ISSN Prints: 2616-1264 Online: 3027-1177

The African Growth and Opportunity Act and the Development of the Textile Industry in Nigeria

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Abstract

The Nigerian textile industry, which was once a vibrant sector of the economy, has gradually declined despite the lucrative opportunities offered by the African Growth and Opportunity Act AGOA, a trade preference programme established by the United States of America with a special non-reciprocal provision for textile trade between some sub-Saharan African nations and the US. As the scheme comes to an end in 2025, this study examines how AGOA's trade preferences impacted the contribution of Nigeria's textile industry to the national Gross Domestic Product (GDP) between 2004 and 2022. While employing the Heckscher-Ohlin theory of international trade as a framework of analysis, and mixed methods of data collection involving interviews and estimation of time series data spanning 2000-2022, the Ordinary Least Squares (OLS) result reveals that AGOA's trade preferences did not significantly improve the contributions of Nigeria's textile sector to the national GDP within the study period.

Keywords: African Growth and Opportunity Act, Nigerian textile industry, Gross Domestic Product

Introduction

Trade preferential programmes are historically expected to facilitate trade flows, increase knowledge and technology transfer among benefiting partner(s), thereby enhancing the long-run economic growth of the beneficiary country (s). Nigeria is one of the Sub-Saharan African (SSA) countries that qualify for the African Growth and Opportunity Act (AGOA). The Act is a non-reciprocal preferential trade programme that the United States of America offers to about 40 sub-Saharan African countries, allowing the selected countries to export their products to the US free of tariffs and on a favourable export quota (AGOA, 2023a)[1]. The idea behind this, according to the US government, is to help these economies establish free markets and foster growth. It was signed into US law on 18 May 2000 but has been extended several times, and is set to expire by 2025 (Ismail, 2017).

More than two decades since its establishment, countries like Kenya, Madagascar, Mauritius, South Africa, and Lesotho appear to be utilising the benefits offered by the programme, considering that they have achieved significant growth in their textile and apparel exports to the US(Didia, Nica & Yu, 2015). However, most beneficial member states

[1]This number could change based on the annual eligibility review

ISSN Prints: 2616-1264 Online: 3027-1177

are yet to show positive economic and social indicators (Didia, Nica & Yu, 2015); they have not been able to harness the opportunities it provides to grow and fast-track their economies (Williams, 2015). While other regional blocks around the world are exhibiting sustained economic growth, most sub-Saharan African countries are mired in poverty and underdevelopment, despite the attractive opportunities offered by AGOA. Also, COVID-19 has reduced the region to its first economic recession in over 25 years, with activities contracting by nearly 5% on a per capita basis (World Bank, 2021). Therefore, reviving the textile sector would have been the most practicable means of alleviating this hardship, but this is far from being the case.

Today, the Nigerian textile industry, once a vibrant sector of the economy, has nearly collapsed (Osondu-Oti, 2022). The industry used to be the largest employer of labour in the country after the public service sector, but due to constraints such as a lack of access to finance, smuggling, the dumping of foreign products, and power issues, about 130 companies in the sector have collapsed (Emefiele, 2019). The industry had nearly 200 textile mills and employed up to 500,000 workers, but today, the industry can no longer boast of more than 20 mills and 20,000 workers (Onwuamaeze, 2022). The result is that over 90% of textiles found in the local market are produced outside the country ("Time to save," 2021). The sector has declined over the past twenty years, with many textile firms folding up, thereby throwing their staff into the job market (Sesan, 2019).The sector may be entering its last decade and is likely to go extinct by 2030 (Onwuamaeze, 2022). It therefore appears that the industry is not utilizing the opportunities offered by AGOA to enhance its development.

Several studies have investigated the impact of AGOA on US imports and development (Carrere, 2004; Romalis, 2003; Tadesse & Fayissa, 2008; Frazer & van Biesebroeck, 2010; Didia et al, 2015). Others have also investigated the impact of AGOA on the growth and exports of sub-Saharan African countries (Seyoum & Abraham, 2022; Yatrakis, 2002; Gibbon, 2003; Didia, 2011; Moyo, Nchake & Chiripanhura, 2018; Cook & Jones, 2021). More so, some studies have also assessed isolated cases of apparel exports to the USA (Mattoo, Roy &Subramanian, 2002; Ollareaga & Ozden, 2005; Seyoum, 2007; Phelps, 2009; Zapavile, 2011; Fernandes et al., 2023).In Nigeria, most studies on the growth and development of the sector did not interrogate the contribution of the sector to the national GDP under AGOA (Nwabueze, 2009; Maiwada & Renne, 2013; Eneji et al, 2012; Pessu & Agboma, 2018; Osondu-Oti, 2022).

This research is expected to make a significant contribution to both the literature, textile manufacturing, and trade policies. It will reveal the challenges confronting the optimal utilization of the AGOA opportunity to achieve economic development through the textile industry. The recommendations from this will assist the government and relevant stakeholders in designing appropriate intervention programmes that would revive the textile industry.

As the AGOA programme comes to an end, this paper attempts to examine the impact of AGOA's trade preferences on the development of the Nigerian textile Industry. We ask the question: How have AGOA's trade preferences improved the contributions of the textile industry to the national GDP between the periods 2004 and 2022? Using mixed methods that combine secondary data and interviews, we report that AGOA's trade preferences did not impact the sector's contribution to the national GDP during the study period. This is due to non-availability and high cost of power, payment of more expensive freight and a premium compared to her competitors due to longer trade route, insecurity in the Gulf of Guinea and Somalian waterways, and smuggling of textile materials produced in China into the country.

ISSN Prints: 2616-1264 Online: 3027-1177

This article is organised as follows: in the next section, we discuss the impact of AGOA's trade preferences on participating countries and the reasons for their poor export. We also analysed the implications of the programme to Nigeria using the Heckscher-Ohlin theory. In the subsequent part, we discuss our methods. In the results section, we discuss the impact of AGOA intervention on the GDP contribution of the Nigerian textile industry to the total GDP. We end with some concluding remarks and make suggestions for improving the sector.

AGOA Trade Preferences and the Economy of Participating Countries

Several studies have investigated the impact of AGOA on the Economic Growth of selected sub-Saharan African countries. Amongst proponents of AGOA, Cook and Jones (2015) examined the economic growth of AGOA beneficiary countries. They found that the Act contributes to the diversification of exports among beneficiary countries, specifically through its textiles and apparel provisions. They contend that AGOA beneficiary countries export both more apparel and non-apparel products to the U.S. Therefore, they conclude that AGOA adds to the export diversification at the extensive margin of trade with the USA. The implication of this finding is that export diversification appears to be an essential element of the economic development process and is a vital policy indicator (Cadot et al., 2011). In fact, Aditya and Acharyya (2011) conclude that diversification and composition of exports remain important determinants of economic growth. Mattoo, Roy and Subramanian (2002), Gibbon (2003), Romalis (2003), Carrere (2004), Tadesse and Fayissa (2008), Frazer and van Biesebroeck (2010), Didia et al. (2015), Cook and Jones (2021), and Seyoum and Abraham (2022) found that AGOA has positively affected the overall exports from AGOA-eligible countries. Mattoo, Roy, and Subramanian (2002) found that AGOA has had a significant impact on the export of textiles from Sub-Saharan Africa and that there will be more prospects if the rules of origin attached to it are reviewed.

Didia et al (2015) found that AGOA has positively affected the overall exports from AGOA-eligible countries. Supporting this assertion are Collier and Venables (2007), who opine that trade preferences such as AGOA serve as a catalyst for trade in manufactured products, which leads to a rapid growth in exports and employment of beneficiary countries. Frazer and van Biesebroeck (2010) found that AGOA had a very large impact on imports into the U.S, especially for textiles, but also for manufactured products, and a smaller but significant effect on agricultural products. They contend that the textile and apparel provisions in AGOA are associated with a 42% increase in imports by 13%. Therefore, their major finding was that AGOA increased the volume of exports from sub-Saharan Africa to the United States, which is mainly dominated by the textile and apparel industries.

Davies and Nilsson (2019) found that EU and US trade preference programmes with least developed countries LDCs have an impact on imports, and that EU trade policy towards the LDCs and the AGOA beneficiaries generated approximately twice as much in imports as US policy, when imports of mineral fuels are excluded from the analysis. Cooper (2002) reasoned that the removal of trade barriers on textiles and apparel coming from sub-Saharan Africa would lead to massive U.S. job losses (due to increased imports from SSA). More so, Tadesse and Fayissa (2008) revealed that exports to the USA from 17 beneficiary African countries are significantly higher post-AGOA. They report that out of the 99 HS-2 (2-digit Harmonized Commodity Description and Coding System) product categories they studied, they found that the Act significantly enhanced exports in 23 categories, and that textile and apparel articles make up the dominant proportion of some sub-Saharan African countries' exports. They further argued that if preferential export access to the U.S.is increased to about

ISSN Prints: 2616-1264 Online: 3027-1177

2000 products, export from SSA countries to the U.S. could increase, which may inevitably spur a long-term economic growth of the participating countries. Commenting further on the benefits of the scheme, Gibbon (2003) further posits that AGOA gives beneficiary countries an average price advantage of 17%; this is in addition to quota costs over other countries into the US market, until their aggregate US market share reaches 7%. More so, it gives LDBC countries the chance to export into the US market based on the most liberal rule of origin that is available (Gibbon, 2003).

Didia et. al. found that countries like Kenya, Madagascar, Mauritius, South Africa, and Lesotho have leveraged the opportunities offered by the scheme. President Banda of Zambia posits that AGOA has contributed to the creation of over 300,000 jobs in the sub-Saharan African region since its inception, with about US$300 billion in export earnings and nearly $300 billion in non-oil exports to Africa at a very minimal cost to the US (Clinton, 2011). However, some scholars generally hold the view that the scheme has little or no impact on the economy of participating nations. Tadesse et al (2008), Raghavan (2000) and Nouve and Staatz (2003) found that the exports of the Sub-Saharan African countries to the US are mainly dominated by petroleum products and are undertaken by a few countries like Nigeria and South Africa. They added that these products are of low value addition and thus did not significantly add to the growth of these nations. In the same vein, Williams (2017) found that AGOA increased participating countries' exports until 2008. However, after that, the trends in the value of these exports begin to go downward, with a brief increase between 2009 and 2011. He contends that by 2015, U.S. imports from Africa had fallen to pre-AGOA levels due mainly to a sharp decline in the U.S. demand for fuel and decreasing fuel prices. He maintained that AGOA exports to the United States other than petroleum have remained relatively flat since 2001, when AGOA was first introduced. A more recent study (Moyo et al., 2018) also found that the effect of AGOA on Sub–Saharan African countries' exports is generally negative and statistically significant

Some studies have focused on the impact of the scheme on the textile sector in Africa**.** Greenaway, Morgan, and Wright (1999) observed that textile provisions of AGOA are of special interest because the African countries that specialised in exporting textiles were more likely to experience economic growth than the countries that concentrated on food, other primary products, or machinery. Similarly, Gibbon (2003)revealed that in Lesotho, AGOA intervention led to significant growth in employment and income generation (additional employment of 20,000 workers as well as additional annual employee income over US$20m). Gibbon (2003) notes that since the establishment of the programme, countries like Kenya, Madagascar, Mauritius, South Africa, and Lesotho are harnessing the opportunities offered by the scheme to develop their GDP. This is evident in the enviable growth of their textile and apparel exports to the United States (Didia et al., 2015).

Ethiopia was also able to attract significant foreign direct investment from India due to the opportunities provided by the scheme, thereby increasing its textile production and enhancing its gross domestic product (Nair, 2022). Fernandes et al (2023) argued that the African Growth and Opportunity Act (AGOA) boosted textile and apparel exports of African countries on average, which reduced after the Multi-Fiber Arrangement opened competition from Asian countries. However, Ollareaga and Ozden (2005) and Fernandes et al. (2023) revealed that the scheme has had little effect on the textile export of participating countries. They revealed that a small group of textile exporters have been the main beneficiaries of the scheme and that there has not been any significant change in the exports of other products from all the participating eligible countries. Phelps (2009) and Zappile (2011), in their study

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on whether the Act increases trade among beneficiary countries, independently found that membership of AGOA for textile benefits has no effect on exports among member nations.

Reasons for Poor Export under the AGOA Programme

Some studies dealt with the reasons for poor exports under AGOA. Rodrik (1998) and Milner et al. (2000) identified several possible causes of poor export performance in Africa, including small country size, unfavourable geography, low per capita income levels, and domestic trade policies (Wang & Winters, 1998). Morrissey (2005) noted that other explanations, such as transport costs and natural trade barriers, may also be at play. Distorted product and credit markets, poor infrastructure development, inadequate social capital, high risk, and poor public services have all played a role (Collier & Gunning, 1999). Others include the presence of export ceilings, bureaucratic hurdles, and the removal of the programme as beneficiaries start to use them more extensively (Hoekman, Michalopoulos & Winters, 2003). Zappile (2011) cited uncertainty about the expiration of preferences, the inability of African producers to adequately exploit preferences, and eroding preferential margins as the explanations for his results. Limao and Venables (2001) conclude that the relatively low level of beneficiary trade flows under the scheme is due to poor infrastructure.

Williams (2017) highlighted several reasons why AGOA is underutilised; he argued that there are two primary reasons for this. First, like previous authors, he mentioned capacity constraints, including limited productive capacity and infrastructural deficits in beneficiary countries. Second, U.S. market access requirements (such as sanitary and phytosanitary measures, product standards, and rules of origin) limit the ability to increase exports to the United States from Africa under the scheme.

Theoretical Framework

Heckscher-Ohlin theory of International Trade

The Heckscher-Ohlin theory focuses on the two most important factors of production, labour and capital, and stresses that differences in factor endowments determine the direction of trade flows (Gandolfo, 1986). It holds that countries that have relatively plentiful capital and relatively scarce labour are likely to export products that are capital- intensive and import products that are labour-intensive, while countries that have labour in abundance but relatively scarce capital are likely to export labour-intensive products and import products that are capital-intensive (Blaug, 1992).

The theory posits that some nations are relatively well-endowed with capital, such that a typical worker has an abundance of tools and equipment to assist in production. In such countries, wage rates are generally high; as a result, the costs of producing labour-intensive goods, such as textiles, are likely to be higher than in countries with an abundance of labour and low wage rates. However, products that require a lot of capital and only a little labour, such as automobiles, are likely to be cheaper in countries that have an abundance of cheap capital.

The model argues that advanced countries of the world have a comparatively higher capital-to-labour ratio than developing nations. This makes the advanced countries capital-abundant relative to the developing countries, and the developing nations labour-abundant compared to advanced countries. Thus, countries with an abundance of capital are expected to produce capital-intensive products relatively inexpensively and export them to pay for imports of labour-intensive products. The theory further contends that the amount of capital

ISSN Prints: 2616-1264 Online: 3027-1177

per worker is more important than the absolute amount of capital in the country. For example, if a smaller country A has much less capital than a bigger country B, country A will still export more of capital-intensive products than B if it has more capital per worker, and B will export more of labour-intensive goods in return. The theory was developed by Swedish economists Bertil Ohlin and Eli Flip Heckscher.

In extrapolating the assumptions of the theory to the context of this study, the decision of the United States to sign the AGOA Act in 2000 is a political-economic one. Textiles and apparel are labour-intensive, meaning that they require a huge workforce for their production. The US has a very high wage system compared to sub-Saharan African countries. The US employers generally pay workers the highest minimum wage prescribed by federal, state, or local laws. As of January 2020, there were 29 states and Washington, D.C. with a minimum wage higher than the federal minimum. This results in almost 90% of U.S. minimum wage workers earning more than $7.25, amounting to $1160 monthly for a full-time worker (40 hours per week) ("Minimum wage by State," 2021; Stacey & Cardiff, 2020) (see table 4 for more details).

However, in Nigeria, the national minimum wage is set at 70,000 Naira ($45.31).[2] This is the minimum wage amount for workers in the federal civil service; however, some workers in the state public service have yet to start benefiting from this due to the inability of various state governments to meet the financial obligation. In some private firms, including some textile manufacturing companies, some workers are paid as little as 10,000 Naira ($12.95) per month. From these submissions, the disparity between the United States' minimum monthly wage ($ 1,160) and Nigeria's ($24.33) can be better imagined.

Therefore, according to the model, due to the unavailability of cheap labour for a labour-intensive commodity like textiles, the United States focused and devised means to attract and encourage the influx of textile materials from Nigeria and other sub-Saharan African countries (with a similar wage system) by the establishment of the African Growth and Opportunity Act.

Research Design

The study adopts a longitudinal research design. It utilised a mixed-methods approach. Both quantitative and qualitative data were used for the study. For the quantitative data, we collected data on the Nigerian textile industry's GDP contribution from the Central Bank of Nigeria Annual Statistical Bulletin; the value of textile exports to the United States from the World Integrated Trade Solution WITS of the World Bank, annual average USD-Naira exchange rate from CEIC Data, and the Logistic Performance Index (LPID) from World Development Indicator Database. These data cover the period 2002 to 2022. Our justification for including the pre-AGOA periods is to demonstrate the textile sector's performance before and during the intervention periods, which Nigeria began benefiting from in 2004, and thereafter to determine whether there has been any impact. It is also based on data availability.

For the primary data, we used purposive and convenience sampling to conduct a Key Informant Interview KII with the top officials of the Nigerian Customs Service and the Nigerian Navy at the premises of the National Institute for Policy and Strategic Studies

[2]Our exchange range conversion is based on N1545 per dollar

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NIPSS, Kuru[3]. We also conducted an in-depth interview through Zoom with the Director General of the Nigerian Textile Manufacturers Association, NTMA. In addition to this, Management Representatives of the top five best textile firms in Nigeria, as listed by Rasheed (2021), were interviewed (through telephone).[4] The companies are Sunflag Group Nigeria Limited, African Textile Manufacturers, Afprint Nigeria PLC, Da Viva Textile, and Dangote General Textile. An email interview was conducted with the Key Official of the United States Department of Commerce, Office of Textiles and Apparel (OTEXA). Finally, we complemented our reports with official and unofficial reports about the sector and the programme. Our choice to combine these methods is to complement the weaknesses in either method, increase data reliability, and effectively address the complex questions that arise.

For the data analysis, we analysed the collected data using the Ordinary Least Squares (OLS) method by estimating the value of textile export to the US against the percentage of GDP contribution of the Nigerian textile sector to the national GDP. The average annual foreign exchange, and logistics performance index were used as control variables. The key informant interviews (KIIs) and qualitative secondary data (journal articles, newspapers, etc.) were analysed using thematic and content analysis, respectively. We assured the respondents of the confidentiality of the exercise and reiterated their right to withdraw from the study at any point in the interaction. We selected all respondents based on their engagement and experience in the Nigerian textile industry under AGOA, as well as their availability and willingness to participate in the study.

Data Analysis

The main objective of the study is to investigate the effects of the Nigerian textile export to the United States under the AGOA programme on the textile industry's GDP share. To achieve this objective, the study employs ordinary least squares (OLS) econometric modelling techniques to assess the relationship. The data include the percentage contribution of the textile industry to the GDP (Dependent variable), the value of textile exports to the USA, the average annual exchange rate, and the logistics performance index as explanatory variables. For hypothesis testing, statistical significance is assessed using a 5% level of significance. The hypotheses are tested using appropriate regression diagnostics, including the F-test, t-test, and coefficient of determination (R^2) to evaluate model fit and explanatory power. Robust standard errors are applied to correct for heteroscedasticity where necessary.

Model Specification

The general empirical model takes the form:

$$Y_{it}=\beta_0+\beta_1 VOTE_{it}+\beta_2 FEXC_{it}+ \beta_2 LPI_{it} +\epsilon_{it}$$

Where:

- Y_{it} represents the outcome variable (contribution of textile industry to the GDP) for state or region i at time t,
- VOTE denotes the value of textile export to USA

[3]The National Institute for Policy and Strategic Studies NIPSS is Nigeria's premier think tank where senior officials and executives drawn from the military, para-military, bureaucracy and public sector assemble for a period of nine months to reflect on issues facing the country

[4]Our interviews were conducted between May and June of 2025

- FEXC denotes average annual foreign exchange rate
- LPI denotes logistics performance index
- ϵ_{it} is the error term

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
COTD	18	5.37944	1.48266	4.05	8.56
VOTE	18	4560.568	11250.63	0.1	41387.92
FEXC	18	155.9352	57.24986	101.7	334.038
LPI	18	2.54457	0.11933	2.324	2.80878

The table below provides summary statistics for variables influencing the contribution of Nigeria's textile industry to GDP: COTD (Contribution of Textile to GDP). On average, the textile sector contributed 5.38%**,** with a minimum of 4.05% and a peak of 8.56%**.** The standard deviation of 1.48shows moderate variability. VOTE (Value of textile Exports to the USA) is highly variable, with a mean of 4,560.57 units and a very large standard deviation (11,250.63), indicating large fluctuations in export volumes. FEXC (Average Annual Foreign Exchange) averaged 155.94**,** with moderate variation (±57.25), ranging from 101.7 to $334.04**.** LPI (Logistics Performance): Averages at 2.54 on a 5-point scale, with minimal variability (±0.12), suggesting relatively stable but modest logistics performance.

Table 2: Correlation Matrix

	COTD	VOTE	FEXC	LPID
COTD	1.0			
VOTE	-0.2394	1.0		
FEXC	-0.5427	-0.0828	1.0	
LPID	-0.786	0.5795	0.3519	1.0

ISSN Prints: 2616-1264 Online: 3027-1177

The correlation matrix above provides insights into the relationships among key variables related to Nigeria's textile sector. The Contribution of the Textile Industry to GDP (COTD) and the Value of textile Exports to the USA (VOTE) have a weak negative correlation (-0.2394), suggesting that increases in export volumes to the USA are not strongly aligned with improvements in the sector's GDP share. COTD and Average Annual Foreign Exchange (FEXC) are moderately negatively correlated (-0.5427), implying that increases in average annual foreign exchange rate are associated with declines in textile contribution to GDP, possibly reflecting macroeconomic structural challenges or exchange rate distortions.

The strongest observed relationship is between COTD and the Logistics Performance Index (LPID), with a correlation of -0.7860. This strong negative relationship may indicate that as Nigeria's logistics improve, the local textile sector may face increased competition from imports, reducing its GDP contribution.

In contrast, LPID shows a moderate positive correlation with VOTE (0.5795), suggesting that better logistics facilitate increased textile exports to the USA. LPID also correlates positively, though weakly, with FEXC (0.3519), implying that improvements in infrastructure and trade logistics have some beneficial effect on average annual foreign exchange flows. However, VOTE and FEXC show almost no relationship (-0.0828), indicating that US-bound textile exports have little direct impact on Nigeria's overall average annual foreign exchange earnings.

ADF Test Results

The Contributions of Nigeria's Textile Industry to the National GDP under the African Growth and Opportunity Act

The ADF test is used to check whether a time series variable is stationary or contains a unit root. A stationary series maintains constant statistical properties such as mean and variance over time, which is essential for reliable and interpretable econometric modelling.

Table 3: ADF Test Results

Variable	ADF Statistic	p-value
COTD	-4.123	0.004
VOTE	-3.895	0.015
FEXC	-4.205	0.013
LPI	-3.98	0.007

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Interpretation of Results

The Augmented Dickey-Fuller (ADF) test is a fundamental statistical procedure for determining whether time series data exhibit stationarity, a necessary condition for meaningful regression analysis and other time series techniques. In this study, we conducted ADF tests on four key variables central to understanding the economic role of the textile industry: COTD (Contribution of the Textile Industry to GDP), VOTE (Value of textile Export to the USA), FEXC (Average Annual Foreign Exchange), and LPI (Logistics Performance Index). The null hypothesis of the ADF test assumes the presence of a unit root, indicating non-stationarity. Rejection of the null hypothesis suggests that the time series is stationary.

The results show that all four variables are stationary in their level form. Specifically, COTD has an ADF statistic of -4.123 with a p-value of 0.004, well below the 5% significance level, confirming stationarity. VOTE records an ADF statistic of -3.895 and a p-value of 0.015, indicating stationarity at the 5% level.

FEXC has a very strong ADF result of -4.205 (p = 0.003), further validating that the variable does not require differencing. LPI also exhibits stationarity with an ADF statistic of -3.980 and a p-value of 0.007.

These results imply that all variables can be used in their level form in regression modelling without the need for differencing or other transformations. This stationarity provides a solid foundation for robust econometric analysis, ensuring that the regression coefficients and inference drawn from the models are valid and not artefacts of non-stationary trends.

Table 4: ANOVA Table

Source	SS	Df	MS
Model	27.1989676	3	9.06632252
Residual	10.1717304	14	0.726552175
Total	37.370698	17	2.19827635

Regression Coefficients

Variable	Coef.	Std. Err.	T	P>|t|	[95% Conf. Interval]
VOTE	0.0000298	0.0000243	1.23	0.241	[-0.0000224, 0.000082]
FEXC	-0.0059488	0.0041629	-1.43	0.175	[-0.0148773, 0.0029797]

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LPI	-10.3909	2.442353	-4.25	0.001	[-15.62923, -5.152575]
Constant	32.61152	5.854844	5.57	0.000	[20.05413, 45.16891]

The regression analysis indicates that the model explains approximately 72.78% of the variance in the textile industry's contribution to GDP (COTD), with a significant F-test (p=0.0003), suggesting the model is statistically significant. VOTE (value of textile exports to the USA) has a poor positive coefficient (0.0000298), meaning that an increase in exports is associated with a slight increase in the textile industry's contribution to GDP, but this relationship is not statistically significant (p=0.241). FEXC (average annual foreign exchange) has a negative coefficient (-0.00595), indicating that higher average annual foreign exchange earnings are linked to a marginal decrease in COTD, yet this effect is also not statistically significant (p=0.175). LPI (logistics performance index) has a statistically significant negative coefficient (-10.39, p=0.001), implying that better logistics performance correlates with a decrease in the textile industry's contribution to GDP, which could suggest efficiency gains or possibly due to shifts in industry dynamics or efficiency. The constant term (32.61) represents the estimated baseline contribution to GDP when all predictors are zero; it is statistically significant (p=0.000), indicating a meaningful baseline level of COTD independent of the variables included.

Table 5: VIF Result

Variable	VIF	1/VIF
LPI	1.99	0.503184
VOTE	1.75	0.570345
FEXC	1.33	0.752449
Mean VIF	1.69	

The Variance Inflation Factor (VIF) measures the extent of multicollinearity among independent variables in a regression model. A VIF value above 10 typically indicates high multicollinearity, which may distort the reliability of coefficient estimates. In this analysis, all variables fall well below the common threshold of 10. LPI (Logistics Performance Index) has the highest VIF at 1.99, which is still considered low and suggests minimal multicollinearity. VOTE (Value of textile Exports to the USA) has a VIF of 1.75. FEXC (Average Annual Foreign Exchange) has the lowest VIF at 1.33. The mean VIF is 1.69, which indicates that multicollinearity is not a significant concern in this model. All the predictor variables can be retained without posing a threat to the validity of the regression results.

Collaborating with the above results, the sector’s contribution to Nigeria’s GDP has consistently declined over the years. NBS data shows a drop in the textile sector’s GDP contribution from 2.02% (N1.442 trillion) in 2019 to 1.63% (N1.247 trillion) in 2023. In the first quarter of 2024, the sector contributed a negative 1.75% to GDP, making it one of the worst-performing sectors (Chima, 2024). However, in the 1980s, the industry recorded an annual turnover of $8.95 billion, which accounted for an average of 25 percent of the manufacturing sector's gross domestic product (GDP) and represented at least 10 % of

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corporate income taxes (AGOA, 2013). According to the report, the country was listed as the second largest textile destination in Sub-Saharan Africa, just behind South Africa. She accounts for 63 % of the textile capacity in West Africa before the policy somersaults that greeted the sector. The sector met the clothing needs of the populace, as the local markets were littered with locally produced fabrics from companies such as Supertex Limited, Afprint, United Textiles in Kaduna, Texlon, Enpee, International Textile Industry, and Aswani Mills, amongst several others. But today, the story is different; most of these factories mentioned earlier have all stopped production. Nigerians are no longer proud to put on locally made garments. Almost all the already-made clothes in the market are mostly imported from China, with a few made in Europe, the United States, and other Asian countries. Even those who wish to patronise the locally sewn garments are confronted with well-finished, though usually inferior, cheap substitutes from China. In fact, the sector imported products worth N365.5 billion ($0.79 billion) in 2022, compared to N182.5 billion ($0.39 billion) in 2020, representing a 100.3 percent increase (Idowu, 2023). Data from the National Bureau of Statistics (NBS) from 2019 to 2023 show a continuous rise in textile imports. During this period, the total textile trade amounted to N1.5 trillion, with imports making up N1.4 trillion (96.5%), while exports totalled only N50.7 billion (3.5%), indicating a substantial trade deficit of N1.384 trillion and highlighting a heavy reliance on imported textiles (Chima, 2024).

Collaborating with the above assertion, the respondents argue that the contribution of the textile sector to the national GDP is minimal. They pointed out that production has been in a comatose state and that industry players are no longer talking of expansion; rather, more companies are folding up as the year goes by. The study revealed that the total number of textile firms in the industry is now put at about 20, of which about three are fully functional, while the others operate at 10-20% utilization of their installed capacity, and the number of workers in the sector has reduced to about 20,000. According to him, this is unlike what is obtainable in some other African countries that are AGOA beneficiaries. They cited Lesotho, Madagascar, and South Africa, which are doing well in the sector. In fact, textile production and export have boosted the Gross Domestic Product GDP of Lesotho. One of the respondents decried the inability of the Nigerian textile firms to exploit the opportunities offered by AGOA. According to him, textile exports declined considerably during the AGOA period. He noted that “the Asians have taken over the American market. Presently, Nigeria does not export. The only textile product that goes outside Nigeria is through Kano to the Central African Republic.”, he posited.

Another participant in the study revealed that the volume of apparel articles claiming the duty-free benefit from Nigeria has been negligible. According to him, the quota for textiles and apparel under AGOA has never reached a 70 per cent fill rate for the combined AGOA beneficiary countries throughout the history of the unilateral trade preference programme. In his words, “the greatest challenges confronting optimal utilization of the AGOA opportunities are lack of awareness of: AGOA provisions, the benefits of duty-free treatment of eligible textile and apparel articles, and what exporters need to know to claim these benefits.” He noted that many sub-Saharan countries have entered into AGOA partnerships to increase utilization and build their domestic industries.

Factors that Accounted for the Poor Performance of the Nigerian Textile Sector during the AGOA Period.

The primary reasons for this poor contribution of the textile industry to the national Gross Domestic Product are attributed to a lack of power infrastructure and high freight costs due to

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the distance from Nigeria to the United States market, as well as the cost of local transportation of raw materials and finished products to and from the port/factory. The respondents argue that the country's inadequate power infrastructure and high transportation costs are significant factors hindering the optimal utilization of AGOA opportunities. They stressed that Nigeria does not have any problem with the textile export quota offered to it by the United States and that the zero import duty policy of the US through AGOA has the capacity to aid the nation's textile sector. In fact, they believed that the United States is magnanimous to the sub-Saharan African countries, including Nigeria. They regret that, despite these, the Nigerian textile manufacturers have not been able to record a considerable profit that will enable them to develop. This has made her unable to compete favourably with other countries in the AGOA scheme, like the South and East African countries.

The study revealed that the inadequate and high cost of power are major factors hindering the sector's growth. One of the respondents acknowledged that Nigeria lacks a stable power supply, a fundamental infrastructure requirement for textile production. According to him, South Africa has approximately 50,000 megawatts, Ethiopia and Kenya have about 20,000 megawatts each. In comparison, Nigeria has about 4,000 megawatts, despite being the most populous nation among these countries and having a high electricity demand. Therefore, heavy reliance on self-generation of electricity has led to high and uncompetitive production costs. This has resulted in little to no power supply, forcing manufacturers to resort to fueling their generators with diesel, which is considered to be at an outrageous and unimaginable price. Even when the power is available, it is usually costly. He posits that Nigeria is one of the countries with the most expensive electricity tariffs among its African competitors, with an average of 10 Cents per kWh. This finding aligns with Collier and Gunning (1999) that poor infrastructure, including power, is a significant factor affecting the export of sub–Saharan African countries under the scheme. This analysis reveals that Nigerian manufacturers are unable to adequately compete with their competitors due to inadequate and high-cost power.

Another major factor militating against Nigerian manufacturers is the high freight cost due to the longer distance that must be covered before reaching the United States. Ordinarily, the Atlantic Ocean (through the Gulf of Guinea) to Pacific Ocean route to the United States would have been the shortest route, however, Nigeria alone cannot produce enough cargo that can fill vessel that is travelling to the United States and as a result, ships cannot go back empty, therefore they resort to the established international trade route from Africa to the West which involves passing through the Atlantic Ocean to South Africa to the Indian Ocean to East Africa to the Suez canal in Egypt to Asia, to Europe and then to the Pacific Ocean into the United States. This is the regular route for companies like MAERSK, CMA-CGM, Mediterranean Shipping Companies MSC etc. According to one of the top government officials, the choice of this route is due to the production capacities of surrounding countries in Asia and Europe, which typically provide cargo for shipping companies to export. The countries are primarily production countries that can produce export commodities in quantities of up to 2000 containers within the shortest possible time, which may be required to fill a single vessel. Therefore, West Africans, such as those from Nigeria and Ghana, must pass through the Atlantic Ocean and then the Indian Ocean before reaching the Pacific Ocean to access the United States' market. This is a longer distance that requires extra cost. This puts the West African countries at a disadvantaged position, undermining their ability to compete favourably with their counterparts in Southern and Eastern Africa. This is the exact reason why Ghana, a West African country, has not been able to compete favourably in the scheme despite its abundant power supply. The South Africans, like Mozambique, South Africa, Zimbabwe, Botswana, Tanzania, etc., do not have to pass through the Atlantic Ocean.

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They only need to pass through the Indian Ocean, then to the Pacific Ocean, and to the United States. In contrast, the East Africans like Kenya, Ethiopia, and Sudan only pass through the Suez Canal to the Pacific Ocean, then to the United States.

Another reason for the high cost of freight is the high premiums paid by shipping companies to insurance firms due to insecurity in the Gulf of Guinea (Atlantic Ocean) and the Somali waterways. These insecurities have also led to an increase in payments for the provision of security personnel who accompany vessels to ensure safety.

The respondents also note that transporting imported raw materials to the factory and finished products to ports within the country is costly. They revealed that it costs about 2 million Naira to transport a 20ft container of raw materials from Apapa Port to Ikorodu by road. At the same time, train transportation would have been far cheaper. These findings are consistent with those of Milner et al. (2000) and Elbadawi, Mengistae and Zeufack (2001). Milner et al. (2000) had argued that transportation costs affect African trade. In the same vein, Elbadawi, Mengistae, and Zeufack (2001) found that shipping costs to a great extent affect African trade. They contend that reducing shipping costs by half would increase exports by twentyfold.

Other factors like adverse government policies, smuggling, obsolete equipment, non-utilization/implementation of the textile import development levy for the development of the sector, inability to access enough foreign exchange for importation of raw materials at an official rate through the Central Bank of Nigeria, among others are the challenges confronting optimal utilization of AGOA opportunities for the development of textile sub-sector in Nigeria.

Government policies, lack of protection of the industry due to globalisation and liberalisation policies, and smuggling have also been a clog on the wheel of development in the textile industry. These have led to unbridled imports, allowing the dumping of cheap and counterfeit alternatives into the Nigerian market. Textiles and apparel from Asia have flooded the country, particularly after the World Trade Organisation's (WTO) Agreement on Textiles and Clothing (ATC), which expired in 2005. In addition, the respondents revealed that the dumping of textile products from China is one of the significant factors affecting the sector. The sector has lost its local market, apart from supplies to the federal government, defence, and paramilitary organisations. Cheap products from China and other Asian countries are now found in large quantities in almost every market outlet. They noted that Nigerian importers take samples of products from our local market to China, duplicate them with inferior materials (usually polyester), and brand them as 'made in Nigeria.' They further revealed that the customs and other security agencies are weak in checking these illegal practices. The Standard Organisation of Nigeria SON gives the local manufacturers standards that they must meet, but has repeatedly failed to enforce these standards on imported textile materials. This has enabled Nigerian importers to enrich themselves at the expense of local industries. There are opinions that if smuggling is reduced by as much as 10 per cent, about 30 per cent of textile companies will come back to operation and capacity utilisation will go up ("Time to save," 2021).

The respondents also submit that obsolete equipment, to a large extent, contributed to the poor outcome of the sector. Findings indicate that the industry is experiencing infrastructural and technological deficits, characterised by obsolete equipment, as well as a shortage of spare parts. The reliance on outdated machines has reduced the production capacities of companies operating in the sector. The non-utilization/implementation of the

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textile import development levy in the sector's development is another factor militating against the industry. The policy was adopted in 1997, but it has not been implemented to date. The 10% fund collected from the levy still goes into the single treasury account of the federal government. In 2015, approximately $ 4 billion worth of textile materials were imported into the country (Okon, 2017). 10% of this would translate to 400 million US Dollars. The respondents indicate that approximately $3-4 billion worth of textiles is imported into the country each year.

The textile manufacturers' inability to access adequate foreign exchange (FOREX) through the CBN is another factor militating against the sector. The manufacturers of textile products have also been finding it difficult to access adequate FOREX for the importation of chemicals and other raw materials, such as polyester, at the official rate; as a result, they have resorted to accessing it through the parallel currency exchange market, a move that has always proved uneconomical. Supporting this claim, Segun Ajayi-Kabir, the Director General of the Manufacturers Association of Nigeria, said that the CBN's tight monetary policies reduced the competitiveness of Nigerian products globally. According to him, the manufacturing export value declined by 166% from N2.07 trillion in 2019 to N778.44 billion in 2023 (Chima, 2024). Another factor that militates against the effective utilization of the programme is that the US requires textile products entering its territory to fill a forty-foot (40) container and meet international standards. Nigerian textile firms have not found it easy to comply with this regulation.

Conclusion

Nigeria's membership of the African Growth and Opportunity Act is meant to develop its critical sectors, including the textile industry. However, despite being eligible for the opportunities offered by the scheme for more than two decades, the country has hardly utilised the opportunities provided by the United States. This has led to the ongoing underdevelopment of the sector, with many companies closing their shops, workers losing their means of livelihood, and the total value of exports declining, resulting in a declining contribution to national GDP. The findings of our study suggest that, while several factors influence the textile industry's contribution to Nigeria's GDP, key indicators such as export value (VOTE) and foreign exchange earnings (FEXC) currently have minimal impact, indicating underutilization of Nigeria's export potential. The significant adverse effect of the logistics performance index (LPI) suggests that improvements in logistics may enable import penetration or production outsourcing, potentially undermining local textile manufacturing. This raises concerns about the competitiveness and sustainability of the domestic textile industry. For the broader economy, it signals the need for policies that strengthen local production, enhance export capacity, and align logistics improvements with domestic industrial growth. Without targeted interventions, gains in infrastructure and trade may continue to benefit foreign producers more than local manufacturers.

Recommendations

As the AGOA programme comes to an end, the following recommendations are suggested to improve the performance of the sector:

- The federal government should ensure a steady and affordable power supply. The Ministry of Power should ensure that at least 12 industrial cities in the country have a minimum of 20 hours of continuous power supply.
- The Federal Ministry of Trade and Investment should collaborate with the Standard

Organisation of Nigeria (SON) and the Nigerian Customs Service to checkmate the flooding of sub-standard textiles and apparel into the country. Additionally, the federal government should establish a diplomatic channel with China through the World Trade Organization (WTO) to prohibit the export of low-quality textile materials to Nigeria.

- The federal government should overhaul the leadership of Nigeria's security architecture, especially the Nigerian Navy. The federal government should ensure that the defence budget is judiciously spent on procuring the necessary weapons and training to combat sea piracy. The Nigerian Navy should share military intelligence and enhance collaboration with other countries that border the Nigerian shipping route to the US, with a view to combating sea piracy.

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