

# The Impact of Terrorism on Unemployment: Evidence from Afghanistan (1980-2017)

Fazal Ahmad Afzali

Department of Economics, Assistant Professor in Merwais Neka Institute of Higher Education

DOI: 10.29322/IJSRP.9.09.2019.p9370  
<http://dx.doi.org/10.29322/IJSRP.9.09.2019.p9370>

## Abstract:

The main objective of this research paper is to hypothesize the impact of terrorism on unemployment through their basic relationships by using time series analysis for the period of 1980-2017 in Afghanistan. This study utilized a simple multiple regression model represented by the Ordinary Least Square and Vector Autoregressive Regression estimation methods. Unemployment is reserved as dependent variable and suicide attacks as independent variable. Furthermore, a few additional control variables such as hostage and kidnaping, trade openness, and population growth are added to enhance the inferences of this research paper. The result of Vector Autoregressive Regression and Ordinary Least Square estimation tests showed that suicide attacks as the focused independent variable is strongly significant both statistically and economically and acquired a positive relationship with unemployment. Besides, hostage and kidnaping, trade openness, and population growth are also significant which have positive, negative and positive relationships respectively. It is suggested by the outcome of the study that Afghanistan is supposed to adopt such policies to decrease the number of suicide attacks, control hostage and kidnaping, and increase trade openness, and control the population growth rate by tightening the security, increasing production and output, and controlling birth rate.

**Index Terms:** Unemployment, Suicide Attacks, Hostage, kidnaping, trade openness, and Population Growth

## 1. INTRODUCTION

Terrorism became one of the most discussed issues recently in modern societies that remained noteworthy implications to business, communities, economies, religions, and health. Besides, terrorism put an uncontrolled fear even on most developed countries such as United State, Britain, Russia, Germany, Denmark, and Israel. The blow of terrorism was just behind the scene in the short past but the 11<sup>th</sup> September 2001 terrorist attack made a painful period of the history that informed the onlookers of terrorism and challenged even superpower states to stop it (MÄNNIK 2008). According to the Global Terrorism Index of 2017, ten countries such as Iraq, Afghanistan, Nigeria, Syria, Pakistan, Yemen, Somalia, India, Turkey, and Libya were mostly affected by the terrorism such that Afghanistan and Pakistan ranked as the top impacted countries (GTI 2017). The top serious terrorist groups around world are al-Qa'ida (AQ), Islamic Jihad Union (IJU), Islamic Movement of Uzbekistan (IMU), Islamic State of Iraq and ash-Sham-Khorasan (ISIS-K), Tehrik-e-Taliban Pakistan (TTP), Harakat ul-Jihad-i-Islami (HUJI-B), Ansarul Islam, National Liberation Army, Revolutionary Armed Forces of Colombia, Harakat Sawa'd Misr (HASM), Army of Islam (AOI), HAMAS, and Mujahidin Shura Council in the Environs of Jerusalem (CIA 2019).

Afghanistan has been experiencing a very bad history of terrorism during the last four decades that destroyed everything of the country such as education, economy, agriculture, and political systems. Taliban was known as an accepted regime during late 1990s but now it is the biggest and leading terrorist group in the country which challenges the current government in terms of war and defense. Besides, Islamic State of Iraq and ash-Sham and Al-Qaida are the other emerging terrorist groups that function in the country against current government and people. The existed terrorist groups conduct different complex attacks such as bombing, explosion, suicides, car-explosion, arm-attacks, and land bombs. Due to the existence of such terrorist groups, Afghanistan faces an uncontrolled barrier towards its development in each sectors and remained the country insecure.

Insecurity is a challenge to the whole education system of Afghanistan because only limited education centers such as schools and universities are opened in the capitals of the provinces but the districts which are under control of Taliban and ISIS are ousted from education. According Morten Sigsgaard 2009 education analysis report, states that the biggest threat to Afghan education is Taliban because they attacked numerous schools in the districts or in insecure areas (Sigsgaard 2009). Besides, Center on International Cooperation (CIC) prepared a report on enhancing access to education which states that addition to attacks and fires on schools, numerous teachers, students, and clerks were targeted or ashamed in Taliban control areas. In 2015, UNAMA addressed that 13 regions have very poor education opportunities such as Helmand, Zabul, Ghazni, Paktia, Khost, and Badkshshan (RUDEFORTH 2016).

In addition, a lot of Afghan residents do not tend to dwell in the country and hence plan to migrate to other secure countries such as European, United State, and some Asian countries. It is because of great fear from Taliban and ISIS especially for people who work or worked with government. In 2015, Elisa Lopez-Lucia prepared a report on the drivers of migration from Afghanistan and claimed that the main emphasized factor of migration is conflict and insecurity because people scared of more casualties and destructions in the country (Elisa 2015). In addition, Dermot Rooney discovered the real reasons of migration from Afghanistan which is insecurity and instability. The author added that Afghans are tired of war and people who migrate have great fear from Taliban and ISIS recently (Rooney 2016).

People who are well educated or have money leave the country because they do not invest their money. Some of the investors already took out their money from Afghanistan and they invested their money in Dubai or in other countries. The World Bank Group provided an analysis of investment horizon in Afghanistan in 2005 which among other recommendations, improving security was the top to consider. It was discovered that major security attacks in major cities are challenges to both internal and foreign investors (WBG 2005). Richard Ghiasy, Jiayi Zhou and Henrik Hallgren researched on the development of private sectors in Afghanistan in 2015. It is mentioned that private sector promoted somehow from 2001 but recently all the investments end in Dubai which became a better and secure market for Afghan investors. It is reasoned that Afghan government cannot establish an attractive environment for investment in Afghanistan (Ghiasy 2015).

On the other hand, government is not able to establish and implement developing projects such as constructing water dams, electricity, schools, roads, and agriculture in the country because it cannot preserve the security of the country. The government of Afghanistan receives quit enough infrastructures and which the National (NSP) is the ideal one. government spent 88000 subprojects but protection challenges implementation. For of projects were deteriorated security and Southern regions. staff were killed and around 125 were kidnapped (NailaAhmed 2015).

South Asia GTI Score, Rank, and Change In Score from 2002-2016				
NO	Country	Score	Global Rank	Change in Score
1	Afghanistan	9.441	2	3.880
2	Pakistan	8.4	5	2.360
3	India	7.534	8	0.167
4	Bangladesh	6.181	21	0.929
5	Nepal	4.387	44	-1.729
6	Sri Lanka	2.905	68	-2.751
7	Bhutan	0.038	128	0.038

grants for development projects Solidarity Program Yet, the Afghan around 1.5\$ billion on still there are for additional example, quite number suspended due to the condition in Eastern Till now, 370 NSP

Table: 1

\*A reduced score indicates lessening terrorism

*Source: Global Terrorism Index*

Regarding table # 1, it indicates that Afghanistan comes as the first and most affected countries especially in South Asian countries because the most insecure countries are located in South Asia. Further, it shows that the highest the score, the most insecure or affected the country and the lowest the score, the lowermost the country in terms up terrorism affection.

Since terrorists in Afghanistan made the country so much insecure and as a result, it prevents all the essential channels of development such as business, economy, agriculture, investment, education and constructions that all of them are positive factors of increasing employment in Afghanistan. Due to the inexistence of education, investment, business, government spending, sound economy, unemployment increases and that is the reason why terrorist increases unemployment in Afghanistan by many factors. However, it is questioned if terrorism increases unemployment in Afghanistan or there are other hidden factors that affect the unemployment in the country. For this reason, it is very important to check what type of insecurity (Terrorism) increases unemployment and what are the basic policy implications for the solution of this problem.

#### **Research Questions:**

- What types of terrorism attacks increase unemployment in Afghanistan?
- What are the real drivers of unemployment in Afghanistan?
- What other Economic and Fiscal policies decrease unemployment in Afghanistan?

#### **Objectives:**

The main objective of this research paper is to study empirically the effect of terrorism on unemployment in Afghanistan. Furthermore, a few macroeconomic and fiscal policies are also focused in this paper. To this end, the study pursues to achieve the followings:

- To determine the relationship between suicide attacks with unemployment
- To determine the relationship between hostages and kidnaping with unemployment
- To determine the relationship of demographic factors such as population growth with unemployment
- To determine the relationship of trade openness with unemployment

## **2. LITERATURE REVIEW**

Arshad Ali researched the economic cost of terrorism through a case study of Pakistan in 2009. He explored many various types of costs of terrorism through a qualitative analysis such that the data is used from many written articles and expert views. He discovered that the effects of terrorism on a state economy are numerous which the first notable is unemployment in Pakistan. Unemployment was influenced greater than any other economic factors. For example, the unemployment rate rose from 23.9 to 37.5 percent in 2007 and 2008 respectively. So one can argue that terrorism deteriorates unemployment in the country of having terrorism threats and the more the threats, the higher the unemployment rate in that country (Ali 2009).

Zahid Shahab Ahmed discovered a unique result in a study of the Impacts of Terrorism Related Violence on Youth in Pakistan through a mixed research analysis in 2015. The author focused on various factors of terrorism in Pakistan but unemployment became remarkable in this paper result. It is found that terrorism does not only increase unemployment but it also harms Pakistan economy through decreasing FDI and local industry negatively. Due to the existence of terrorism, the unemployment rate increased from 5.1 to 6.2 percent in 2012 and 2013 respectively. The paper concluded that among other economic aspects, unemployment is the first that is influenced greatly by the presence of terrorism as Pakistan is the prominent example of terrorism recently. To this end, terrorism harms the whole economy of a country especially unemployment (Shahab 2015).

Andrew E. Clark, Orla Doyle, and Elena Stancanelli studied the Impact of Terrorism on Well-being: Evidence from a case study of the Boston Marathon Bombing in 2016 through a quantitative analysis by using a combined regression model. The authors used cross-section model using the data for one year 2012 after Boston Bombing. Result from Boston case study revealed that due to this bombing event, the well-being of the nearby states reduced and additionally, unemployment rose by 2 percent in the same year. The result displays that such effects were not just for a week or couple of weeks but it exceeded even to one year. It is added that women who were living adjacent were affected more compared to other remote residents. So it is concluded that terrorism comes as a notable driver of increasing unemployment in insecure countries (Clark 2016).

Todd Sandler pointed to 9/11 attack in the study of Economic Consequences of Terrorism in Developed and Developing countries: An overview through mixed method combined by panel and time series analysis for the period of 1968 to 2004. The most remarkable estimation method used is Vector Autoregression. The terrorism has influenced numerous sectors but more precisely tourist industry and foreign direct investment. Most importantly, unemployment was affected at large compared to other macroeconomic factors. This research paper indicated that the unemployment rate was dramatically rose after 9/11 attack. Besides, terrorism affects both large and small economies of terrorism threatened countries. Finally, it is proved that terrorism could be the potential driver of comprehensive unemployment in countries that experience either large or small terrorism presence (Sandler 2005).

In 2014, Shannon C. Flowers researched the issue of the relationship between youth unemployment and terrorism worldwide through multiple regression model through Fixed Effect estimation method by using panel data analysis for the period of 2000 to 2009. The findings suggested that terrorism does not have such relationship between terrorism and youth unemployment that harms youth unemployment but when it is combined with all, it has a relationship which harms unemployment. The finding of this research study is very unique and different because it revealed that terrorism also increases unemployment but unemployment also generates terrorism and thus it is a vice versa relationship. So this finding is quit challenging to argue that terrorism does not affect youth unemployment worldwide (Flowers 2014).

In 2009, Bryan W. Roberts researched the evidence of 9/11 attack from real time forecasting in the United States through a quantitative research analysis using forecast regression model for the year of 2002 which discovered very significant result. The researcher found out that 9/11 attack reduced the real GDP by 0.5% and increased unemployment by 0.11 percent that equals 598000 employment jobs. But it is argued that economy as whole recovered after a year of 9/11 attack such as unemployment and GDP but did not return to the same level as before 9/11 attack. So it is justified that terrorism deteriorates the economy especially unemployment but recovering to the previous level takes time and costs (Roberts 2009).

In 2010, Efraim Benmelech, Claude Berrebi, and Esteban F. Klor studied the Economic Cost of Harboring Terrorism in Palestine through quantitative analysis using basic regression model through cross-sectional data for the year 2002. In this research paper, quit enough factors are focused that were believed to be affected by the terrorism in Palestine but the unemployment assigned as the notable influenced factor of terrorism. The authors came with a different finding which suggested that successful attack caused 5.3 % increase in unemployment and besides reduced the Palestinians workers by 6.7 percent (Efraim Benmelech 2010).

According to APEC project report conducted under the title of “Strengthening Tourism Business Resilience against the Impact of Terrorist Attack” based on counter terrorism group conference held in 2017 stated that Bali in Indonesia experienced a terror attack such that destroyed the tourism business. As a result, 2.7 million people became unemployed and around 57% of tourism visitor declined from overall. The second attack in Indo also harmed the tourist business and unemployment rate rose unexpectedly (APEC Group 2017).

Alexander Meindl researched on the Impact of Terrorism on Tourism in the EU in 2018 in Vienna over two terrorist attacks case studies took place in Paris and Brussels in 2015 and 2016 respectively. The author applied a qualitative analysis based on the holistic overview. This research paper found similar result of increasing unemployment rate with other previous studies. The author discovered that besides other costs such as decline of investment, less consumption, less trade, reduction in tourist visitors, unemployment rate rose by unknown percentage. It was argued that costs of terrorist attacks are difficult to calculate especially indirect costs (Meindl 2018).

In June 2016, Hanaa Abdelaty Hasan Esmail conducted research on the Influence of Terrorism and insecurity on the tourism industry in Egypt and Tunisia after Revolution in a conference paper using a time series analysis for the period of 2005-2015. The author used a multiple regression model by applying Ordinary Least square and Serial Correlation methods. The author discovered that terrorism influenced the overall economic development through reducing tourism industry numbers, diminishing tourism income, rising inflation and particularly increasing unemployment both in Egypt and Tanzania. It is worth mentioned that terrorism and insecurity do not upset only one sub-part of the economy but they really harms all the factors of economic growth which unemployment is the basic focus recently in economic growth absorbed evaluations and revisions (Esmail 2016).

In August 2017, Ahmed Diriya Mohamed explored a different conclusion on the study of the impact of terrorism in social economic development, a case study of North Eastern Region through a qualitative analysis that includes depth interviews, interventions, and trials in three different cities such as Garissa, Wajir, and Mandera. The author found out that besides other relevant sectors, terrorism also affected the business sector in North Eastern region after the recent advent of terrorism. For example, some of the businesses and NGOs moved from North East to safer locations or even closed due to the strict fear of terrorism in Kenya. This has deteriorated highly the level of unemployment with a quick rising point in rate, especially in youth intensive population (Mohamed 2017)

In 2009 Princeton N. Lyman and John Harbeson explored influences of the war on terrorism in Africa through a qualitative analysis in African countries such Somalia, Sudan, and Nigeria. It is argued America increased its security policies in Africa after 1990s and 2001 massive attack in the United States. It is added that Africa is not the basic source of terrorism but since its weak economy, poverty caused it to be a place of terrorism because mostly US and European insurgents flee to Africa such as Osama Bin Ladin when he claimed Nigeria a center of revolution. Besides, due to complex structures of religions such as Islam and its sub-divisions brought a focus to the violence and terrorism in Africa. The authors discovered that due to recent terrorist threats, a number of industries closed and many others are on the same decline. To put it through an example, a textile company reported that its company reduced its employment from 22000 to 7000 which is a more cut in the overall employment of the country. One can argue that terrorism and instability harm the overall economic development that unemployment is the more core factor of a country's economy (Lyman 2009)

In September 2002, Gail Makinen researched on the Economic Effects of 9/11 through a Reconsidering Impost in the United States through a qualitative analysis. It is discovered that 9/11 attack was believed more human tragedy than economic disaster which is true in many cases because human costs were greater than economic output that did not put the economy in full recession. The very remarkable slowdowns in economy were rising unemployment which is reaching from 3.9% to 4.95, short fall in GDP growth, and soften appeared recession lately by 2001. However, critics still believe that the negative economic influence was greater than human life disaster of 9/11 attack which they were not in reality (Makinen 2002)

### **Research Gap:**

Regarding the short literature review and the author best understanding of the country situation, there are notable research gaps in the study of Terrorism impact on unemployment in Afghanistan. At the very best effort of author, there does not exist such study that covers either empirical or qualitative research study in Afghanistan which is quit unique in this regard. Many researchers studied the same issue in other countries such as Asian and European but not in single country and they used panel data analysis but this paper uses time series analysis and qualitative analysis which makes this paper different from others. Besides, this issue is very attractive in terms up Afghanistan because Afghanistan is so remarkable in the terrorism history. Next, the study covers both political and economic factors on the unemployment that also make this research paper different and valuable from other previous research. So finding and filling these gaps is the motivation to work on this problem and suggest the appropriate policies recommendations.

### **3. METHODOLOGY**

This research paper follows the quantitative analysis through time series analysis for the period of 1980-2017. Regarding the literature review and data type available for this research, first, a multiple regression model is specified to demonstrate the impact of terrorism on unemployment in Afghanistan.

### Multiple Regression

A multiple regression model is selected because the author tries to find the relationship of one dependent variable with several independent variables as it is defined that multiple regression model shows the straight line relationship between dependent and independent variables. Multiple regression is very common and useful in recent research and development especially for economist to conduct a research in relevant fields. Thus, it makes easier to find the relationship of any two or more variables. For this purpose, a multiple regression is selected as the best fit model for this research.

**Plain Form:**  $Y_j = \beta_0 + \beta_1 X_{1j} + \beta_2 X_{2j} + \dots + \beta_n X_{nj} + \varepsilon \dots \dots \dots 1$

**Featured Form:**  $UNEM_t = \beta_0 + \beta_1 (Suicide)_t + \beta_2 (Hostage/Kidnap)_t + \beta_3 (Trade\ Openness)_t + \beta_4 (Pop)_t + U_t \dots \dots \dots 2$

Where:

UNEMP: is the unemployment rate of Afghanistan in % form of total work force.

Suicide: is the number of suicide attacks in Afghanistan

Hostage and Kidnaping: is the number of high profile people kidnaped during this period

Trade openness: is the sum of total import and export from share of GDP during this period

TPop: Total population growth in percentage form.

U: is the general error term or idiosyncratic error.

### Test and Estimations

It is worth mentioned that for estimation purpose, several tests and estimations are applied in this regression analysis. For example, simple OLS (Ordinary Least Square), VAR (Vector Autoregressive Regression), and correlation matrix tests are planned in this research paper.

#### VIF:

One of the best approach to assess multicollinearity problem in a research paper is to use variance inflation factor for the purpose of showing that how much the variance of the coefficient of explanatory variables are increased in the data. There are significant limitations such as if the VIF becomes equal to 1 then there is no multicollinearity problem but if the VIF for any variable in bigger than 1, there exists a slight multicollinearity problem that does not mean that a variable should be removed from the model. Most importantly, if the variance inflation factor becomes greater than 5 or it becomes bigger from 5 to 10, then there is a high multicollinearity problem which must be detected and the variable should be removed from the model (Akinwande 2015).

#### OLS (Ordinary least Square):

OLS is a generalized regression technique that is used to set up a single independent variable in one interval measure which is applied both for a single and multi-explanatory variables. It basically indicates the relationship of Y (dependent) with X (Independent) variables through using a line of best fit in such a way to predict Y via X in some degree (Hutcheson 2011). Besides that, OLS is the first estimation method in regression analysis to test the unknown parameters of classical linear models through minimizing the sum of

squared or errors. The result of OLS is reliable when the explanatory variables are exogenous and there is no multicollinearity but the result is serially correlated. The errors are opposite in sign to the first differences of the assigned model produces inferences regarding the research objectives. Applying OLS is a way to see for further actions to take in case there are ambiguities in the data, model, and the assigned variables.

Variable	Obs	Mean	Std.Dev	Min	Max
<b>Unemp</b>	38	21.99895	1.495702	19.656	25.10101
<b>HostageTak~g</b>	38	10.67568	20.57514	0	99
<b>Sucide</b>	38	23.43243	44.01801	0	120
<b>Exp&amp;Imp</b>	38	95.62887	14.73994	47.65906	116.3625
<b>Population~e</b>	38	50.44275	1.175684	49.18201	54.17491

optimal when there is not correlation and the errors are homoscedastic that the heteroscedasticity (2002). So OLS is the impression for finding out how the

**VAR (Vector Autoregressive Regression):**

The VAR becomes one of the most effective, elastic, and stress free to use models for different time series analysis such that it signposts the dynamic performance of economic, financial, and forecasting. Besides, it is useful to produce physical interpretations and policy analysis (VAR 2000). Cooley and Dwyer specified that VAR is the noticeable study instrument for the determination of distinctive dynamic relationships between variables without taking to request an economic theory (Awokuse 2003). In reality, it permits researchers to study the usefulness of one variable in predicting another variable via its historical values that is stated as a linear function of its particular and another variable past lags (Stata 2013). Furthermore, VAR is very important for catching the comovements between variables in indicating data, information, and interpretation of the explanatories (Papanicolas 2011). In this research paper, the objective of VAR is to discover the long run relationships between variables and predict their upcoming values by providing justification for the importance of assigned variables in this research study.

**4. Regression Findings**

This research paper findings are based on the analysis of quantitative method by using Stata Soft Package. Regarding the model and variable specification, there are 4 independent variables assigned such as suicide attacks, hostage/ kidnaping, trade openness, and total population growth. In this research paper, the first two focused explanatory variables are based on political and risk and the third and fourth variables are macroeconomic aspects. Before applying any estimation method, a few model and data specification tests are applied such as detail summary and Variance Inflation Factor.

**Table #2: Summary Statistics**

*Source: Computed from WDI Data via Stata*

In table #2, the means show all the central tendency in a data set but still one can argue that there is not good or bad mean because they just quantify the significant points in data set. Regarding the understanding of a mean, a very big mean indicates that the data set contains a very big data observation but a small mean shows that the data set includes a very small point in data. In this summary statistics, the biggest mean is produced by the trade openness explanatory variable which is 95.62887 but the very small mean is given by Hostage/ Kidnaping which is 10.67568. Furthermore, we learn that the standard deviation indicates how much the data points are spreaded from their means such that the small is the best but the big is the worst. In this summary analysis, the very small standard

deviation is given by population that is 1.175684 but the very big is given by suicide that is 44, 01801. Over all, the summary statistics provide whether the data has very big and small data points and show that how much the data points are spreaded from their means.

**Table #3: Variance Inflation Factor**

VIF Test		
Variable	VIF	1/VIF
Exp&Imp	6.05	0.165398
Sucide	4.92	0.203052
Opulation~l	1.81	0.551844
HostageTak~g	1.13	0.881369

Source: Computed from WDI Data via Stata

Due to the analysis of the VIF, a variable that contains VIF 1 to 5 then there is no existence of unacceptable multicollinearity for that explanatory variable but if the VIF is greater than 5 then there is a high multicollinearity problem produced by that variable. If there is a multicollinearity problem in the model, the results are not biased but of course, inefficient which means that a research can still proceed the model if that variable is very significant in such regression. Still, one can argue that there is always a correlation between independent variables because it happens less likely that a variable has no correlation with other modeled included variables. In this VIF results, only Exp&Imp has VIF greater than 5 which is 6.05 but still it is not that much challenge to the model that would create unacceptable inferences in the regression result.

**Tabel#4: VAR (Vector Autoregressive Regression)**

Source: Computed from WDI Data via Stata

Regarding the result produced by the VAR in Table 4, the independent variables such as Hostage& Kidnaping, Suicide, and population growth are significant at maximum 5% significant level but only Exp&Imp is not significant even at 10% significant level. This means that the first focused explanatory variables that selected based on security factors are significant including one macroeconomic factor such as population. The objective of this test is to provide both short and long term relation between dependent and independent variables but in this research focus, only the long term relation is considered because, in any research analysis, the long term relations are the best options to consider that provide good inferences in regression analysis and decision.

**Table # 5: Ordinary Least Squared Estimation**

Unemp	Coef	Stand Error	Z	P > Z
HostageTak~g	.0062647	.0031972	1.96	0.050
Sucide	.0124981	.0043206	2.89	0.004
Exp&Imp	-.0045442	.0110234	-0.41	0.680
Population~e	-.3214936	.1004376	-3.20	0.001

OLS Estimation						
						Number of Obs: 38
R-squared	=	0.8463				
Adj R-squared	=	0.8265				
Prob > F	=	0.0000				
Unemployment	Coef.	Std.Err	T	P>/Z/	95% Conf Intv	
HostageTakingKidnapping	.0095238	.0051142	1.86	0.072	-.0009067	.0199544
Suicide	.0254403	.0052726	4.83	0.000	.0146869	.0361938
Exp&Imp	-.0274354	.016688	-1.64	0.110	-.0614708	.0066
Populationages1564oftotal	.3052579	.1564426	-1.95	0.060	-.6243247	.0138089
Cons	39.23764	8.728876	4.50	0.000	21.43498	57.0403

Source:

Computed from WDI Data via Stata

It is worth mentioned that OLS is the first glance to look at the result of model especially in panel data analysis and further, it provides how the finding of the regression looks like, are there any problems in model such as multicollinearity, model specification, heteroscedasticity, and stationarity and non-stationarity that mislead the result of the model. Since it is a time series analysis, that is why the OLS became the best fit regression estimation in this research paper because it provided acceptable inferences.

The foremost pinpoint in a regression analysis is the standard error that shows the dimension of the data and basically explain that how many of the data points are spreaded from their means. Most importantly, the standard error affects directly the coefficients of the variables in a regression analysis. It is argued that the more the standard error, the larger the coefficients of the variables and the poorest the regression inferences and the less the standard error, the minor the coefficients of the variables and the best regression inferences. In table #4, hostage and kidnaping have the smallest the standard errors and better coefficient but population has the highest standard error, the acceptable coefficient. It is concluded that the standard errors are acceptable and provided good inferences which are feasible.

According to simple ordinarily least square estimation, Hostage and Kidnaping is significant at 0.072% significance level. This means that if the Hostage and Kidnaping is increased by one percent in Afghanistan, the unemployment rate will be increased by 0.0095%. The sign is correct as it was expected in the objectives of the study. At the very best effort, there is no such research study that focused on the impact of hostage and kidnaping on unemployment but there are quite a few studies that provided good result on the impact of overall terrorism on unemployment. So one can argue that hostage and kidnaping are parts of overall terrorism and that is why this finding is in line with (Ali 2009) research article which stated that the effects of terrorism on a state economy are numerous as the first notable is unemployment in Pakistan. He argued that unemployment was influenced greater than any other economic factors in Pakistan. Besides, Zahid Shahab Ahmed also discovered that terrorism does not only increase unemployment but it also harms Pakistan economy through decreasing FDI and local industry negatively (Shahab 2015). Furthermore, (Clark 2016) explored the result of Boston case study that revealed that the well-being of the nearby states reduced in one year and additionally, unemployment rose by 2 percent in the same year. Finally, (Sandler 2005) pointed to 9/11 attack in the study of Economic Consequences of Terrorism in Developed and Developing countries. The author exposed that terrorism has influenced numerous sectors but more precisely tourist industry, foreign direct investment, and unemployment.

The next vital factor of increasing unemployment in Afghanistan is Suicide Bombing that put a very huge threat both to the people and economy as whole. The OLS regression inference provided that suicide bombing is significant 1% significance level which indicates that if the suicide bombing is increased by 1%, the unemployment will be increased by .025%. The sign is accurate as it was expected and this regressor is both statistically and economically significant. this inference is the same as in different studies conducted by (Flowers 2014) and (Roberts 2009) who revealed that terrorism also increases unemployment but unemployment also generates terrorism and thus it is a vice versa relationship. Robert found out that 9/11 attack reduced the real GDP by 0.5% and increased unemployment by 0.11 percent which equals 598000 employment jobs. Additionally, (Efraim Benmelech 2010) exposed that successful attack caused 5.3 % increase in unemployment and besides reduced the Palestinians workers by 6.7 percent. The (APEC Group 2017) report also provided the same result which indicates that Bali in Indonesia experienced a terror attack such that destroyed the tourism business and as a result, 2.7 million people became unemployed and around 57% of tourism visitor declined from overall. Alexander Meindl revealed that two terrorist attacks in Paris and Brussels in 2015 and 2016 respectively increased unemployment by

unknown rate. Hanaa Abdelaty Hasan Esmail discovered that terrorism influenced the overall economic development through reducing tourism industry numbers, diminishing tourism income, rising inflation and particularly increasing unemployment both in Egypt and Tanzania (Esmail 2016). Besides, Ahmed Diriya Mohamed explored a different conclusion in his study that some of the businesses and NGOs moved from North East to safer locations or even closed due to the strict fear of terrorism in Kenya. This has deteriorated highly the level of unemployment with a quick rising point in rate especially in youth intensive population (Mohamed 2017). Finally, (Lyman 2009) found out that due to recent terrorist threats, a number of industries closed and many others are on the same decline. To put through an example, a textile company reported that its company reduced its employment from 22000 to 7000 which is a more cut in the overall employment of the country. One can argue that terrorism and instability harm the overall economic development which unemployment is the more core factor of a country's economy.

Besides those, trade openness is also significant both statistically and economically such that the significance level is almost 10% and the sign is negative and correct as it was expected in the points of the study. The relationship between unemployment and trade openness is negative which indicates that if the trade openness is increased by one percent, the unemployment will be decreased by -.027%. This result is in line with the research study conducted by Noel Gaston and Gulasekaran Rajaguru in Australia which discovered that increased trade basically exporting reduces unemployment in Australia and indicated that rising exporting price is one of the remarkable factor of decreasing the unemployment rate in Australia (Gaston 2010). Furthermore, Lalita Keawphun also found out the same result in a research study conducted in 89 countries. He discovered a negative relationship between unemployment and trade openness such that the export is a sub-part of trading. It is explored that one percent increase in trade openness results in 1.7% decrease in unemployment rate (Keawphun 2016). Besides those, Julien Prat, Hans-Jörg Schmerer, and Gabriel Felbermayr determined the identical outcome that associates a good match with the findings of this research paper. It is exposed that trade openness is a factor of reducing structural unemployment in 20 OECD countries especially in the long run (Felbermayr 2009). The inferences that discovered by Marco Fugazza, Céline Carrère, Marcelo Olarreaga, and Frédéric Robert-Nicoud in a research study conducted on the same issue in 97 countries of the world are also consistent with findings of this research paper. The authors discovered negative relationship as it is true in this paper but still, there are different arguments in their paper. For example, there are countries that experienced an increase in unemployment due to an increase in trade such as United States, Brazil, and Mexico (Fugazza 2014).

Finally, Population Growth as an economic factor is likewise significant at 0.06% that indicates if the Population Growth is increased by one percent, the unemployment will be increased by 0.30%. This factor is a little misleading in its coefficient but still one can argue that this is really an increasing factor of population growth in Afghanistan. The sign is positive as it was intended and it shows a strong positive relationship with unemployment in Afghanistan. Afrim Loku1, Gazmend Deda found a very similar result which points a positive relationship of population growth with unemployment which this result is the same as in this research paper. This result claims that natural population growth increases unemployment which also affect the economy of a country as whole (AFRIM LOKU1 2013). Besides, Marjetka Troha and Žiga Čepar discovered quite similar inferences that approves with this research paper. It is argued that if population ageing gets higher by one percent, the rate of unemployment increases by 0.53% which is a positive relationship between unemployment and population ageing (Čepar 2015). Habiba Edward Gideon stated very similar result in a research conducted in Nigeria which indicates that growth in population has a very strong positive and significant relationship with unemployment in Nigeria. It is also believed that population growth became the noted factor of rising unemployment in the country (Edward 2012).

The result of OLS provided an acceptable inferences which means that the assigned model has no omitted variable bias, multicollinearity, heteroscedasticity, endogeneity, and the correct assigned regressors in the model. It is because, the OLS provided that all the assigned variables are both statistically and economically significant because looking to the significance levels and coefficients, they are feasible in Afghanistan if the appropriate policies are adopted.

## 5. CONCLUSION

The main objective of this research paper is to postulate the effects of terrorism on unemployment through time series analysis for the period of 1980-2017 in Afghanistan. This study utilized a summary statistics and VIF tests to analyze the data and detect multicollinearity problem. Besides, a simple multiple regression model is used that is characterized by the Ordinary Least Square and Vector Autoregressive Regression estimation methods such that they accounted as the best fit analysis for time series. The result

showed that suicide attack is statistically and economically significant and have positive relationship among them. Besides, trade openness and population growth are both statistically and economically significant but hostage and kidnaping is close to marginally significant at 11%. These inferences are quite similar and in line with the existed literature review conducted for this research work. The signs of the assigned independent variables are correct as they were expected at the very beginning of the study. The end result of this research work suggests that suicide attacks, hostage and kidnaping become the very remarkable factors of increasing unemployment in Afghanistan. Besides, the macroeconomic factor such as import and imports and demographic factor also influence the unemployment in one or in another way. Finally, the assigned elements greatly affect the unemployment in Afghanistan either positive or negatively. For these reasons, a few supportive policies to remove these problems and stabilize the rate of unemployment in Afghanistan.

## 6. POLICY RECOMMENDATION

1. Since suicide attacks, and hostage and kidnaping are strongly significant and they are assumed as the push factors of increasing unemployment in Afghanistan, so that is why the current government of Afghanistan is supposed to adopt and apply different and supporting policies to decrease the number of suicide attacks and hostage and kidnappings. For instance, the current regime should increase the number of intelligence forces and spies exclusively in Southern Afghanistan to tighten the security by arresting the suicide bombers and their cohorts. Besides, the government should secure all borders especially those who share Afghanistan with Iran and Pakistan because the country suffers mostly from these close neighbors. Finally, Afghanistan could request foreign donors curiously from world powerful countries such as United States, China, and Russia to train their all security forces for strengthening the country security.
2. Next, the outcome of the research work recommended that reducing the digit of hostage and kidnaping could decrease the frequency of unemployment in Afghanistan. It is worth mentioned that hostage and kidnaping take place due to a fragile security system as it is true in Afghanistan. Now, to decrease the level of unemployment in Afghanistan, it is significant to adopt and apply such policies that would enhance the security and stability in Afghanistan. It is because that insecurity threatens investment, production, government projects and those sectors that provide job opportunities. So it is vital to bring good security environment, as a result, the hostage and kidnaping will be reduced and the unemployment will be reduced.
3. Not only those, the study also focused on one of the macroeconomic dynamic factors such as trade openness that either increase or decrease unemployment in different situations. To put it in another way, trade openness decreases unemployment and vice versa. So it is essential to provide opportunities both for local and foreign direct investments because they will enhance production and output that will create more jobs for unemployed Afghans. Besides, the government can also increase its expenditures in different sectors such as security, infrastructures, and agricultures that also increase the chance for creating more jobs. So the result of the paper suggests such polices to create jobs that would decrease unemployment in Afghanistan.
4. Finally, population growth as demographic factor is also a noted obstacle of unemployment not only in Afghanistan but also in many least and developing countries. Afghanistan recently suffers from over population due to its less geographic and economic resources. So over population is now a remarkable problem in Afghanistan that stimulates the unemployment very badly. The inference of this research work suggests that the government of Afghanistan should avoid birth rate to decrease the level of population growth. To do this, the government should provide informative sessions and workshops to inform Afghan civilians about the various negative aspects of the increased birth rate

Overall, these policies such as tightening security, especially reducing suicide bombs, hostage, kidnaping, increasing trade openness, and controlling Afghan birth rate will improve the unemployment problem in Afghanistan. So the adaptation and implementation of these policies are the great motivations toward improving unemployment in Afghanistan.

## Reference

[1]: Afrim Loku1, Gazmend Deda, "Unemployment in Relation of Growth Population," International Journal of Research in Social Sciences, Vol. 2, No.2, (2013): 1-8

- [2]: Ahmed Diriya Mohamed, "The Impact of Terrorism in Social Economic Development: A Case Study of North Eastern Region," Institute of Diplomacy: University of Nairobi, (2017): 1-18-54
- [3]: Akinwande, Michael Olusegun, Hussani Garba Dikko, and Agboola Samson, "Variance Inflation Factor: As a Condition for the inclusion of suppressor Variables in Regression Analysis," Open Journal of statistics, Vol 5, (2015):3
- [4]: Alexander Meindl. "The Impacts of Terrorism on Tourism in the EU." Modul Vienna University. (2018): 14
- [5]: Anchoar, Ande, "Ordinary least squares," Creative Commons Attribution, (2002): 1-4
- [6]: Andrew E. Clark, Orla Doyle, and Elena Stancanelli. "The Impact of Terrorism on Well-being: Evidence from the Boston Marathon Bombing." Centre pour la Recherche Economique et Ses Applications. (2016): 13
- [7]: APEC Counter-Terrorism Working Group. "Strengthening Tourism Business Resilience against the Impact of Terrorist Attack." Report on the APEC Counter-Terrorism Working Group's Workshop on 9-10 May 2017, Bali, Indonesia. National Counter Terrorism Agency of Indonesia. (2017): 13
- [8]: Arshad, Ali, "Economic Cost of Terrorism: A Case Study of Pakistan." Institute of Strategic Studies, Islamabad. (2008): 11
- [9]: Awokuse, Titus O. and David A. Bessler, "Vector Autoregression, Policy Analysis, and Directed Acyclic Graphs: An Application to the U.S. Economy," Journal of Applied Economics, Vol 5, No1, (2003): 2-3
- [10]: Barnett Rubin and Clancy Rudeforth. "Enhancing Access to Education: Challenges and Opportunities in Afghanistan." Center on International Cooperation (CIC). (2016): 12
- [11]: Bryan W. Roberts. "The Macroeconomic Impacts of the 9/11 Attack: Evidence from Real-Time Forecasting." HomeLand Security: Office of Immigration Statistics. (2009): 14
- [12]: Central Intelligence Agency (CIA). "Terrorist Groups- Home-based." (2019): 1. <https://www.cia.gov/library/publications/the-world-factbook/fields/397.html>
- [13]: Dermot Rooney. "The Real Reasons for Afghan Migration." RUSI Newsbrief: Afghan Migration. Vol. 36, No. 3. (2016): 2
- [14]: Edward Gideon, Habiba, "Impact of Population Growth on Unemployment in Nigeria,"
- [15]: Efraim Benmelech, Claude Berrebi, and Esteban F. Klor. "The Economic Cost of Harboring Terrorism." Journal of Conflict Resolution. (2010): 1
- [16]: Elisa Lopez-Lucia. "Migration and conflict in Afghanistan" Helpdesk Research Report. GSDRC Applied Knowledge Services. (2015): 3
- [17]: Erik Männik. "Terrorism: Its Past, Present, and Future Prospects." State of the union, KVUOA (2008): 1
- [18]: Gabriel Felbermayr, Julien Prat, Hans-Jörg Schmerer, "Trade and Unemployment: What Do the Data Say?" The Institute for the Study of Labor (IZA). Discussion Paper No. 4184 (2009): 3.36
- [19]: Gail, Makinen, "The Economic Effects of 9/11: A Retrospective Assessment," Congressional Research Service ~The Library of Congress, Report for Congress RL31617, (2002): 2-6-58
- [20]: Gaston, Noel, and Gulasekaran Rajaguru, "How an Export Boom affects Unemployment," Globalization and Development Centre and School of Business, Bond University V.8, (2010): 1. 19
- [21]: Global Terrorism Index. "Measuring and Understanding the Impact of Terrorism." The Institute for Economics & Peace (IEP). (2017): 23

- [22]: Hanaa Abdelaty Hasan Esmail, "The Influence of Terrorism and Insecurity on the Tourism industry in Egypt and Tunisia after Revolution," *The Business and Management Review*, Volume 7 Number 5,(2016):1-5
- [23]: Hutcheson, G. D, "Ordinary Least-Squares Regression," *The SAGE Dictionary of Quantitative Management Research*, (2011) 1-2
- [24]: Keawphun, Lalita, "Impact of Trade Opening on Unemployment," *Graduate School Southern Illinois University Carbondale*, (2016): 1. 31
- [25]: Marco Fugazza, Céline Carrère, Marcelo Olarreaga, Frédéric Robert-Nicoud, "Trade in Unemployment," *United Nations Conference on Trade and Development, Research Study No. 64*, (2014): 30-33
- [26]: Morten Sigsgaard. "Education and Fragility in Afghanistan A situational analysis." *International Institute for Educational Planning* (2009): 10
- [27]: Naila Ahmed, Luiza Nora, Leena Kemppainen, Susan Wong, and Jovitta Thomas. "Smart Supervision In Fragile And Conflict Situations: Monitoring Systems In Community Development Projects In Afghanistan." *Afghanistan Social Development Series. Citizens' Charter Afghanistan Project (CCAP)*. (2015): 6
- [28]: Papanicolas, Irene and Alistair McGuire, "Using a Vector Autoregression Framework to Measure the Quality of English NHS Hospitals," *LSE Health working Paper, No 22*, (2011): 13-15
- [29]: Princeton N. Lyman and John Harbeson, *The War on Terrorism in Africa*," WESTVIEW PRESS, a member of Perseus Books Group, (2009): 1-20-24-25
- [30]: Richard Ghiasy, Jiayi Zhou and Henrik Hallgren. "Afghanistan's Private Sector: Status and Ways Forward." *Stockholm International Peace Research Institute*. (2015): 60
- [31]: Edward, Habiba, "Impact of Population Growth on Unemployment in Nigeria," *Senior Research Project, American University of Nigeria Department of Economics*, (2012): 41-43
- [32]: Shannon C. Flowers. *The Relationship between Youth Unemployment and Terrorism*." *Graduate School of Arts and Sciences of Georgetown University*. (2014): 12
- [33]: Stata, "Introduction to Vector Autoregressive Models," *Stata.com* (2013): 2-7, <https://www.stata.com/manuals13/tsvar.pdf>
- [34]: The World Bank Group "Investment Horizons Afghanistan: Study of Foreign Direct Investment Costs and Conditions in Four Industries." *Multilateral Investment Guarantee Agency (MIGA)* (2005): 9
- [35]: Todd Sandler and Walter Enders. "Economic Consequences of Terrorism in Developed and Developing Countries: An Overview." *School of International Relations University of Southern California*. (2005): 10
- [36]: Troha Marjetka, Žiga Čepar, "Impact of Population Ageing on Unemployment and Entrepreneurial Activity: the Case of Slovenia, Organizacija, and Volume 48, (2015): 1. 11
- [37]: VAR, "Vector Autoregressive Models for Multivariate Time Series," (2000): 1-2, [https://www.researchgate.net/publication/312754922\\_Vector\\_Autoregressive\\_Models\\_for\\_Multivariate\\_Time\\_Series](https://www.researchgate.net/publication/312754922_Vector_Autoregressive_Models_for_Multivariate_Time_Series)
- [38]: Zahid Shahab Ahmed and Khan Zeb. "Impacts of Terrorism-Related Violence on Pakistan and Its Youth." *Journal of People's Studies - Volume 1 Issue 2*. (2015): 4



#### ABOUT AUTHOR

[2/IJSRP.9.09.2019.p9370](https://www.ijsrp.org/2/IJSRP.9.09.2019.p9370)

[www.ijsrp.org](http://www.ijsrp.org)

**Fazal Ahmad Afzali** received Bachelor in Finance from Afghan American University in 2010 and 2014 respectively and Master of Arts in Economic Governance and Development from OSCE Academy in Bishkek 2017 and 2018 in Kyrgyzstan. He is an Assistant Professor in Mirwais Neka Institute of Higher Education in Kandahar Afghanistan since 2014 up to date. His preferred expertise are Macro and Micro economics and Fiscal Policies Development.

Email ID: [Afzali.fazil@gmail.com](mailto:Afzali.fazil@gmail.com) , [f.afzali@osce-academy.net](mailto:f.afzali@osce-academy.net)