculation by Using E-views 9

The descriptive statistics summaries variables are given in table above. The first row shows the mean value of GDPGR, INF, UN, POV and GE is (4.154476), (126.2168), (5.951613), (25.05457) and (10.78000) respectively.

The values of skewness are shown in the second last row of the table. It represents the asymmetry and inequity from the mean of data distribution. Here in the table we can see that, GDPGR and GE are negatively skewed because their mean value is fewer than their median value. While, other variables INF, UN and POV are positively skewed because their mean value is greater than their median value.

Last row shows the values of Kurtosis, It shows the flatness and peakness of the data to normal distribution. If probability distribution is highly peaked, the Kurtosis value is larger than 3, it is called Leptokurtic. If probability distribution shows flatness of the data, the Kurtosis value is smaller than 3, it is called platykurtic. In the table below, we can see that the values of all variables are less than 3 except UN, so these variables are platykurtic, and only UN is Leptokurtic because value of UN is greater than 3.

Pair – Wise Correlation:

The multicollinearity problem among variables is frequently checked by Pair – Wise co-efficient of correlation. High values of coefficient of more than one variables show the problem of multicollinearity.

<i>Variables</i>	<i>GDPGR</i>	<i>INF</i>	<i>UN</i>	<i>POV</i>	<i>GE</i>
<i>GDPGR:</i>	1.000000				
<i>INF:</i>	-0.045616	1.000000			
<i>UN:</i>	0.300738	-0.150207	1.000000		

POV:	0.012784	-0.847465	-0.128763	1.000000	
GE:	-0.077122	-0.063322	-0.809801	0.424850	1.000000

Sources: Calculation by Using E-views 9

The table above shows the correlation matrix of all variables. The results show that INF and GE are negatively correlated with GDPGR (-0.300738) and (-0.077122) respectively. Other variables like UN (0.300738) and POV (0.012784) positively correlated with GDPGR. So, there is no multicollinearity problem.

Unit Root Test

To check the normality of data, the present study applied ADF unit root test. The results of the ADF test of unit root are present in the table below.

Variables:	At Level:		At 1st Difference:		Conclusion:
	Intercept:	Trend & Intercept:	Intercept:	Trend & Intercept:	
GDPGR	0.0015	-----	-----	-----	1(0)
INF	-----	-----	0.0089	-----	1(1)
POV	0.0000	-----	-----	-----	1(0)
UN	0.0762	-----	-----	-----	1(0)
GE	-----	-----	0.0004	-----	1(1)

Sources: Calculation by Using E-views 9

Above table shows Augment Dickey Fuller (ADF) Unit Root Test. Which is used to ensure whether given data is stationary or not. In this table the variables GDPGR, POV and UN are stationary at Level and Intercept these are integrated as 1(0). And INF and GE are stationary at 1st Difference and Intercept and integrated as 1(1).

Ordinary Least Square Results:

The table below shows the effect of independent variables on dependent variables.

Ordinary Least Square Method

Dependent Variable GDPGR

30 Observation from 1990 to 2020

Variables	Coefficients	Std. Error	t-Statistics	Prob.
INF	-0.000136	0.008270	-0.016398	0.9871
UN	1.257262	0.490526	2.563093	0.0171
POV	-0.016800	0.035965	-0.467130	0.6446
GE	0.575030	0.366083	1.570764	0.0293
C	-10.26125	5.989955	-1.713075	0.996
GDPGR(-1)	0.266330	0.173038	1.539144	0.1369
R²:	0.287665	Durbin-Watson Test:		2.140959
Adjusted R²:	0.274371			

Sources: Calculation by Using E-views 9

The above table shows the results of Ordinary Least Square Estimations. The results show that, the value of coefficient of inflation shows the negative and insignificant impact on economic growth. It shows that 1% increase in inflation, -0.000136 unit decrease in Gross Domestic Product. Present study supports the findings of Attari et al(2013).

The value of coefficient of unemployment shows positive and significance impact on economic growth. If one percent increases in government expenditures 0.575030 units increase in GDP.

The value of coefficient of poverty shows negative and insignificant impact on economic enlargement. It shows that one percent enlarge in poverty it will tend to decrease in gross domestic product by -0.016800 units. My study confirms the findings of Jaradat(2013).

The value of coefficient of government expenses shows positive and significant effect on GDP growth. It shows that one percent increase in government expenditure it will bring 0.575030 units increase in economic growth.

Auto – Correlation:

Breusch – Godfrey Serial Correlation LM test is applied to verify the autocorrelation dilemma. The results of Serial Correlation LM test are in the table below.

Breusch – Godfrey Serial Correlation LM Test

<i>F – Statistic</i>	0.866311
<i>Prob.</i>	0.4344

Source: Calculation by Using E-views 9

The problem of autocorrelation is undertaken by taking lag of dependent variable. The probability value is insignificant (0.4344), it shows there is no autocorrelation.

Heteroskedasticity Test:

The problem of heteroskedasticity is test by Breusch – Godfrey test. The table below shows the outcome of Breusch – Godfrey test for Heteroskedasticity.

Heteroskedasticity Test Breusch – Pagan – Godfrey

<i>F – Statistics</i>	1.333485
<i>Prob.</i>	0.2840

Source: Calculation by Using E-views 9

The above table illustrates the outcome of Breusch – Pagan – Godfrey test for heteroskedasticity. Probability value is insignificant (0.2840) which show that there is no heteroskedasticity in the data.

6. Conclusion

The major intention of present paper is to investigate that how Inflation rate, unemployment and poverty affect growth of economy in Pakistan. Annually time series data is utilize from 1990 to 2020, for this purpose. Present

study reviews various national and foreign literatures which are related to present paper. The study also throws light on Solow Swan growth theory which shows the impact of exogenous factor on economy expansion.

Firstly, the paper finds the descriptive statistics of variables. Secondly, present paper applied ADF test to verify the data normality. In the next step, the present study examines the correlation of variables with GDP. The present study also applies ordinary Least Square (OLS) method to find association among independent variable and dependent variables. The finding shows that, economic growth is negatively affected by Inflation and Poverty. Unemployment and Government expenses are positively effect economic growth.

Based on the findings, the study present some policies recommendations, the study suggest that, labor intensive products should be produce as against capital intensive. This will create employment level, because Pakistan is labor abundance country. This will lead to reduce poverty and increase growth of economy. High rate of inflation is also creating poverty, government should reduce the prices of basic commodities, 2% to 5% rate of inflation is good for economic growth. Government should spend on skills development program this will be very help full for reducing unemployment and poverty.

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