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Taxes from International Transactions: Impact of Industrialization in Sub-Saharan Africa

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Abstract:
Despite the overreliance on the oil sector and huge revenue generated from oil-related taxes in the majority of sub-Saharan African countries, the tax-to-GDP ratio is still below the global index as measured by the World Bank. Africa needs to unveil the hidden natural resources to improve the export of raw commodities and thus generate more taxes from exportation. Although industrialization is growing, Africa's share of global manufacturing is less than 1%, putting the continent at the bottom of the global value chain. Africa has many of the ingredients of industrial success to unleash. This paper examined the impact of industrial performance on customs, import duties, and export taxes using the SGMM analytical technique. The findings showed that improvements in industrial performance negatively and significantly affected customs and import duties and exerted a significant positive effect on export taxes.

Keywords: *Custom and import duties, industrialization, international transactions, taxes from exports*

1. Introduction

Tax collection in Africa is low but similar to other regions at a similar income level (Mbalati, 2023; Hope & Ajibola, 2023). In 2018, the most recent year with wide data coverage, Sub-Saharan African countries collected 14% in taxes as a share of GDP (UNU-WIDER Government Revenue Dataset, 2021). These continent-wide averages mask significant variation across countries. High- and upper-middle-income countries like Seychelles, Namibia and South Africa have rates as high as 28–33%, whereas low-income countries like Chad, the Democratic Republic of Congo and Ethiopia have rates as low as 7% (World Bank Group, 2023). These numbers have remained stagnant over the past three decades, with African countries collecting an average of 12–15% of GDP as taxes from 1990 to 2020. Both the South Asia region and the Middle East and North Africa region have similarly low rates as Sub-Saharan Africa of about 14%. In contrast, the Europe and Central Asia region has the highest rate of 32% (UNU-WIDER Government Revenue Dataset, 2021). Across all countries, on average, higher-income countries collect a higher share of GDP as taxes.

Adedeji and Lipede (2023) stated that trade taxes were already important at the onset of decolonization (5.1% of GDP on average over the period 1960-1973) and gained even more weight during the commodity boom decade (5.8% of GDP on average over 1974-1985). However, they declined after 1986 and the beginning of the structural adjustment programs, representing 3.2% of GDP on average over 1986-2018. The bulk of trade taxes since 1960 have been taxes on imported rather than exported products. In the period 1960-1973, import taxes represented 4.2% of GDP, against 0.8% for export taxes (World Bank Enterprise Surveys, 2022). In the trade liberalization period (1986-2018), import taxes represented 2.7% of GDP against 0.4% for export taxes. The fall in trade tax revenues was predominantly the result of a fall in tax rates: while imports and exports as a share of GDP increased between 1974-1985 and 1986-2018, the effective tax rate on imports was almost halved, going from 21% to 11%, and the effective tax rate on exports was divided by three, going from 4.5 to 1.4% (Ajeigbe et al., 2023). The high share of export duties in GDP may be considered particularly disturbing in view of the negative effects that these taxes often have on production, allocation of resources, and exports. On the other hand, it can be argued that export duties, perhaps to a large extent, were considered substitutes for income taxes and, in some cases, were levied for short periods to prevent exporters from obtaining unusually high profits (Hannah et al., 2023; Sia et al., 2023).

Taxation is a significant source of government revenue in most SSA countries. Governments rely on tax revenue to fund public services, infrastructure development, and social welfare programs, all of which can indirectly support industrial growth by creating a more conducive business environment (Azeng & Helgath, 2023). Industrialization is not only a strategic option for Sub-Saharan Africa; rather, it is a requirement for the region to have sustainable economic growth. It is essential to find solutions to problems involving infrastructure deficiencies and regulatory impediments

(Ajeigbe et al., 2023). However, Sub-Saharan Africa can unlock its industrial potential and pave the way for a brighter and more prosperous future for its people if it implements the appropriate policies, makes the appropriate investments, and collaborates with international partners (Adegboye et al., 2023; Amoah & Jehu-Appiah, 2022).

Africa's future prosperity depends critically on its ability to industrialize. Expanding and strengthening the industrial sector helps create more robust economies. A resource-based industrialization approach can be stimulated by Africa's abundant agricultural, mineral, and maritime resources (Opoku & Yan, 2019; United Nations, 2023) if such resources are appropriately harnessed. Establishing forward and backward links, especially with the agricultural and mining industries, will be crucial to the success of any industrial development effort. The natural resources needed for resource-based industrialization are abundant across the continent (United Nations Educational, Scientific and Cultural Organization, UNESCO, 2023). More than US$82 trillion in untapped natural resources lie dormant on the continent, with the potential to generate US$30 billion in annual government revenues for the next two decades. Minerals, rivers, forests, fisheries, etc., are not the only valuable natural resources Africa has (World Bank Group, 2023). United Nations (2023) put the value added from its fisheries and aquaculture at more than US$24 billion. Many nations, however, persist in shipping out raw resources with little added value. For instance, Africa accounts for 69% of global exports of raw cocoa beans but only 16% of ground cocoa, despite the fact that the latter is valued two to three times as much per ton.

2. Review of Literature

2.1. Concepts Review

- *Customs and other import duties* are levies collected on commodities entering the country or services given by non-residents to locals, as stated by the World Bank Group (2023). As long as they are confined to imported products or services, they include levies imposed for revenue or protection and assessed on a particular or ad valorem basis. Tariffs, as defined by Sunya et al. (2023), are a form of tax levied by the government on imported commodities and, in certain cases, services. According to Zapata et al. (2023), "Customs Duty" refers to a tariff or tax imposed on goods when transported across international borders.
- *Taxes on Exports:* Export taxes include any and all tariffs placed on commodities leaving the country or services rendered by citizens to foreigners, as defined by the World Bank (2022). Certain goods are subject to an export tax before they can leave the country. They are imposed on raw materials predominantly by developing countries and are primarily used by those countries (Brown et al., 2023). Goods and services leaving a country are often subject to an additional tax known as an export tax imposed by the government (Nkalu & Agu, 2023). Raw material-producing countries, rather than developed industrial nations, are increasingly the ones to levy export taxes, which are levied on commodities and services once they leave the economic territory. Export taxes on raw materials or primary goods are common to promote value-added production and the development of domestic processing industries (Maganya, 2020). Governments often levy export processing taxes to encourage the expansion of export-oriented processing businesses and to reclaim some of the benefits of value-added production (Nikita et al., 2022).
- *Industrial performance*: The term "industrial performance" is used to describe the analysis and evaluation of an economy's industrial sector's health, efficiency, and productivity as a whole (World Bank Group, 2023). Industrial performance is often measured by its contribution to the overall economic growth of a country or region (Organization for Economic Cooperation and Development; OECD, 2022).

Industrial performance covers not only the aspects of quality but also the optimization and automation of industrial processes (Egiyi, 2022). Manufacturing, mining, building, and utilities are all examples of industries included in this broad classification of economic activity. The health of a country's or region's economy can be gauged in part by looking at how well its industrial sector is doing. Increases in GDP, factory output, employment, labor productivity, the trade deficit, and the rate of technical advancement are all important metrics to consider when evaluating the efficiency of the industrial sector (Tsaurai, 2021). The sector's ability to generate economic growth, new jobs, and sustained competitiveness on a global scale can be evaluated using these indicators. It is critical for governments, firms, and investors to assess the performance of the industrial sector so that decisions and economic policies can be informed. According to Iwegbu et al. (2022), rising industrialization is a key factor in national and regional economic development and advancement since it boosts productivity, creates more jobs, and has the potential to generate more wealth.

2.2. Underlying Theory (Mercantilism Theory of International Trade)

Mercantilism, founded in the 16th-18th centuries, emphasizes state-regulated trade for national gain. Key figures include Thomas Mun (1644) and Jean-Baptiste Colbert (1619-1683), shaping early international economic policies. Several assumptions underpin the functioning of the mercantilism theory of international trade. It takes for granted that global wealth is static, such that the success of one nation always results in the failure of another. Policies that attempt to increase exports and restrict imports to acquire precious metals are influenced by the assumption that a nation's wealth is assessed by its amount of gold and silver (Zapata et al., 2023; Esra et al., 2018). Government interference in trade to increase national strength and prosperity is advocated by mercantilists, who also hold the view that economic activity should mainly serve the interests of the state (Fabian & Petros, 2019; Gambo et al., 2018). The primary assumption is that colonies exist for the economic benefit of the colonial country. This is supported by research by Obaretin and Uwaifo (2020), Ogbodo and Nweze (2021), and Olaoye et al. (2023). The mercantilist view of global trade and economic policy is based on these premises.

Mercantilism had the support of merchants and traders because it offered them the chance to profit from monopolies and protectionist measures (Ikpesu et al. (2019), Yeboah et al. (2023), and Bunje et al. (2022)). Furthermore,

mercantilist policies were rationalized intellectually by politicians and economists like Jean-Baptiste Colbert and Thomas Mun, who pushed for governmental interference in trade to strengthen home industries and hoard precious metals (Osamor et al., 2023). According to Osamor et al. (2023), military strategists and commanders perceived mercantilism as a way to strengthen national security and exert geopolitical influence by gaining control of vital resources and trade routes.

There were many different types of people who came out against the mercantilist view of international commerce and its methods. Ogu and Ojimadu (2020), Itumo et al. (2022), Ikechukwu and Cyril (2016), and Ayeni and Omodero (2022) were among the authors who contended that trade restrictions and tariffs, which are examples of mercantilist policies, reduce competition and make it harder to allocate resources efficiently, thereby reducing economic progress. According to proponents of free trade (Gechert & Philipp, 2022; Kalu, 2019), unfettered trade would boost global wealth by encouraging specialization and maximizing comparative advantages (Nikita et al., 2022; Panta et al., 2021). Anas and David (2023) and Okechukwu et al. (2023) were among some who argued that mercantilism's obsession with precious metal hoarding was a failure to recognize the significance of domestic production and innovation in creating wealth. In addition to the colonial powers' exploitation of indigenous populations, social observers criticized mercantilism for worsening inequality and exploitation (Adedotun et al., 2023; Nikita et al., 2022). Furthermore, many who questioned geopolitical dynamics expressed concern that protectionist policies and mercantilist rivalries could escalate diplomatic tensions and potentially result in violent confrontations between competing nations. The inequities, possible geopolitical instability, and perceived inefficiency of mercantilism were the main points raised by its detractors.

Mercantilism is relevant to taxes and industrial performance. State intervention in commerce was the goal of mercantilist policies, which sought to support home industries and increase national wealth. Protecting domestic industries from foreign competition was a common goal of many governments' tariff, subsidy, and regulation programs (Ayeni & Omodero, 2022). Since it encouraged the growth of specific industries while restricting competition from outside, this protectionist strategy affected industrial performance.

2.3. Review of Related Studies

2.3.1. Industrial Performance and Customs and Import Duties

From 1981 to 2018, Ogu and Ojimadu (2020) analyzed how taxation affected manufacturing output in Nigeria. The 2018 World Development Indicators (WDI) and the 2018 Annual Report and Statement of Account from the Central Bank of Nigeria (CBN) served as our data sources. Jointly, company income tax, petroleum profit tax, customs and excise duty, and manufacturing capacity utilization all have a significant relationship with industrial output. However, when each factor is tested separately, the results are mixed: Company income tax and petroleum profit tax have positive effects but no statistical significance on industrial output, while customs and excise duty tax and manufacturing capacity utilization do. It was determined that the volume of public money available, the direction of public expenditure, and the implementation of fiscal policy all contribute to its success in supporting the industrial sector.

From 1970 until 2019, Itumo et al. (2022) analyzed Nigeria's trade policy and industrial sector performance. The study mainly used the Auto Regressive Distributed Lag (ARDL) model of multiple regression analysis. The ARDL bound test was used to look at how the variables were related in the short and long term. The outcomes of the ARDL bound tests suggested the presence of a long-term connection between the variables. According to the findings, customs and excise duty have a negative and significant effect on industrial output (IQ) in the short run but a positive and negligible effect on industrial performance in the long run. Further, both the short- and long-term data showed that non-oil export had a negative and significant effect on IQ. Both the short-term and long-term effects of interest rates on industrial output are negative and negligible. Trade openness, however, was found to significantly and positively affect both the short- and long-term growth of industrial output. The expansion of industrial output is positively impacted both in the short and long term by oil exports. The outcome also demonstrates that exchange rates have a positive and negligible effect on long-term and short-term industrial growth, respectively.

The impact of Value-Added Tax and Customs and Excise Duties on Economic Growth in Nigeria was studied by Ikechukwu et al. 2016. The study's hypotheses were put to the test through the use of secondary sources and a basic regression analysis of the collected data. In addition, the connection between non-oil revenue sources and Nigeria's GDP was evaluated using a correlation study. All of Nigeria's non-oil tax revenue has an effect on the country's GDP, the study found. When looking at the strength of the connection between the variables, the study found that all of them are extremely strong. The study found that VAT and customs and excise duties make sizable financial contributions to Nigeria's GDP. The strength of the correlation between the variables suggests that the country's GDP may be predicted using data on its various revenue streams.

Using time series data from 2000 to 2021, Ayeni and Omodero (2022) analyzed the impact of tax income on Nigeria's economic growth. The focus of this research is to determine how hydrocarbon tax, company income tax, and Value Added Tax affect Nigeria's GDP growth. CBN statistical bulletin and the published Federal Inland Revenue Statement were used as secondary data sources for this investigation. In this study, researchers looked at data collected after the fact. The gathered data is subjected to an Augmented Dickey-Fuller test for unit root. GDP, PPT, CIT, and VAT were the study variables, and they were all determined to be stable after a first difference. Therefore, a Johansen co-integration test is performed, and the results show the existence of a long-term connection. Therefore, the study used the Vector Error Correction Model to assess the results of PPT, CIT, and VAT on GDP. The research shows that both PPT and VAT have a positive and statistically significant influence on GDP. It also shows that CIT has an obvious and detrimental impact on GDP.

To analyze the efficacy of African regional tax directives in improving public health, Filby et al. (2022) looked at how cigarette pricing varied among nine African countries with varying tax arrangements. Methods Survey-derived cigarette

prices were constructed using data from the Global Adult Tobacco Survey, conducted in eight African countries between 2012 and 2018, and the Gambia Tobacco Survey, conducted in 2017. Cigarette excise taxes were analyzed in each country, and the coefficient of variation and skewness of the price distribution were compared. Conclusions Economies whose prices are governed by a single, unified tax on goods and services or by a hybrid system with a floor on specific taxes have the least price variation. Countries with a standardized ad valorem tax structure have the most cigarette pricing variation. There are just four nations that use a tax system based on valuation, and three of those countries are members of regional blocs with tax directives requiring them to use a valorem system.

The influence of tax incentives on industrial growth in Nigeria and Ghana was studied by Siyanbola et al. (2017). Research was conducted for the years 2011–2014 using information gathered from the World Bank Data Index (WDI), the Federal Inland Revenue Services (FIRS), the Ghana Revenue Authority (GRA), the Nigerian Investment Promotion Commission (NIPC), the Ghana Investment Promotion Centre (GIPC), and Action-aid International (AAI). Revenue, Tax Incentives, and Economic Growth (as Measured by GDP) were estimated in a Linear Model Using Ordinary Least Squares. Tax incentives and GDP were shown to have a 0.529:1 connection, indicating that Africa is not currently doing much to stimulate productivity. Among other things, the results show that tax incentives boost industrial and economic growth, implying that directing more incentives toward Africa's most productive and important industries will boost the continent's GDP.

Nnayanzi et al. (2022) looked at how manufacturing value added (productivity) in Sub-Saharan Africa was affected by changes in infrastructure, liberalization, and governance. The Panel-Corrected-Standard-Error estimator was used on panel data from 2003-2018 for 30 SSA nations to help understand the long-term effects of these factors and to keep estimates efficient and consistent despite the existence of complicated errors. The primary finding demonstrated that improved administration and infrastructure are crucial to the industrial sector. Long-term investments in infrastructure have a positive effect on manufacturing value added, and this relationship is facilitated by greater financial openness between transport and electricity infrastructure. However, it appears to be moderated by trade liberalization. In general, greater manufacturing production is associated with stronger institutional quality, independent of the form of liberalization.

Imhotep et al. (2020) used information from 28 countries in sub-Saharan Africa (SSA) from 1985 to 2015 to analyze the effect of trade and financial integration on structural transformation. The system-wide generalized method of moments (GMM) analysis revealed that monetary and commercial exchanges greatly stimulate value-added production in the industrial and agricultural sectors while there is no effect on the service sector from financial integration. This is not the case for the manufacturing sector. More data also suggests that structural transformation in SSA is not influenced by trade and financial integration separately.

Sub-Saharan Africa (SSA) was the subject of Pam's (2016) research into the relationship between trade openness and economic growth in emerging countries. Data from 42 SSA nations were used to estimate a dynamic growth model from 1980 to 2012 using the Pooled Mean Group estimation method, which is suitable for extracting inferences from dynamic heterogeneous panels by taking into account long-run equilibrium relations. According to the data, there is a cutoff point for the positive impact of trade on economic growth; after that point is passed, the influence of trade on growth begins to wane. It was also shown that the relationship between economic growth and trade openness for sub-Saharan nations follows an inverted U-curve (Laffer Curve of Trade), which is stable with respect to changes in trade openness metrics and alternative model settings.

Using trade openness (percent of GDP), export (percent of GDP), and import (percent of GDP), Ikpesu et al. (2019) analyzed the impact of trade and investment on SSA economic growth. Using panel-corrected standard error (PCSE), the researchers used an ideographic stance that allowed for study-specific technique and design. The research included data from 35 SSA countries. The study found that exports had a negative effect on the regional economy, whereas imports and local investment had a positive effect. This could be due to the fact that sub-Saharan African economies rely so heavily on exports, which are particularly vulnerable to fluctuations in global market pricing due to variables like low prices, vagaries of weather, etc.

The method of measuring trade openness was improved by Bunje et al. (2022), who came up with four different metrics: the ratio of exports and imports to GDP, the ratio of exports to GDP, the ratio of imports to GDP, and their combined effect index. From 2000 to 2018, this study analyzed balanced panel data from 52 African countries using the pooled ordinary least square, fixed effects, and system generalized method of moment estimation methods. The relationship between trade openness and GDP per capita was found to be intriguingly complex; data from the Panel of Lagged Series demonstrated that trade openness has a mixed effect on economic growth. Trade openness also showed a non-linear relationship with GDP when Africa was divided into sub-regions, although the consequence in Northern Africa was robust economic growth. According to the fixed-effects model, greater economic openness has a statistically significant and negative impact on GDP per capita. Last but not least, the sys-GMM confirms that there is no resilience in trade openness across different metrics of openness and robustness regression estimates.

Using World Bank data from 1990 to 2020, Yeboah et al. (2023) analyzed the impact of international trade (export and import) on GDP expansion. A variety of econometric techniques, such as the unit root test, the Johansen co-integration test, the vector error correction model, and the Granger causality test, were used to guarantee the reliability of the findings. Non-stationarity at the level and integration at the first-order difference were confirmed by the Autoregressive Distributed Layout (ADF) and Kwiatkowski-Phillips-Schmidt Shin unit root tests, respectively. The research concluded that both exports and imports contribute to Ghana's economic growth. Adedotun et al. (2023) investigated whether or not Nigeria's economic growth is sustainable, i.e., whether or not the current pattern of shipping imports and exports for economic growth will hinder future economic development. Import, export, and exchange rates were found to have both short- and long-term causal effects on GDP by means of the co-integration test. The data demonstrated that imports are

crucial to Nigeria's economic growth and that long-term fluctuations in exchange rates and import prices have a major impact on GDP. According to the research, current export volumes also contribute little to GDP growth.

Okechukwu et al. (2023) looked into how tariffs affected Nigeria's GDP expansion. Tariffs' impact on Nigeria's economic expansion from 2000 to 2020 is analyzed. Tariffs, which are taxes or trade restrictions imposed on imported goods, can stimulate economic expansion by protecting domestic industries from foreign competition. Tariffs and economic expansion were analyzed using the Ordinary Least Squares regression technique. Tariffs and other variables, including trade openness and the exchange rate, were analyzed econometrically to see how they affected economic growth in Nigeria. Tariffs have a positive, statistically significant effect on economic growth in Nigeria, according to the results of a regression analysis.

Short- and long-term evidence for the exports-led growth, imports-led growth, growth-led exports, and imports-led growth hypotheses are documented in a study by Panta et al. (2021). Both the exports-led growth and the growth-led exports theories were shown to be unsupported by the data, both in the short and long term. The research, however, backed up both the imports-led growth and growth-led imports hypotheses, respectively. The connection between freer trade and increased GDP in Nigeria was studied by Bala et al. (2022). Both the Augmented Dickey-Fuller (ADP) and the Philips Perron (PP) unit root tests were employed to analyze the data. The estimation procedure additionally makes use of the bound test for co-integration using autoregressive distributed lags (ARDL). The findings indicate that exports and the exchange rate have a positive and large long-run impact on economic growth in Nigeria, while imports have a negative and immediate effect on growth.

Osamor et al. (2023) studied the impact of tax income on Nigeria's GDP growth. Time series quarterly data were collected from the statistical bulletins of CBN and FIRS for a period of 10 years (2011-2020), and an ex post facto research design was used. Descriptive statistics, tests for units of integration and their boundaries, and the autoregressive distributed lag method were used to examine the data. Positive and statistically insignificant effects of PPT, CIT, VAT, and CTD on economic growth were found in the study's findings. The impact of tax collection on Nigeria's economic growth was found to be negligible. Using time series data from 1998–2021, both years included, Anas and David (2023) analyzed the impact of tax income on Nigeria's economic growth. The research used secondary data collected from the Central Bank of Nigeria's statistical bulletin and the Federal Inland Revenue Statement that was made public. This study used a correlational and ex post facto methodology. The impact of other taxes on GDP (economic growth) was also examined, including the petroleum profit tax, business income tax, custom and excise duty, value-added tax, and education tax, using a fixed effects regression model. A statistically significant and positive relationship between petroleum profit tax, customs and excise duty, value-added tax, and education tax and GDP growth was discovered for Nigeria. It also shows that taxing corporations at a high rate reduces GDP (economic growth) in Nigeria.

Overall, these studies discussed several areas of research related to industrial performance and its impact on various aspects of customs and other import duties and development in different regions, particularly in Sub-Saharan Africa. However, from the previous researches, the major gap(s) are; studies in single developing countries (Anas & David, 2023; Okechukwu et al., 2023; Adedotun et al., 2023; Bala et al., 2022; Panta et al., 2021; Ogu & Ojimadu, 2020; Itumo et al., 2022; Ikechukwu et al., 2016; Ayeni & Omodero, 2022) as they examined the effect of taxation on industrial output in different African and developing countries; ECOWAS countries (Filby et al., 2022); limited scope in terms of countries (Siyanbola et al., 2017); Limited scope (Ikechukwu et al., 2016; Pam, 2016); only manufacturing value added (Nnayanzi et al., 2022; Imhotep et al., 2020) as the authors explore how taxation contributes to achieving manufacturing value added in Sub-Saharan African countries; and lastly, dependent variable using economic growth (Osamor et al., 2023; Yeboah et al., 2023; Bunje et al., 2022; Ikpesu et al., 2019) as they investigate the interplay between taxation on economic growth using Real GDP highlighting the importance of tax collection in fostering tax compliance. The study of industrial performance and taxation in developing countries looking into sub-Saharan African countries (SSA) and focusing on customs and other duties has been rare. The researcher wishes to bridge these major gaps by studying the effect of industrial performance on customs and other import duties of sub-Saharan African countries.

In conclusion, the findings of this research shed light on the complex relationship that exists between customs and other forms of import taxation and the amount of industrial performance in Sub-Saharan Africa. The literature is weak in a number of areas, including a long-term effect study, pathway exploration, a more holistic view, and additional research into the role of industrial performance on customs and other import duties. More research is necessary to complete the picture of these processes and fill in the existing gaps.

2.3.2. Industrial Performance and Taxes on Exports

Using time-series data from 1976 to 2021, Rasha et al. (2023) analyzed the equilibrium correlations and dynamic causality between economic growth (as defined by GDP), exports, and imports in Jordan. The Dickey-Fuller unit root test, the Phillips-Perron unit root test, and Johansen's trace test for co-integration were applied to each of the four time-series datasets (GDP, merchandise exports, merchandise imports, and gross capital formation). Granger causality tests and impulse response functions were used to summarize the VAR (1)'s dynamic features. The test outcomes demonstrated that the impulse response functions suggested potential short-run correlations between our datasets. According to the results of the Johansen co-integration tests, the series was not cointegrated, implying that there were no long-term correlations between them. Exports of goods seemed to be a short-term Granger cause of both GDP and gross capital creation. Short-term fluctuations in GDP, exports, imports, and gross capital formation were induced by a unit shock in merchandise exports, imports, and gross capital formation, respectively; long-term responses were close to zero.

The effect of oil and non-oil tax revenue on economic growth in Nigeria was studied by Adegbola et al. (2023). Data for this study came from the yearly reports of the Central Bank of Nigeria and the IRS. Hence, it is considered to be an ex-post facto analysis. After putting the series to a unit root test and a co-integration test, the data was analyzed using the

Error Correction Model. The analysis found that whereas PPT and CED significantly correlated positively with economic growth, CIT and VAT significantly correlated negatively. The impact of trade on economic expansion was studied by Ekanayake et al. (2023). This study demonstrated that the hierarchical structure of learning-by-doing exists in products with different levels of sophistication in the production processes, and the fertility and education effects of trade specialization have second-order effects on per capita income. The study, which analyzed data on trade for 223 countries over the period 1962-2019 and disaggregated it by the level of technological sophistication of the production process, found that the effects of foreign trade on income vary widely across technology categories; high-tech trade has permanent growth effects; and a significant portion of the impact of trade on income is mediated through education and fertility.

Olaoye et al. (2023) analyzed how federal tax revenue influenced Nigeria's GDP growth. This study employed a retrospective research strategy. This research employed a judicious sampling strategy. The impact of tax income on Nigeria's economic growth from 2003 to 2020 was analyzed. The reports from the Federal Inland Revenue Service, the Central Bank of Nigeria, the Annual Statistical Bulletins, and the National Bureau of Statistics provided the bulk of the information used in this analysis. The information was assumed to be accurate based on CBN's published reports and bulletins. Descriptive and inferential statistics were used to examine the data. The p-values for petroleum profit, company income tax, value-added tax, and education tax are all smaller than the threshold for statistical significance, indicating that these variables have a meaningful impact on economic growth.

The impact of tax income on economic growth was examined by Ogbodo and Nweze (2021). The study employed a research strategy known as ex post facto analysis. A positive correlation was observed between the corporate income tax and the GDP per capita of Nigeria and between the petroleum profit tax and the GDP per capita of Nigeria. The report does not include the school tax in its calculation of tax revenue. The impact of non-oil tax revenue on Nigeria's economic growth and development was analyzed by Adegbie et al. (2020). Time series data from the specified time intervals (1994-2017) were used ex post facto in this analysis. For the time frame under consideration, this research also discovered that Customs and Excise Duties contributed positively to economic expansion. Value-added tax and economic growth in Nigeria: a review by Obaretin and Uwaifo (2020). The researchers in this study used a longitudinal methodology. The research shows that value-added tax has a major effect on the growth of the Nigerian economy. The report does not include the school tax in its calculation of tax revenue.

The impacts of corporation tax obligation on total factor productivity (TFP) at the business level were studied by Ioannis and Mallick (2018). From 2004 to 2011, researchers analyzed data from 6559 manufacturing firms to determine how much, if any, a higher corporate tax rate hinders the productivity catch-up process by diverting funds away from investment in research and development (R&D) and export-oriented businesses. Here is a quick rundown of the most important findings: Firstly, endogeneity bias and alternative tax measures do not alter the negative effect of higher tax rates on TFP, and secondly, higher tax liability as a share of earnings before interest and taxes slows TFP growth for R&D- and export-intensive firms.

Adeyemi (2023) studied the potential impact of three types of taxation on Nigeria's GDP growth: company income tax (CIT), customs excise duties (CED), and value-added tax (VAT). As a result, this investigation uses a retrospective methodology. The research included data from the years 1980 to 2020. The study relied on information from the National Bureau of Statistics (NBS), the Federal Inland Revenue Service (FIRS), and the Central Bank of Nigeria (CBN). Autoregressive distributed lag (ARDL) analysis was used to decipher the gathered data. This article found that tax revenues are linked to Nigeria's economic growth in the long run. Long-term economic growth in Nigeria was also shown to be negatively impacted by customs and excise fees. The impact of Nigeria's Company Income Tax (CIT) on the country's real GDP was found to be small but favorable over the long term. The impact of VAT on real GDP in Nigeria was shown to be positive and statistically significant over time.

The effects of tax income on Nigeria's economic growth were studied by Osamor et al. (2023). PPT, CIT, VAT, and CTD were proxies for tax revenue, and GDP was a stand-in for economic growth. Time series quarterly data were collected from the statistical bulletins of CBN and FIRS for a period of 10 years (2011-2020), and an ex post facto research design was used. Descriptive statistics, tests for units of integration and their boundaries, and the autoregressive distributed lag method were used to examine the data. Positive and statistically insignificant effects of PPT, CIT, VAT, and CTD on economic growth were found in the study's findings. Using a panel co-integration model, Esra et al. (2018) analyzed the long-term correlation between high-tech exports and GDP growth in a sample of OECD nations from 1989 to 2015. Information and communications technology (ICT), aerospace, computing and office equipment, electronics, chemical products, medicines, and electrical machinery are all examples of the kind of high-tech goods that countries are shifting their export structures to focus on. Since the 1960s, export growth has been linked to faster productivity and GDP growth, making the export structure a key factor in many countries' economic growth theories. Empirical findings suggest a correlation between high-tech exports and GDP growth in a subset of OECD nations. Empirical data demonstrated that growth rate and investment played a negative influence in improving high-tech exports from selected OECD nations. However, an increase in patent applications played a crucial role.

Using the ARDL co-integration method, Sunya et al. (2023) analyzed how exports, imports, and trade openness affected economic growth in Namibia. Exports and trade openness showed positive and significant connections with economic growth, while imports showed a strong negative association. Furthermore, exports, imports, and trade openness drive short-term economic growth. The research results pointed to the importance of trade liberalization and export-led growth for Namibia's economic progress. Overall, the results of this study provide credence to the mercantilist theory's central tenet that more countries should actively engage in international commerce. In the instance of OECD nations, Zapata et al. (2023) investigated the factors that influence the direction of international trade flows of manufactured goods based on their level of technological sophistication. The analysis makes use of panel data estimation strategies, with the panel consisting of 35 nations and 15 years (2004-2018). Strong evidence is provided by the results for the importance of

variables like gross fixed capital formation on total employment, land area per capita, the percentage of college graduates as a percentage of the population, R&D expenditure as a percentage of GDP, the stock of inward foreign direct investment as a percentage of GDP, imports of high-tech manufactured goods as a percentage of GDP, the quality of national governance and regulation, the size of the population, and EU membership as deterrents.

The influence of exports and imports on Liberia's economic development was studied by Fakilu and Huang (2020). based on analysis of preexisting data from the World Bank Development Indicators (WBDI) for the years 2000-2019. The study analyzed Liberia's trade performance using macroeconomic indicators/variables that have an effect on economic growth, including exports, FDI, population growth, imports, GFCF, and GDP, through a time series regression model of the Ordinary Least Squares (OLS) and technique by Stock and Wilson (1988). Export, FDI, population growth, and GDP expansion were all found to have a linear relationship with one another and with economic growth in Liberia, as determined by Ordinary Least Squares regression tests. According to the numbers, imports have a negative effect on GDP expansion in Liberia. Exporting had a big and beneficial impact.

Tijani et al. (2023) defined special economic zones (SEZs) and analyzed their effects on job creation and exports in a few select sub-Saharan African nations. In addition, the extent to which various forms of funding have contributed to sustainable development in Nigeria's primary industries was assessed. Given the problems discovered and the mining industry's potential to boost Nigeria's economic and social standing, it became clear that current approaches to finance the sector fall far short of the mark. The authors modeled the interplay between investment and these metrics in African nations. The effects of foreign trade on Nigeria's GDP were analyzed by Agbo et al. (2018). Estimating the many factors involved in international trade required the use of a multiple regression analysis model. The information used in the analysis was culled from the CBN statistical bulletin, 2012 edition, from 1980 to 2012. The study's findings demonstrated that export commerce has a substantial bearing on the expansion of the Nigerian economy. The study also found that import trade had no appreciable effect on Nigeria's economic growth.

Overall, these studies discussed several areas of research related to industrial performance and its impact on various aspects of taxes on exports in different regions, particularly in Sub-Saharan Africa. However, from the previous research, the major gap(s) are: studies in single developing countries (Tijani et al., 2023; Osamor et al., 2023; Rasha et al., 2023; Adegbola et al., 2023; Ekanayake et al., 2023; Olaoye et al., 2023; Sunya et al., 2023; Ogbodo & Nweze, 2021; Adegbie et al., 2020; Fakilu et al. 2020; Agbo et al., 2018); only OECD countries (Zapata et al., 2023; Esra et al., 2018); only VAT (Obaretin & Uwaifo, 2020; Ogbodo & Nweze, 2021; Olaoye et al., 2023; Adeyemi, 2023); Only customs and excise duties (Adegbie et al., 2020); only total factor productivity (Ioannis & Mallick, 2018) as the authors explore how taxation contributes to achieving total factor productivity; and lastly, dependent variable using economic growth (Sunya et al., 2023; Esra et al., 2018; Fakilu & Huang, 2020; Agbo et al., 2018) as they investigate the interplay between taxation on economic growth using Real GDP. The study of industrial performance and taxes on exports in developing countries looking into sub-Saharan African countries (SSA) and focusing taxes on exports has been rare. The researcher wishes to bridge these major gaps by studying the effect of industrial performance on tax revenue on exports of sub-Saharan African countries.

3. Methodology

To examine the effect of industrial performance in the relationship between customs and other import duties, taxes on exports, and industrial performance proxied by industrial sector contribution to GDP, output and value-added, this paper adopted *an ex-post facto* research design, secondary data extracted from OECD and World Bank database for thirty-eight (38) SSA countries with relevant data out of the total population of 48 SSA countries were considered for the period twenty-one (21) years (2001-2021). The system GMM estimation technique was employed for the analysis of the specified equation. Therefore, this study developed regression models as follows:

$$CID_{i,t} = \beta_0 + \beta_1 CID_{i,t-1} + \beta_2 ISCG_{i,t} + \beta_3 ISVA_{i,t} + \beta_4 ISO_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$TEP_{i,t} = \alpha_0 + \alpha_1 TEP_{i,t-1} + \alpha_2 TEP_{i,t-2} + \alpha_3 TEP_{i,t-3} + \alpha_4 ISCG_{i,t} + \alpha_5 ISVA_{i,t} + \alpha_6 ISO_{i,t} + \varepsilon_{i,t} \quad (2)$$

Where:

CID = Customs and other Import Duties,

TEP = Taxes on Exports,

ISCG = Industrial Sector Contribution to GDP,

ISVA = Industrial Sector Value-Added,

ISO = Industrial Sector Output

β_0, α_0, represent the Constants in the models, β_{1-4}, α_{1-6} represent the coefficients of the exogenous variables, i represents the number of the countries under study, and t represents the time frame of the study.

4. Data Analysis, Results and Discussion of Findings

4.1. Descriptive Analysis

The features of the constructs of both dependent and independent variables are estimated using descriptive statistics, which are the mean, standard deviation, minimum and maximum values as shown in table 1.

	Mean	Std. Dev	Min	Max
ISCG	27.314	12.989	3.243	84.349
ISVA	4.645	11.817	-77.326	127.468
ISO	7.722	17.421	0.01	123.572
CID	16.250	11.519	0	62.202
TOP	3.735	4.953	0	34.829

Table 1: Descriptive Statistics
Source: Researcher's Work (2024)

Where: ISCG represents industrial sector contribution to GDP; ISVA represents industrial sector value added; ISO represent industrial sector output; CID represents custom and import duties; TITT represents taxes on international transactions; TGS represents taxes on goods and services; TIPCG represents taxes on income, profit and capital gains; TEP represents taxes on exports; TAX represents total tax revenue as a percentage of GDP.

4.1.1. Interpretation

The descriptive statistics of the series in the distribution, as presented in table 1, shows that no tax revenue was generated from customs and other import duties, international trade and transactions, and exports in some years within the 21 years examined as these taxes contributed to total revenue showed minimum values of 0% (CID, minimum value = 0; and TEP, minimum value = 0). The 0 per cent contribution to total taxes of CID and TEP perhaps may be due to a tax-free regime on international transactions.

The industrial sector's contribution to GDP with a minimum value of 3%, as shown in the minimum value of ISCG (3.243), that is, the percentage of the contribution of the industrial sector to the Gross Domestic Product, is an indication of extremely poor performance of the sector; even worse than the projection of the World Bank in 2020 which postulated that sub-Saharan Africa's industrial output would have reached $230.05 billion, or 9.5% of GDP by 2022. This was significantly less than the world average of 25.4% of GDP and the OECD average of 21.4% of GDP for 2019 (World Bank, 2022).

The focus of SSA should be on how to improve exportation. Sub-Saharan African countries are blessed with huge natural resources that could steer the production of goods and serve as raw materials for developed environments, such as cocoa, rubber, cashews, wool, shea butter, and even natural minerals. There is a need for economic diversification that will steer up production volume to improve exportation, as taxes generated from the export transactions happened to be the lowest among the tax components examined in this study.

4.2. Test of Multi-collinearity (Correlation Analysis and Variance Inflation Factor)

The study investigated the relationship between the constructs of both the dependent and the independent variables using person correlation coefficients. Also, the non-existence of a multi-collinearity problem among the variables was estimated using the Variance Inflation Factor (VIF). Both results are presented in table 2.

Variables	CID	TEP	ISCG	ISVA	ISO	VIF	
						VIF	1/VIF
CID	1.000						
TOP	0.077	1.000					
ISCG	-0.372	-0.147	1.000			1.03	0.969
ISVA	0.130	0.014	-0.095	1.000		1.03	0.970
ISO	-0.279	-0.049	0.152	-0.067	1.000	1.01	0.989
						Mean = 1.02	

Table 2: Correlation Analysis
Source: Researcher's Work (2024)

Where:
ISCG represents industrial sector contribution to GDP,
ISVA represents industrial sector value-added,
ISO represent industrial sector output,
CID represents custom and import duties,
TITT represents taxes on international transactions,
TGS represents taxes on goods and services,
TIPCG represents taxes on income, profit and capital gains,
TEP represents taxes on exports,
TAX represents total tax revenue as a percentage of GDP

4.2.1. Interpretation

As shown in table 2, the result of the correlation analysis showed that all the series in the distribution are weakly correlated except for custom and other import duties and taxes from international trade and transactions, which have correlation coefficients of 0.736. Custom and import duties are positively correlated with taxes on exports, taxes on goods

and services, taxes from international transactions, and added industrial sector value. In contrast, it has a negative association with taxes from income, profit and capital gains, tax revenue contribution to GDP, industrial sector contribution to GDP, and industrial sector output. This implies that as custom and import duties increase, TEP (0.077), TGS (0.083), TITT (0.736), and ISVA (0.130) increase because there exists a direct relationship between the series, although correlation coefficients do not connote a causal-effect relationship; that is the direct relationship does not imply that CID influences the TEP, TGS, TITT, and ISVA or vice versa.

The result revealed that taxes on export (TEP) and taxes on goods and services (TGS) are negatively correlated with all other constructs except CID, TITT, and ISVA. However, the associations are weak as the coefficients are lower than 0.5. Likewise, TIPCG is negatively associated with all the other series in the distribution except for TITT and ISVA, respectively. TITT has positively but weakly correlated with TEP, TGS, and ISVA. On the contrary, it exhibits a negative association with TIPCG, TAX, and ISCG.

The correlation coefficients revealed the nature of the relationship among the constructs of the variables under study; however, it does not connote a causal-effect relationship, that is, the coefficient values of each of the constructs do not influence nor influence the value of another construct. Aside from the demonstration of the nature of the relationship for which correlation coefficients were used, it is also used to test for multi-collinearity problems among the constructs of the independent variable. According to Baltagi (2021), the degree of association among the explanatory variables remains healthy within a threshold of 0.8.

The result of the correlation analysis among the measures of explanatory variables revealed that the highest coefficient is 0.152, which is lower than the threshold of 0.8, implying that there is no multi-collinearity problem among the three measures of explanatory variables. To confirm the outcome of the correlation analysis, the Variance Inflation Factor test was conducted. According to James et al. (2017), the relationship among the measures of the explanatory variables remains healthy if it is within the threshold of 10. The result of the VIF conducted showed an average value of 1.02, which is less than the threshold of 10. This proves the appropriateness of the result of the correlation analysis, and thus, the study concluded that the multi-collinearity problem does not exist among the measures of the explanatory variable.

	Dynamic Panel-Data Estimation, Two-Step System GMM		
	Model One		
	Coefficient	**Standard error**	**T-Stat (Prob)**
CID_{t-1}	0.912*	0.004	225.36 (0.000)
ISCG	-0.008*	0.004	-2.22 (0.033)
ISVA	-0.008*	0.001	-10.35 (0.000)
ISO	-0.006*	0.001	-6.31 (0.000)
CONSTANT	1.268	0.151	8.38 (0.000)
Diagnostic Tests:			
F-Stat	F(4, 793) = 491595.79 (0.000)		
AR (1) AR (2)	Z = -2.97 (0.003) Z = -0.26 (0.796)		
Test of overid. Restrictions	Sargan: $chi^2(84)$ = 104.11 (0.068) Hansen: $chi^2(84)$ = 34.47 (1.000)		
Homogeneity tests: GMM instruments for levels	Hansen: $chi^2(80)$ = 33.89 (1.000) Difference (null H = exogenous): $chi^2(4)$ = 0.58 (0.966)		
Homogeneity tests: Individual Instruments	Hansen test excluding group: $chi^2(79)$ = 26.36 (1.000) Difference (null H = exogenous): $chi^2(5)$ = 8.10 (0.151)		

Table 3: Results of the Regression Analysis for Equation One
Source: Researcher's Computations (2024) Significance Level @ 10%

Where:
ISCG represents the industrial sector's contribution to GDP,
ISVA represents industrial sector value-added,
ISO represent industrial sector output,
CID represents custom and import duties,
CID_{t-1} represents a year lag of custom and import duties
Interpretation
Model One: $CID_{i,t} = \beta_0 + \beta_1 CID_{i,t-1} + \beta_2 ISCG_{i,t} + \beta_3 ISVA_{i,t} + \beta_4 ISO_{i,t} + \varepsilon_{i,t}$
$CID_{i,t} = 1.268 + 0.912 CID_{i,t-1} - 0.008 ISCG_{i,t} - 0.008 ISVA_{i,t} - 0.006 ISO_{i,t}$

The result of the 2-steps robust SGMM dynamic panel data estimation used in examining the effect of industrial performance on custom and import duties, as presented in table 3, shows that a year lag of CID and the three constructs of industrial performance (ISCG, ISVA, and ISO) have significant effect on CID, this is established by the values of the probability of the T-test at 10% significant level ($CID_{i,t-1}$: $\rho = 0.000$; ISCG: $\rho = 0.033$; ISVA: $\rho = 0.000$; ISO: $\rho = 0.000$).

The magnitude of the effect of the explanatory variables on CID is determined using coefficients of the regression estimate; the result shows that industrial performance negatively influences CID (ISCG: $\beta_2 = -0.008$; ISVA: $\beta_3 = -0.008$; ISO: $\beta_4 = -0.006$). The coefficient values imply that a percentage increase in the contribution of the industrial sector to GDP,

industrial sector value-added, and industrial sector output would lead to 0.8 per cent, 0.8 percent, and 0.6 percent decrease in customs and import duties, respectively. While lagged CID positively affects the current year CID as a percentage increase in a year lag of CID would cause an increase in the current year CID by 91.2 percent.

The results of the diagnostic tests revealed that the model possessed first-order serial correlation but was free from second-order serial correlation judging by the probabilities of the Arellano-Bond tests for AR (1) and AR (2) of (0.003) and (0.795), respectively. The validity of the model was established based on the probability values of Hansen and Sargan tests of (1.000) and (0.966), both greater than the chosen significant level of 0.10, confirming the validity of the model. Therefore, based on the results of Hansen and Sargan's tests, the null hypothesis of the tests, which state that overidentifying restrictions are valid, is hereby not rejected, meaning that all instruments are valid. The result of Hansen and Sargan tests proved that all the instruments in the model are valid and exhaustive for the estimation.

The stationarity state of all the instruments in the model was examined using the Difference-in-Hansen tests of exogeneity of instrument subsets for GMM instruments for levels. The results, with a 1.000 probability value, indicate that the models are dynamically complete and demonstrate the validity of the instruments for the estimation. Also, the probability value of the Difference-in-Hansen tests of exogeneity of instrument subsets for the individual instruments of 0.151 tested the need for additional instruments to be added to the models. However, the probability value showed that without the additional instruments, the model is correctly specified. It implies the exhaustiveness of the instruments in the model; thus, the null hypothesis of the Hansen test excluding a group of instruments is hereby not rejected, which implies that there is no statistical justification for introducing additional instruments into the models.

The probability value of the F-test of 0.000 means that a year lag of customs and import duties, industrial sector contribution to GDP, industrial sector value-added and industrial sector output jointly and significantly influence the current-year customs and import duties. This justifies the rejection of the null hypothesis of Equation One and thus concludes that industrial performance has a significant negative effect on customs and import duties of sub-Saharan African Countries.

5. Discussion of Findings

The findings of this study revealed that industrial performance has a significant but negative effect on customs and import duties. Theoretically, the result supported the propositions of mercantilism theory, which proposed that countries should attain trade surplus rather than deficit; that is, countries' exports should outweigh the imports. It implies that as countries experience global industrialization, they tend towards self-sufficiency and reduce their level of importation. The theory also strengthened the need for a self-governing nation to protect business rights. The theory advocated for the intervention of the government by investing in research and development to maximize the efficiency and capacity of the domestic industry, provide subsidies for export industries to give a competitive advantage in global markets and possibly place restrictions on imports. The advent of industrialization would reduce importation and negatively affect the taxes generated from customs and import duties.

Empirically, there is a paucity of studies on the effect of industrial performance on customs and import duties. However, the findings of this study align with the position of the studies of Abreha et al. (2021), which addressed industrialization in sub-Saharan Africa and asserted that enhancing industrialization prospects for Sub-Saharan Africa would limit the level of importation to low-cost intermediate inputs, light manufacturing and agricultural products to support industrialization and economic transformation. Abreha et al. (2021) believed that industrialization in sub-Saharan African countries would lead the countries to self-sufficiency, thus limiting importation, which in turn would cause a decline in customs and import duties.

The findings also align with the thoughts of Ana et al. (2014), who asserted that industrialization is a substitution for importation, reducing the level of importation. The findings of this study also supported the assertions of Isaacs et al. (2021), Haraguchi et al. (2017), Rodrik (2013), UNIDO (2018), Chang et al. 2016, Hauge (2019) that strengthening the industrial sector hampers the ability to advance domestic linkages, both horizontally and vertically, and value addition. It also limits the ability to reduce reliance on imported manufactured goods, both for consumers and firms. As explained under the gap analysis of this study, very few studies have been conducted in the past on the effect of industrial performance on tax revenue as a whole and in components; however, studies were found on how industrialization reduces the level of importation. Literarily, this will negatively affect customs and import duties as a reduction in importation will reduce the revenue that the government could generate on imports.

In like manner, the result of this study supported the assertions of Diao et al. (2021), Gelb et al. (2020), Ko (2020), Kruse et al. (2022), Rodrik (2018), Ko et al. (2023) which proved that sub-Saharan African countries are net-exporters of agricultural goods which implies that volume of exports exceeds the volume of imports, especially the agricultural goods. On the contrary, these studies (Diao et al. (2021), Gelb et al. (2020), Ko (2020), Kruse et al. (2022), Rodrik (2018), Ko et al. (2023)) believed that sub-Saharan African economies have increasingly become net importers of manufacturing goods. However, this study focused on industrial performance, which entails all sectors of the real sector, including the agricultural goods-producing sector of the economy. Literarily, it is believed that sub-Saharan African countries are predominantly farmers and possess a larger capacity for agricultural production than manufacturing. Therefore, industrialization, as measured in this study, tends to have more agricultural value than manufacturing, and thus, the industrial sector has net exports.

The findings of this study also align with the *apriori* expectation as it is believed that improved performance of the sub-Saharan African countries would enhance industrialization, making countries strategize on being self-sufficient and naturally reducing importations, which would result in low customs and import duties.

	Dynamic Panel-Data Estimation, Two-Step System GMM		
	Model Two		
	Coefficient	**Standard error**	**T-Stat (Prob)**
TEP_{t-1}	0.858*	0.004	214.76 (0.000)
TEP_{t-2}	0.001	0.006	0.14 (0.892)
TEP_{t-3}	0.087*	0.004	27.62 (0.000)
ISCG	0.011*	0.001	13.21 (0.000)
ISVA	0.051*	0.001	54.11 (0.000)
ISO	0.002*	0.003	7.75 (0.000)
CONSTANT	-0.284	0.043	-6.59 (0.000)
Diagnostic Tests:			
F-Stat	F(6, 791) = 830583.82 (0.000)		
AR (1) AR (2)	Z = -3.68 (0.000) Z = 0.53 (0.596)		
Test of overid. Restrictions	Sargan: $chi^2(44)$ = 74.15 (0.003) Hansen: $chi^2(44)$ = 32.06 (0.909)		
Homogeneity tests: GMM instruments for levels	Hansen: $chi^2(38)$ = 29.29 (0.844) Difference (null H = exogenous): $chi^2(6)$ = 2.77 (0.837)		
Homogeneity tests: Individual Instruments	Hansen test excluding group: $chi^2(38)$ = 31.23 (0.774) Difference (null H = exogenous): $chi^2(6)$ = 0.83 (0.991)		

Table 4: Results of the Regression Analysis for Equation Two
Source: Researcher's Computations (2024)
Significance Level @ 10%

Where:
ISCG represents industrial sector contribution to GDP,
ISVA represents industrial sector value-added,
ISO represent industrial sector output,
TEP represents taxes on exports,
TEP_{t-1} represents a-year of taxes on exports,
TEP_{t-2} represents 2-year lag of taxes on exports,
TEP_{t-3} represents 3-year lag of taxes on exports
Interpretation

Model Two: $TEP_{i,t} = \alpha_0 + \alpha_1 TEP_{i,t-1} + \alpha_2 TEP_{i,t-2} + \alpha_3 TEP_{i,t-3} + \alpha_4 ISCG_{i,t} + \alpha_5 ISVA_{i,t} + \alpha_6 ISO_{i,t} + \varepsilon_{i,t}$

$TEP_{i,t} = -0.284 + 0.858 TEP_{i,t-1} + 0.001 TEP_{i,t-2} + 0.087 TEP_{i,t-3} + 0.011 ISCG_{i,t} + 0.051 ISVA_{i,t} + 0.002 ISO_{i,t}$

Table 4 depicts the result of the 2-step robust SGMM dynamic panel data estimation carried out to evaluate the effect of industrial performance on tax revenue from export. According to the coefficients of the regression estimate and the probabilities of the t-test, it is obtained that a-year lag, two-year lag, and three-year lag of TEP as well as all the three constructs of industrial performance (ISCG, ISVA, and ISO) have significant positive effect on TEP except year-two lag of TEP ($TEP_{i,t-1}$: $\alpha = 0.858$, $\rho = 0.000$; $TEP_{i,t-2}$: $\alpha = 0.001$, $\rho = 0.892$; $TEP_{i,t-3}$: $\alpha = 0.087$, $\rho = 0.000$; ISCG: $\alpha = 0.011$, $\rho = 0.000$; ISVA: $\alpha = 0.051$, $\rho = 0.000$; ISO: $\alpha = 0.002$, $\rho = 0.000$).

The values of the regression estimates' coefficient imply that a percentage increase in the contribution of the industrial sector to GDP, industrial sector value-added, and industrial sector output would result in a 1.1 per cent, 5.1 per cent, and 0.2 per cent increase in taxes on exports, respectively. Likewise, a-year and three-year lag TEP positively impact the current year TEP as a percentage increase in a year, and the three-year lag of TEP would lead to an increase in the current year TEP by 85.8 per cent and 8.7 percent, respectively.

The diagnostic tests conducted in estimating the validity, exhaustiveness and robustness of the model were conducted, and the result showed that there is a first-order serial correlation problem in the model; however, there is an absence of second-order serial correlation judging with the probabilities of the Arellano-Bond tests for AR (1) and AR (2) of (0.000) and (0.596) respectively. Hansen test is used to establish the validity of the model, and the probability value of 0.909, which is greater than the chosen significant level of 10 percent, proved that the model is valid and, thus, the null hypothesis of the tests, which state that overidentifying restrictions are valid are hereby not rejected, meaning that all instruments are valid. The result of Hansen and Sargan tests proved that all the instruments in the model are valid and exhaustive for the estimation.

The instruments of the model are tested to establish the stationarity state using the Difference-in-Hansen tests of exogeneity of instrument subsets for GMM instruments for levels. The results with probability values of 0.844 and 0.837, respectively, signify that the models are dynamically complete and demonstrate the validity of the instruments for the estimation. Also, the probability value of the Difference-in-Hansen tests of exogeneity of instrument subsets for the individual instruments of 0.991 tested the need for additional instruments to be added to the models. However, the probability value showed that without the additional instruments, the model is correctly specified. It implies the exhaustiveness of the instruments in the model; thus, the null hypothesis of the Hansen test excluding a group of

instruments is hereby not rejected, which implies that there is no statistical justification for introducing additional instruments into the models.

The probability value of the F-test of 0.000 means that a-year lag, two-year lag, and three-year lag of TEP as well as all the three constructs of industrial performance (industrial sector contribution to GDP, industrial sector value-added and industrial sector output) jointly and significantly influence the current year taxes on export. This validates the rejection of the null hypothesis of Equation Two and thus concludes that industrial performance has a significant effect on taxes on the export of sub-Saharan African Countries.

6. Discussion of Findings

This study obtained that industrial performance positively and significantly influences taxes generated from exports. The findings align with the proposition of mercantilism theory that nations should develop strategies for the growth and protection of domestic industries, thereby increasing their level of productivity and having a trade surplus; the theory expected nations to have more exports than imports and possibly restrict or regulate importation. Although the theory did not specifically state that industrialization would enhance tax revenue from exports, it is believed that the increased export would increase tax generated through export transactions since it is the export that is subjected to tax.

The findings of this study that industrialization drives exports supported the position of the study of Abreha et al. (2021), which addressed industrialization in sub-Saharan Africa and asserted that enhancing industrialization prospects for Sub-Saharan Africa would improve productivity and enhance exportations and economic transformation. Abreha et al. (2021) believed that industrialization in sub-Saharan African countries would lead the countries to self-sufficiency and surplus trade, where exports would exceed imports, especially for low-manufactured goods.

The findings also align with the thoughts of Ana et al. (2014), who asserted that industrialization enables nation to increase its production capabilities and boost its regional and global exports The findings of this study also supported the assertions of Isaacs et al. (2021), Haraguchi et al. (2017); Rodrik (2013); UNIDO (2018); Chang et al. (2016), Hauge (2019), that strengthening the industrial sector hampers the ability to advance domestic linkages, both horizontally and vertically, and value addition, improved productivity and enhances export capabilities. Also, it supported the report of Dinh (2023), who commented that Africa possesses the potential for successful industrialization, and if provided with the optimal strategies involving practical industrial policies designed to selectively encourage and foster the growth of labour-intensive, homegrown industries, it would give room for regional and global exports.

In like manner, the report of this study supported the assertions of Diao et al. (2021), Gelb et al. (2020), Ko (2020), Kruse et al. (2022), Rodrik (2018), Ko et al. (2023) which proved that sub-Saharan African countries are net-exporters of agricultural goods which implies that volume of exports exceeds the volume of imports, especially the agricultural goods. This is envisaged as sub-Saharan African countries endowed with natural resources and are known mainly for agriculture. Therefore, the industrialization measured in this study combined all industries engaged in goods and services production, including agricultural goods; therefore, sub-Saharan African countries have improved export transactions, which in turn positively influence taxes generated through that medium. The findings of this study are in line with the *apriori* expectation as it is expected that industrialization would positively influence taxes generated from export transactions of sub-Saharan African countries.

7. Policy Implications

The outcome of this paper proved that the potential of the industrial sector has not been harnessed in sub-Saharan African countries. This is evidenced in the sector contribution to GDP of about 19 percent on average. The industrial sector is a sector that houses the production and processing of raw materials into finished goods, where the majority of our agricultural produce, like cocoa, rubber, palm tree, shea butter, and wool, among others, is manufactured and processed. The findings of this study proved that there is a missing link between raw materials produced and finished goods in sub–Saharan African countries. The poor performance of the industrial sector, as shown in its contribution to GDP, is also reflected in its effect on tax revenue, as tax generated from the industrial sector is not adequate to drive growth in any economy except if the government would have to source alternative means of funding. This could be one of the reasons for excessive borrowing, both from foreign and local environments, by the governments. The negative impact of the individual measures of industrial performance on customs and import duties is expected as the ability of a country to produce internally would reduce its level of importation, especially of basic products, and this should be encouraged. In summary, the potential of sub-Saharan African countries to generate sufficient tax revenue lies in how the government and all stakeholders could significantly improve the sustenance of indigenous industries and attract foreign investors to establish industries on the land.

8. Conclusion and Recommendations

This paper examined the effect of industrial performance on customs and import duties and taxes from exports; the findings revealed that industrial performance has a significant negative impact on customs and import duties but positively and significantly influences taxes from exports. The outcome of the paper is in tandem with the proposition of the mercantilism theory of international trade, which stipulates that enhanced performance of the nation's indigenous industries enables them to be self-sufficient, reduces importation, and produces for export. Therefore, a reduction in the level of importation caused a decline in customs and import duties, while the increase in exports increases the taxes generated from exports. The outcome of this paper led to the following recommendations:

- The government should create opportunities for expanding the industrial sector. By doing this, African countries will be able to be self-reliant and produce excesses for exportation. This will boost tax revenue generated from

exports, as taxes generated from exports contributed the least to the total tax revenue of sub-Saharan African countries.

- The government should enforce the MTEF agenda of a budget deficit not exceeding 3% of the country's GDP, as this would make the government focus on enhancing tax revenue in all shades. The industrial sector value-added average of 4% is too low for any nation that intends to survive and be sustained. Government intervention is required to create an enabling environment for foreign investors in the industrial sector of the economy to boost performance and, in turn, increase tax revenue generation.
- The government should ensure that there are restrictions on importation to strengthen the indigenous industries that sustain African countries. Exportations should be encouraged; government intervention is required by providing incentives that can encourage exportation, as this will enhance taxes generated from exports.

9. References

i. Abedeji, A., & Lipede, O. (2023). Can information communication technology unlock tax revenue mobilization in Sub-Saharan Africa? *DBN Journal of Economics and Sustainable Growth, 5*(3), 1–27.

ii. Abreha, K. G., Woubet, K., Emmanuel, K. K., Lartey, T. A., Mengistae, S. O., & Albert, G. Z. (2021). *Industrialization in Sub-Saharan Africa: Seizing opportunities in global value chains*. Africa Development Forum. Washington, DC: World Bank. https://doi.org/10.1596/978-1-4648-1673-4

iii. Adedotun, A. J., Mageto, J., & Luke, R. (2023). Effect of shipping trade on economic growth in Nigeria: The Vector Error Correction Model (VECM) approach. *Journal of Shipping and Trade, 8*(15), 1–10. https://doi.org/10.1186/s41072-023-00147-8

iv. Adegbie, F. F., Nwaobia, A. N., & Osinowo, O. (2020). Non-oil tax revenue on economic growth and development in Nigeria. *European Journal of Business and Management Research, 5*(3), 1–10. https://doi.org/10.24018/ejbmr.2020.5.3.325

v. Adegboye, A., & Tagem, M. E. (2023). Tax and sustainable development in Sub-Saharan Africa. *WIDER Working Paper 2023/54*. https://doi.org/10.35188/UNU-WIDER/2023/362-8

vi. Adegboye, A., Adegboye, K., Uwuigbe, U., Ojeka, S., & Fasanu, E. (2023). Taxation, democracy, and inequality in Sub-Saharan Africa: Relevant linkages for sustainable development goals. *Politics & Policy, 51*(1), 1–12. https://doi.org/10.1111/polp.12547

vii. Adeyemi, O. J. (2023). Re-assessing the relationship between tax revenue and economic growth in Nigeria (1980–2020). *World Scientific News, 176*(1), 1–26.

viii. African Development Bank. (2022). *2022 Africa sustainable development report*. Retrieved October 12, 2023, from: https://www.afdb.org/en/documents/2022-africa-sustainable-development-report

ix. Agbo, I. E., Egere, R. A., & Eze, C. (2018). Impact of international trade on the economic growth of Nigeria. *European Journal of Business and Management, 10*(18), 22–30.

x. Ajeigbe, K. B., Ganda, F., & Rawlings, O. E. (2023). Impact of sustainable tax revenue and expenditure on the achievement of sustainable development goals in some selected African countries. *Environment, Development and Sustainability, 1*(2), 1–10. https://doi.org/10.1007/s10668-023-03730-y

xi. Amoah, C., & Jehu-Appiah, J. (2022). Factors driving industrialization in Africa: A panel two-stage least square approach. *Modern Economy, 13*(2), 144–158. https://doi.org/10.4236/me.2022.132010

xii. Anas, I. A., & David, F. (2023). Does tax revenue enhance economic growth in Nigeria? *African Journal of Management and Business Research, 10*(1), 47–57.

xiii. Ayeni, O. A., & Omodeo, C. O. (2022). Tax revenue and economic growth in Nigeria. *Cogent Business & Management, 9*(1), 1–20. https://doi.org/10.1080/23311975.2022.2115282

xiv. Azeng, T. F., & Helgath, B. M. (2023). Terrorism and tax revenues in Sub-Saharan Africa. *Research Square, 1*(1), 1–11. https://doi.org/10.21203/rs.3.rs-3093145/v1

xv. Brown, A. T., Bokpin, A. G., & Sarpong, K. E. (2023). Tax and income inequality: Evidence from Sub-Saharan Africa. *International Journal of Development Issues, 1*(1), 1–21. https://doi.org/10.1108/IJDI-12-2022-0277

xvi. Bunje, Y. M., Abendin, S., & Wang, Y. (2022). The effects of trade openness on economic growth in Africa. *Open Journal of Business and Management, 10*(2), 10–21. https://doi.org/10.4236/ojbm.2022.102035

xvii. Egiyi, M. A. (2022). Taxation as a significant tool for economic development. *International Journal of Economics and Public Policy, 6*(1), 12–22.

xviii. Ekanayake, P. N., Madsen, J. B., & Bharati, T. (2023). Trade and economic growth: Does the sophistication of traded goods matter? *Journal of Economic Growth, 2*(1), 1–10. https://doi.org/10.1007/s10887-023-09224-w

xix. Esra, K., Duran, M. S., & Ucler, T. (2018). High-technology exports and economic growth: Panel data analysis for selected OECD countries. *Forum Scientiae Oeconomia, 6*(2), 48–60. https://doi.org/10.23762/FSO_VOL6NO2_18_4

xx. Fabian, K. T., & Petros, M. (2019). Is capital taxation always harmful to economic growth? *International Tax and Public Finance, 26*(1), 758–805. https://doi.org/10.1007/s10797-019-09530-3

xxi. Fakilu, S. D., & Huang, K. (2020). The study on the impact of Liberia's exports and imports on its economic growth. *Open Journal of Business and Management, 8*(6), 2649–2670. https://doi.org/10.4236/ojbm.2020.86164

xxii. Filby, S., Walbeek, C. V., & Pan, L. (2022). Cigarette excise tax structure and cigarette prices in nine Sub-Saharan African countries: Evidence from the Global Adult Tobacco Survey. *Tobacco Control, 1*(1), 1–7. https://doi.org/10.1136/tobaccocontrol-2022-057414

xxiii. Gambo, E. M., Bello, A., Mohammed, J., & Pate, H. (2018). Impact of capital gains tax awareness on revenue generation in north-eastern Nigeria. *International Journal of Financial Management, 7*(3), 21–32.

xxiv. Gechert, S., & Philipp, G. (2022). Do corporate tax cuts boost economic growth? *European Economic Review, 147*(1), 2–11. https://doi.org/10.1016/j.euroecorev.2022.104157

xxv. Hannah, E., O'Hare, B., Lopez, M., Murray, S., Etter-Phoya, R., Hall, S., & Masiya, M. (2023). How can corporate taxes contribute to Sub-Saharan Africa's sustainable development goals (SDGs)? A case study of Vodafone. *Global Health, 19*(17), 17–21. https://doi.org/10.1186/s12992-022-00894-6

xxvi. Hope, A., & Ajibola, O. (2023). Manufacturing sector development in Sub-Saharan Africa: Does monetary policy matter? *International Journal of Management, Economics and Social Sciences, 12*(2), 133–161. https://doi.org/10.32327/IJMESS/12.2.2023.6

xxvii. Ikechukwu, O. I., & Cyril, M. U. (2016). Effect of Value Added Tax, Customs and Excise Duties on Nigeria's economic growth. *International Journal of Managerial Studies and Research, 4*(10), 53–62. https://doi.org/10.20431/2349-0349.0410005

xxviii. Imhotep, P. A., Ibrahim, M., & Sae, Y. (2020). Structural transformation in the presence of trade and financial integration in Sub-Saharan Africa. *Central Bank Review, 20*(1), 21–314. https://doi.org/10.1016/j.cbrev.2020.02.001

xxix. International Monetary Fund (IMF). (2019). *IMF annual report*. Retrieved October 12, 2023, from: https://www.imf.org/external/pubs/ft/ar/2019/eng/

xxx. International Monetary Fund. (2022). *World Economic Outlook*. Retrieved October 12, 2023, from: https://www.imf.org/en/Publications/WEO

xxxi. International Monetary Fund. (2023). *COVID-19*. Retrieved October 22, 2023, from: https://www.imf.org/en/Topics/imf-and-covid19

xxxii. Ioannis, B., & Malick, S. (2018). Do corporate taxes harm economic performance? Explaining distortions in R&D- and export-intensive UK firms. *Macroeconomic Dynamics, 25*(1), 5–27. https://doi.org/10.1017/S136510051800055X

xxxiii. Itumo, S. O., Ogbonna, C., & Atuma, E. (2022). Trade policies and industrial sector performance in Nigeria 1970–2019. *Economic & Business Review, 3*(3), 120–131.

xxxiv. Kalu, N. (2019). *Capital allowance and companies' income tax act in Nigeria*. Retrieved October 12, 2023, from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3434959

xxxv. Maganya, M. H. (2020). Tax revenue and economic growth in developing countries: An autoregressive distributed lags approach. *Central European Economic Journal, 7*(54), 205–217. https://doi.org/10.2478/ceej-2020-0018

xxxvi. Mbalati, K. (2023). *Implementing wealth tax and wealth redistribution in Sub-Saharan Africa*. South Centre.

xxxvii. Nikita, S., Goyal, S., & Nagar, S. (2022). Do goods and services tax influence the economic development? An empirical analysis for India. *Vision: The Journal of Business Perspective, 1*(1), 1–11. https://doi.org/10.1177/09722629221117196

xxxviii. Nkalu, C. N., & Agu, C. C. (2023). Fiscal policy and economic stabilization dynamics in Sub-Saharan Africa: A new evidence from Panel VEC Model and Hodrick-Prescott filter cyclical decomposition. *Journal of International Economic Relations and Development Economics, 2*(2), 1–10. https://doi.org/10.1177/21582440231178261

xxxix. Nnyanzi, J. B., Kavuwa, S., Sseruyange, J., & Nanyiti, A. (2022). The manufacturing output effects of infrastructure development, liberalization and governance: Evidence from Sub-Saharan Africa. *Journal of Industrial and Business Economics, 49*(1), 369–400. https://doi.org/10.1007/s40812-022-00216-2

xl. OECD. (2020). *Tax*. https://doi.org/10.1787/76e12892-en

xli. OECD. (2023). *Revenue statistics in Africa*. Retrieved October 12, 2023.

xlii. Ogu, C., & Ojimadu, P. K. (2020). Impact of taxation on industrial performance in Nigeria. *Global Journal of Applied, Management and Social Sciences, 18*(1), 173–185.

xliii. Okechukwu, M. N., Okoye, I. M., Nkechi, I. O., & Chika, J. E. (2023). The impact of tariffs on the Nigerian economy (2000-2020). *South Asian Journal of Social Studies and Economics, 20*(3), 180–194. https://doi.org/10.9734/sajsse/2023/v20i3722

xliv. Olaoye, C. O., Yunus, A. B., & Opefolu, F. C. (2023). Tax revenue and economic development: Empirical evidence from Nigeria. *Fuoye Journal of Accounting and Management, 6*(1), 51–63.

xlv. Opkuu, E. E., & Yan, I. S. (2019). Industrialization as a driver of sustainable economic growth in Africa. *The Journal of International Trade & Economic Development, 28*(1), 30–56. https://doi.org/10.1080/09638199.2018.1483416

xlvi. Osamor, I. P., Godwin, O., Zainab, F. A., & Mawuyon, J. (2023). Tax revenue and economic growth: Empirical evidence from Nigeria. *Journal of Economics and Behavioral Studies, 15*(1), 15–26.

xlvii. Pam, Z. (2016). Trade and economic growth in developing countries: Evidence from Sub-Saharan Africa. *Journal of African Trade, 3*(1-2), 41–56. https://doi.org/10.1016/j.joat.2017.02.001

xlviii. Panta, H., Mita, L. D., & Banjade, D. (2022). Exports and imports-led growth: Evidence from a small developing economy. *Journal of Risk and Financial Management, 15*(1), 1–10. https://doi.org/10.3390/jrfm15010011

xlix. Rasha, I., Najem, F., & Nahi, S. (2023). Exports- and imports-led growth: Evidence from a time series analysis, case of Jordan. *Economies, 11*(5), 135–151. https://doi.org/10.3390/economies11050135

l. Sia, W., Usman, M., Lian, Q., & Asia, R. (2023). Management equity incentives and corporate tax avoidance: Moderating role of the internal control. *Organizational Psychology, 14*(1), 1–21.

li. Siyanbola, T. T., Adedeji, B. S., Adegbie, F. F., & Rahman, M. M. (2017). Tax incentives and industrial/economic growth of Sub-Saharan African states. *Journal of Advanced Research in Business and Management Studies, 7*(2), 78–90.

lii. Tijani, H. A., Oksana, S., & Lali, C. (2023). The role of special economic zones (SEZs) in achieving sustainable development in Nigeria. *E3S Web of Conferences, 407*(1), 1–9. https://doi.org/10.1051/e3sconf/202340213009

liii. Tsaurai, K. (2021). Tax revenue and economic growth in emerging markets: Is financial development relevant? *Journal of Accounting and Management, 11*(1), 1–10.
liv. UNESCO. (2023). *Least developed countries striving to embrace fourth industrial revolution*. Retrieved October 2, 2023, from: https://www.unesco.org/en/articles/least-developed-countries-striving-embrace-fourth-industrial-revolution
lv. United Nations. (2023). *Launch of the 2023 Report "The impact of disasters on agriculture and food security."* Retrieved September 12, 2023, from: https://www.fao.org/statistics/events/detail-events/en/c/1652517/
lvi. World Bank. (2019). *World Development Report 2019*. Retrieved October 12, 2023, from: https://www.worldbank.org/en/publication/wdr2019
lvii. World Bank Group. (2022). *Databank*. Retrieved October 1, 2023, from: https://databank.worldbank.org/metadataglossary/world-development-indicators/series/GC.TAX.INTT.RV.ZS
lviii. World Bank Group. (2023). *Mobilizing tax resources to boost growth and prosperity in Sub-Saharan Africa*. Retrieved October 2, 2023, from: https://www.worldbank.org/en/results/2019/09/09/mobilizing-tax-resources-to-boost-growth-and-prosperity-in-sub-Saharan-africa
lix. World Development Indicators. (2022). *Databank*. Retrieved October 12, 2023, from: https://databank.worldbank.org/source/world-development-indicators
lx. World Development Indicators. (2023). *Sub-Saharan Africa countries*. Retrieved October 12, 2023, from: https://databank.worldbank.org/Sub-Saharan-Africa-Countries-/id/3cf46253
lxi. Yeboah, E., Haggai, C. C., Atiso, F., & Walter, A. (2023). The effect of international trade on economic growth: Evidence from Ghana. *Global Journal of Business, Economics, and Management: Current Issues, 13*(1), 91–105. https://doi.org/10.18844/gjbem.v13i1.8705
lxii. Zapata, A. N., Maria, A., & Jose, D. H. (2023). Determinants of high-tech exports: New evidence from OECD countries. *Journal of Knowledge Economy, 8*(1), 1–15. https://doi.org/10.1007/s13132-023-01116-z