INVESTIGATING THE DETERMINANTS OF YOUTH UNEMPLOYMENT IN PAKISTAN

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ABSTRACT
Youth unemployment is one of the major and burring issues in Pakistan. This study is examining the determinant of youth unemployment in Pakistan for the period of 1991 to 2016. In this study the model is made of one dependent variable (unemployment) and five independent variable (Population, Foreign Direct Investment, Inflation, Wage rate and Government Expenditure). The study employed the Ordinary Least Square method (OLS), Fully Modified Least Squares (FMOLS) and Robust Least Square (RLS). The result shows that foreign direct investment, inflation and Government expenditure his significantly impact on unemployment in Pakistan during the period under the study. Though, population growth and wage does not show important association with the unemployment rate during the period under this study. In this study Microsoft excels and E view software is used to analyze the data.
Keywords: Unemployment; Inflation; FDI; Government Expenditure; Pakistan.

1. INTRODUCTION

There is a lot of factor which affect the youth unemployment in Pakistan. The economy of Pakistan mostly depends on agriculture that contributes 20.8 in GDP and 43.6 people employed in this sector. Pakistan has great potential of agriculture and at the time of independence agriculture sector play a vital role on economic sector specially removing the unemployment crises in the countries. (Pakistan Bureau of Statistics, 2011). The secondary sector of the economy includes Industries that produce a finished, usable product or involved in a construction. If the government provides loans to the unemployment skilled labor then it will promote you. Pakistan industrial sector accounts for about 24% GDP. Industrial sectored contribute 20.88 percent in GDP. This year it recorded a growth of 5.02 percent as compared to 5.80 percent last year contributes 19%. Another reason for unemployment is our country poor education policies which is responsible for our youth unemployment because there no institution that provide degree and skill according to the applicable job which is the major problem of all developing country including. (International Labour Force Survey, 2010-11). Socially, youth unemployment is not only of concern to the unemployed ones but also to the society and family members. It is the expectation that of most youth unemployment to find employment, particularly after completion of their education. Failure to fined employed result into demoralization, depreciation in their human capital and deterioration in their employment prediction which leads to social barring (Clark & Summers 1982). Now a day’s unemployment is the main problem in all over the world. The main problem of the rapidly increasing youth unemployment is that due to lack of sources and lack of proper economic planning.

Objective of the Study

The key objective of this study is to find the relationship of youth unemployment and its effect on Pakistan economy, and to give some suggestion to the government of Pakistan for the reduction of youth unemployment in Pakistan.

To find causes of youth unemployment in Pakistan and to give a good suggestion to the country authority to implement such a polices to reduce youth unemployment ratio to the country.

This article is organized in five parts. Part 1 explain the introduction of the study. Part 2 deals with review of literature.. Part 3 discuss data and methodology. Part 4 present results and discussion. Part 5 deals with conclusion and recommendation of the study.

1. LITERATURE REVIEW

Akhtar, Sajjad & Shahnaz (2005) studied the factor that which affect the youth unemployment in Pakistan. In this study they are using the time series data from 1991 to 2004. They found that the youth unemployment is higher due to low GDP and investment. They operate both the macro and micro economic determinant which affect the youth unemployment in Pakistan. They show that if the annual growing rate of GDP is greater than 4.26% each year then the youth unemployment ratio begin to decreases. They also show that the private sector has greater impact on public sector because of due to decrease the youth unemployment ratio.

Rocha & Divin (2013) studied the link between taxes on household expenditure, interest rate and exchange rate in Brazil and Mexico. The data are analyzing by using autoregressive model distribute lag modes. The result indicated that both countries, Interest rate is positive related where's taxes on household consumption is negative related to unemployment, however exchange rate is positive linked with Brazil and negative linked in Mexico.

Rehman (2012) explained that Pakistan's economy has enclosed a long space as of backward to rising period and has now is achieving the period of impersonation. Throughout the duration it has opposed a number of confrontation and problems. The major difficult related to fascinating ever growing people through providing them job openings. The economy being fundamentally agronomy had excess labor. The process of automation of agriculture extra fuel to the fire and subsequently provoked the problem because of extra labor rendered surplus by the farming part. He focuses that the essential issues and as areas on will propose feasible measures for that matter dropping the stage of unemployment. Umair & Ullah (2013) investigated the effect of inflation on GDP in youth unemployment for the case study of Pakistan. In this paper they are using the time series data from 2000 to 2010. In this study the data has been taken from secondary source. The outcome of this study show that the inflation insignificantly influences to GDP and unemployment in the correlation is negative.

Misgwa & Kipesha (2013) examined that which factors is determine the youth unemployment in Tanzania. In This study they are using Multinomial logistic regression (MLM) model to investigate the determinants of youth unemployment in Tanzania. They conclude that femininity, environmental location, education, skills and marital position are all significant factors in explaining the difference in youth unemployment. Wajid & Kalim (2013) examined the determinant of inflation and economic growth besides with the trade openness and metropolitan inhabitants on youth unemployment for the case study of Pakistan and they are using the data from 1973 to 2010. They are using the Augmented Dickey Fuller test to find the unit root and to arrange the long run relationship unemployment, inflation, economic growth trade opens and urban population as part of the total population. They show that inflation drastically raises unemployment in the long run unemployment in the long and also show that economic growth has significant relationship with unemployment both in the extended as well as in the small correspondingly, and also show that the impact of trade openness is positively impact on unemployment and also show that it is insignificant.

Arsalan & Zaman (2014) used FDI, gross domestic product rate, inflation and population rate is taken as regressors. The result show that FDI, income (GDP) rate and rate of inflation has inverse effect on unemployment. Population rate has positive influence on unemployment. Azam et al. (2015) examined the relationship between unemployment and military expenditures by using the data for the period of 1990 to 2013 for the South Asian Association Region SAARC countries (India, Nepal, Pakistan and Sri Lanka). They used multivariate framework for estimation. The study concluded that armed expenditures is good turn the employment rate in the (SAARC) state, as the estimated coefficient of military expenditure has a negative and more flexible relationship with the unemployment rate.

O'Nwachukwu and Increase (2017) studied the determinants of youth unemployment rate in Nigeria. They are using the time series data for the period of 1980 to 2016. In this study they are using one dependent variable which as unemployment and five explanatory variable which as Government Expenditure, Inflation Rate, Population and Real Gross Domestic Products. They (OLS) technique to approximation the model after using the Augmented Dickey-Fuller to test for unit root. They conclude that Government Expenditure, Inflation Rate and Population are statistically significant changes in unemployment in Nigeria. The study recommends that corrupt officials who misappropriate money be punished accordingly and that technology.

Kamran et al, (2016) examined the determinant of unemployment in Pakistan. They are using the time series data for the period of 1881to 2010. Results demonstrate that usually perceived that the unemployment in rural area is more due to that there are fewer chances of employment as compared to urban areas where there are more probabilities of employment due to a lot of industries. There are different theories about the unemployment such as classical and new classical. But the classical theories about the unemployment say that the economy will achieve the full employment at that time if wage and price are flexible. The classical view stated that the unemployment situations is occurs in that time when wages rise too high to maintain the equilibrium. When wage rise, then firm cannot to pay as many to workers, so they fired or laid off, rising unemployment.

On the others side the new classical economist such Keynesian economics is the idea says that the macro economy can be in imbalance for a substantial time. Keynesian economics there should be government interference to help to defeat the lack of aggregate demand to reduce the unemployment and increase the growth rate **(**Pettinger, 2017). Khraief et al. (2018) found that unemployment rate in case of 29 OECD countries during of 1980–2013. The results indicates that unemployment hysteresis hypothesis is strongly rejected.

2. DATA AND METHODOLOGY

The following chapter consists of empirical model and methodology, data and data source.

Data Source

Time series data are used for the period of 1991 to 2016 to finding the determinant of youth unemployment in Pakistan. All the variables data is collected from world development indicator (WDI) which is publish by World Bank.

In this study five variables are used namely unemployment, Population, FDI, Inflation, Interest rate, Government spending.

Econometric model

In this study we use the following model

Unemployment Rate = β_0 +β_1POPG + β_2FDI + β_3INF + β_4 WAGE + β_5GEX + ε (1)

Where in equation (1), UR show unemployment rate (total youth unemployment (% of total labor force ages 15-24) (modeled ILO estimate), the POPG show the population growth (Population growth (annual %), FDI show foreign direct investment (Foreign direct investment, net inflows (% of GDP), INF show inflation rate (Inflation, GDP deflator (annual %), WAGE show the wage rate (Wage and salaried workers, total (% of total employment), GEX show government expenditure (General govt consumption spending (% of GDP), ε is the error term.

3. RESULT AND DISCUSSION

In this chapter we include Descriptive statistic, Tables and interpretation of the Tables. In this section we conduct the Augmented Dickey Fuller test to find the stationary of the variables through unit root test. In this chapter we also run the model such $Ordinary\ Least\ Square\ (OLS) method, Fully\ Modified\ Ordinary\ Least\ Square\ (FMOLS)$ $method\ and\ Robust\ Least\ Square\ (RLS)$ method and also interpret the Tables of this model.

In this chapter first of all we will estimate the unit roots to find the stationarty of the variables. So for this we use ADF test.

Unit root test

A unit root test is defined that if a time series variable is non-stationary then we possesses a unit root test. It is also called a unit root process or differences stationary process

A key concept underlying time series process is that of stationarity. A stationary time series is one whose statistical properties such as Mean, Variance, Autocorrelation, etc. are all constant over time. A stationary time series has three properties.

$$(1)\ E\ (Y) = constant\ for\ all\ t\ (2)\ Var\ (Y) = constant\ for\ all\ t\ (3)\ Cov\ (Y, Y) = constant\ for\ all\ t\ \&k \neq 0$$

In Table 4.1 in OLS method the unemployment is depended variable. And the other is explanatory variable which as POPG, FDI, INF, WAGE, GEX.

So in this table the FDI which is explanatory variable is significant which influence is the dependent variable which is UN because the P-value is less then (0.05%) which (0.0023) is meaning that the relationship between FDI and UN are significant, further more GEX is also significant to UN because the P-value of UN is also less then (0.05%) which is (0.0000) mean that GEX and UN are significantly correlated with each other.

R-Squared: In the given Table we can also see the value of R-squared which is (0.83) meaning that 83% are X-variables have been explain during the study or estimation, the R-squared of this study is gone be greater than 60% meaning that we can accept the model and we happy about that because if the R-squared less than 60% than we reject the model but in this case R-squared more than 60% which is the green signal so we accept the model.

P-value (F-statistic): The F-statistic P-value is also less than (0.05%) which is (0.00000) meaning that we cannot reject the model rather we accept the model.

Durbin-Watson stat: In the OLS model the Table also show that the Durbin-Watson stat are more than (2) meaning that we accept the model because we know that if the Durbin-Watson value are close or more than (2) than we accept the model rather less than two than we reject the model.

Table 4.1: OLS results

$Variable$	$Coefficient$	$Std.Error$	$t - Statistic$	$Prob.$
POPG	3.908553	2.010829	1.943752	0.0661
FDI	-0.881015	0.251945	-3.496859	0.0023
INF	-0.109234	0.057311	-1.905970	0.0711
WAGE	0.400870	0.218499	1.834655	0.0815
GEX	-0.906948	0.175324	-5.172973	0.0000
C	-1.492277	11.61495	-0.128479	0.8991
Adj.R^2	0.793135	S.D. dependent var		2.023842
F-statistic	20.17038			
Durbin-Watson stat	2.544997			

In the Table 4.2 FMOLS method the UN is dependent variable. And the other is explanatory variable which as POPG, FDI, INF, WAGE, GEX.

In this table the FDI which is explanatory variable are significant which is influence to the dependent variable which is UN because the P-value is less the (0.05%) which (0.0011) meaning that the relationship between FDI and UN are significant and the other variable INF which is significant to the dependent variable UN because its P-value is also less then (0.05%) which is (0.0121) means that the relationship between INF and UN are significant, furthermore the other explanatory variable is significant which is GEX because its P-value is less then (0.05%) which is(0.0000) so the relationship between GEX and UN is significant.

R-Square: In the given Table we can also see the value of R-squared which is (0.880174) meaning that 88% are X-variables have been explain during the study or estimation, the R-squared of this study is gone be greater than 60% meaning that we can accept the model and we happy about that because if the R-squared less than 60% than we reject the model but in this case R-squared more than 60% which is the good result so we accept the model.

Table 4.2: Fully Modified Least Squares (FMOLS) results

$Variable$	$Coefficien$	$Std.Error$	$t - Statistic$	$Prob.$
POPG	3.544557	1.815383	1.952512	0.0658
FDI	-0.840068	0.219165	-3.833045	0.0011
INF	-0.139050	0.050101	-2.775377	0.0121
WAGE	0.369673	0.193342	1.912019	0.0711
GEX	-0.980401	0.153676	-6.379676	0.0000
C	1.449697	10.43411	0.138938	0.8910
Adjusted R-squared	0.848641	S.D. dependent var		2.064679
S.E. of regression	0.803262	Sum squared resid		12.25937
Long-run variance	0.640941			

In the Table 4.3 the UN is dependent variable and the other variable is explanatory variable which as POPG, FDI, INF, WAGE, GEX.

In this method the FDI which is explanatory variable are significant because its P-value is less then (0.05%) which is (0.0000) so it's meaning that FDI is significant influence to the UN and the other variable INF is also significant because its P-value is less then (0.05%) which is (0.0243) so the relationship between INF and UN is significant. Furthermore the other explanatory variable is GEX which is significant because its P-value is less then (0.05%) which is (0.0000) which show that the relationship between GEX and UN is significant.

R-Squared: In the given Table we can also see the value of R-squared which is (0.664689) meaning that 66% are X-variables have been explain during this study or estimation, the R-squared of this study is gone be greater than 60% meaning that we can accept the model and we happy about that because if the R-squared less than 60% than we reject the model but in this case R-squared more than 60% which is the green signal so we accept the model. The results of the present study are matching to previous studies including Khan et a(2015), Maqbool *et al.* (2013), Wajid & Kalim (2013) Alshamsi et al. (2015), Azam et al. (2014); Cheema & Atta (2014), Muhammad et al. (2014), Khan et al. (2014), Azam and Rashid (2015), Yien et al. (2018), Azam & Khan (2018), Muhammad (2016), Yien et al. (2017ab) and O'Nwachukwu and Increase (2017).

Table 4.3: $\boldsymbol{Robust\ Least\ Square\ (RLS)\ results}$

$Variable$	$Coefficien$	$Std.Error$	z-Statistic	Prob.
POPG	2.837743	1.793397	1.582329	0.1136
FDI	-0.922415	0.224702	-4.105064	0.0000
INF	-0.115089	0.051114	-2.251601	0.0243
WAGE	0.352758	0.194873	1.810197	0.0703
GEX	-1.019591	0.156366	-6.520523	0.0000
C	3.816008	10.35902	0.368375	0.7126
Robust Statistics				

R^2	0.664689	Adj. R^2	0.580862
Rw-squared	0.922692	Adjust Rw-squared	0.922692
Akaike info criterion	44.54089	Schwarz criterion	53.74812
Deviance	11.69429	Scale	0.584759
$Rn - squared\ statisti$	160.1942	Prob(Rn-squared stat.)	0.000000
	$Non - robust\ Statistics$		
$Mean\ dependent\ v$	10.39231	$S.D. dependent\ var$	2.023842
$S.E. of\ regression$	1.013982	$Sum\ squared\ resid$	20.56318

Table 4.4: Comparison of OLS, FMOLS and RLS

Variable	Method (OLS)	Method (FMOLS)	Method (RLS)
POPG	3.908553 [SE 2.010829] (t-ratio 1.943752)	3.544557 [SE 1.815383] (t-ratio 1.952512)	2.837743 [SE 1.793397] (t-ratio 1.582329)
FDI	-0.881015 [SE 0.251945] (t-ratio -3.496859)	-0.840068 [SE 0.219165] (t-ratio -3.833045)	-0.922415 [SE 0.224702] (t-ratio -4.105064)
INF	-0.109234 [SE 0.057311] (t-ratio -1.905970)	-0.139050 [SE 0.050101] (t-ratio -2.775377)	-0.115089 [SE 0.051114] (t-ratio -2251601)
Wage	0.400870 [SE 0.218499] (t-ratio 1.834655)	0.369673 [SE 0.193342] (t-ratio -2.775377)	0.352758 [SE 0.194873] (t-ratio 1.810197)
GEX	-0.906948 [SE 0.175324] (t-ratio -5.172973)	-0.980401 [SE 0.153676] (t-ratio -6.379676)	-1.019591 [SE 0.156366] (t-ratio -6.520523)
C	-1.492277 [SE 11.614995] (t-ratio -0.128479)	1.449697 [SE 10.43411] (t-ratio 0.138938)	3.816008 [SE 10.35902] (t-ratio 0.368375)

4. CONCLUSION

In this study we examine the impact of POPG, FDI, INF WAGE and joblessness in case of Pakistan for the period of 1991 to 2016. First we collect the variable of data then find the stationarity of this variable through unit root test. After that we apply the OLS, FMOLS and RLS method. These three methods give good and same result. And then we conclude that foreign direct investment (FDI), inflation (INF) and government expenditure (GEX) have significant effect on unemployment. The paper show that the (FDI) foreign direct investment, (INF) inflation and (GEX) government expenditure his negative relationship with unemployment. And wage rate (WAG) and population growth (POPG) his positive relationship with out of work.

It is suggested that the regime must be focus on to encourage external investors. Supervision must be taking on strategies for enticing foreign investors to encourage and support the investor to come and invest. The government should also focus on foreign investor security. Government should also control the corruption, nepotism, bribery and inflation rates for controlling the unemployment. The government should also focus on merit to select the person on merit basis. Now a days the Pakistan china economic corridor appears to the be a very crucial project for Pakistan. This project is helps to provide a much needed base to kick start its economic growth and create a lot of employment opportunity. The government authority should also know which project is beneficial for removing unemployment in the country. To make proper polices for skillful people and to encourage these people on every step. The government should also focus on industrial sector and provide the financial assistance them.

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