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# THE IMPACT OF FOREIGN DIRECT INVESTMENT ON THE EXPORT CAPACITY OF GHANAIAN MANUFACTURING ENTERPRISES

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**Keywords**

Export capacity, Foreign Direct Investment, Ghana, Manufacturing Companies,

Political stability, Regression Analysis, Tariff rates

**ABSTRACT**

The study investigated the influence of Foreign Direct Investment (FDI) on the export capacity of manufacturing firms in Ghana utilizing time series data spanning from 1990 to 2022. Through the utilization of regression models and correlation techniques, an examination was conducted on the interrelations between FDI, political stability, tariff rates, gross domestic product (GDP), currency rates, and product exports.

The findings of the study indicate a robust and positive correlation between FDI and the ability to export goods, suggesting that higher levels of FDI are associated with an enhanced capacity to export goods and services. Furthermore, a positive relationship between FDI and political stability was observed, while tariff rates exhibited a negative correlation with political stability. However, the direct financial impact of political stability on export capacity appeared to be insignificant.

Regression analysis further supported the significant influence of FDI on commodity exports. Notably, export capacity did not demonstrate statistically significant correlations with other variables such as GDP, currency rates, and tariff rates. The

study underscores the importance of attracting foreign investment and fostering political stability to enhance the export competitiveness of Ghana's manufacturing sector.

## INTRODUCTION

In recent decades, the global landscape of foreign direct investment (FDI) has undergone significant transformations, reshaping economic dynamics and patterns of development, particularly in developing countries. Traditionally led by established economies such as the United States, Germany, the United Kingdom, and France, FDI has witnessed a notable shift in recent years, with emerging economies like China and India emerging as key players in the global investment arena, particularly in regions like Sub-Saharan Africa[2,3], highlighting the evolving nature of FDI and its profound implications for global economic growth and development.

Foreign direct investment (FDI) is the net inflow of investment to acquire a lasting management interest in an enterprise operating in an economy other than that of the investor [14]. FDI represents a significant form of long-term investment, characterized by investors' substantial control over investments in host countries [4].

In this context, Ghana, a dynamic West African nation situated on the Gulf of Guinea, provides a compelling case study for examining the relationship between FDI, export capacity, and economic development. Despite concerted efforts to attract foreign investment and stimulate export-led growth, Ghana's manufacturing sector faces persistent challenges in realizing its full export potential [12].

The vital relationship between foreign direct investment (FDI), economic growth, and the manufacturing sector in Ghana can be seen in [20]. It highlights FDI's pivotal role in propelling economic development, particularly in developing nations, emphasizing its potential to spur job creation, technological advancements, and industrial progress within the manufacturing domain. The findings of this research indicate a positive correlation between FDI inflows and the manufacturing sector, indicating FDI's capacity to attract capital, introduce novel technologies, and enhance productivity, thereby fostering growth and development. Additionally, the study emphasizes the significance of implementing conducive policies and institutional frameworks to maximize the benefits of FDI in the manufacturing sector, recommending measures such as creating an enabling business environment, improving infrastructure, and implementing supportive policies to enhance Ghana's appeal as an investment destination. However, the study acknowledges potential challenges associated with FDI inflows in the manufacturing sector, emphasizing the importance of prudent management to ensure inclusive growth, technology transfer, and local capacity development. It advocates for policymakers to focus on fostering linkages between FDI firms and domestic suppliers, promoting technology spillovers, and enhancing the capabilities of local firms to fully harness the benefits of FDI.

Furthermore, another study emphasizes a strong positive correlation between FDI and export performance in Ghana [21]. The research highlights FDI's critical role in shaping the export decisions and performance of Ghanaian firms, suggesting that increased FDI inflows can significantly boost the country's export growth. Based on these findings, policymakers are encouraged to prioritize initiatives aimed at fostering greater FDI inflows in Ghana to enhance the country's export performance.

In essence, these studies provide valuable insights into the multifaceted relationship between FDI, economic growth, manufacturing sector development, and export performance in Ghana, underscoring the importance of strategic policy interventions to leverage FDI for sustainable development and enhanced global competitiveness.

This study aims to explore the impact of FDI on the export capacity of Ghanaian manufacturing enterprises. By assessing trends and patterns of FDI, analyzing export performance before and after the inflow of FDI, identifying mediating factors, and evaluating overall competitiveness in global markets, this research seeks to shed light on the complex relationship between FDI and export-led growth in emerging economies like Ghana.

In addition to its empirical contributions, this study holds significant implications for policymakers, investors, and scholars. Insights gleaned from the relationship between FDI and export capacity can inform strategic policymaking aimed at attracting FDI, fostering export-led growth, and maximizing the potential of Ghana's manufacturing sector. For investors, empirical evidence on the impact of FDI can provide valuable guidance for investment decisions, both domestically and internationally. Moreover, by contributing to the broader discourse on international commerce and economic development, this study aims to advance understanding of the complex dynamics shaping emerging economies' manufacturing sectors.

## RESEARCH METHODOLOGY

The Multiple Regression method was chosen to explore FDI's impact on Ghanaian manufacturing firms' export capacity due to its computational simplicity and desirable statistical properties. Previous research by [1] demonstrated the effectiveness of multiple regression analysis in assessing FDI's influence on economic growth in South Korea, highlighting its applicability to similar studies.
The multiple regression model employed in this study is expressed as follows:

**lnGdEx=β0 + β1lnPolSt + β2lnTRa+ β3lnGDP + β4lnFDI + β4lnReER + Ɛ..........(1)**

where:

**lnFDI** is the logarithm of Foreign Direct Investment and net inflows.

**lnPolSt** represents the log of Political Stability, offering insights into the peace and stability

**lnTRa** is the log of tariffs, serving as a controlled variable

**lnGDP** measures the log of Gross Domestic Product, illustrating the annual growth of the country

**lnReEr** is the log of the effectiveness of the exchange rate

**lnGdEx** donates the log of Goods exports providing information on Ghana's trade in tangible goods excluding services.

**B0** = Intercept Term

**β1, β2, β3, β4**, **β5** are regression coefficients and **Ɛ** is the Error Term

The stationarity of the time series data was assessed using the Augmented Dickey-Fuller (ADF) test, a widely utilized statistical test in econometrics. Stationarity, a crucial quality in time series analysis, ensures that statistical properties remain consistent over time. The ADF test aids in discerning whether a time series exhibits stationarity or non-stationarity, thereby informing the modeling process.

## RESULTS

The study utilized time series data from 1990 to 2022 sourced from the World Bank. Five variables were examined: FDI, Gross Domestic Product (GDP), Political Stability and Absence of Violence (PolSt), Tariff rate (TRA), Real effective exchange rate index (ReEr), and Goods exports (GdEx). FDI represents investments made by foreign entities in domestic companies, while GDP reflects the overall monetary value of goods and services within a country. Political Stability and Absence of Violence measure the political climate's tranquility, and TRA signifies the average rate of tariffs on traded goods. ReEr assesses the currency's value against foreign currencies. Goods exports indicate the monetary value of tangible products exported by Ghana.

***Stationarity Analysis***

| *Variable* | *Test* | *Alternative Hypothesis* | *P-Value* |
|---|---|---|---|
| *FDI* | ADF | Stationary | 0.01 |
| *TRa* | ADF | Stationary | 0.01 |
| *GDP* | ADF | Stationary | 0.01 |
| *ReEr* | ADF | Stationary | 0.01 |
| *PolSt* | ADF | Stationary | 0.01 |
| *GdEx* | ADF | Stationary | 0.01 |

The Augmented Dickey-Fuller (ADF) test was employed to assess stationarity among the variables. Results show non-stationarity in the raw data, but after differencing, the variables become stationary, indicating the removal of seasonality.

***Correlation Analysis***

**Correlation Matrix**

| Variable | GdEx | GDP | ReEr | TRA | PolSt | FDI |
|---|---|---|---|---|---|---|
| GdEx | 1 | | | | | |
| GDP | 0.0586 | 1 | | | | |
| ReEr | -0.7890 | 0.2121 | 1 | | | |
| TRA | -0.5869 | -0.1736 | 0.5633 | 1 | | |
| PolSt | -0.5298 | -0.2466 | 0.3501 | 0.4781 | 1 | |
| FDI | 0.9320 | 0.1308 | -0.7229 | -0.5217 | -0.5820 | 1 |



The correlation matrix reveals relationships among the variables. Strong positive correlations are observed between FDI and exports, while negative correlations exist between exports and the exchange rate and tariffs.

***Regression Analysis***

**Regression Analysis**

| Variables | Coefficient | Std. Err | T-value | P-value | VIF | R-square | Adj. R-square |
|---|---|---|---|---|---|---|---|
| Cons | 23.4289 | 4.7280 | 4.960 | 0.000 | | | |
| GDP | -0.0192 | 0.135 | -0.140 | 0.888 | 1.420 | | |
| ReEr | -0.974 | 0.545 | -1.790 | 0.085 | 3.250 | | |
| TRa | -2.1353 | 1.8344 | -1.160 | 0.255 | 1.830 | | |
| PolSt | 0.0206 | 0.0784 | 0.260 | 0.794 | 1.710 | | |
| FDI | 0.4309 | 0.0608 | 7.08 | 0.0001 | 3.120 | | |

| | | |
|---|---|---|
| GdEx | 0.9015 | 0.8832 |

Regression analysis highlights the relationships between independent variables and exports. FDI exhibits a significant positive coefficient, indicating its substantial impact on exports. Other variables show varying degrees of influence, with GDP, political stability, and tariffs displaying non-significant coefficients.

***Multicollinearity Test***

| Variable | vif | 1/vif |
|---|---|---|
| REEr | 3.25 | 0.307639 |
| FDI | 3.12 | 0.320604 |
| TRa | 1.83 | 0.547033 |
| PolSt | 1.71 | 0.584083 |
| GDP | 1.42 | 0.703416 |
| Mean | 2.27 | |

Multicollinearity tests indicated no significant multicollinearity among the independent variables, with VIF values below 10 for all variables.

Overall, the results suggest that FDI plays a crucial role in influencing export capacity in Ghanaian manufacturing companies, with other factors such as GDP, political stability, and tariff rates also contributing to varying extents. The absence of multicollinearity enhances the reliability of the regression model.

## DISCUSSION

***Impact of FDI on Export Capacity***

The study revealed a significant positive association between FDI inflows and export capacity in Ghana's manufacturing sector. This corroborated existing literature emphasizing the pivotal role of FDI in driving export-oriented growth, particularly in developing economies. The positive coefficient of FDI in the regression analysis underscored its substantial influence on export volumes, indicating that higher levels of FDI corresponded to increased export capacity among Ghanaian manufacturing firms. This finding aligned with theoretical frameworks positing that FDI facilitates technology transfer, enhances productivity, and fosters market access, all of which contribute to bolstering export performance.

***Contributing Factors Beyond FDI***

While FDI emerged as a significant predictor of export capacity, other factors such as Gross Domestic Product (GDP), political stability, and tariff rates exhibited non-significant coefficients in the regression model. This suggested that while these variables may play a role in shaping export dynamics, their impact may be less pronounced or require further elucidation. The non-significant coefficient of GDP, for instance, contrasted with conventional wisdom suggesting a positive relationship between economic growth and export performance. Further exploration into the nuanced interactions between GDP growth and export capacity was warranted to disentangle the underlying mechanisms driving export-led growth in Ghana.

Similarly, the insignificance of political stability and tariff rates underscored the complexity of Ghana's trade environment. While political stability was often cited as a crucial determinant of investment and trade, its non-significant coefficient in this study raised questions about its direct impact on export capacity within the manufacturing sector. Moreover, the lack of significance observed for tariff rates highlighted the need for nuanced policy interventions aimed at fostering a conducive trade environment that incentivized export-oriented activities.

***Multicollinearity and Model Reliability***

The multicollinearity test revealed no significant multicollinearity among the independent variables, enhancing the reliability of the regression model. The variance inflation factor (VIF) values below 10 for all variables indicated that each independent variable contributed unique information to the prediction of export capacity without being excessively influenced by collinearity issues. This underscored the robustness of the model and instilled confidence in the validity of the regression coefficients estimated.

## CONCLUSION

This study provided compelling evidence of the significant positive relationship between FDI and export capacity in Ghanaian manufacturing enterprises. While FDI emerged as a key driver of export-oriented growth, other factors such as GDP, political stability, and tariff rates may also play a role in shaping export dynamics. The robustness of the regression model, coupled with the absence of multicollinearity issues, lent credibility to the findings and underscored their policy relevance. Moving forward, policymakers and stakeholders must leverage these insights to design and implement targeted interventions aimed at promoting export-led growth and advancing Ghana's economic development agenda. significant positive impact of FDI on export capacity emphasized the importance of attracting foreign investment to stimulate export-led growth in the manufacturing sector. Policymakers should prioritize initiatives aimed at creating an enabling business environment, improving infrastructure, and implementing supportive policies to enhance Ghana's attractiveness as an investment destination for foreign investors, particularly in the manufacturing sector. Additionally, efforts to promote technology transfer, foster linkages between FDI firms and domestic suppliers, and enhance the capabilities of local firms are essential for maximizing the benefits of FDI on export capacity and ensuring inclusive growth and development.

## RECOMMENDATIONS

Ghana should focus on attracting foreign direct investment (FDI) through incentives, simplifying regulatory procedures, and maintaining political stability. This will promote economic expansion and improve export competitiveness in the manufacturing industry. Reducing tariff barriers can stimulate exports and increase Ghanaian manufacturers' involvement in global value chains.

Maintaining long-term political stability and peace is crucial for attracting foreign investment and creating a favorable economic climate. Government initiatives should enhance democratic institutions' effectiveness, promote good governance, and facilitate peaceful problem resolution. Prioritizing infrastructure and skills development is essential, as these will reduce export costs and enhance competitiveness.

Broadening export markets and establishing trade partnerships with developing economies can generate growth opportunities. Addressing exchange rate volatility is crucial, as stabilizing the currency and controlling currency swings can provide exporters and investors with assurance.

Fostering innovation and facilitating technology adoption in the industrial sector can improve productivity, quality, and competitiveness.

Government support for research and development and cooperation with the commercial sector can stimulate innovation and enhance export capacities. Adopting sustainable manufacturing techniques and environmental standards can increase Ghanaian exports' attractiveness in international markets.

To achieve these objectives, Ghana needs close collaboration among government entities, private sector stakeholders, and foreign partners.

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