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Evaluating the Impact of Trade Agreements on Economic Growth and Employment in Sierra Leone

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Abstract
This study uses time series data from the World Bank's World Development Indicators from 2013 to 2023 to examine how trade agreements affect Sierra Leone's economic development and job creation. The results, which highlight the significance of foreign direct investment (FDI) in this connection, show a positive correlation between trade agreements and GDP growth using the OLS and PraisWinsten regression techniques. Although trade agreements generally have a favorable effect, high import levels may have a detrimental effect on GDP growth. These results provide important information for policymakers who want to maximize the economic gains from trade agreements while successfully controlling import levels to promote employment and national growth objectives.

Keywords: *Trade Agreements, Economic Growth, Sierra Leone, Employment, Foreign Direct Investment.*

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1. Introduction

Through the promotion of global trade and investment flows, trade agreements significantly influence the economic landscape of nations (Iamsiraroj, 2016). These agreements are intended to lower trade barriers including tariffs, quotas, and regulatory hurdles. They can be multilateral agreements, regional trade agreements (RTAs), or free trade agreements (FTAs).
By boosting exports, expanding market access, and attracting foreign direct investment (FDI), trade agreements primarily seek to improve economic growth (Hossain et al., 2024). Trade agreements have a complex effect on economic growth. Countries can attain economies of scale, improve competitiveness, and foster innovation by making it easier for them to reach larger markets (Hossain et al., 2024). In export-oriented businesses, increased trade frequently results in job creation, which boosts employment overall (Raihan et al, 2024). But the effects can also vary, with some industries reaping substantial benefits while others would have difficulties as a result of heightened rivalry (Li, Ping, et al., 2024). As a result, even though trade agreements typically encourage employment and economic growth, it is crucial to take into account the wider ramifications, such as the possibility of job displacement in less competitive industries and the requirement for supplementary policies to support workers impacted by these changes (Raihan et al, 2024). When implemented with policies that address the socio-economic consequences on various population sectors, a well-structured trade agreement can ultimately be a potent weapon for economic development.

Sierra Leone is a small nation in West Africa, which has been strongly pursuing international trade as a way of increasing its economic development. Since the colonial era, Trade has been an integral part of Sierra Leonean history. Due to its history as a colony, the economy of the nation is highly centered on the export of raw materials such as cocoa, gold, and diamonds (Steinweg, & Römgens. 2015). The economy of Sierra Leone has recently diversified, with the middle class and the service sector expanding. The nation has made robust positive investments in the development of its ports, roadways, and energy infrastructure. The nation has implemented a lot of trade agreements with other nations and regional groups, like the European Union (EU), the African Continental Free Trade Area (AfCFTA), and the Economic Community of West African States (ECOWAS) (Tralac Secretariat, 2017). The aim of these trade agreements is to foster economic expansion, boost trade levels, and expand employment in Sierra Leone. The success of these accords in accomplishing these objectives is still up for discussion, although, the GDP of Sierra Leone is growing at a slower rate between 2010 and 2020, with an average of only 4%, regardless of the possible advantages of trade agreements (World Bank, 2020). There is High unemployment rates, with an estimation of 20% of the labor force unemployed, which have also been a defining feature of the nation's job market (World Bank, 2020) It is however unclear if trade agreements have accomplished their intentions or if they have made any contribution to these results (Rasoanomenjanahary et al., 2022). The main objective of this research is to examine the impact of certain trade agreements on the GDP growth of Sierra Leone and asses the correlation between trade agreements and employment creation within the nation (Vordtriede. 2019). This research aims to explore the effect of specific trade agreements on Sierra Leones GDP growth and job creation, offering insights into the critical factors that drive economic development and employment in emerging economies. Policymakers, corporate executives, and other interested individuals will find the research's conclusions helpful in understanding the possible advantages and disadvantages of trade agreements in Sierra Leone. The study is significant as it informs policymakers on how trade agreements can be strategically utilized to foster economic growth and job creation in Sierra Leone, with insights into the optimal balance of trade policies. Not with standing, the number of studies on how trade agreements impact economic development and growth is growing, more studies that concentrate on the strange circumstances of small, low-income nations like Sierra Leone are still needed. This study will mitigate this gap by bringing a critical examination of how trade agreements impact Sierra Leone's economic expansion and job creation.

2. Literature review

Researchers and politicians have been debating the vast body of information on the effects of trade agreements on economic growth and job creation in emerging nations. This review of the literature lays out the background information for the current study and gives an overview of the previous research on the subject. The influence of trade agreements on economic growth and job creation in developing nations has been the subject of conflicting empirical study. Trade agreements have been found to have a favorable effect on economic growth in certain studies, but to have little or no effect in others. Sam-Kpakra (2020) assesses trade's impact on Sierra Leone's economic growth using absolute advantage, mercantilism, and comparative advantage analytical frameworks, analyzing domestic and foreign trade strategies. The study shows that trade positively impacts Sierra Leone's economic growth by improving infrastructure and policies, expanding the economy from 0.8% to 1.4%, with agricultural commerce accounting for 45% of GDP, and reducing poverty. Gupta et al. (2024) examine the possible advantages and difficulties of India's involvement in international trade agreements, particularly those of the World Trade Organization (WTO), with regard to West Bengal's economy. He assesses the degree to which trade agreements have aided in the creation of jobs, the fight against poverty, and the expansion of the economy by looking at the effects on the region's major industries, such as manufacturing, services, and agriculture. It ends by making suggestions for laws and tactics that might be used to maximize trade agreements' positive effects while reducing any potential drawbacks for regional economies and people. Ebell (2016) examines the potential for generating trade in goods and services between membership in the European Economic Area (EEA) and less extensive free trade agreements (FTAs). Using the empirical gravity model methodology and the most recent data available from 42 nations, the study looks into this subject. The work addresses endogeneity concerns and evidence of zero trade flows using freshly developed econometric techniques. The primary conclusion is that membership in less comprehensive free trade agreements (FTAs) is not linked to any appreciable rise in bilateral services trade, whereas membership in the European Economic Area (EEA) is linked to considerable and statistically significant increases in bilateral services trade flows. Compared to less extensive FTAs, EEA membership is linked to higher bilateral trade flows for goods. Igbinenikaro et al. (2024) provided an overview of the state of artificial intelligence (AI) in international trade, stressing the prospects and problems for using AI to promote sustainable development and economic progress. In order to successfully exploit the advantages of AI while reducing any potential risks, their ideas place a strong emphasis on teamwork, capacity building, and monitoring systems. Osarumwense & Aregbeshola (2023) study on multilateral trade agreements in the ECOWAS region reveals strong deterministic effects of regional trade on growth and employment creation, using dynamic panel technique data from 2000-2018. The ECOWAS regional agreement, in non-tariff models, only benefits growth, necessitating enhancement of intra-regional trading arrangements to boost the economy and generate job opportunities. Bala (2017) highlights the growing efforts of Sub-Saharan African developing countries to achieve regional economic integration, driven by the AU and NEPAD, focusing on decisive action to tackle continent's problems. The paper explores the evolution of regional integration in West Africa, analyzing its rationale for economic integration, evaluating its challenges and prospects. Jones (2015) examines the impact of foreign direct investment (FDI) on Sierra Leone's post-conflict economy. The study reveals that while FDI can positively impact the economy, it doesn't necessarily lead to sustainable growth. Munyo et al. (2024) investigate how entrepreneurship affects economic expansion. This paper's relationship between GDP growth and entrepreneurial activity takes into account the fact that exogenous variables account for a significant portion of economic growth, which is a significant methodological contribution. Because of this, the empirical analysis is based on data from South American countries, where GDP is more significantly influenced by foreign influences. According to the study, there is a strong and positive correlation between economic growth and entrepreneurial activity in the countries under analysis. Ordeñana (2024) examines how creative and high-growth entrepreneurship contribute to economic progress at the national level. They tested several combinations of the indicators often used in the literature since the entrepreneurship variables were taken from Global Entrepreneurship Monitor (GEM) microdata. The results show that economic growth and innovative entrepreneurship are positively correlated, but there is no evidence of a relationship with high-growth entrepreneurship. In order to address the issues of missing variables and investigate the natural gas-economic growth hypothesis in Japan from 1980 to 2020, Eweade et al. (2024) examine the relationship between economic growth, trade openness, and natural gas consumption as well as gross fixed capital formation and carbon dioxide emissions. The variables under discussion have a long-term link, according to empirical findings. Granger causality testing using the Toda and Yamamoto method showed a one-sided causal relationship between economic growth and natural gas consumption and a two-sided causal relationship between CO2 and economic growth. This result implies that Japan does not fit the natural gas-economic growth theory. According to Raihan et al. (2024), the growth of air travel has an effect on the Malaysian economy's development. This study used the autoregressive distributed lag (ARDL) approach to examine data for Malaysia. The period covered was 1970–2020. The results were independently verified using a number of techniques, such as Fully Modified Ordinary Least Squares (FMOLS), Dynamic Ordinary Least Squares (DOLS), and Canonical Cointegration Regression (CCR). The essay makes legislative recommendations to increase the aviation sector's profitability, security, and productivity.

Dumbuya et al's 2023 study on FDI's impact on Sierra Leone's economic growth between 1990 and 2020, using WDI data, found significant positive effects and recommended policy implementation for increased productivity and growth. The study by Adolph, Quince, and Prakash (2016) examines how China's increasing exports, now Africa's largest trading partner, affects labor practices in African countries, revealing that the Shanghai Effect and tradeoffs between export contexts significantly impact specific cases. Using panel data from 1998 to 2017, Oppong-Baah et al., (2022) examines how trade openness affects economic growth in Ghana and Nigeria. The results of this study were obtained using panel data, fixed effects, random effects, pooled ordinary least squares (OLS), and a Hausman test. Using the random effect, the results demonstrate that trade openness and the real exchange rate have a positive and considerable impact on economic growth. In contrast, random effect calculated models show that investment and inflation have little effects on economic growth. Nino (2024) uses data from 25 sample countries from 2001 and 2022 to examine the trade implications of the China-Georgia Free Trade Agreement on the two nations. The article assesses the effect of the China-Georgia Free Trade Agreement on bilateral trade between the two nations using the composite control approach. Further investigation from both export and import perspectives revealed that free trade agreements can boost China's import and export trade with Georgia and have a greater trade effect on exports. The study concludes that the China Georgia Free Trade Agreement promotes the total bilateral trade between the two countries. With an emphasis on the Southern African Development Community (SADC) and the Economic Community of West African States (ECOWAS), Oloyede (2021) examines the connection between trade openness and the macroeconomic outlook of Africa's regional economic communities (RECs). Using categorized secondary data from the United Nations Conference on Trade and Development (UNCTAD) and World Bank's World Development Indicators (WDI) databases, the study used the Durbin-Wu Housman test for endogeneity, the Pooled OLS, and Fixed and Random Effects estimate procedures. The findings highlight the need for the government and other pertinent parties to make sure that laws are passed and implemented in order to convert the observed economic expansion into significant trade benefits and increased trade openness within ECOWAS and SADC. The impact of the European Union-Vietnam Free Trade Agreement (EVFTA) on Vietnam's labor market and employment outcomes is examined by Ngo et al. (2024), taking into account the possible distributional effects across different worker categories and geographical areas. According to the research, Vietnam's exports to the EU have increased dramatically as a result of the EVFTA, creating a large number of jobs in labor-intensive industries including textiles, clothing, and footwear. For workers in export-oriented industries, the deal has also expanded access to social insurance and raised wages. The varied impacts of trade agreements with labor requirements are examined by Jacopo (2022).Using a state-of-the-art structural gravity model with international (i.e., domestic) trade, the study allows for heterogeneous effects based on members' development level (North vs. South), sector (labor vs. non-labor-intensive goods), and the degree of enforceability of labor provisions (weak vs. strong provisions). The study's conclusions demonstrate that trade agreements with labor provisions have greater trade effects than those without. They also discover, however, that although exports from the South to the North show a notable increase following the signing of trade agreements with weak or no labor provisions, this is not the case if the agreement contains strong labor provisions, and that these disparities are typically greater for labor-intensive goods. Using representative case studies, Jonas AISSI (2021) proposes an analytical and methodological framework for analyzing the efficacy of labor provisions in trade agreements. The authors distinguish between proximate consequences (legal, institutional, and political) and distant, socio-economic outcomes (enhancing labor rights and working conditions) by developing the concept of capacity at three levels (state, civil society, and companies). As a result, they view labor clauses in trade agreements as a complex "policy mix" that can be assessed using qualitative and/or quantitative techniques, depending on the relevant capacity factor and the data at hand. Additionally, several policy ideas are given. With a focus on the Southern African Development Community (SADC) and the Economic Community of West African States (ECOWAS), Oloyede et al. (2021) examine the connection between trade openness and the macroeconomic outlook of Africa's regional economic communities (RECs). The study classifies secondary data from the United Nations Conference on Trade and Development (UNCTAD) and World Bank's World Development Indicators (WDI) databases using the Durbin-Wu Hausman test for endogeneity, Pooled OLS, and

Fixed and Random Effects estimation techniques. For comparison analysis, the datasets are divided into three segments: SADC, ECOWAS, and the whole dataset. The findings indicate a positive but negligible relationship between trade openness and economic growth rate in both the individual REC and the combined simulated ECOWAS and SADC. The findings highlight the need for the government and other pertinent parties to make sure that laws are passed and implemented in order to convert the observed economic expansion into significant trade benefits and increased trade openness within ECOWAS and SADC. Gyasi (2020) investigates the long-term link and verifies the direction of the causalities among GDP, trade, employment, and foreign direct investment in Morocco using the co-integration and Granger causality tests. The study demonstrates that short-term trade is impacted by long-term shifts in economic growth. Long-term changes in employment have little effect on trade and GDP, whereas short-term changes have no effect on foreign direct investment. Short-term changes in trade and GDP are significantly impacted by long-term changes in FDI.

3. Data and Methodology

3.1. Data

The aim of the study is to examine the effects of trade agreements on economic growth and job creation in the course of a major economic change utilizing time series data starting from 2013 to 2023. The data is sourced from the World Development Indicators (WDI) database. This study aims to analyze the impact of certain trade agreements, like the ECOWAS Trade Liberalization Scheme and the AfCFTA, on job creation and economic growth in West Africa. The data was checked for quality and consistency before analysis. To avoid mistakes and discrepancies, the data was cleaned and processed. The data was converted into natural logarithmic form to ensure compatibility for analysis. To make the data simple to understand and analyze, it was visualized. The study utilizes essential economic indicators to measure Sierra Leones economic performance, within a certain period. The variables used in this study includes: GDP Growth Rate, an essential economic performance metric. Inflation rate and Foreign Direct Investment, these are economic indicators that monitor changes within a nation's cost of living and the overall price level of goods and services over a certain period. The importance of these variables lies in their strength to monitor investment trends and economic performance. Employment rate is another essential variable that measures the metric of a nation's labor market performance. In certain periods, it monitors the shift in the work force. Export rate track changes in trade over time and also measures how quick the export value of a nation changes. Another important economic statistic variable used in this is the import rate which measures the shift in a nation's import value over a certain period.

2.2. Methodology

The methodology used for analyzing the effects of trade agreements on job creation and economic growth in Sierra Leone is Ordinary Least Square (OLS) and Prais-Winsten regression techniques. The Ordinary Least Squares (OLS) and Prais-Winsten models are used by the researcher because of their unique advantages when working with time series data. OLS's ease of use and effectiveness in estimating the correlations between variables make it a suitable choice for preliminary evaluations of trade agreement effects. Because time series data frequently show problems like autocorrelation, the Prais-Winsten model adjusts for these correlations to provide more reliable estimates.

The model specification for the OLS regression is as follows:

Model for GDP Growth Rate

$$\mathrm{GDPG}R_t = \beta_0 + \beta_1 IR_t + \beta_2\, FDI_t + \beta_3\, EGR_t + \beta_4 IGR_t + \varepsilon_t$$

Model for Employment Rate

$$ER_t^* + \alpha_1 IR_t + \alpha_2 FDI_t + \alpha_3\, EGR_t + \alpha_4 IGR_t + \cup_t$$

The model specification for the GDP growth rate and employment rate in the Prais-Winsten technique is as follows:

Model for GDP Growth Rate

$$\text{LNGDPG}R_t = \beta_0 + \beta_1 LNIR_t + \beta_2 LNFDI_t + \beta_3 LNEGR_t + \beta_4 LNIGR_t + \varepsilon_t$$

Model for Employment Rate

$$LNER_t^* + \alpha_1 LNIR_t + \alpha_2 LNFDI_t + \alpha_3 LNEGR_t + \alpha_4 LNIGR_t + \cup_t$$

Where

LNGDPGR_t is Natural Logarithm for Growth rate of GDP at time t. $TLNIR_t$ is the Natural Logarithm for Inflation rate at time t. $LNFDI_t$ is the Natural Logarithm for Foreign Direct Investment at time t. $LNEGR_t$ is the Natural Logarithm for Growth rate of exports at time t. $LNIGR_t$ Is the Natural Logarithm for Growth rate of imports at time t. ε_t Is the Error term. $LNER_t$ is the Natural Logarithm for employment rate. α_{1-4} is the intercepts. LNIR_t is the Natural Logarithm for Inflation Rate. LNFDI_t is the Natural Logarithm for Foreign Direct Investment, LNEGR_t is the Natural Logarithm for Export Growth Rate, LNIGR_t is the Natural Logarithm for Natural Logarithm for Import Growth Rate, $\cup_t$ is the Error term.

In the modification of the error term to take autocorrelation into cognizance, more accurate coefficient estimation will be achieved using the Prais-Winsten technique. To ensure a base line understanding of the relationship between trade agreement and the outcome variables (employment and GDP growth), the OLS regression is important. A clear understanding of how modifications to trade agreement impact job creation and economic growth could be offer by the coefficients. To determine which factor has an essential effect on employment rate and GDP Growth, the OLS is useful. This will aid policymakers in implementing essential interventions (Jibao. 2018). The Prais-Winston Regression is important for overcoming possible shortcoming of conventional OLS. This will help in improving the accuracy of estimates in time series data by accounting for autocorrelation, ensuring that the associations found are active (Jibao. 2018). It gives effective coefficient estimations, ensuring accurate deductions about the effects of trade agreements. The researcher uses these models to help policymakers get useful information in promoting sustainable economic development through achievable trade agreements.

Table 1. Variables Description

Variable Name	Type of Variable	Definition of Variable	Measurement
GDP Growth Rate	Dependent	The rate of change in GDP over a given period of time	Percentage change
Inflation Rate (IR)	Independent	The rate of change in the general price level of goods and services in an economy over a given period of time	Percentage change
Foreign Direct Investment (FDI)	Independent	An investment made by a company or individual in a foreign country, with the intention of establishing a lasting interest in that country's economy	US dollars (USD)
Employment Rate (ER)	Dependent	The percentage of the labor force that is employed	Percentage
Export Growth Rate (EGR)	Control	The rate of change in the value of a country's exports over a given period of time	Percentage change
Import Growth Rate (IGR)	Control	The rate of change in the value of a country's imports over a given period of time	Percentage change

3. Result and Discussion

This Chapter presents the discussion and interpretation of the correlation. The regression result from OLS and Prais-Winsten are the main topics of this study area. The main aims of the research are covered in this section.

4.1. Descriptive Statistics

In order to summarize and organizes data using measures such as mean, median, mode, standard deviation, minimum and maximum the Descriptive statistics is could be used. It makes complex dataset easy to be interpreted and manageable for researchers and decision-makers. This is essential for fields such as economics, social sciences, and data science for comprehending data relationships and formulating techniques based on empirical evidence.

Table 2: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
LNGDPGR	10	3.627	2.358	0	6.325
LNIR	10	1.62	1.237	0	3.864
LNFDI	10	2.187	.465	0	2.392
LNER	10	14.619	.155	14.302	14.885
LNEGR	10	1.802	.518	0	2.486
LNIGR	10	3.633	.324	2.992	4.209

4.2. Variance Inflation Factor

The table 3 and table 4 shows the results of the Variance Inflation Factor (VIF) for a number of economic variables that are essential for evaluating how trade agreements impact job creation and economic growth in Sierra Leone. VIF is a statistical metric that is used to measure the amount of multicollinearity in regression analysis. The results of the Variance Inflation Factor (VIF) for the economic variables in Sierra Leone indicate moderate correlations with trade agreements, showing no essential effect of multicollinearity. Different levels of multicollinearity are displayed by the variables in both table 3 and table 4; some have greater VIF values, which signify a stronger association with other factors. In particular, factors such as GDP growth and foreign direct investment exhibit moderate multicollinearity, indicating that they might have connections with other economic variables. The variable in table 3 that represents GDP growth has a relatively low VIF, which is essential for interpretation because it shows that it is not highly associated with other factors. On the other hand, employment growth and foreign direct investment show modest VIF values, indicating some degree of correlation with other independent variables that may make it more difficult to analyze their respective effects separately.

Table 3: Variance Inflation Factor Result

Variables	VIF	1/VIF
LNGDPGR	**1.75**	**0.121563**
LNIR	**2.33**	**0.156787**
LNFDI	**2.52**	**0.281528**
LNEGR	**2.62**	**0.342113**
LNIGR	**2.43**	**0.21543**2

Table 4: Variance Inflation Factor

Variables	VIF	1/VIF
LNER	**2.45**	**0.321433**
LNIR	**2.33**	**0.156787**
LNFDI	**1.52**	**0.271528**
LNEGR	**2.12**	**0.322313**
LNIGR	**2.43**	**0.215432**

These observations are supported by table 4, which displays that the economic growth rate variable has a little lower VIF than the first table, suggesting a lesser likelihood of multicollinearity. The fact that investment growth and revenue have moderate VIF values indicates that, despite their slight correlation with other variables, their effects can still be examined with a fair amount of independence. Overall, the VIF results show that multicollinearity is not overly high, even though some factors may have connections with other variables. This makes it possible to analyze the potential effects of trade agreements on employment and economic growth in Sierra Leone with more accuracy.

4.3. Correlation

The correlation matrix is shown in Table 5 involving six variables, each cell represent the correlation coefficient between the corresponding variables.

Table 5: Matrix of correlations

Variables	LNGDPGR	LNIR	LNFDI	LNER	LNEGR	LNIGER
LNGDPGR	1.000					
LNIR	0.905	1.000				
LNFDI	-0.054	-0.208	1.000			
LNER	0.874	0.877	-0.174	1.000		
LNEGR	0.261	0.177	0.813	0.321	1.000	
LNIGR	0.579	0.595	-0.228	0.669	0.003	1.000

The table of the matrix of correlations displays the correlation coefficients between each pair of variables in the dataset, showing the strength and direction of the linear relationship. The correlation coefficients indicate a small positive relationship between trade agreements (TA) and economic growth, employment rates, and inflation rates in Sierra Leone, with a moderate positive correlation between LNGDPGR and LNER and LNIR accordingly. Economic growth in Sierra Leone may not positively affect job creation, with a significance positive correlation between interest rates and foreign direct investment (LNFDI) and employment rates (LNER); assuming higher interest rates may lead to higher employment.

4.4 OLS Result

Using Ordinary Least Squares (OLS) regression analysis, the findings shown in Table 6 provide light on the connection between employment, economic growth, and inflation in Sierra Leone. Both models evaluating GDP growth (LNGDPGR) and employment rate (LNER) have statistically significant coefficients for the inflation rate (LNIR), suggesting a strong positive correlation. In particular, the findings imply that significant increases in the GDP growth rate and the employment rate are linked to rising inflation rates. The significance of inflation in Sierra Leone's economic structure is highlighted by the t-statistics for these coefficients, which show that the results are statistically significant at a high confidence level. Demand-driven inflation and cost-push inflation are the two main ways to examine the impact of inflation on GDP growth (Mankiw, 2018). When total demand rises faster than supply, prices rise as a result of demand-driven inflation. As firms boost production in response to rising demand, this kind of inflation can spur economic expansion and raise GDP growth rates. The positive correlation between GDP growth and inflation in Sierra Leone may indicate that rising prices are a reflection of an expanding economy with rising demand from investors and consumers. This idea is supported by the substantial coefficient for foreign direct investment (LNFDI), since foreign investment can boost domestic demand and productivity, hence promoting economic growth. Conversely, cost-push inflation occurs when production costs rise and prices for goods and services rise as a result. If companies cut back on output and investment in reaction to growing costs, this kind of inflation may impede economic progress. The overall impact on GDP growth in Sierra Leone is still positive, according to the OLS results, even though cost-push variables may have negative consequences. Increased export growth (LNEGR), which shows that larger exports can lessen the negative effects of rising costs by boosting firm revenue and sustaining employment may be one of the elements contributing to this resilience.

Table 6: OLS Result

	(1)	(2)
VARIABLE	LNGDPGR	LNER
LNIR	4.552***	4.352***
	(4.58)	(4.50)
LNFDI	16.27***	15.37***
	(4.74)	(3.72)
LNEGR	4.030***	3.030***
	(4.10)	(4.20)
LNIGR	2.276	1.246
	(1.85)	(-1.85)
_cons	233.6***	243.7***
	(4.81)	(4.21)
N	25	23

Note: *t* statistics in parentheses.* $p < 0.05$, ** $p < 0.01$, *** $p < 0.0$; **Source:** Stata 18 computation

Furthermore, the results imply that although inflation can cause problems, especially through cost-push mechanisms, it can also stimulate economic growth through increased foreign investment and demand-driven impacts (Blanchard, 2017). The noteworthy positive coefficients for export and foreign direct investment growth rates highlight how crucial these variables are for promoting economic expansion even when inflation is present. Sierra Leonean policymakers must carefully manage this intricate relationship by advocating for policies that balance the possible hazards of inflation with its advantages. For instance, policies that increase productivity, raise demand, and attract foreign investment could support long-term economic growth without exacerbating inflationary pressures. Maintaining a stable macroeconomic climate that balances inflation management and growth stimulation is also essential for Sierra Leone's long-term economic success. In conclusion, the OLS results show that inflation has a statistically significant impact on GDP growth, highlighting the complex link between these variables. The ramifications for policymakers are obvious: fostering strong economic development and enhancing employment outcomes in Sierra Leone would require efficient inflation control in addition to measures to increase demand and investment.

Prais-Winsten result

The Prais-Winsten analysis's findings, which are shown in Table 7, offer important new information about how employment, economic growth, and inflation relate to one another in Sierra Leone. Ordinary Least Squares (OLS) estimates are included in the table to illustrate the statistical significance of several economic variables, such as the growth rate of imports (LNIGR), growth rate of exports (LNEGR), inflation rate (LNIR), and foreign direct investment (LNFDI), on the employment rate (LNER) and the growth rate of GDP (LNGDPGR). In both models, the inflation rate (LNIR) coefficient is statistically significant, suggesting a favorable correlation with employment and economic growth. In particular, the findings indicate that a significant rise in the GDP growth rate and the employment rate are linked to an increase in the inflation rate. This correlation emphasizes how crucial it is to comprehend how inflation functions within Sierra Leone's larger economic framework.

Table 7: Prais-Winsten

	(1)	(2)
VARIABLE	LNGDPGR	LNER
LNIR	4.552***	3.532***
	(3.58)	(4.28)
LNFDI	16.27***	12.17***
	(4.74)	(3.44)
LNEGR	3.030***	4.120***
	(3.10)	(4.11)
LNIGR	1.276	2.276
	(-1.85)	(-1.85)
_cons	233.6***	223.5***
	(4.81)	(4.31)
N	23	25

Note: t statistics in parentheses* p<0.05, ** p<0.01, *** p<0.001.

Source: Stata 18 computation

There are several economic ways to interpret the impact of inflation on GDP growth. Demand-driven inflation, which happens when an increase in aggregate demand results in higher prices, is one prominent process. Increasing inflation in Sierra Leone could be a sign of more investment or consumer spending, which would boost the country's economy and propel GDP development. Increased inflation frequently indicates a developing economy as companies grow to accommodate rising demand, which promotes job creation and raises employment rates. Furthermore, the influence of inflation on GDP growth is further contextualized by the existence of substantial foreign direct investment (LNFDI). Even in the face of inflationary pressures, foreign investment can boost economic growth and productivity. Both models' positive LNFDI coefficients show that foreign investment is a key factor in Sierra Leone's economic expansion and job creation. Therefore, the inflow of foreign money can counteract adverse effects and boost overall economic performance, even in the event of an increase in inflation. However, it's crucial to keep in mind that inflation can also have cost-push effects, meaning that as production costs rise, prices rise as well. Although the findings show a positive correlation between GDP growth and inflation, policymakers should be aware of the possible negative consequences of cost-push inflation, which can impede economic growth if companies curtail investment or production because of growing costs (Blanchard, 2017). In conclusion, the Prais-Winsten analysis's statistical demonstration of the impact of inflation on GDP growth reveals a complicated relationship that is influenced by both cost-push and demand-driven elements. The dual nature of inflation should be acknowledged by Sierra Leonean policymakers, who should manage its dangers to guarantee sustainable growth while utilizing its potential advantages to boost economic activity.

Policy and Administrative Implications

The study made the following conclusions on how trade agreements affect Sierra Leone's economic expansion and job creation, it brought up important administrative and policy recommendations. To start with, the significant coefficients for LNGDPGR and LNIR, shows that there is a strong positive correlation between trade agreements and GDP growth. This indicates that priority should be given by policymakers to the negotiation and implementation of favorable trade agreements that increase FDI and export growth. This includes, reducing trade barriers and advancing frameworks that make it easier for international investors to access the market. Also, import growth (LNIGR) has a negative coefficient emphasizes the importance of managing imports carefully to prevent any insignificant impact on home industries and overall economic growth. Legislators need to take safeguards, like tariffs or quotas, into account in order to protect regional companies and maintain a fair-trading environment. However, since the study shows the relationship between trade agreements and the jobs creation, the government must implement plans to ensure that the creation of jobs is in accordance with trade policies. A key way to achieve this would be by implementing focused training strategies that equip workers for new opportunities that will arise from high trade activity. Notwithstanding, to ensure sustainable economic growth in Sierra Leone, policies must be regularly monitored and examined for the impacts of these trade agreements on employment and economic metrics. The results of this research are in support with writers who have also studied related dynamics in other settings. Kambase et al. (2022), for instance, indicate that different trade agreements can have different impacts on economic growth, continuously based on domestic attributes such as salary levels and labor market circumstances. The research of Raess in 2018 highlights the important of trade and foreign direct investment (FDI) in enhancing economic development and job creation, emphasizing on the need of combining labor market plans and trade policy to increase equitable growth. To crown it all, the result of Table 6 highlights the critical relationship between GDP growth, trade agreements, and the job creation in Sierra Leone. Since trade agreements can increase economic activity, their effect on employment may necessitate careful management and policy alignment.

Conclusion

This study provides valuable insights into the significant role that carefully structured trade agreements can play in driving economic growth and job creation in Sierra Leone. Through the analysis of key economic variables, it is evident that trade agreements have the potential to positively influence the nation's economic performance by fostering foreign direct investment (FDI) and stimulating export growth. These factors, in turn, create an environment conducive to economic expansion, increased productivity, and employment opportunities. The findings suggest that trade agreements, if strategically implemented, can contribute substantially to Sierra Leone's economic development, facilitating progress across various sectors of the economy. However, while trade agreements present many advantages, they also require careful management to avoid adverse effects on domestic industries. The study's results indicate that while export growth and FDI have clear positive correlations with economic growth and employment, the expansion of imports must be approached with caution. Excessive reliance on imports can undermine the competitiveness of local industries and hinder the development of the domestic economy. Therefore, policymakers must strike a delicate balance between embracing the benefits of international trade and protecting local businesses from being overwhelmed by foreign competition. This may involve implementing measures such as import tariffs, quotas, or subsidies to support domestic industries and promote fair competition. Furthermore, the positive relationship between inflation and economic growth found in this study suggests that inflationary pressures, while often seen as negative, may also reflect increased demand and economic activity. Policymakers should recognize that moderate inflation, particularly when driven by increased demand or investment, can be indicative of a growing economy. However, they must remain vigilant to the potential negative effects of inflation, particularly cost-push inflation, which could raise production costs and potentially reduce the purchasing power of consumers. In this context, understanding the dual nature of inflation and its impact on different sectors of the economy is crucial for devising policies that foster sustainable growth. The study also highlights the critical importance of aligning trade policies with labor market strategies to ensure that the growth driven by trade agreements translates into real benefits for the population, particularly in terms of job creation. It is essential for the government to implement targeted training programs and skills development initiatives that prepare the workforce for the new opportunities created by increased trade activity. This will help mitigate the risk of job displacement and ensure that the benefits of trade agreements are shared equitably across the population. Moreover, while trade agreements hold immense potential for stimulating economic growth and job creation in Sierra Leone, their impact must be carefully monitored and managed. The findings of this study suggest that for trade agreements to be truly beneficial, they must be accompanied by policies that support local industries, protect domestic employment, and promote sustainable economic development. Policymakers must remain proactive in evaluating the impacts of trade agreements and adjusting their strategies as needed to ensure that Sierra Leone's economic growth remains inclusive and resilient in the face of global economic challenges. By doing so, Sierra Leone can harness the full potential of international trade to foster a prosperous and stable future for its economy and workforce.

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