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The impact of unemployment on economic growth in Sub-Saharan Africa

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Abstract

This paper sought to estimate the impact of unemployment on the economic growth of Sub-Saharan Africa using panel data from 36 Sub-Saharan African countries in an interval period from 2007 to 2021. Estimating these impacts, a fixed effect model is chosen over the random effect model and pool OLS and the result from the analysis shows that the unemployment rate has a negative impact on economic growth in the studied countries. Indicating that as unemployment increases across the sub-Saharan countries, it results in a decrease in economic growth that has a detrimental effect on the economy of a country. The regression results show that combinations of economic freedom and good governance, along with fewer unemployed citizens, enhance a country's economic growth. Generating productive jobs is crucial for eliminating poverty.

Keywords: Economic Growth, Unemployment, Fixed effect. Sub-Saharan Africa

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1. Introduction

Africa has a huge problem with unemployment, particularly youth unemployment. It has experienced a high rate of population growth, which has the potential to be a demographic dividend but only if there is sufficient investment in jobs, skills, and education considering the continent has the world's youngest population with a median age of 19.7 years, this large youthful population can be a great energetic workforce for a country's economy, providing it with a developmental advantage over other economies. However, the challenging job market for young people throughout Africa continues to prevent them from realizing their potential. A report by the African Development Bank 2015 says that of the 10 million to 12 million youth entering the workforce in Africa each year, only 3 million formal jobs are created annually meaning one-third of Africa's young people between 15 and 35 years old are unemployed, while another third were vulnerably employed, and only 1 in 6 are in wage employment. According to the International Labor Organization, most of Africa's young population is working in informal jobs. Unfortunately, many of them are either underemployed or living in poverty despite their hard work due to low wages and the absence of a social safety net. This makes it challenging to compare African economies to more developed ones.

The global unemployment rate has decreased significantly in 2022, dropping from a peak of 6.6 percent in 2020 to 5.4 percent. This positive trend comes as economies begin to recover from the COVID-19 pandemic. However, the current rate is still below the pre-pandemic level of 5.5 percent in 2019. While there has been an increase in labor productivity and a decrease in unemployment rates globally, more work needs to be done to improve employment opportunities, particularly for young people, reduce informal employment, and tackle labor market inequality, such as the gender pay gap. It is also essential to promote safe and secure working environments and improve access to financial services to ensure sustained and inclusive economic growth. Unfortunately, a lack of decent work opportunities, insufficient investments, and under-consumption continue to undermine the basic social contract, which requires that everyone should share in progress. The creation of quality jobs remains a significant challenge for almost all economies, especially those in Sub-Saharan Africa. Creating productive jobs plays an important role in eradicating poverty. Generating productive jobs requires economic growth, resulting from increased employment and labor productivity.

Essentially, the continent hasn't produced enough investment and growth in the domestic economy. Public sector investment has been low, and foreign direct investment has largely been directed into the sectors (oil, gas, and minerals) where the big returns are produced that make crucial contributions to Africa's GDP, government revenue, and export earnings but this sector employs less than one percent of the large youthful African population workforce implying that these sectors are not very good at generating economic benefits and are not labor intensive so they don't create large numbers of jobs and benefit the wider economy meaning there is less or no productivity across the region and as Bassanini et al. (2009), report productivity improvements are associated to changes in the employment protection legislation that promote higher labor market flexibility, which eventually encourages countries with initially high levels of unemployment to promote reforms, which, in turn, will promote higher economic growth. economic growth is driven by structural change, which usually has a cost associated with it in terms of unemployment because labor markets may not be flexible enough, leading to delays in the adjustment to such changes as stated by Zagler (2009).

Sub-Saharan Africa is a region in which half of the population is under 25 years of age that faces unprecedented problems in the world among which Unemployment is one of those major problems. According to the Organization for Economic Cooperation and Development (OECD), unemployment is defined as unemployed people of working age who are without work, are available for work, and have taken specific steps to find work. According to statistics from the International Labour Organization (ILO), Africa has a relatively young population that is rapidly growing. However, more than one in four young people on the continent are not engaged in employment, education, or training. The problem with Unemployment in Sub-Saharan Africa (SSA) is very evident which has resulted in high crime rates and poverty and many young people are migrating to other regions of the world in search of better jobs and living conditions that are not available in most SSA countries. However, since most people cannot afford the cost of legal migration, they resort to illegal means, which has resulted in the loss of hundreds of thousands of lives each year. Agriculture is still the primary source of employment for rural youth in most low- and middle-income countries. In sub-Saharan Africa, farming remains the largest employer of youth overall, with small-scale agriculture, animal husbandry, and pastoralism being the most important livelihood sources for rural Africans. According to Gollin (2014), it is also the dominant mode of production across rural Africa. Yeboah and Jayne (2016, 27) stated that agriculture will continue to be the biggest employment sector in various African countries for several decades to come.

Agriculture is still the biggest employer of rural youth in most low- and middle-income countries Although agriculture is the primary source of income and employment for many young people in sub-Saharan Africa, agricultural productivity in Africa remains lower than in any other region of the world. Moreover, agriculture is the least productive sector in African economies. It is worth noting agricultural exports also play a significant role in generating foreign earnings. However, the economic policies of many African countries have favored protecting domestic manufacturing, not agriculture. Industrial regulations have also given market power to manufacturers, while agricultural producers have had little bargaining power. This has resulted in manufacturing receiving tariff protection from imports, while agriculture did not. As a result, these policies have led to a shift in relative prices against agriculture, resulting in slower growth. This erosion of incentives for investment in agriculture has had a negative impact on farming, labor, and capital investment (Ndulu, O'Connell et al. 2008).

High unemployment can lead to lower GDP, social problems like crime and vandalism, and political instability. Economic growth is a prerequisite for job creation Therefore, it is imperative to understand through analysis the effect between unemployment and economic growth. Arthur Okun was the first to explore the correlation between unemployment and economic growth. In his 1962 study, he found that when the Gross Domestic Product (GDP) grows rapidly, the unemployment rate decreases. On the other hand, if economic growth is very low or negative, the unemployment rate rises. Additionally, when the growth rate matches the potential, the unemployment rate stays the same.

There is a strong relationship between unemployment and economic growth, specifically GDP growth. When examining the link between unemployment and GDP growth, it can be seen that these two factors are often connected. GDP serves as a measure of economic activity and can be impacted by the unemployment rate in a country. A higher unemployment rate usually corresponds with slower GDP growth, indicating that a significant portion of the working-age population is unable to find employment and contribute to economic output. When fewer people are employed, their purchasing power decreases, leading to a decrease in demand for goods and services. This can result in lower sales and revenue for businesses, leading to a decline in overall economic growth. In contrast, a lower unemployment rate typically corresponds with higher GDP growth. When more people are employed, there is an increase in disposable income, which can stimulate consumer spending. As a result, businesses may expand operations, invest in capital, and hire more workers, thereby fostering economic growth.

Unemployment has a devastating impact on the Sub-Saharan region. It affects not only those unemployed but also those who rely on them for support, including family members and the wider community. As the unemployment rate increases, its effects become long-lasting and extend beyond just family and community members to the entire economy. According to research from the National Bureau of Economic Research (NBER), a 1% increase in unemployment leads to a 0.4 to 0.7% increase in poverty rates. This makes unemployment the core of poverty, which is a significant problem in Sub-Saharan Africa. Unemployment has unprecedented impacts on development prospects and undermines the region's economic growth.

Financial instability is undoubtedly the most immediate fallout of unemployment. Unemployment strikes at both personal and macroeconomic levels, impacting individuals, societies, and economies. High unemployment can lead to a loss of GDP and a waste of human resources. It can also result in an inefficient allocation of resources as the skills and talents of the unemployed population remain unutilized. In the long run, persistently high unemployment can cause social unrest, political instability, and adversarial labor-market relations. Furthermore, it can also lead to increased socio-economic inequality and potential social unrest.

Economic freedom is a measure of how well the government regulates entrepreneurship to promote productivity. Entrepreneurship involves adapting to new market demands and technological advancements. Restricting entrepreneurship can hinder the ability to meet future demands and allocate resources efficiently, which can impede economic growth. Therefore, economic freedom is crucial for economic development and the prosperity of nations through entrepreneurship, employment, innovation, and social welfare benefits (Block et al., 2017; Koellinger, 2008). Investment plays a crucial role in the economic development of a country, particularly in transitional economies. Foreign Direct Investment (FDI) is a significant source of capital inflows for developing nations. FDI also has an impact on the level of employment in the host country. According to a study conducted by Shaar, Hussain, and Halim (2012), an increase in foreign direct investment in Malaysia led to a decrease in the unemployment rate. Similarly, the findings of Matthew and Ogunlusi (2017) indicate a positive and significant relationship between foreign direct investment and employment generation in Nigeria.

According to Aghion and Howitt (1994), the connection between economic growth and unemployment can be explained through the concept of "creative destruction." Drawing from the ideas of Schumpeter, they propose that innovation causes a shift in the allocation of labor, which leads to a higher cost of human capital. As each adjustment requires specific skills suited to the new jobs created by innovation, this can result in permanent unemployment. However, a faster rate of implementing new technologies can shorten the adjustment period.

Providing training to employees is not only beneficial for the firm but also for other businesses and the economy as a whole. This is because it can result in external effects, such as improved knowledge and qualifications (Acemoglu 1997). The Acemoglu model, proposed in 1997, suggests that imperfections in the labor market, such as those involved in searching and matching, do not necessarily lead to inefficiency. Instead, they create conditions where multiple equilibriums can exist. The relationship between unemployment and economic growth can be explained through the links between unemployment levels, employer expectations, and worker productivity. When faced with high unemployment rates, firms tend to predict that it is more likely for them to find unskilled workers.

This study aims to investigate the relationship between economic growth and unemployment in Sub-Saharan Africa by estimating the impact of unemployment on economic growth. The paper proceeds as follows; Section II provides detailed literature reviews of some papers. Section III provides details on the data used and the methodology adopted. Section IV discusses the empirical findings and, finally, Section V presents the conclusions.

2. Literature reviews

Adamu Jibir et al (2015) conducted a study to examine the impact of unemployment on Nigeria's economic growth between 1982 and 2014, using time series data. They employed the OLS method, Phillips-Perron unit root test, and Pair-wise Granger causality test. The results of their OLS analysis revealed a negative relationship between unemployment and real GDP, which is a proxy for economic growth. However, their Granger causality test indicated an absence of causality between unemployment and Nigerian economic growth.

Diellza Kukaj (2018) investigated the relationship between unemployment and GDP growth in 7 countries of Western Balkan during the period of 2001-2015. The random effect model was applied and his empirical results show that there exists a trade-off between unemployment and economic growth in Western Balkan countries suggesting that an increase of one percent point of unemployment will reduce GDP growth by 0.5 percent points.

In 2018, Diellza Kukaj conducted a study on the correlation between unemployment and GDP growth in seven Western Balkan countries from 2001 to 2015. The study used a random effect model and found that there is a trade-off between unemployment and economic growth in these countries. Specifically, the results indicate that a one percent increase in unemployment will result in a 0.5 percent decrease in GDP growth.

A study conducted by E. Amankwah et al. in 2021 examined the effects of unemployment on China's economic growth. They used time series data from 1991 to 2018 and an ARDL model to analyze the relationship between the two variables. The study found that the unemployment rate has a negative impact on both the short-term and long-term economic growth rate. This negative relationship could be due to external factors influencing the economy.

Sa'idu & Muhammad (2015), examine how unemployment and inflation substantially affect economic growth in Nigeria over an interval period ranging from 1986-2010. three models namely; Ordinary Least Square (OLS) method, Augmented Dickey-Fuller (ADF) technique, and Granger causality test were employed in this study. Their regression result shows a positive and statistically significant coefficient of inflation while unemployment is positive but has no significant effect on economic growth. They concluded that inflation substantially affects economic growth, while unemployment has little substantial effect on growth.

Sa'idu & Muhammad (2015), examined the impact of unemployment and inflation on economic growth in Nigeria between 1986 and 2010. The researchers utilized three models - the Ordinary Least Square (OLS) method, the Augmented Dickey-Fuller (ADF) technique, and the Granger causality test - to analyze the data. The regression result showed that inflation had a positive and statistically significant effect on economic growth, while unemployment had a positive effect but had no significant impact on growth. Based on these findings, the researchers concluded that inflation has a substantial effect on economic growth, while unemployment has little effect on growth.

A study conducted by Seth A. et al (2018) aimed to investigate the relationship between unemployment and economic growth in Nigeria. The study analyzed the data from the period of 1986 to 2015 and used the ARDL Bound Testing and the Parsimonious Error Correction Model (ECM) of the ARDL Model to test the relationship and analyze the effect. The study found out that Okun's law is reversed in the short run, meaning that in the short run, unemployment has a positive effect on economic growth in Nigeria. However, the study revealed that there is no long-run relationship between the unemployment rate and economic growth in Nigeria. The study also indicated that long-run increase in unemployment can have a growth-enhancing mechanism on economic growth, provided effective policies are employed.

Ying Feng et al (2018) conducted a household survey from 84 countries, spanning 1960 to 2015. They built a simple two-sector model with frictional labor markets based on Diamond (1982) and Mortensen and Pissarides (1994). They found that unemployment rates are higher in rich countries than in poor countries. In rich countries, low-educated individuals are more likely to be unemployed than high-educated individuals. Conversely, in poor countries, highly educated individuals are more likely to be unemployed. They also discovered that unemployment rates increase as GDP per capita increases. These findings were present for men and women, for all age groups, within urban and rural areas, and across all comparability tiers of the data.

Ali Shah S. Z et al (2022) conducted a study on the impact of unemployment on the growth rate in Pakistan from 1974 to 2020. They used an Autoregressive Distributed Lag (ARDL) technique for their analysis. The study found that unemployment has a negative impact on economic growth, which is harmful to the country's economy. Additionally, their results suggest that inflation rates also have a negative impact on economic growth, while the population growth rate has a positive impact.

3. Empirical Analysis

This chapter will present the methodology that will be used in estimating the impact of unemployment on economic growth as a benchmark model presenting the model and then describing the data and the variables used in the model.

3.1 The model Specification

This research aims to analyze the impact of unemployment on economic growth considering a sample of 36 Sub-Saharan African countries in an interval period from 2007 to 2021. For this purpose, various variables Economic Growth (GDP growth), Unemployment Rate (Unemp), Investment rate (InVR), Financial development

index (FD), Economic Freedom Index (EFI) Political Stability and Absence of Violence terrorism (P.S α AV), Rule of Law (RL), Voice and Accountability (VA), and Control of Corruption (CC) data that are examined in this study are presented in the econometric equation below

$$GDP\ Growth_{it} = \beta_0 + \beta_1 FD_{it} + \beta_2 Unemp_{it} + \beta_3 EFI_{it} + \beta_4 InVR_{it} + \beta_5 P.S \propto AV_{it} + \beta_6 RL_{it} + \beta_7 VA_{it} + \beta_8 CC_{it} + \alpha_i + \varepsilon_{it}$$

- α_i is an error term that represents the effects of all the time-invariant effects that have not been included in the model;

- ε_{it} is an error term that is different for each individual at each point in time.

3.2 Data and variables

Data is gathered from different sources for this study. The sources of economic data (GDP growth, Unemployment Rate, and investment rate) are collected from the World Bank World Development Indicators, Financial development data is extracted from the International Monetary Fund's International Financial Statistics (IFS), Economic Freedom Index data come from The Heritage Foundation, Washington, while data of (Political Stability and Absence of Violence terrorism, Rule of Law, Voice and Accountability, and Control of Corruption) come from Worldwide Governance Indicators (WGI) data extracted from the World Bank

A positive coefficient is expected for financial development as a well-developed financial system will increase the economic growth of a country. Higher Economic Freedom Indexes are associated with higher economic growth meaning a positive coefficient is expected. Conversely, a negative coefficient is expected for the Unemployment Rate, indicating that a higher level of unemployment will be associated with a decrease in economic growth. Greater investment shares are positively related to economic growth, so a positive coefficient for the investment rate is expected. According to the Worldwide Governance Indicators (WGI), countries with higher scores tend to experience better economic growth. A positive relationship is expected between the WGI variables and economic growth.

Table 1. Present data measurement and abbreviation use

Variable Name	Measurement	Abbreviation
Economic Growth	GDP growth (annual %)	GDPGrowth
Financial development Index	Gross Domestic Product per capita (constant 2017 international $)	FDI
Economic Freedom Index	The 12 aspects of economic freedom are grouped into four broad categories graded on a scale of 0 to 100	EcFI
Investment rate	Gross Fixed Capital Formation (% of GDP)	InvR
Unemployment Rate	(% of total labor force)	UnEmp
Political Stability and Absence of Violence Terrorism	By standard normal units of the governance indicator ranging from around -2.5 to 2.5	PS&AV
Rule of Law	By standard normal units of the governance indicator ranging from around -2.5 to 2.5	RL
Voice and Accountability	By standard normal units of the governance indicator ranging from around -2.5 to 2.5	VA
Control of Corruption	By standard normal units of the governance indicator ranging from around -2.5 to 2.5	CC

3.3 Descriptive Statistics

Presented in Table 2 are summary statistics on various variables included in the model, namely: GDP growth, financial development, Unemployment, Investment Rate, Economic Freedom Index, Political Stability and Absence of Violence terrorism, Rule of Law, Voice and Accountability, Control of Corruption.

Table 2. Descriptive Statistics

Variable	Mean	Maximum	Minimum	Std Dev	Sum	Sum Sq Dev
Financial development	0.16	0.59	0.03	0.12	85.01	7.85
Unemployment	7.05	28.77	0.32	6.35	3,700.71	21,134.22
Control of Corruption	-0.57	1.63	-1.58	0.67	-308.75	239.34
Political Stability and Absence of Violence terrorism	-0.53	1.20	-2.70	0.88	-285.12	420.93
Rule of Law	-0.60	1.02	-1.84	0.62	-325.89	206.37
Voice and Accountability	-0.45	0.97	-1.72	0.67	-244.08	243.62
GDP growth	4.05	21.08	-36.39	4.46	2,186.13	10,740.52
Economic Freedom Index	55.89	77.00	38.90	6.85	30,181.50	25,310.99
Investment Rate	4.52	57.88	-18.92	6.45	2,439.40	22,410.84

3.4 Correlation Coefficient

The figure below obtained computed in R identifies a possible relationship between the variables. Generally, a correlation coefficient value greater than 0.50 indicates that the variables are strongly positively correlated, while a value less than -0.50 indicates that the variables are negatively correlated.

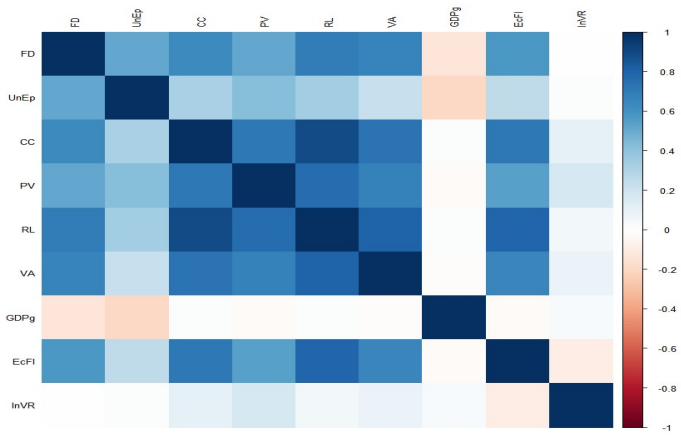

Figure 1: Correlation Matrix of Variables (Source: Authors Computation from ExPanD)

Based on my analysis of the correlation figure, it appears that there is a negative correlation between the dependent variable and certain independent variables, specifically financial development and unemployment rate. However, concerning the other independent variables, that concern governance, the degree of correlation is less pronounced and these variables show little or no correlation with the dependent variable (GDP growth).

4. REGRESSION ANALYSES

4.1 Model Validation

Table 3 below shows the methods applied to choose the appropriate model.

Fixed Effect		**Random Effects**	
Method	p.value	Method	p.value
F test for individual effects	F =0.000006	Lagrange Multiplier Test - (Honda)	F = = 0.004

A small FE evaluation of the p-value indicates the rejection of the null hypothesis of no fixed effect. This means that there are significant time-invariant effects, which further suggests that the fixed effects model is appropriate.

The Lagrange Multiplier Test - (Honda) implies that the null hypothesis test is the pooled OLS estimator and that of the alternative hypothesis is the random effects estimator which is both consistent and efficient. The results of the RE evaluation indicate a small p-value, which suggests that the null hypothesis of zero variance in individual-specific errors should be rejected. This implies heterogeneity among individuals, meaning there is a significant difference across cross-sectional units. Therefore, the RE model is appropriate. According to the model specification for the panel analysis study, since both the FE and RE are appropriate models, pooled OLS is discarded, and proceed to choose between the fixed-effects model and random-effects model. To decide between fixed or random effects, the Hausman test is run where the null hypothesis is that the preferred model is random effects and the alternative fixed effects, and if the probability of the test for our models is less than 10% the fixed-effect model is most appropriate but if the probability of the test for our models, is more than 10%, the Random effects model is most appropriate.

the Hausman test

Method	pvalue
Hausman Test to choose between FE and RE	F = 0.0004

The p-value less than 0.05 suggests rejecting null hypotheses of random effects. Hence, the fixed effect method is better for our model

4.2 Estimation Results

The study uses different techniques like fixed and random effects, as well as pooled OLS, to estimate the impact of certain macroeconomic factors (such as financial development, unemployment rate, investment rate, and economic freedom index) and measures of good governance political stability and absence of violence and terrorism, rule of law, voice, and accountability, and control of corruption) on economic growth. Table 4 summarizes the results for the selected African countries in the regions of Sub-Saharan Africa based on the three models employed.

In the POOLED OLS model, I found that the variables of financial development, unemployment rate, and economic freedom index had a statistically significant and negative sign each. However, the investment rate and economic freedom index had positive and negative signs respectively, but were not statistically significant. As for the endogenous variables, Political Stability and Absence of Violence Terrorism, and Voice and Accountability showed negative signs but were not statistically significant. Meanwhile, the rule of law and control of corruption had positive signs. However, only the rule of law had a statistically significant coefficient, while the coefficient of control of corruption was not statistically significant.

Table 4: Summary Results of Pooled OLS, FE, and RE

	Dependent variable:		
	GDP growth		
	POOLED OLS	FIXED EFFECT	RANDOM EFFECT
Financial development	-0.175	-0.409	-0.182
	(0.069)**	(0.233)*	(0.090)**
	t = -2.524	t = -1.753	t = -2.021
Unemployment	-0.180	-0.564	-0.210
	(0.054)***	(0.220)**	(0.071)***
	t = -3.324	t = -2.569	t = -2.947
Control of Corruption	0.032	0.141	0.036
	(0.095)	(0.208)	(0.117)
	t = 0.342	t = 0.678	t = 0.311
Political Stability and Absence of Violence Terrorism	-0.057	0.250	0.016
	(0.073)	(0.133)*	(0.088)
	t = -0.777	t = 1.880	t = 0.187
Rule of Law	0.350	-0.072	0.290
	(0.130)***	(0.235)	(0.155)*
	t = 2.688	t = -0.309	t = 1.877
Voice and Accountability	-0.060	0.316	-0.004
	(0.078)	(0.190)*	(0.100)
	t = -0.764	t = 1.667	t = -0.039
Economic Freedom Index	-0.110	-0.265	-0.150
	(0.071)	(0.113)**	(0.082)*
	t = -1.548	t = -2.353	t = -1.835
Investment Rate	0.020	0.091	0.037
	(0.044)	(0.053)*	(0.047)
	t = 0.445	t = 1.709	t = 0.792
Constant	0.000		-0.000
	(0.042)		(0.058)
	t = 0.000		t = -0.000
N of Countries	36	36	36
Observations	540	540	540
R^2	0.073	0.071	0.053
F Statistic	5.252*** (df = 8; 531) (p = 0.00001)	4.743*** (df = 8; 496) (p = 0.00002)	29.978*** (p = 0.0002)

Note : Signifiances codes : ***0.1%, **1%, *5%, '10%. The numbers presented in parentheses indicate the standard errors of the regression coefficients

The results of the fixed effect model are quite similar to those of the Pool OLS. Financial development, unemployment rate, economic freedom index, and control of corruption showed statistical significance and had negative signs. Moreover, Political Stability and Absence of Violence Terrorism, Voice and Accountability, and the investment rate showed statistical significance with a positive coefficient each. However, the rule of law had a negative coefficient but was not statistically significant. Although the effect is not statistically significant, it may be economically relevant.

Lastly, the results of the random effect model also showed that financial development, unemployment rate, economic freedom index, control of corruption, rule of law, Voice and Accountability, and investment rate are similar to those of the Pool OLS. Only Political Stability and Absence of Violence Terrorism showed a positive

coefficient but were not statistically significant. Although the effect is not statistically significant, it may be economically relevant

The results of the fixed effect model which is considered appropriate in this study, show that unemployment has a negative impact on economic growth and is statistically significant at a 1% significance level. The negative effect that exists between unemployment and GDP growth implies that for any increase in the rate of unemployment, there is a decrease in economic growth that is in line with the Okun effect law, which states that when the actual unemployment rate increases by 1% more than the natural rate of unemployment (about 4%), there is a 3.3% decrease in real GDP during the same period. Financial development also indicates a negative impact on economic growth. The negative sign of financial development tries to prove the works of Several researchers, including Rioja and Valev (2004) and Yu et al. (2012) which support the core idea that undeveloped and inefficient financial sectors reduce economic growth.

The results of the four proxies of political institutions (control of corruption, rule of law, Voice and Accountability Political Stability, and Absence of Violence Terrorism) used for good governance in the study indicate that though the coefficients of Political Stability and Absence of Violence Terrorism and Voice and Accountability are positive, the degree of statistical significance is weak

5. Conclusion and Recommendations

This paper analyzes the effects of Unemployment on economic growth. In line with the literature, using a dataset covering up to 36 Sub-Saharan African countries in the period between 2007 and 2021, three techniques were used for the regression model: the fixed effect, random effects, and the pooled OLS model. The regression results indicate that unemployment has a negative impact on growth and this effect significantly reduces economic growth, both statistically and economically. These findings support the Okun effect law, which states that when the actual unemployment rate increases by 1% more than the natural rate of unemployment (about 4%), there is a 3.3% decrease in real GDP during the same period. Similarly, a 1% increase in real GDP is accompanied by a 0.3% decrease in the unemployment rate. while lower scores of both the financial development index and economic freedom index are associated with lower growth rates of GDP growth. Countries that have lower economic growth will lack a well-developed financial system and lower economic freedom is detrimental to human development in terms of life expectancy, literacy, education, and overall quality of life is important.

The findings of Thorsten Beck et al (2004) suggest that promoting financial development in poorer countries, such as those in Sub-Saharan Africa, can lead to an increase in the income of the poorest individuals in that nation. This increase in income is likely to occur at a faster rate than the average per capita gross domestic product (GDP) growth.

Unemployment negatively affects economic growth which has a far-reaching consequence for a nation's economy such as a decrease in consumer spending that will reduce production, reduced tax revenue for governments, leading to budget deficits, and so on. Because of this consequence, there is a need for the government to provide measures that help solve these unemployment problems in sub-Saharan countries. The government must focus on diversifying its economy by adopting sound macroeconomic stability policies, promoting open trade and investment policies, and actively utilizing resource rents to increase the productivity of other exportable sectors and reduce their production costs. This can be done by funding infrastructure, providing temporary subsidies, or other methods. (Gelb and Grasmann 2010). The government should provide technical and vocational education and training to develop appropriate competencies and skills, address skills mismatch, and offer active labor market programs and public employment services.

Numerous countries have implemented measures to promote economic freedom, to encourage economic growth and job creation (Autio et al., 2014; Wong et al., 2005). Therefore, it can be asserted that a greater degree of economic freedom results in higher levels of economic growth and increased employment opportunities. Just as Médard (2002) argues, the main problem in Africa is the lack of accountability which enables leaders to treat the public domain as their personal property. As a solution, it is suggested to promote democratization and accountability to weaken the personal power of the 'big men.' This will ultimately help to modernize and make the state more Weberian in nature

In conclusion, the regression results show that combinations of economic freedom and good governance, along with fewer unemployed citizens, enhance a country's economic growth. Generating productive jobs is crucial for eliminating poverty. This process requires economic growth, resulting from increased employment and labor productivity and good governance is the sole creation of this process.

The study offers some recommendations, which are given below:

- Sub-Saharan countries can effectively decrease their unemployment rate by stimulating their GDP growth rates.
- Sub-Saharan countries should prioritize the development of labor-intensive projects. They should also collaborate with new entrepreneurs to build more opportunities and absorb a large pool of unemployed people.
- Foreign Direct Investment (FDI) is one of the useful tools for reducing unemployment rates in Sub-Saharan countries. By implementing a joint venture scheme, these countries can attract foreign investments that will bring in new technology and create new job opportunities. This will lead to a gradual decrease in unemployment rates over time.
- Government and private investors should fund growth sectors such as Biotechnology, Agri-food, Health, Sustainable Building, Energy, and Eco-industries.
- To promote innovation and entrepreneurship in the region, the "Innovation and Socio-economic Development" policy should be given priority.

Reference

Acemoglu D. (1997): Technology, Unemployment and Efficiency. "*European Economic Review*", Vol. 41, No. 3-5, pp. 525-533.

Adamu Jibir et al (2015) Re-Examination of the Impact of Unemployment on Economic Growth of Nigeria: An Econometric Approach, *Journal of Economics and Sustainable Development*

Aghion P., Howitt P. (1994): Growth and Unemployment. "*Review of Economic Studies*", Vol. 61, No. 3, pp. 477-494.

Alan gelb and Sina Grasmann. 2010. "How Should Oil Exporters Spend their Rents*?" CGD Working Paper 221. Washington, D.C.: Center for Global Development.* http://www.cgdev.org/content/publications/detail/1424356

A. Seth, M.A. John and A. Y. Dalhatu (2018), The Impact of Unemployment on Economic Growth in Nigeria: An Application of Autoregressive Distributed Lag (ARDL) Bound Testing, *Journal of Business Management and Marketing*, 2018, Vol. 1, No. 2, pp. 37-46

Autio, E., Kenney, M., Mustar, P., Siegel, D., & Wright, M. (2014). Entrepreneurial innovation: The importance of context. Research Policy, 43(7), 1097–1108

Bassanini, A.; Nunziata, L., and Venn, D. (2009): «Job protection legislation and productivity growth in OCDE countries», *Economic Policy*

Block, J. H., Fisch, C. O., & Van Praag, M. (2017). The Schumpeterian entrepreneur: A review of the empirical evidence on the antecedents, behavior, and consequences of innovative entrepreneurship. Industry and Innovation, 24(1), 61–95.

Diellza Kukaj (2018) Impact of Unemployment on Economic Growth: Evidence from Western Balkans, *European Journal of Marketing and Economics*

E.Amankwah et al. (2021) The Impact of Unemployment on Economic Growth in China, International Journal of Arts and Social Science

Gollin, D. 2014. Smallholder Agriculture in Africa. *International Institute for Environment and Development Working Paper*

Koellinger, P. (2008). Why are some entrepreneurs more innovative than others? Small bus. Econ, 31(1), 21–37.

Médard, Jean-François (2002), Corruption in the Neo-Patrimonial States of Sub-Saharan Africa, in Heidenheimer, Arnold J. and Michael Johnston (eds) Political Corruption: Concepts and Contexts, Third Edition, New Brunswick: Transaction Publishers.

Matthew, A. O. & Ogunlusi, T. (2017). Foreign direct investment and employment generation in Nigeria. Proceedings of ADVED 2017- 3rd International Conference on Advances in Education and Social Sciences 9-11 October 2017- Istanbul, Turkey, 1078-1088.

Ndulu, B. J., S. A. O'Connell, et al. (2008). The Political Economy of Economic Growth in Africa, 1960-2000. New York, Cambridge University Press.

Okun A. (1962), "Potential GNP: Its Measurement and Significance in Statistics Section*?" American Statistical Association, Washington DC.*

Sa'idu & Muhammad (2015), Do Unemployment and Inflation Substantially Affect Economic Growth? *Journal of Economics and Development Studies*

Salyha Zulfiqar Ali Shah, Mah Rukh Shabbir and Sabiha Parveen (2022), The Impact of Unemployment on Economic Growth in Pakistan: An Empirical Investigation, *IRASD Journal of Economics* Volume 4, Number 1, 2022, Pages 78 – 87

Shaar, S.M., Hussain, E. N. & Halim, S. M. (2012). Impact of foreign direct investment on unemployment rate and economic growth in Malaysia. Journal of Applied Science Research, 8(9), 4900-4906.

The Africa Competitiveness Report 2017 by the World Economic Forum, the African Development Bank, and the World Bank Group

ThorstenBeck, Asli Demirguc-Kunt, and Ross Levine (2004), Finance, Inequality, And Poverty: Cross-Country Evidence, *NBER Working Paper* 10979

United Nations. (2021) World economic situation prospects: Africa. United Nations.

World Bank, and IFAD (International Fund for Agricultural Development). 2017. Rural Youth Employment

Yeboah, F.K., and T.S. Jayne. 2016. Africa's Evolving Employment Structure. Ann Arbor, MI: *Michigan State University, Department of Agriculture, Food and Resources.*

Ying Feng, David Lagakos, and James E. Rauch (2018) Unemployment and Development, *NBER Working Paper No. 25171*

Zagler, M. (2009): «Economic growth, structural change, and search unemployment», *Journal of Economics, 96, 63-78.*

Appendix 1: List of Sub-Saharan Africa countries used in the study.

Angola, Burundi, Benin, Burkina Faso, Botswana, Central African Republic, Cote d'Ivoire, Cameroon, Congo, Dem. Rep., Congo, Rep., Cabo Verde, Ethiopia, Gabon, Ghana, Guinea, Gambia, The, Guinea-Bissau, Kenya, Madagascar, Mali, Mozambique, Mauritania, Mauritius, Namibia, Niger, Nigeria, Senegal, Sierra Leone, Chad, Togo, Tanzania, Uganda, Zambia, Rwanda, South Africa, Seychelles