The Influence of Population Growth, GDP, and Labor Force on Unemployment in Afghanistan

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Abstract

This study is conducted to study the influence of macroeconomic variables (population growth, gross domestic product, labor force) on the unemployment rate in Afghanistan. Since unemployment is one of the most important phenomena and a major socio-economic challenge that has wide implications for national development, it is therefore necessary to study it. This quantitative study, secondary data has been collected from the year 1991 to 2022. The data for the mentioned years has been obtained from the World Bank WDI database. SPSS statistical tool is used to analyzed the data through multiple regression analysis as well as it is clear that the results of t-statistics are significant, sig-value is also significant at 5% level and population growth, GDP and labor force has significant impact on reducing unemployment in Afghanistan. The F test is also significant at the 5% level; so the used model is best fit for analysis. The result indicated statistically that the significant effects of population growth, gross domestic product, and the labor force on the unemployment rate in Afghanistan. The findings also suggested that all the selected variables have a significant relationship with the unemployment rate in Afghanistan for the period 1991–2022.

Keyword: Unemployment, GDP, Population growth, labor force, multiple regression Analysis

Introduction

بسم الله الرحمن الرحیم

الحمدلله رب العالمین والصلاة والسلام على رسوله الکریم، اما بعد

Almighty Allah created humans not only for worship but also to cultivate the earth and live upon it. To achieve this purpose, humans need to work and must engage in labor. This is why the Prophet Muhammad (peace be upon him) encouraged ummah to work diligently. He said:

«لَأَنْ يَحْتَطِبَ أَحَدُكُمْ حُزْمَةً عَلَى ظَهْرِهِ، خَيْرٌ لَهُ مِنْ أَنْ يَسْأَلَ أَحَدًا، فَيُعْطِيَهُ أَوْ يَمْنَعَهُ»(البخاري الجعفي، ۱٤۲۲).

Translation: If one of you carries bundles on his own back, it is better for him than to ask someone else for help, whether that person gives him or refuses.

Islam calls people to work and exert effort, urging them to avoid unemployment and begging. It also entails striving and planning for the economic self-sufficiency of the Islamic Ummah. This involves training specialized and employable human resources and providing the necessary tools and means to increase productivity in such a way that, based on the responsibility principle, it meets both the material and spiritual needs of military and non-military sectors. No effort should be spared in this regard. The goal is for the Islamic society not to be dependent on others and to free itself from the influence and control of external powers. Therefore, education and instruction of the Islamic Ummah is a necessary and fundamental requirement (Rahmani, 2013).

Unemployment is a major socio-economic challenge in Afghanistan, with broad implications for individual well-being, economic stability, and national development. Despite ongoing efforts to address this issue, the unemployment rate in Afghanistan remains high, particularly among the youth. Understanding the root causes and contributing factors of unemployment is essential for developing effective policies that can reduce this pressure and foster sustainable economic growth. Labor refers to the performance of work over time, for which workers receive compensation in return. Individuals such as police officers, store managers, and factory workers all represent the supply of labor. In the United States, approximately two-thirds of the total cost of production factors is paid to the labor force in the form of wages and salaries (Noorulabad, 2017).

The unemployment rate is one of the key indicators of a large economy, reflecting the percentage of unemployed individuals within the labor force, including both wage earners and the self-employed. When the number of qualified job seekers exceeds the number of available job positions, it highlights labor market imbalances, which affect both developed and developing economies. A persistently high unemployment rate especially in developing economies such as Afghanistan intensifies socio-economic challenges like poverty. This issue is of great global importance due to its deep social and economic consequences, particularly when a significant portion of the unemployed population consists of youth. The unemployment rate is a crucial determinant of a nation's growth and development. Thus, unemployment can be defined as the number of people who are willing, capable, and qualified to work at the prevailing wage rate but are unable to obtain employment (Gbosi, 2015).

Unemployment is measured as the percentage of unemployed individuals in the labor force, which includes both those working for wages and those running their own businesses. The unemployment rate represents the proportion of jobless people expressed as a percentage of the total labor force. The labor force consists of both employed individuals and those engaged in self-employment.

Clearly, unemployment arises when there is inefficiency in the labor market—specifically when the number of qualified job seekers exceeds the number of available positions. Both developed and developing countries can experience this issue. However, a persistently high unemployment rate is a sign of a serious problem. High unemployment has the potential to worsen socio-economic challenges, particularly in developing economies like Afghanistan, by increasing levels of poverty.

Globally, unemployment is viewed as a major economic issue. This is because rising unemployment has adverse social and economic consequences in any country—especially when a large portion of the unemployed population is composed of youth. Due to its impact on social structures, unemployment is also considered a social phenomenon (Alamoudi, 2017).

Based on this research, the causes of unemployment in Afghanistan have been examined and integrated with findings from existing studies and empirical analyses. Building on previous research efforts and findings such as those by Barna et al. (2023) and Zamani (2024) this study aims to enhance our understanding of the root causes of unemployment within the specific context of Afghanistan. Among the key contributing factors considered in shaping the research framework are population growth, labor force dynamics, and gross domestic product (GDP), all of which significantly influence unemployment. By employing appropriate statistical methods and using reliable data sources, such as time series data from the World Bank and United Nations databases, this study seeks to produce effective findings that can guide the formulation of policies and intervention strategies aimed at reducing the challenges related to unemployment. The cost of unemployment has multifaceted implications for the country's economy. Unemployment remains one of Afghanistan's most pressing issues. Unless sufficient job opportunities are created in the country, this complex problem will persist. Afghanistan's youth and educated population are among the groups most affected by unemployment.

In summary, this research aims to contribute to the existing body of knowledge on unemployment in Afghanistan by conducting a comprehensive analysis of its determinants. By integrating the findings of previous studies and applying robust empirical methods, the study seeks to provide evidence-based recommendations that can support the formulation of policies and intervention strategies aimed at addressing the complexity of unemployment and promoting sustainable economic development in Afghanistan.

Through these efforts, it is expected that the findings of this research will contribute to ongoing initiatives aimed at reducing the socio-economic challenges caused by unemployment and fostering inclusive growth and prosperity in Afghanistan.

Problem Statement

Despite various initiatives aimed at eliminating unemployment, Afghanistan continues to struggle with high unemployment rates, particularly among its youth. Although multiple efforts have been undertaken to address this issue, the country still faces persistent and widespread unemployment. One of the main challenges is the insufficient understanding of the underlying factors driving unemployment in Afghanistan, which hinders the development of effective policies and interventions to address this urgent issue.

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Therefore, there is a pressing need for research that systematically investigates the causes of unemployment in Afghanistan, taking into account both economic and social dimensions. By clearly identifying these factors, policymakers and experts can design targeted strategies to reduce unemployment and promote sustainable economic development in the country.

The Need and Significance of the Study

By systematically analyzing the factors contributing to unemployment in Afghanistan, this study holds significant implications for both academic inquiry and policy formulation. It enhances our understanding of labor market dynamics in conflict-affected economies and addresses notable gaps in the existing research. The findings of this study provide valuable insights for international organizations, government agencies, and policymakers engaged in Afghanistan's development. These insights can serve as a foundation for designing targeted initiatives aimed at reducing unemployment and promoting inclusive growth.

Furthermore, the results of this research may assist international partners in developing aid programs that are more effective in advancing Afghanistan's socio-economic development goals. Ultimately, such contributions can support regional efforts toward achieving stability, prosperity, and sustainable growth.

Research Objectives:

1. To understand the effects of population growth on the unemployment rate in Afghanistan.
2. To understand the effects of Gross Domestic Product (GDP) on the unemployment rate in Afghanistan.
3. To understand the effects of the labor force on the unemployment rate in Afghanistan.

Research Questions:

1. Does population growth have any effect on the unemployment rate in Afghanistan?
2. Do Gross Domestic Products (GDP) have any effect on the unemployment rate in Afghanistan?
3. Does the labor force have any effect on the unemployment rate in Afghanistan?

Research Hypotheses:

H01: Population growth has no significant effect on the unemployment rate in Afghanistan.
H02: Gross Domestic Product (GDP) has no significant effect on the unemployment rate in Afghanistan.
H03: The labor force has no significant effect on the unemployment rate in Afghanistan.

Literature Review

Unemployment is a major challenge in the socio-economic context of Afghanistan, whose complexities are influenced by numerous factors, including population growth, fluctuations in gross production, and labor force mobility. To understand the intricate relationships between these dynamics and the unemployment rate in Afghanistan, this review synthesizes findings from multiple studies, shedding light on specific local circumstances as well as broader regional frameworks.

To illustrate the trends of unemployment in Afghanistan, a specific Time Series Analysis has been conducted, revealing a significant relationship between economic indicators and labor market dynamics. While GDP has shown a notable negative correlation with unemployment over the long term, factors such as Foreign Direct Investment (FDI)**,** labor force participation**,** and export earnings have not demonstrated a significant relationship, highlighting the need for further investigation. Policymakers and researchers alike will find valuable insights in this study, which sheds light on the complex linkages between economic variables and labor market outcomes (Barna et al., 2023).

A comprehensive study has been conducted to examine the influence of insecurity and demographic factors on Afghanistan's labor market. Using a quantitative data approach, the study highlights the significant impact of the youth population segment, many of whom are not actively engaged in employment, education, or training. While insecurity did not show a substantial effect on the unemployment rate, demographic complexities underscore the need for inclusive policy frameworks that address socio-economic vulnerabilities and promote broad-based growth strategies. This research provides critical insights into the structural challenges facing Afghanistan's labor market and offers evidence-based guidance for policymaking aimed at enhancing long-term employment opportunities (Aziz, 2021).

Another study has highlighted the significant role that Gross Domestic Product (GDP) and Foreign Direct Investment (FDI) play in driving labor market dynamics and has provided valuable insights into macroeconomic factors that influence unemployment in Afghanistan. Utilizing Time Series Data Analysis and advanced statistical methods, the research demonstrates the substantial impact of these economic variables on unemployment rates. The findings emphasize the importance of creating a conducive economic environment—characterized by investment growth, infrastructure development, and policy reforms—to address unemployment challenges and stimulate job creation. The results underscore how crucial it is to implement policy changes that foster investment, expand infrastructure, and reduce unemployment. Economists, policymakers, and development practitioners can greatly benefit from this research in addressing Afghanistan's unemployment crisis (Zamani, 2024).

Another study, which focused on Slovenia, provides valuable insights into the broad effects of demographic changes on the determinants of unemployment. The research identifies the negative impact of population aging on unemployment and entrepreneurial activity, and highlights the complex interaction between demographic shifts and economic outcomes. Using regression analyses, the study underscores the potential effects of an aging population on economic well-being, demonstrating how societies with a higher

average age tend to experience higher unemployment rates and lower levels of entrepreneurial innovation (Akanni and Cepar, 2015).

Moreover, similar studies have been conducted in neighboring countries such as Pakistan (Mahmood et al., 2014; Imtiaz et al., 2020), and others such as (Maijama'a et al., 2019; Alam et al., 2020; Akanni & Cepar, 2015) offer insightful perspectives on the determinants of regional unemployment. These studies illuminate the interaction between population growth, economic metrics, and policy interventions. In the context of addressing unemployment within broader socio-economic development goals, this body of research offers valuable benchmarks and lessons for Afghanistan, paving the way for evidence-based policy and program design.

A study conducted in Ukraine examined the factors influencing the duration of unemployment and found strong relationships between the total length of unemployment, local demand conditions, and individual characteristics. By employing advanced economic methodologies and long-term data analyses, the study contributes significantly to the understanding of labor market dynamics in transitional economies and provides reliable and useful insights into the variables that affect both the rate and persistence of unemployment (Kupets, 2006).

Furthermore, the unemployment situation in Ghana has been examined, emphasizing the need for targeted policy interventions, while also highlighting the importance of understanding demand-side fluctuations, youth vulnerabilities, and the role of education. Utilizing Probit Regression Models and Cross-Sectional Estimation Techniques, the study provides empirical evidence of structural barriers within Ghana's labor market. It underscores the importance of inclusive growth strategies aimed at reducing unemployment disparities and promoting socio-economic development (Baah-Boateng, 2014).

Another study revealed that uncertainty regarding who will be active in the labor force has significant effects on unemployment trends. This uncertainty reflects the behavioral patterns of youth, young adults, and older workers, making it difficult to accurately predict short-term changes in labor force participation rates (Kwok, 2010).

The importance of addressing structural changes in labor markets has also been emphasized, along with providing forecasts of long-term trends to examine the effects of declining labor force participation on unemployment and employment growth. Through a comprehensive examination of labor force participation data and economic indicators, the study identified the primary drivers of changes in labor market patterns. It also offered valuable insights for researchers and policymakers interested in further understanding labor market dynamics and how these influence unemployment outcomes (Aaronson et al., 2014).

Furthermore, studies from India (Rubee, 2019) and MENA countries (Haririan et al., 2010) have provided insights into how GDP, inflation, and population growth are associated with unemployment, contributing to a comprehensive understanding of the macroeconomic factors influencing labor market dynamics. These studies, utilizing economic models and Time Series Data Analysis to offer empirical evidence on the complex relationships between economic variables and labor market outcomes, have proven

effective in informing policy debates aimed at addressing unemployment challenges and promoting sustainable economic growth.

Finally, a study conducted in Bangladesh examined the relationship between economic factors and unemployment, highlighting the need for policy reforms aimed at addressing systemic issues and promoting inclusive growth. The research emphasized the importance of policies focused on increasing production, encouraging investment, and creating employment opportunities through the use of economic techniques and long-term data analyses. These approaches have enabled researchers to gain critical insights into the factors contributing to unemployment in Bangladesh (Alam et al., 2020). In summary, this analysis highlights the complexities of unemployment in Afghanistan and its surrounding regions, emphasizing the need for evidence-based policies and comprehensive strategies to promote long-term employment opportunities amid changing socio-economic environments. The literature review provides a thorough understanding of the factors contributing to unemployment and offers valuable insights for researchers, policymakers, and development practitioners working to address unemployment-related challenges and foster inclusive growth in Afghanistan and neighboring areas. This is achieved by integrating findings from diverse studies and methodologies.

Research Methodology

Data Collection: Time series data related to key macroeconomic variables (population growth, Gross Domestic Product, labor force) and Afghanistan's unemployment rates were collected from reliable sources such as the World Bank database.

Variable Selection: Based on theoretical frameworks and prior research, key macroeconomic variables hypothesized to influence unemployment in Afghanistan were identified. The quality and availability of data for each selected variable were verified.

Model Specification: Since this study is quantitative and relies on analysis of collected data, a Multiple Linear Regression Model was employed to examine the relationships between the selected macroeconomic variables and unemployment. The model equation is specified as follows:

$$Unemployment = \beta_0 + \beta_1 * Pop + \beta_2 * LGDP + \beta_3 * LF + \epsilon$$

Where: Unemployment is the dependent variable representing the unemployment rate. **POP, LGDP,** and **LF** are independent variables representing key macroeconomic factors. β_0, β_1, β_2, and β_3 are the coefficients of the intercept and independent variables, respectively. ϵ represents the error term.

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Data Analysis

The collected data were analyzed using SPSS software. To determine the strength and direction of the relationships between macroeconomic variables and unemployment, the significance and statistical value of the estimated coefficients were assessed.

Interpretation of Results

To understand the impact of each macroeconomic variable on unemployment in Afghanistan, the estimated regression coefficients have been interpreted. Considering their statistical significance and economic relevance, the key predictors of unemployment and their associated effects have been identified.

Policy Recommendations

Policy implications have been drawn from the study findings to inform policymakers and stakeholders about potential strategies aimed at reducing unemployment and promoting economic growth in Afghanistan. Based on the observed relationships between macroeconomic variables and unemployment dynamics, specific recommendations for policy reforms are proposed.

Findings of The Study

This study has been conducted to examine the effects of population growth, gross domestic product, and the labor force on the unemployment rate in Afghanistan. For the purpose of this research, twenty-three years of data were obtained from the World Bank database. After analyzing the collected data, the findings of the study are presented in this section.

Table 1: Coefficients Results

Coefficients[a]					
Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	34.855	10.169		3.427	.002
Population	1.893	.000	.457	4.883	.000
LGDP	-3.287	1.147	-.745	-2.866	.008
Labor Force	1.003	.000	1.302	4.989	.000
R Squared	0.767	F Statistics	30.653		
Adjusted R Square	0.742	Sig. F Statistics	0.000		

1*Corresponding Author: Hamid Ahmad Murad   **Volume 01 Issue 01 (May) 2025**
Available at: ijss-sjau.com
Page No. 22-33

29

The results of the regression model used for this study are presented in Table 1. The obtained results indicate statistically significant effects of population growth, gross domestic product, and the labor force (independent variables) on the unemployment rate (dependent variable) in Afghanistan. The findings suggest that all the selected variables have a significant relationship with the unemployment rate in Afghanistan for the period 1991–2022.

The null hypothesis, which states that population growth, gross domestic product, and the labor force have no effect on the unemployment rate, must first be rejected. This is because the p-values for population growth, gross domestic product, and the labor force are all less than 0.05, indicating significant relationships among these variables. Therefore, the results of this test show that each variable has a different level of impact on unemployment. It ultimately depends on government policy as to how strategies are developed to manage these variables in order to reduce unemployment in Afghanistan.

The results from the above table indicate that population growth, gross domestic product, and the labor force collectively explain 76.7% of the variation in the unemployment rate. The R-squared value in the obtained results reflects the proportion of variance in the dependent variable that is explained by the independent variables. Thus, 76.7% of the impact on unemployment is accounted for by these three independent variables, while the remaining 23.3% is attributed to other factors not included in this model. These unexplained factors are represented in the model as errors or residuals. Furthermore, based on the R-squared results in the above table, the obtained p-value is less than the 5% significance level.

In Table 1, the Model Fit Measured results are analyzed using ANOVA, and the corresponding outcomes are presented based on this analysis. According to the obtained results, the significance value (Sig.) is less than 0.05, indicating that the model is a good fit and that the results are statistically significant. This confirms a meaningful relationship between the independent variables—population growth, gross domestic product, and labor force—and the dependent variable, the unemployment rate. Therefore, the model used in this study is appropriate and well-suited.

Moreover, based on the F-statistics from the statistical criteria, it can also be stated that the selected model for the study is effective and reliable. According to statistical standards, if the F-statistic in a multiple regression exceeds 10, the model is considered valuable and significant. In this study, the F-statistic value is 30.65, which clearly indicates that the selected model is highly significant and meaningful.

Discussion

Considering the aforementioned studies, it can be concluded that population growth, Gross Domestic Product (GDP), and labor force have a significant impact on the unemployment rate in Afghanistan. Specifically, an increase in GDP contributes to a reduction in the unemployment rate. The findings of this study largely align with the results of similar research conducted in various countries on related topics.

In the empirical study by Maijama'a et al. (2019), the effects of population growth on unemployment in Nigeria were evaluated. The findings indicate that the labor force (LF) and population have significant relationships with unemployment (UN). On the other hand, GDP shows a significant negative long-term relationship with unemployment. These findings are consistent with the results of our study. In the literature, Rubee (2019) and studies in MENA countries (Haririan et al., 2010) have examined the long-term relationship between GDP growth and unemployment in selected countries. Their findings specifically highlight that the macroeconomic variable GDP has a significant and negative effect on the unemployment rate. Zamani (2024) also investigated the impact of macroeconomic factors, particularly GDP, and the results indicate that these macroeconomic variables significantly influence the unemployment rate. This study further identifies factors contributing to employment in Afghanistan. Our findings are consistent with the results of these previous studies.

Alam et al. (2020) studied the relationship between macroeconomic factors, particularly the labor force, and unemployment in Bangladesh. In summary, their findings reveal that macroeconomic factors have a significant impact on unemployment. Our research findings are consistent with the results of this study.

Conclusion

Unemployment is one of the most critical challenges in Afghanistan. Efforts are ongoing to understand the key factors contributing to the high unemployment rate and to identify effective solutions to address it. To examine these factors, data from 1991 to 2022 were used to analyze their impact on the unemployment rate. Specifically, this study focuses on macroeconomic variables and highlights key factors such as population growth, gross domestic product, and the labor force. After analyzing the data, the study found that the selected macroeconomic factors have a statistically significant relationship with the unemployment rate. Based on the study's findings, an increase in gross domestic product significantly reduces unemployment in Afghanistan. This result is consistent with Okun's Law. However, the labor force and population growth show a positive relationship with the unemployment rate. To assess the impact of these variables, Multiple Regression Analysis was employed. Key macroeconomic factors—such as population growth, gross domestic product, and the labor force—were selected for their potential influence on unemployment. The results of the time series data analysis using multiple regression indicate that the chosen macroeconomic variables have a statistically significant relationship with the unemployment rate.

Recommendations

1. **Policymakers** should actively work to enhance Afghanistan's economic productivity to ensure the creation of additional employment opportunities and economic activities. These efforts will help reduce both the unemployment rate and commodity prices. As a result, this initiative will promote economic activity across the country and assist in lowering the increasing unemployment rate.
2. Instead of relying heavily on imported goods, genuine action should be taken to establish and implement a long-term strategy aimed at increasing domestic production levels. This is crucial for reducing

unemployment. The findings of our study have important implications for how policy should be implemented. GDP, the labor force, and population growth can enhance economic growth and, by creating more local jobs, should be central to the government's focus for developing Afghanistan's economy.

3. The findings also lead to the recommendation that the government should take steps to slow down population growth in order to better manage the labor supply and reduce the unemployment rate. The government should support industrialization policies and encourage foreign direct investment (FDI) in the country to provide job opportunities for the unemployed population.

4. Existing challenges to major infrastructure projects should be addressed by providing the necessary facilities and ensuring access to comprehensive information about these projects. This will help increase the gross domestic product and reduce the unemployment rate accordingly.

5. The Afghan government should invest in specific sectors, such as the agriculture sector, as the majority of the population is engaged in this field. Therefore, the government must adopt policies to promote and expand the agricultural sector in order to help people increase their household incomes and reduce unemployment.

6. For future researchers in this field, it is recommended to consider alternative variables and methods due to data limitations and collection challenges in the current study. Hence, future research should focus on incorporating different variables, methods, and more comprehensive datasets.

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