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The Effect of Economic Growth and Foreign Direct Investment on Unemployment

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ABSTRAK

Penelitian ini bertujuan untuk menginvestigasi masalah kegagalan pertumbuhan lapangan kerja di Gambia yang tidak sejalan dengan peningkatan tenaga kerja di negara tersebut, khususnya terkait dengan kecepatan tinggi lulusan perguruan tinggi yang memasuki dunia kerja. Studi ini merupakan penelitian kuantitatif yang menggunakan data Time-Series tahunan dari tahun 1990 hingga 2021 dari Gambia, dengan dataset yang mencakup variabel pertumbuhan PDB, investasi asing langsung, dan tingkat pengangguran. Data diekstraksi dari database Bank Dunia dan dianalisis menggunakan paket statistik E-Views. Penelitian ini menggunakan Augmented Dickey-Fuller Unit Root Test dan model autoregressive distributed lag (ARDL) terhadap kumpulan data yang ada. Hasil penelitian menunjukkan bahwa tidak ada korelasi jangka panjang antara variabel yang diteliti. Secara khusus, dalam jangka pendek, pertumbuhan ekonomi memiliki pengaruh negatif dan tidak signifikan terhadap tingkat pengangguran di Gambia, sementara investasi asing langsung memiliki dampak positif dan signifikan. Implikasi dari penelitian ini menyarankan bahwa pemerintah Gambia perlu mempertahankan pembatasan anggaran dan mengalokasikan pengeluaran yang direncanakan untuk memenuhi pembangunan infrastruktur yang dibutuhkan agar bisnis dapat berkembang. Gambia juga disarankan untuk menarik investasi greenfield guna menciptakan lapangan kerja baru, dengan mendorong investor asing untuk terlibat dalam sektor ekonomi asli negara, termasuk industri pertanian dan manufaktur.

ABSTRACT

This study aims to investigate the problem of failed employment growth in The Gambia that is not in line with the increase in the country's workforce, particularly related to the high speed of college graduates entering the workforce. The study is a quantitative study using annual time-series data from 1990 to 2021 from The Gambia, with datasets that include variables such as GDP growth, foreign direct investment, and unemployment rates. The data was extracted from the World Bank database and analyzed using the E-views statistical package. This study used augmented Dickey-Fuller unit root tests and autoregressive distributed lag (ARDL) models against existing data sets. The results showed that there was no long-term correlation between the variables studied. In particular, in the short term, economic growth has a negative and insignificant influence on the unemployment rate in The Gambia, while foreign direct investment has a positive and significant impact. The implications of this study suggest that the Gambian government needs to maintain budget restrictions and allocate planned expenditures to meet the infrastructure development needed for businesses to thrive. The Gambia is also advised to attract greenfield investment to create new jobs, by encouraging foreign investors to get involved in sectors of the country's native economy, including the agricultural and manufacturing industries.

1. INTRODUCTION

Developing nations have seen substantial economic growth and a large inflow of FDI over the past few decades, but the labor market has not improved in return (Das & Ray, 2020; Dinh et al., 2019). Unemployment is a significant macroeconomic problem that every government works tirelessly to solve through a divergence of policy initiatives (Adelowokan et al., 2019; Shah et al., 2022). Policymakers argue that economic and foreign direct investment (FDI) can significantly affect unemployment. Economic growth is the most crucial macroeconomic tool for reducing unemployment and poverty and boosting people's quality of life. Higher economic growth usually results in lower unemployment (Dankumo et al., 2019; Sahib

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& Ibrahim, 2022). In addition to the influence of economic growth, attracting foreign direct investment (FDI) is one of the strategies to ensure improvement in macroeconomics and results in economic growth. Among the positive effects of FDI are the creation of decent jobs, poverty reduction, increased exports, infusion of technology, skills, and knowledge, and assistance to local firms accessing international markets (Hossain et al., 2022; Osabohien et al., 2020). Based on these arguments, economies offer various incentives and policy relaxations to encourage economic growth and FDI in their countries. Economic growth and foreign direct investment (FDI) are essential drivers of job creation. Over the years, several studies have focused on the effect economic growth and FDI may exert on the unemployment rate. The relationships among these three macroeconomic indicators have shown mixed evidence in the existing studies. Moreover, the effect of economic growth and FDI on the unemployment rate requires further attention. More specifically, the current paper is limited to the selected issue in the case of the Gambia. Thus, this study aims, in a broad sense, to estimate the effect of economic growth and FDI on the unemployment rate of the Gambia, both in the short and long runs.

In the Gambia, the employment growth rate has not kept up with the expansion of the labor force in recent years, according to the Gambia Bureau of Statistics. The pervasive nature of the issue is comparable to the worrying rate at which many recent college graduates enter the job force. The unemployment rate in Gambia fluctuates each year. According to the World Bank Macro Trend, the unemployment rate in Gambia averaged 9.84 percent from 1990 to 2021.

The unemployment rate in Gambia is very high compared to other West African countries. The chart below represents the unemployment rate of The Gambia compared to four neighboring countries, Senegal, Mali, Guinea-Conakry, and Guinea-Bissau, for ten years.

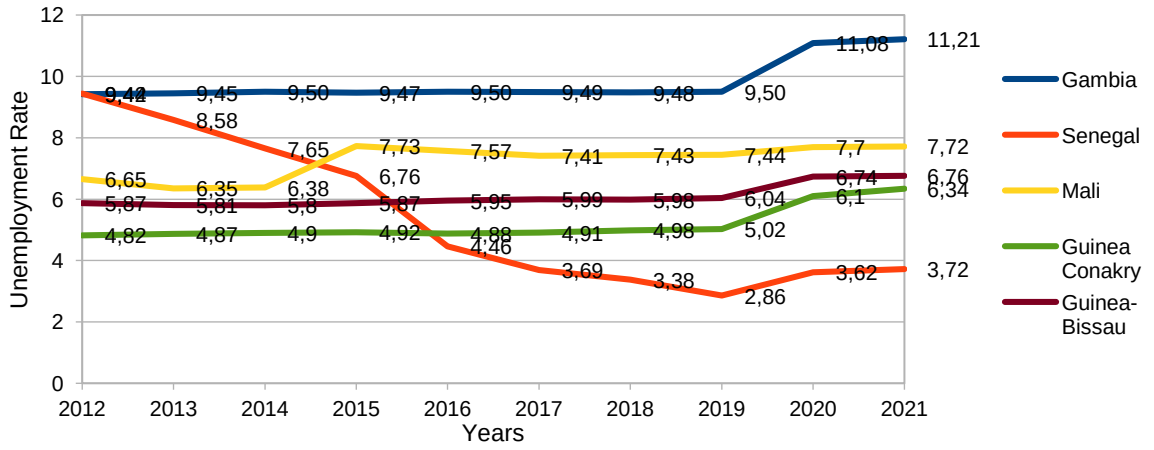

Figure 1. Unemployment Rate of the Gambia Compared to its Four Neighboring Countries
Source: World Bank

Based on Figure 1, Gambia has the highest unemployment rate among its four neighboring countries. The unemployment rate of Gambia in 2021 was 11.21%, while those of Senegal, Mali, Guinea-Conakry, and Guinea-Bissau were 3.72%, 7.72%, 6.34%, and 6.76%, respectively. The chart presents the remainder of this comparison. High unemployment is often a concern because it lowers productivity and income, which may lead to poverty and other social issues. Besides, a nation with a high unemployment rate can worsen social unrest and increase crime (Atilaw Woldetensaye et al., 2022; Pohlan, 2019).

Theoretical perspective of FDI, greenfield investment has great potential for job creation opportunities in an economy (Mkombe et al., 2021; Tanveer et al., 2019). According to the Neo-liberal School (Pro-Foreign Investment School), the importance of FDI inflows is on two factors: the multiplier effect on the host nation and the multiplier effect on the investing foreign corporation. Foreign investment is one of the biggest drivers of globalization and the global economy, as well as a critical driver of employment, capital creation, management skills, technical know-how, technological advancement, productivity improvement, and economic growth. International schools that supported foreign investment created this and acknowledged its impact on the local economy (Atilaw Woldetensaye et al., 2022; Osabohien et al., 2020). The dependency school took a different stance, arguing that foreign investment is only a technique for capturing local financial resources to suit the interests of the home countries of multinational firms and cannot result in the host economy's full industrialization. They perceive foreign investors as predators who take advantage of the host nation and crowd out domestic investments (Atilaw Woldetensaye et al., 2022; Osabohien et al., 2020).

For developing nations, a significant increase in high levels of unemployment is a major nuisance. There is a wealth of literature on the relationship between economic growth and unemployment, as well as foreign direct investment and unemployment. Previous research used a simple linear regression method to examine the effects of economic growth on the unemployment rate of Kosovo from 2004 to 2014 (Chand et al., 2017; Nikolli, 2014). The results demonstrate that economic growth adversely affected unemployment. On the other hand, in other studies, used the autoregressive distributed lag (ARDL) model to investigate the effect of foreign direct investment on unemployment in Tanzania and Uganda between 1990 and 2016 (Johnny et al., 2018; Kyara et al., 2022). The results indicate a positive correlation between FDI and unemployment in both countries.

The most crucial instrument for reducing unemployment and poverty and boosting people's quality of life is considered to be economic growth (Arejiogbe et al., 2023; Mlambo et al., 2019). In the context of various developing economies, there have been several empirical studies whose results have supported the idea that economic growth decreases unemployment in the short and long terms (Currie & Schwandt, 2014; Schubert & Turnovsky, 2018). Several empirical studies have supported the idea that economic growth decreases unemployment. FDI is a significant driver of economic growth and reduces unemployment in many cases. Multiple empirical research studies in various developing economies have reported a negative impact of FDIs on unemployment, both in the short and long run. Conflicting studies have investigated the macroeconomic causes of unemployment in Africa using panel data analysis (fixed effects, random effects, pooled ordinary least squares, and dynamic-generalized methods of moments). The results show that FDI increased unemployment on the African continent. Additional studies have been conducted, the findings of which are consistent with the view that FDI increases unemployment in the context of various developing economies (Adeyeye et al., 2017; Al-kasasbeh, 2022).

One of the reasons for researching this topic is the lack of research in Gambia, despite the country's high unemployment rate and the problems it brings. Previous studies have investigated the correlation between inflation and the unemployment rate in Gambia, but they have not examined the effect of economic growth and foreign direct investment on the unemployment rate in Gambia. Therefore, we took it as our responsibility to research how economic growth and foreign direct investment affect the Gambia's unemployment rate. Future academics will find this work extremely valuable, and the Gambia government can use it as a good source of knowledge to formulate policies. Based on conventional estimation methods for cointegration, a review of previous empirical research revealed conflicting effects of economic growth and foreign direct investment on unemployment rates in developing economies. Therefore, this study examines the short- and long-term interactions among unemployment, GDP growth, and FDI. The study used the autoregressive distributed lag-bounds testing approach.

2. METHODS

This study is a quantitative study that used annual time-series data from 1990 to 2021 from the Gambia. The dataset includes observations for GDP growth, foreign direct investment as a percentage of GDP, and unemployment as a percentage of the labor force. Documentation technique was used for data collection from the World Bank database and the data were analyzed using the E-views statistical package.

The autoregressive distributed lag (ARDL) model was the most suitable for our investigation. Unlike other static models, the proposed model is dynamic. When some variables are stationary at a level, whereas others are stationary at the first difference, it is better to use ARDL *(Mkuya & Ngaruko, 2021)*. Equation 1 represents the approximated model:

$$UEMPt = \beta 0 + \beta_1 GDPGt + \beta_2 FDIt + \mu t \ldots\ldots\ldots\ldots\ldots (3.1)$$

The unemployment rate is the dependent variable, while GDPG and FDI are independent variables. Where UEMP is the unemployment rate, GDPG is GDP growth, and FDI is FDI. When all independent variables are zero, the intercept is 0, and the coefficient of change of the independent variable to the evolution of the dependent variable is 0. The variables have a time-variant known as t. The first analysis conducted in this research is the unit root test to determine the stationarity of the variables.

We used this model to check the stationarity of the variables. The unit root test results determined the type of cointegration procedure to be applied.

$$\Delta K\ F\ t = \lambda\ 0 + \beta\ t^{y}\ K\ F\ t - 1\partial 1 \Delta K\ F\ t - P + \upsilon\ t \ldots\ldots\ldots\ldots\ldots (2.2)$$

Where:

$\lambda\ 0$: is a constant

$\beta\ t$: coefficient on a time trend

P : lag order of the autoregressive process
Δ : Difference operator
υ t : error term
t : time trend

Based on the results of the root test, the ARDL F-Bounds Test is the most suitable cointegration procedure because the dependent variable, unemployment, and one independent variable, FDI, are static in the first difference, whereas other independent variable, economic growth, is stationary at the level. This study used the F-statistic as the foundation for the bound testing technique to examine the potential for long-term links between UEMP, GDPG, and FDI. This test primarily tests the null hypothesis, which claims no cointegration between the variables.

H 0 is represented as 1 - 3= 0

Criterion:

1. If the estimated F-statistic is higher than the upper bound I (1)'s critical value, cointegration is assumed to exist. Long-term partnerships exist, in other words. We disprove the null hypothesis and estimate the error vector correction model for the long term
2. We infer that, there is no cointegration if the estimated F-statistic is less than the crucial value for the bottom bound I (0). That is, there are no meaningful relationships. In this instance, we do not rule out the null hypothesis. We calculate the ARDL model for the short run
3. The test is inconclusive if the F-statistic is between the lower and higher boundaries

In the case of this study, the F-statistic is lower than the critical value for the lower bound I (0) based on the bound test results, meaning there was no cointegration. Therefore, we continue by estimating the short-run model, the traditional ADRL model, to determine the short-term effect of the independent variables.

$$\Delta UEMP = \alpha 0 + \sum i=1n\ \alpha\ 2i\ \Delta UEMP + \sum i=1n\ \alpha\ 2i\ \Delta GDPG + \sum i=1n\ \alpha\ 3i\ FDI + \beta\ 1UEMP\ (-1) + \beta\ 2GDPG\ (-1) + \beta\ 3FDI\ (-1) + \mu\ t \ldots (2.3)$$

Where:
Δ : Denotes the first difference operator
α0 : drift component
α0: : Typical white-noise residual

The three expressions with the summation sign (α1-α 3) on the opposite side denote the short-term dynamics of the model, and the remaining expressions (β1-β3) reflect the long-term relationship. The unemployment rate is on the far left. The study variables were estimated using an autoregressive distributed-lag model. As a result, any estimated coefficient with a matching p-value of less than 0.05 is considered statistically significant. We performed diagnostic checks to validate the parameter evaluation of the unemployment model outcomes. We conducted the Breusch-Godfrey Serial Correlation LM Test, Heteroscedasticity Test: Breusch-Pagan-Godfrey, Normality Test, and Ramsey RESET Test.

3. RESULTS AND DISCUSSIONS

Results

This study uses an ARDL model to demonstrate how economic growth and FDI affect the unemployment rate in Gambia. The current analysis allows for a maximum of three lags, because it uses annual data. We used Akaike's Information Criterion (AIC) for lag selection, and the lag per AIC criterion was 1.

Table 1. Result of Augmented Dickey-Fuller Unit Root Test of the Variables

Variables	Level			First Difference		
	5%-critical ADF-test			5%-critical ADF-test		
	Value	Statistic	Prob.	Value	Statistic	Prob.
Umemp	-2.960	0.746	0.991	-3.670	-5.177	0.000
GDPG	-2.960	-5.998	0.000	-2.960	-5.998	0.000
FDI	-2.960	-1.802	0.372	-2.963	-7.643	0.000

Source: Author's Analysis, 2022

Before starting our estimation task, we checked the stationarity of the variables. Table 1 displays the outcomes of the variables' Augmented Dickey-Fuller unit root tests. The results show that economic growth is stationary at Level I (0), with an ADF value more than the critical value of 5%. Unemployment and foreign direct investment are non-stationary at level 1 but become stationary after taking the first difference. This result demonstrates that none of the variables integrates into order (2) and that they are all pure combinations of I (0) and I (1), which supports the use of the ARDL F-Bound. We used the bound test to determine the long-term relationship between the variables. The cointegration decision is made based on the F-statistic. Table 2 presents the results of the bound tests.

Table 2. Result of the Bound Test (Cointegration of the Variables) for the Objective

Null Hypothesis: no Long-Run Relationship Exists			
F-Statistic			**1.197619**
Critical Value Bounds			
Significance	**I0 Bound**	**I1 Bound**	**Decision**
10%	3.17	4.14	No Cointegration
5%	3.79	4.85	No Cointegration
2.5%	4.41	5.52	No Cointegration
1%	5.15	6.36	No Cointegration

Source: Author's Analysis, 2022

The F-statistic value is below the lower bound of the Pesaran test statistic, as indicated by the bound test results in Table 2. This result demonstrates that we reject alternatives and accept the null hypotheses, which claim no long-term association exists. Thus, there is no long-term relationship between unemployment, economic growth, and foreign direct investment in The Gambia for the period of our study. In this case, we continue the short-term estimation with the ARDL model. The study variables were estimated using an autoregressive distributed-lag model. As a result, any estimated coefficient with a matching p-value of less than or equal to 0.05 is considered statistically significant. The long-run forms and ARDL cointegration are present in Table 3.

Table 3. Result of ARDL Cointegration (Short-Term) and Long-Term Form

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D (GDPG)	-0.016	0.012	-1.377	0.180
D (FDI)	0.084	0.023	3.614	0.001
CointEq (-1)	-0.037	0.142	-0.263	0.794
Cointeq = UNEMP - (-0.4486*GDPG + 0.9294*FDI + 8.5953)				
Long Run Coefficients				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
GDPG	-0.448	1.757	-0.255	0.800
FDI	0.929	3.105	0.299	0.767
C	8.595	2.618	3.282	0.002

Source: Author's Analysis, 2022

The estimated coefficient of GDPG is not significant at the 5% level, although it is evident from the results that it has a negative impact with a value of –0.45% in the long term. In the short-term, the independent variable GDPG is insignificant at the 5% level, although it is evident from the results that it has a negative impact with a value of -0.02%. The estimated coefficient of FDI is insignificant and exhibits a positive effect with a long-term value of 0.93%. In the short run, the estimated coefficient of FDI is significant at the 5% level and exhibits a positive effect, with a value of 0.08%. In other words, an increase in FDI increases the unemployment rate. The coefficient indicates that a 1% increase in FDI increases the unemployment rate in Gambia by 0.08% in the short term.

Tabel 4. Breusch-Godfrey Serial Correlation LM Test

Indicator	**Value**
F-Statistic	0.050
Obs*R-Squared	0.062
Prob. F (1,25)	0.823
Prob. Chi-Square (1)	0.802

To determine whether the model's residuals were serially uncorrelated, we performed a Breusch-Godfrey Serial Correlation LM-Test. According to the outcomes shown in Table 4, the F-statistics probability was higher than 0.05 (5%). Besides, the chi-square P-value was smaller than the R-squared observation time. Therefore, we reject H0 and conclude that the model has no serial correlations.

Table 5. Heteroscedasticity Test: Breusch-Pagan-Godfrey

Indicator	Value
F-Statistic	2.411
Obs*R-Squared	6.078
Scaled Explained SS	1.130
Prob. F (4,26)	0.113
Prob. Chi-Square (4)	0.107
Prob. Chi-Square (4)	0.769

We checked the heteroscedasticity test: Breusch-Pagan-Godfrey. The results presented in Table 5 indicate that the variance of the error component is constant because the P-value for Obs* R-squared (0.1079) is higher than 0.05. In this case, we accept the homoscedasticity null hypothesis and conclude that the error term is constant over time.

Table 6. Normality Test

	Jargue-Bera	Probability
Value	0.956	0.619

We performed a normality test to determine whether the data or variables passed this test. According to the outcomes shown in Table 6, the probability was higher than 0.05 (5%). In this case, we accept H0 and conclude that the variables passed the normality test.

Table 7. Ramsey Reset Test

	Value	DF	Probability
T-Statistic	0.547	26	0.589
F-Statistic	0.299	1,26	0.589

Discussion

The estimated coefficient of GDPG is not significant at the 5% level, although it is evident from the results that it has a negative impact with a value of –0.45% in the long term. In other words, a 1% increase in economic growth decreased unemployment by 0.45% in the long run. In the short-term, the independent variable GDPG is insignificant at the 5% level, although it is evident from the results that it has a negative impact with a value of -0.02%. In other words, a 1% increase in economic growth decreased unemployment by 0.02% in the short run. This study is in line with Okun's Law and previous studies, where the findings are in accordance with the view that an increase in economic growth decreases unemployment (Chuttoo, 2020; Hjazeen et al., 2021; Kukaj, 2018; Sahib & Ibrahim, 2022). However, our results contradict the claims made by previous researchers who state that unemployment rates and economic growth are positively associated (Aderemi et al., 2022; Soylu et al., 2018; Tenzin, 2019). Gambia does not use its rising gross domestic product to address unemployment. Planned expenses to improve infrastructure to the intended levels have not been achieved, which would benefit more companies and investments.

The estimated coefficient of FDI is insignificant and exhibits a positive effect with a long-term value of 0.93%. In other words, a 1% increase in FDI increased unemployment by 0.93% in the long run. In the short run, the estimated coefficient of FDI is significant at the 5% level and exhibits a positive effect, with a value of 0.08%. In other words, an increase in FDI increases the unemployment rate. The coefficient indicates that a 1% increase in FDI increases the unemployment rate in Gambia by 0.08% in the short term. This result is consistent with the underlying principles of dependency school. The dependency school states that foreign direct investment is only a technique for capturing local financial resources to suit the interests of multinational firms' home countries and cannot result in the industrialization of the host economy. They perceive foreign investors as predators who take advantage of the host nation and crowd out domestic investors economy (Aderemi et al., 2022; Güngör & Ringim, 2017). This result is also in line with what has been conveyed by similar studies that FDI increases unemployment (Mujitapha et al., 2021; Osei, 2019; Suyunov, 2022).

However, this research contradicts these findings which state that an increase in FDI reduces unemployment (Abouelfarag & Abed, 2020; Osabohien et al., 2020). Foreign direct investment in the Gambia is usually in the form of brownfield investments, which do not create new jobs. No specific laws or practices in Gambia discriminate against foreign investors, which allows foreign investors to come into contact with brownfield investment ideas and crowd out local businesses. Based on the ARDL-bounds test, the study accepted the null hypotheses, meaning there was no cointegration in the long run. Thus, we conclude that no long-run equilibrium relationship exists between economic growth, foreign direct investment, and unemployment in The Gambia.

4. CONCLUSION

Based on the findings and discussions in the previous chapter, we conclude that the cointegration results demonstrate no long-term equilibrium relationship between Gambia's unemployment rate, economic growth, and foreign direct investment. Economic growth in The Gambia had a negative and insignificant effect on the unemployment rate in both the short and long run. This result indicates that an increase in economic growth decreased unemployment in The Gambia but was not statistically significant. The expanding economy of The Gambia has not significantly translated into job creation in The Gambia because its significance in job creation has not been impactful in the past three decades. Economic growth has had no significant effect on the unemployment rate in The Gambia, meaning economic growth has not significantly reduced unemployment in The Gambia. Economic growth must be able to combat unemployment. The government should maintain budgetary restraint, and planned expenditures should meet the desired infrastructure development for more businesses and investments can benefit. The second independent variable, foreign direct investment, has a positive and significant impact on the unemployment rate of The Gambia in the short term but is not statistically significant in the long run. The positive coefficient means an increase in FDI increases the unemployment rate in The Gambia. FDI inflows have increased unemployment in the Gambia because most foreign direct investments in The Gambia are in the form of brownfield investments, which merge with an existing domestic business. If the domestic firm is entirely acquired (brownfield investment), no new jobs would be created because the firm already exists. FDI inflows have increased unemployment in the Gambia for the past 32 years. Gambia should attract greenfield investment to create new jobs. Foreign investors should be encouraged to engage in the country's genuine economic sectors, including the agricultural and manufacturing industries, which are highly prosperous and may employ a significant workforce. This research is limited to 32 years data from the Gambia, from 1990 to 2021. This research would serve as reference to other researchers on the subject matter and a guide to policy makers in the Gambia.

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