

The Effects of Informal Taxation on Agricultural Traders' Income: Evidence from Benue State, Nigeria

¹Terseer Anthony Makar, ²Mustapha Yusuf Kabara PhD, ³Shehu El-Rasheed PhD

¹Benue State Internal Revenue Service, Makurdi

^{2&3}Department of Economics and Development Studies, Federal University of Kashere, Gombe State.

Abstract

This study examines the effects of informal taxation on the income of agricultural traders in Benue State, Nigeria, using the Structural Equation Model (SEM) as the analytical framework. Informal taxation is conceptualized to include unauthorized levies, illegal checkpoint fees, harassment-related bribes, and other illicit exactions imposed on traders outside the formal tax system. The findings reveal that informal taxation has a positive and statistically significant effect on the cost of trading agricultural products at the 5% level of significance. Furthermore, the results indicate that informal taxation exerts a negative and statistically significant effect on traders' income at the 5% significance level. The study concludes that informal taxation increases transaction costs associated with agricultural trade, thereby reducing the income of agricultural traders. To address these challenges, the study recommends that the Benue State Government strengthen enforcement against unauthorized tax collections through the prosecution of individuals and groups involved in illegal revenue collection, while enhancing public awareness of approved tax and fee structures. The study also advocates the adoption of automated and digital tax payment systems to eliminate cash-based transactions, alongside the harmonization of taxes and levies to improve transparency, reduce informal taxation, and enhance the efficiency of agricultural markets.

Keywords: *Corrupt tax practices, trading cost, trader's income*

1. Introduction

Informal taxation has emerged as a significant challenge to economic development, particularly in developing countries where weak regulatory and institutional frameworks create opportunities for unauthorized revenue collection. Although taxation is an essential instrument for financing public goods and services, informal taxation comprising unauthorized levies, illegal checkpoint fees, harassment-related bribes, and other illicit exactions imposed outside the formal tax system, distorts market dynamics by increasing the cost of goods and services and discouraging participation in both formal and informal markets (Aina, 2005). The burden of these informal payments falls disproportionately on traders, who constitute the backbone of local economies and play a critical role in facilitating the movement of agricultural commodities and sustaining livelihoods.

The prevalence of informal taxation extends across transport corridors, marketplaces, and small and medium-sized enterprises in many parts of the world. In several developing countries, non-state actors and unauthorized groups impose informal levies on traders and transport operators, often appropriating a substantial share of their daily earnings (Chaffa & Adom, 2025). Similarly, in countries such as Afghanistan and Pakistan, non-state actors have

established parallel fiscal systems by imposing taxes on activities including opium production, transportation, and local businesses (Khan et al., 2005). Across many African countries, particularly those with fragile institutions and weak oversight mechanisms, informal taxation and related forms of fiscal corruption undermine government revenue mobilization while reducing taxpayers' incomes and weakening confidence in public institutions (Aina, 2025).

Nigeria is not exempt from this challenge. Informal taxation imposed on individuals and businesses has become a major economic concern, with unauthorized levies affecting virtually every sector of the economy, including agriculture, trade, and transportation (Ibadin & Adikenor, 2020). These payments, which lack legal authorization, often result in multiple and overlapping charges imposed by various actors, thereby increasing the cost of doing business. Traders and entrepreneurs in several Nigerian states, including Delta, Rivers, and Lagos, are frequently confronted with duplicative and unauthorized tax demands that erode business profitability and discourage commercial activities.

Benue State, popularly referred to as the "Food Basket of the Nation," exemplifies the economic consequences of informal taxation. As a predominantly agrarian economy that supports millions of livelihoods and contributes substantially to Nigeria's food security, the state relies heavily on efficient agricultural marketing systems. However, informal taxation remains pervasive along major trade routes and within marketplaces, posing a serious threat to agricultural commercialization and the state's economic sustainability. These unauthorized payments manifest in various forms, including inflated government receipts, underreported official receipts, illegal tolls at unauthorized checkpoints, arbitrary community levies, and unofficial payments allegedly demanded by security personnel. Consequently, agricultural traders, many of whom operate on narrow profit margins, bear a disproportionate share of these additional financial burdens compared with other economic actors.

The cumulative effect of informal taxation is a reduction in traders' profitability, operational efficiency, and capacity to expand their businesses or compete effectively in broader markets. At the same time, governments experience declining legitimate revenue collections and diminished public trust as informal fiscal practices undermine the credibility of official tax systems. These dynamics create a vicious cycle in which higher transaction costs reduce traders' incomes, discourage market participation, and weaken overall economic performance. Against this backdrop, this study examines the effects of informal taxation on the income of agricultural traders in Benue State, Nigeria, with the objective of empirically determining whether informal taxation increases trading costs and adversely affects traders' income.

2. Literature Review

2.1 Conceptual Clarification

Informal Taxation

Taxation is a fundamental instrument through which governments mobilize revenue to finance public goods and promote economic development. However, in many developing economies, formal taxation often coexists with informal taxation, which consists of unauthorized payments imposed outside the legally established tax system. Unlike statutory taxes established through legislation, informal taxation includes unofficial levies, illegal

checkpoint fees, harassment-related bribes, unauthorized market charges, and other illicit exactions demanded by state and non-state actors.

The persistence of informal taxation is closely associated with weak institutions, poor governance, inadequate regulatory oversight, and corruption within revenue administration (Spyromitros & Panagiotidis, 2022). Under such conditions, individuals entrusted with public authority frequently abuse their positions for private gain, undermining the effectiveness, transparency, and fairness of tax administration (Grundler & Potrafke, 2019). Consequently, taxpayers are often compelled to make unofficial payments in addition to statutory taxes, thereby increasing the overall cost of conducting business.

Informal taxation has been conceptualized from different perspectives in the literature. From an institutional perspective, it refers to compulsory or quasi-compulsory payments collected outside legally recognized tax systems due to institutional failures and weak enforcement mechanisms. From a governance perspective, it reflects the inability of public institutions to regulate tax administration effectively, thereby creating opportunities for illegal revenue collection and abuse of discretionary powers. Economically, informal taxation represents hidden transaction costs that distort market efficiency, discourage investment, reduce business competitiveness, and constrain economic growth (Markevych & Marinkov, 2024).

Several studies associate informal taxation with political and administrative corruption within tax systems. Seidu et al. (2024) argue that weak accountability mechanisms reduce voluntary tax compliance because taxpayers perceive the tax system as unfair and poorly managed. Similarly, Boateng and Asante (2022) contend that vested interests may manipulate tax assessments, audits, and enforcement procedures for private or political benefits. Such practices undermine the legitimacy of public institutions while encouraging unofficial payments that increase the financial burden on businesses.

According to Adebayo and Oboh (2023), informal taxation often manifests through illegal payments or bribes made to tax officials or unauthorized agents to reduce tax liabilities, avoid penalties, or facilitate business operations. Essiet (2024) further explains that failures in ethical standards within tax administration—including favoritism, abuse of discretion, selective enforcement, and deliberate non-compliance with tax regulations—create conditions under which informal taxation flourishes.

Dorji and Phuntsho (2024) describe informal taxation as an attempt by individuals or groups to secure illegitimate private benefits by manipulating tax administration processes for personal enrichment. Similarly, Boly et al. (2021) view informal taxation as the misuse of public office for private gain during revenue administration, where officials exploit their positions to demand unauthorized payments from taxpayers.

The emergence and persistence of informal taxation are influenced by several interrelated factors. At the individual level, greed, poverty, excessive materialism, and weak ethical standards encourage participation in unofficial revenue collection (Andohol, 2020; Agale-Kolgo, 2018). Institutionally, inadequate monitoring systems, weak judicial processes, ineffective anti-corruption agencies, and poor enforcement mechanisms create opportunities for illegal tax collections (Salma et al., 2023). Politically, limited accountability, entrenched elites, and weak governance structures perpetuate informal taxation (Huynh & Tran, 2020). Economic conditions such as excessive regulation, monopolistic market structures, unemployment, and macroeconomic instability also contribute to its prevalence (Jacqueline et al., 2021; World Bank, 2023; Alshubiri et al., 2023). Social and cultural factors—including

ethnic divisions, weak civic engagement, and lack of transparency further reinforce these practices (Ganyam et al., 2019; Neog & Gaur, 2020). For the purpose of this study, informal taxation is defined as all unauthorized levies, illegal checkpoint fees, harassment-related bribes, unofficial market charges, and other illicit exactions imposed on agricultural traders outside the formal tax system. These payments arise from institutional weaknesses and inadequate accountability mechanisms and increase transaction costs while reducing traders' income.

Trading in Agricultural Products

Trading refers to the voluntary exchange of goods and services between individuals, businesses, or nations with the objective of satisfying mutual needs and improving economic welfare (World Trade Organization, 2024; Adenigbo et al., 2023). It constitutes an essential component of economic activity by facilitating specialization, market integration, and efficient resource allocation.

John-Nsa et al. (2023) define trading as the process of buying and selling goods and services through market interactions that satisfy consumer demand while generating profits for sellers. Traders rely on market information, prices, and economic conditions to make informed business decisions. In agricultural markets, trading involves purchasing agricultural commodities from producers and distributing them to wholesalers, retailers, processors, or final consumers.

Agricultural trading encompasses the buying, transportation, storage, processing, and marketing of farm products, including grains, fruits, vegetables, livestock, dairy products, and other agricultural commodities (Verma, 2024). Hegde and Ganesha (2024) emphasize that agricultural trading extends beyond simple exchange by incorporating logistics management, storage, risk management, and value chain coordination.

Domestic agricultural trade contributes significantly to employment creation, food security, rural development, income generation, and national economic growth (Kashyap, 2019). Efficient agricultural markets improve price stability, reduce post-harvest losses, stimulate production, and strengthen market integration. However, excessive transaction costs including those arising from informal taxation reduce market efficiency and limit traders' profitability.

This study defines trading in agricultural products as the buying and selling of farm produce for the purpose of income generation and profit maximization through legally recognized market channels. Efficient agricultural trading promotes economic growth, enhances market efficiency, and improves the livelihoods of agricultural traders.

2.2 Theoretical Framework

The study is anchored on the Principal-Agent Theory, developed by Stephen Ross and Barry Mitnick in 1973 (Mitnick, 2013). The theory explains situations where one party (the principal) delegates authority or responsibilities to another party (the agent) to act on its behalf. It assumes that while principals expect agents to act in their best interest, differences in objectives often lead to conflicts of interest. These conflicts are largely attributed to information asymmetry, where agents possess more information about their actions than principals, making it difficult for the latter to effectively monitor or control their behaviour (Persson et al., 2013). As a result, agents may engage in self-serving actions that undermine the interests of the principal, giving rise to moral hazard and inefficiencies.

The Principal-Agent Theory is particularly relevant to tax administration, where the government and the public serve as the principals, while tax officials, revenue collectors, and other public officers responsible for tax collection function as the agents. Ideally, these agents are expected to collect only legally prescribed taxes and remit them appropriately. However, in environments characterized by weak institutional oversight and limited accountability, agents may exploit their discretionary powers to impose unauthorized levies, illegal checkpoint charges, unofficial market fees, or extort payments from agricultural traders for personal gain. Such practices reflect agency problems arising from information asymmetry and inadequate monitoring.

The theory provides a suitable framework for explaining the prevalence of informal taxation and its implications for agricultural traders' income in Benue State. Informal taxes increase transaction costs, reduce traders' profit margins, discourage market participation, and weaken the efficiency of agricultural marketing systems. Consequently, rather than promoting public welfare, the actions of revenue agents pursuing private interests impose additional financial burdens on traders and reduce their incomes.

Therefore, the Principal-Agent Theory offers an appropriate theoretical basis for this study by explaining how institutional weaknesses, information asymmetry, and opportunistic behaviour among tax officials contribute to informal taxation and adversely affect the income of agricultural traders. It provides the theoretical justification for examining the relationship between informal taxation and agricultural traders' income in Benue State, Nigeria.

2.3 Empirical Review

Sanchez-Vidal et al. (2024) examined the effects of corruption on entrepreneurship across Africa, Asia, Latin America, Europe, and North America using data covering the period 2012–2019. Employing the Generalized Least Squares (GLS) estimation technique, the study found that higher perceived corruption significantly reduced entrepreneurial activities across all sampled countries, thereby supporting the "sand in the wheels" hypothesis. Similar findings were reported by Mikaelsson and Sall (2020), who concluded that corruption adversely affects economic performance. However, neither study examined how informal taxation influences agricultural trading or the income of agricultural traders.

Using the Mann-Whitney test, Shahzad (2024) investigated the effect of corruption on good governance in Pakistan based on face-to-face survey data collected from 400 respondents. The findings revealed that corruption reduces the efficiency of resource utilization, lowers profitability, and ultimately diminishes citizens' welfare. The study identified corruption as a major impediment to effective governance and economic development. Nevertheless, the analysis did not consider the effects of informal taxation or unauthorized levies on traders' income in Nigeria or Benue State.

Susilowati et al. (2024) examined the causal relationship between corruption and economic growth in 43 Asian countries between 2012 and 2022 using the Two-Stage Least Squares (2SLS) estimation technique. The study also investigated the influence of human development, governance quality, investment, labour force, and technology utilization on economic growth. The findings revealed that corruption adversely affects long-term economic performance, although some short-term positive effects were observed in selected countries, consistent with the findings of Ighodaro and Igbinedion (2020). However, the study did not examine whether informal taxation affects agricultural trading or traders' income.

Medioli et al. (2024) investigated whether lower levels of corruption reduce opportunistic business transactions among European-listed family firms in Italy, France, and Germany. Using regression analysis, the study found that higher corruption levels significantly reduced business transactions, a finding that corroborates the earlier work of Adefeso (2020). While these findings demonstrate the adverse effects of corruption on business activities, they provide little evidence regarding the influence of informal taxation on agricultural traders in Nigeria.

Lucarelli et al. (2024) employed the Autoregressive Distributed Lag (ARDL) model to investigate the short-run and long-run effects of corruption on economic growth in Bulgaria, Croatia, Greece, North Macedonia, Romania, Serbia, Slovenia, and Turkey using data spanning 2003–2018. Their results indicated that corruption may generate temporary economic gains in the short run but ultimately imposes substantial political, economic, and social costs that undermine long-term growth. Similar evidence was reported by Kyarem et al. (2020). Nevertheless, the study relied exclusively on secondary macroeconomic data and did not investigate the effects of informal taxation on agricultural traders at the sub-national level.

Srihadiastuti and Ekananda (2024) analysed the effects of political corruption and public debt on economic growth across 43 democratic developing countries between 2002 and 2021 using a panel ARDL model. Their findings revealed that although corruption may generate short-term economic benefits, it significantly hampers long-term development, particularly in countries experiencing frequent election cycles. These findings are consistent with those of Ngouhouo et al. (2023). However, the study did not examine how informal taxation affects agricultural marketing or traders' income.

Omodero (2019) investigated the effect of corruption on Nigeria's economic growth using World Bank and Transparency International data covering 2008–2018. Applying the ARDL estimation technique, the study found that corruption significantly reduced Nigeria's economic growth during the study period. Although the study provides important evidence regarding the macroeconomic consequences of corruption, it did not specifically examine informal taxation or its implications for agricultural traders' income.

Obamuyi and Olayiwola (2019) employed the Ordinary Least Squares (OLS) technique with White heteroscedasticity-adjusted standard errors to examine the relationship between corruption and economic growth in Nigeria and India from 1980 to 2015. The findings indicated that corruption consistently hindered economic growth in Nigeria, whereas its effect in India depended on the inclusion of human capital, political instability, and capital formation variables. The study further demonstrated that corruption affects economic growth through investment and human capital accumulation. However, it did not investigate whether informal taxation influences internal revenue generation or traders' income at the state level.

Baklouti and Boujelbene (2019) examined the influence of corruption within public administration on economic growth and informal economic activities across 34 OECD countries between 1995 and 2014. Using fixed-effects estimation and the System Generalized Method of Moments (GMM), they found that both corruption and informal economic activities significantly reduced economic growth. Furthermore, informal economic activities intensified the negative consequences of corruption. Nevertheless, the study did not evaluate the effects of informal taxation on agricultural trading or traders' income.

Similarly, Tan and Tusha (2023), Mueller and Riker (2023), Makar et al. (2023), and Haddoud et al. (2023) examined the effects of corruption on trading activities, firm performance, and economic growth. Their findings consistently demonstrated that corruption

undermines market efficiency, discourages investment, and reduces business performance. However, these studies paid limited attention to the effects of informal taxation on agricultural traders' income. Likewise, Yilanci and Şaşmaz (2023) and Churchill and Gata (2023) investigated the relationship between corruption and tax revenue using panel regression techniques but did not examine how unauthorized levies and informal taxation affect the income of agricultural traders.

2.4 Empirical Gap

Although existing empirical studies provide substantial evidence that corruption adversely affects economic growth, governance, entrepreneurship, investment, and business performance, limited attention has been given to the specific effects of informal taxation on agricultural traders' income, particularly in sub-national contexts such as Benue State, Nigeria. Moreover, most previous studies rely on macroeconomic indicators and secondary data, with relatively few employing primary data to investigate how unauthorized levies, illegal checkpoint fees, unofficial market charges, and harassment-related payments increase trading costs and reduce traders' income. This study addresses this gap by employing Structural Equation Modelling (SEM) to examine both the direct effects of informal taxation on agricultural traders' income and its indirect effects through increased trading costs in Benue State, Nigeria.

3. Methodology

3.1 Research Design and Instrumentation

This study adopts a survey research design. The choice of this design is informed by its suitability for collecting firsthand information from respondents through field surveys. Survey research provides a systematic approach for gathering data from a relatively large population within a short period and is appropriate for investigating respondents' experiences, perceptions, and attitudes regarding informal taxation and its effects on agricultural trading activities. The study employs a structured questionnaire as the primary instrument for data collection. The questionnaire is designed to capture the multidimensional effects of informal taxation on agricultural traders, particularly its influence on trading costs and traders' income in Benue State. Data collection involves the administration of 384 questionnaires to selected respondents across the study area. The questionnaires are distributed in selected agricultural markets and relevant administrative locations identified during the sampling process. To ensure effective communication and improve the quality of responses, trained local enumerators who are proficient in the indigenous languages of the respondents are engaged, particularly when interviewing respondents with limited formal education.

3.2 Study Area

The study was conducted in Benue State, located in North-Central Nigeria. According to the National Bureau of Statistics (2022), the state has an estimated population of 6,687,706 people. Benue State was created in 1976 from the former Benue-Plateau State, with Makurdi serving as its capital city. Administratively, the state comprises 23 Local Government Areas (LGAs) and shares boundaries with Nasarawa State to the north, Taraba State to the east, Kogi State to the west, Enugu State to the southwest, and Ebonyi and Cross River States to the south. Benue State is predominantly inhabited by the Tiv, Idoma, and Iggede ethnic groups, alongside minority groups such as the Etulo, Igbo, and Jukun (Ugbem, 2014). Widely recognized as the

"Food Basket of the Nation," the state is characterized by extensive agricultural production, including yams, cassava, rice, soybeans, sesame, guinea corn, sweet potatoes, oranges, mangoes, and groundnuts. Livestock farming also contributes substantially to the state's agricultural economy. The study focuses on three major agricultural markets within the state: Ugbokolo Market (Zone C), Wannune Market (Zone B) and Gbor Market (Zone A). Gbor Market was selected to replace Zaki-Biam Market because of security concerns and unfavorable research conditions in the latter. These markets were purposively selected because they are major agricultural trading centres with substantial trading activities and relatively stable security conditions, making them appropriate for examining the effects of informal taxation on agricultural traders (Field Survey, 2025).

3.3 Population of the Study

The target population comprises agricultural traders, transporters, and farmers operating within agricultural markets and transport corridors in the selected Local Government Areas. These respondents were selected because they directly participate in agricultural marketing activities and are therefore more likely to experience various forms of informal taxation during the movement and sale of agricultural products. The study also includes community leaders and members of local government revenue committees, who provide complementary information regarding tax administration, revenue collection practices, and institutional enforcement mechanisms.

1.4 Sampling Technique and Sample Size

A purposive sampling technique was adopted to select respondents who possessed adequate knowledge and practical experience in agricultural trading and taxation. The technique ensured that only respondents who had directly interacted with both formal and informal taxation systems were included in the study. The sample size for agricultural traders was determined using Cochran's (1963) formula for an unknown population because the exact number of agricultural traders operating within the selected markets could not be accurately determined. Cochran's formula provided a statistically reliable sample size capable of generating representative results at a specified confidence level and margin of error.

A survey research design was employed because it facilitated fieldwork and sample surveys aimed at obtaining firsthand information from respondents. The design provided a systematic approach for collecting data from a relatively large population within a short period. It was considered appropriate for the study because it enabled the collection of data on respondents' experiences, perceptions, and attitudes regarding informal taxation and its effects on agricultural trading activities. A structured questionnaire was used as the primary instrument for data collection to comprehensively capture the multidimensional effects of informal taxation on agricultural traders in Benue State.

Data collection for this study will involve the distribution of 384 questionnaires across the two respondents. These questionnaires will be distributed in the selected markets and administrative offices identified during the sampling process. Local enumerators, fluent in the native languages of the respondents, will be engaged to ensure effective communication and accurate data collection, particularly for respondents with limited or no formal education. The Cochran (1963) formula is expressed as:

$$n = \frac{Z^2 * P * (1 - P)}{e^2}$$

n = Sample size,

Z = Z-value at 95% confidence level (1.96),

p = estimated proportion of the population (assumed at 0.5 for maximum variability),

e = margin of error (0.05)

Substituting the values:

$$n = \frac{(1.96)^2 * 0.5 * (1 - 0.5)}{(0.05)^2} = 384.16$$

Therefore, the sample size for traders in this study is approximately 384 respondents, given that there is no half individual.

3.5 Reliability Test

A pilot survey involving 40 respondents was conducted to determine the reliability of the research instrument. Reliability was assessed using Cronbach's Alpha coefficient. The results produced an overall Cronbach's Alpha coefficient of 0.82, which exceeds the minimum acceptable threshold of 0.70, indicating satisfactory internal consistency. Similarly, the respective sections of the questionnaire recorded Cronbach's Alpha values of 0.82 and 0.76, confirming that the instrument possesses acceptable reliability for empirical analysis. These findings satisfy the reliability criteria recommended by Creswell (1994) and Jairus (2018).

3.6 Method of Data Collection

Primary data were collected through the administration of structured questionnaires to the selected respondents. The questionnaires were distributed personally within the selected agricultural markets and relevant administrative offices. To improve response accuracy and reduce language barriers, trained local research assistants fluent in the indigenous languages were employed during data collection. This approach facilitated effective communication with respondents who possessed limited literacy or formal education.

3.7 Method of Data Analysis

The study employs Structural Equation Modelling (SEM) to examine the effects of informal taxation on the income of agricultural traders in Benue State. SEM is a multivariate analytical technique that combines factor analysis and multiple regression to estimate complex relationships among observed and latent variables simultaneously (Byrne, 2016).

The technique is particularly appropriate because it estimates both direct and indirect effects, allowing the study to assess the influence of informal taxation on traders' income through its effect on trading costs.

3.8 Structural Equation Model Specification

To examine the effects of informal taxation on agricultural traders' income, the study specifies the following structural equations.

$$TC_i = \alpha_0 + \alpha_1 IC_i + \varepsilon_t \quad (1)$$

$$TY_i = \gamma_0 + \gamma_1 IC_i + \gamma_2 TC_i + \nu_t \quad (2)$$

TC_i : Cost of trading agricultural products.

TY_i : Traders' income (dependent variable).

IC_i : Frequency and severity of illegal collections faced by traders.

ε_t and ν_t : Structural disturbance error terms for respective equations.

The model estimates the direct effect of informal taxation on trading costs as well as its direct and indirect effects on traders' income.

3.9. Measurement of Latent Variables

Three latent constructs are specified in the SEM model:

Informal Taxation (IT): Informal Taxation (IC) proxied by illegal collections represents the frequency, magnitude, transparency, and financial burden associated with unauthorized payments imposed on agricultural traders. The construct is measured using eleven observed indicators (IT1–IT11), including: frequency of unauthorized checkpoint fees; average unofficial payments at checkpoints; influence of unauthorized market charges on business location decisions; frequency of harassment experienced by traders; costs incurred in resolving harassment; issuance of receipts for unofficial payments; transparency of charges; prevalence of unauthorized market entry fees; average amount paid as unofficial market charges; types of harassment encountered; and perceived financial burden resulting from informal taxation.

Cost of Trading (TC): Cost of Trading (TC) measures the operational expenses incurred by agricultural traders due to informal taxation. The construct comprises seven observed indicators (TC1–TC7) covering: transportation cost per trip; proportion of trading costs attributable to informal taxation; additional spoilage and delay costs; monthly trading expenses; transportation expenditure; changes in trading costs due to informal taxation; and time lost as a result of unofficial checkpoints and delays.

Agricultural Traders' Income (TY): Agricultural Traders' Income (TY) represents the financial outcomes of agricultural trading activities and is measured using five observed indicators (TY1–TY5), namely: monthly income from agricultural trading; perceived effect of informal taxation on income; proportion of income lost to unauthorized payments; effect of increased trading costs on savings and business reinvestment; and overall profitability of agricultural trading under prevailing informal taxation conditions. The measurement model is first evaluated through Confirmatory Factor Analysis (CFA) to establish construct reliability and validity before estimating the structural relationships using Structural Equation Modelling.

The confirmatory factor analysis (CFA) is presented in Figure 3.1.

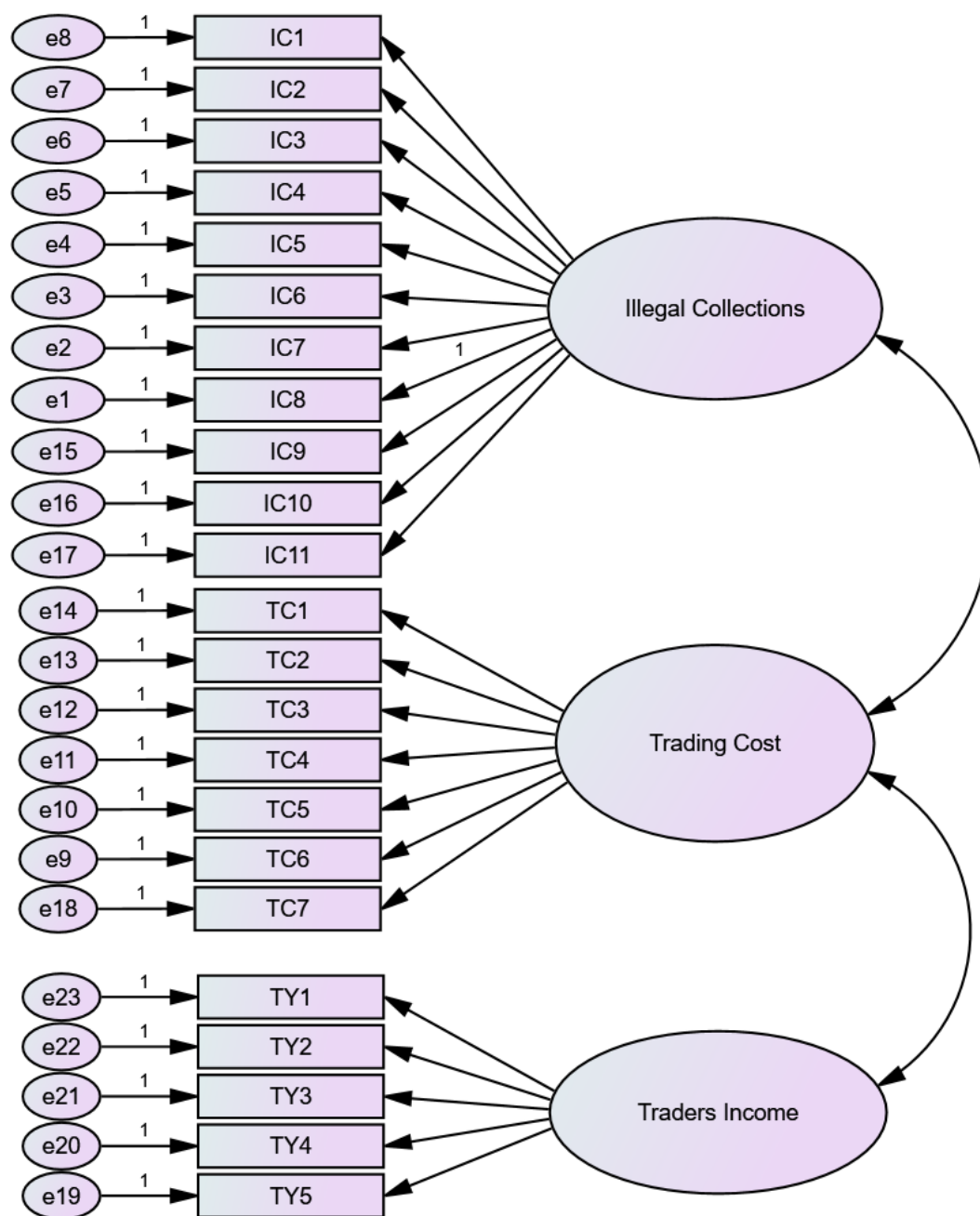


Figure 3.1: CFA for Trading Cost and Traders' Income

Source: Author's illustration from SPSS Amos

The structural equation model specifies two primary relationships to address the objectives of the study. The first relationship examines the effect of Illegal Collections (IC) on the Cost of Trading (TC), expressed as

$$TC = \beta_1 IC + \epsilon_1$$

Where β_1 represents the effect of illegal collections on trading costs, and ϵ_1 captures unobserved factors influencing trading costs. The second relationship explores the impact of Illegal Collections (IC) on Traders' Income (TY), expressed as

$$TY = \beta_2 IC + \epsilon_2$$

with β_2 representing the effect of illegal collections on traders' income and ϵ_2 accounting for unobserved factors influencing income levels.

The measurement model is specified to define the relationships between each latent variable and its observed indicators. The structural equation modelling (SEM) is specified in Figure 2.

Figure 3.2: SEM for Trading Cost and Traders' Income



Source: Author's illustration from SPSS Amos

The data analysis involved a two-step approach. First, Confirmatory Factor Analysis (CFA) was conducted to validate the measurement models for Illegal Collections (IC), Cost of Trading (TC), and Traders' Income (TY). This step evaluated the reliability and validity of the indicators for each latent variable using fit indices such as the Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA). Next, Structural Equation Modelling (SEM) was performed to estimate the structural relationships

among the latent variables. The analysis was carried out using SPSS AMOS. By employing this SEM approach, the study provided a detailed examination of how Illegal Collections (IC), used as a proxy for informal taxation, influenced both the cost of trading and traders' income in Benue State.

4. Results and Discussion

4.1 Effect of corrupt tax practice on cost of trading in agricultural products in Benue State

In examining the impact of corrupt tax practices on cost of trading in Benue State, Nigeria, Structural Equation Model (SEM) is employed to assess how the latent variable Illegal Collections (IC) influences two outcome latent variables which are Cost of Trading (TC) and Traders' Income (TY). The Structural equation model (SEM) also provide results that assess how well observed indicators capture their intended latent constructs. Using a 5% level of significance as the threshold for statistical inference, the interpretation of the structural and measurement coefficient are presented in this section.

Table 1: Structural Equation Model Result

			Estimate	S.E.	C.R.	Pro
Trading Cost	<---	Illegal Collections	.143	.035	32.401	***
TC1	<---	Trading Cost	.099	.014	9.692	***
TC2	<---	Trading Cost	1.355	0.191	23.011	***
TC3	<---	Trading Cost	-.004	.402	-.011	.991
TC4	<---	Trading Cost	0.015	.007	17.947	***
TC5	<---	Trading Cost	0.069	.029	6.011	***
TC6	<---	Trading Cost	-0.212	.041	5.237	***
TC7	<---	Trading Cost	2.261	.536	33.322	***
IC1	<---	Illegal Collections	1.000			
IC2	<---	Illegal Collections	.484	.166	3.459	***
IC3	<---	Illegal Collections	7.003	0.821	.523	.601
IC4	<---	Illegal Collections	.666	.115	31.138	***
IC5	<---	Illegal Collections	1.204	.181	7.474	***
IC6	<---	Illegal Collections	2.299	5.250	.438	.661
IC7	<---	Illegal Collections	.595	.203	23.438	***
IC8	<---	Illegal Collections	3.705	1.352	2.115	***
IC9	<---	Illegal Collections	2.006	.094	34.490	***
IC10	<---	Illegal Collections	.503	.168	6.529	***
IC11	<---	Illegal Collections	4.568	.147	27.498	***

Source: Authors' Computation Using SPSS Amos

The SEM results in Table 1 reveal that Illegal Collections (IC), used in this study as a proxy for informal taxation, exert a positive and statistically significant effect on the cost of trading agricultural products in Benue State ($\beta = 0.143$, $p < 0.05$). The positive coefficient indicates that an increase in the prevalence and intensity of illegal collections significantly raises the cost of trading agricultural products. Specifically, a one-unit increase in the latent construct of Illegal Collections increases trading costs by 0.143 units, holding other factors

constant. The critical ratio (C.R. = 32.401) greatly exceeds the critical value of 1.96, providing strong statistical evidence for this relationship.

These findings suggest that informal taxation, as operationalized through illegal collections, imposes additional financial burdens on agricultural traders. Unauthorized checkpoint fees, informal market entry charges, harassment-related payments, and arbitrary levies increase transaction costs, thereby making agricultural trading more expensive. This finding corroborates the empirical evidence reported by Tran-Nam (2023) and Mueller and Riker (2023), who concluded that tax-related corruption and unofficial fiscal charges adversely affect trading performance and market efficiency.

The measurement model further indicates that most Illegal Collection (IC) indicators significantly loaded on the latent construct, confirming that they are appropriate measures of informal taxation. IC1 (checkpoint fee frequency) served as the reference indicator for scaling the latent construct. IC2 (average checkpoint payment) exhibited a positive and statistically significant loading ($\beta = 0.484$, $p < 0.001$), indicating that higher unofficial payments reflect greater levels of informal taxation. Conversely, IC3 (influence of market entry charges on business location) and IC6 (frequency of receipts or proof of payment) were statistically insignificant ($p > 0.05$), suggesting that these indicators contributed less to measuring informal taxation within the study area. IC4 (harassment frequency) recorded a positive and significant loading ($\beta = 0.666$), confirming that harassment constitutes an important dimension of informal taxation. Likewise, IC5 (harassment resolution cost) loaded positively ($\beta = 1.204$), indicating that unofficial payments made to resolve harassment significantly characterize the Illegal Collections construct.

Although IC7 (transparency of charges) was significant, its negative relationship suggests that improved transparency reduces the prevalence of illegal collections and, by extension, informal taxation in Benue State. Furthermore, IC8 (market entry charge prevalence), IC9 (average market entry payment), IC10 (types of harassment), and IC11 (financial burden severity) all exhibited positive and statistically significant loadings, confirming that these indicators adequately capture the multidimensional nature of informal taxation experienced by agricultural traders.

Regarding the latent construct Cost of Trading (TC), seven observed indicators (TC1–TC7) were specified to measure the various economic costs incurred by agricultural traders. Most indicators exhibited statistically significant positive loadings, providing empirical support for the validity of the measurement model. TC1 (transportation cost per trip) recorded a significant positive coefficient ($\beta = 0.099$), indicating that transportation expenses constitute an important component of overall trading costs. TC2 (percentage of trading costs attributable to illegal collections) recorded the largest positive loading ($\beta = 1.355$), demonstrating that unofficial levies and related payments represent a substantial component of traders' operating costs. This finding reinforces the argument that illegal collections, as a proxy for informal taxation, constitute a major source of transaction costs in agricultural markets. Similarly, TC4 (monthly trading costs), TC5 (transportation expenditure), and TC7 (time lost because of delays) all recorded significant positive loadings, indicating that both direct financial expenditures and opportunity costs contribute to the overall trading cost burden. The particularly large coefficient for TC7 ($\beta = 2.261$) highlights the importance of time-related costs associated with delays at unauthorized checkpoints and similar informal taxation practices.

However, TC6 (cost changes attributable to illegal collections) exhibited a significant negative coefficient ($\beta = -0.212$), suggesting that traders may have adopted coping mechanisms that reduced the perceived incremental effect of illegal collections on reported trading costs, or that respondents experienced measurement and recall limitations. Conversely, TC3 (additional costs arising from spoilage and delays) was statistically insignificant ($\beta = -0.004$, $p = 0.991$), implying that spoilage costs were not consistently attributable to informal taxation and may instead have reflected seasonal conditions, commodity characteristics, or other operational factors.

4.2 Effect of corrupt tax practice on income of traders in agricultural products in Benue State

The second structural model examined the effect of informal taxation, proxied by Illegal Collections (IC), on agricultural traders' income in Benue State. The SEM estimates presented in Table 2 were interpreted using a 5 percent level of significance.

Table 2: Structural Equation Model Results

			Estimate	S.E.	C.R.	P
Trading Cost	<---	Illegal Collections	.143	.035	32.401	***
Traders Income	<---	Illegal Collections	-.074	.021	-5.451	***
TC1	<---	Trading Cost	.099	.014	9.692	***
TC2	<---	Trading Cost	1.355	0.191	23.011	***
TC3	<---	Trading Cost	-.004	.402	-.011	.991
TC4	<---	Trading Cost	0.015	.007	17.947	***
TC5	<---	Trading Cost	0.069	.029	6.011	***
TC6	<---	Trading Cost	-0.212	.041	5.237	***
TC7	<---	Trading Cost	2.261	.536	33.322	***
TY1	<---	Traders Income	.515	.654	4.243	***
TY2	<---	Traders Income	-.144	.060	-20.608	***
TY3	<---	Traders Income	.114	.042	14.558	***
TY4	<---	Traders Income	2.879	5.162	.558	.577
TY5	<---	Traders Income	.192	.020	8.614	***
IC1	<---	Illegal Collections	1.000			
IC2	<---	Illegal Collections	.484	.166	3.459	***
IC3	<---	Illegal Collections	7.003	0.821	.523	.601
IC4	<---	Illegal Collections	.666	.115	31.138	***
IC5	<---	Illegal Collections	1.204	.181	7.474	***
IC6	<---	Illegal Collections	2.299	5.250	.438	.661
IC7	<---	Illegal Collections	.595	.203	23.438	***
IC8	<---	Illegal Collections	3.705	1.352	2.115	***
IC9	<---	Illegal Collections	2.006	.094	34.490	***
IC10	<---	Illegal Collections	.503	.168	6.529	***
IC11	<---	Illegal Collections	4.568	.147	27.498	***

Source: Author's Computation Using SPSS Amos

The findings reveal that Illegal Collections (IC), representing informal taxation, exert a negative and statistically significant effect on traders' income ($\beta = -0.074$, $p < 0.05$). This implies that a one-unit increase in the level of illegal collections reduces agricultural traders' income by approximately 0.074 units. The negative coefficient indicates that higher levels of informal taxation are associated with lower income among agricultural traders. In practical terms, unauthorized checkpoint fees, unofficial market charges, harassment-related payments, and other illicit exactions erode traders' earnings by increasing transaction costs and reducing business profitability. The critical ratio (C.R. = 5.451) exceeds the threshold value of 1.96, confirming that the relationship is statistically significant.

The assessment of the Traders' Income (TY) measurement model also demonstrated satisfactory construct validity. TY1 (monthly trading income) exhibited a positive and significant loading ($\beta = 0.515$), confirming that actual income levels adequately represent the latent income construct. Similarly, TY3 (percentage of income lost to illegal collections) and TY5 (overall trading profitability) recorded positive and statistically significant coefficients, indicating that both objective financial losses and subjective profitability assessments are appropriate indicators of traders' income.

By contrast, TY2, which measures the perceived income effect of illegal collections, recorded a significant negative coefficient ($\beta = -0.144$), indicating that increasing levels of informal taxation substantially worsen traders' income outcomes. However, TY4, which measures the effect of income on savings and business reinvestment, was statistically insignificant ($\beta = 2.879$, $p = 0.577$), suggesting that savings and reinvestment decisions may be influenced by factors beyond informal taxation and were therefore not reliable indicators of the latent income construct in this study.

5. Conclusion and Policy Recommendations

This study examined the effects of informal taxation, proxied by illegal collections, on the cost of trading and the income of agricultural traders in Benue State, Nigeria. The findings revealed that informal taxation significantly increases the cost of trading agricultural products while exerting a negative and statistically significant effect on agricultural traders' income. The results indicate that unauthorized checkpoint fees, informal market entry charges, harassment-related payments, and other illicit exactions impose additional transaction costs on traders, thereby reducing their profitability and overall income. The study further demonstrates that informal taxation functions as an inefficient and distortionary fiscal mechanism that not only imposes disproportionate financial burdens on agricultural traders but also undermines the efficiency and credibility of the formal tax system. By diverting resources from legitimate government revenue channels and increasing the cost of market participation, informal taxation weakens agricultural marketing, discourages business expansion, and constrains income generation among traders. The study therefore concludes that informal taxation constitutes a significant barrier to efficient agricultural trade, sustainable income growth, and effective domestic revenue mobilization in Benue State.

Based on the findings of the study, the following policy recommendations are proposed:

- i. The Benue State Government should intensify enforcement against unauthorized revenue collection through coordinated monitoring and surveillance of markets and transport corridors. Individuals or groups engaged in illegal collections, including the establishment of unauthorized roadblocks and checkpoints, should be investigated and prosecuted in

- accordance with existing laws. Public awareness campaigns should also be undertaken to educate traders on approved taxes and legally recognized revenue collection procedures.
- ii. The State Government should harmonize taxes and levies through appropriate legislative reforms by reviewing and amending the enabling laws governing Ministries, Departments, and Agencies (MDAs) with revenue collection responsibilities. A unified and transparent revenue collection framework would eliminate multiple taxation, reduce overlapping levies, and minimize opportunities for unauthorized collections.
 - iii. The government should strengthen transparency by publishing standardized tax schedules and implementing automated tax payment systems. The adoption of electronic filing systems, digital payment platforms, mobile payment technologies, and integrated taxpayer databases should replace cash-based transactions. This would reduce direct interaction between taxpayers and revenue officials, minimize opportunities for unofficial payments, and improve accountability within the tax administration system.
 - iv. The government should reinforce internal audit mechanisms and establish effective monitoring and oversight systems within revenue-generating agencies. Strict disciplinary measures should be imposed on officials found engaging in unauthorized revenue collection or other forms of misconduct. Strengthening institutional accountability will improve public confidence in the tax system, enhance compliance with legitimate taxes, and reduce the incidence of informal taxation among agricultural traders.

References

- Adebayo, O., & Oboh, C. (2023). *Tax Corruption and Informality in Developing Economies: Evidence from Nigeria*. *African Journal of Accounting, Auditing and Finance*, 12(1), 45–60.
- Adefeso, H. (2020). Corruption, political instability and development Nexus in Africa: A call for sequential policies reforms. *Journal of Economic Growth*, 1(2), 189–212
- Adenigbo, A., Mageto, J., & Luke, R. (2023). Effect of shipping trade on economic growth in Nigeria: The vector error correction model approach. *Journal of Shipping and Trade*, 8(15), <https://doi.org/10.1186/s41072-023-00147-8>
- Aderounmu, B., Ayoade, E., & Oni, E. (2022). International trade, corruption and economic growth: Evidence from selected Sub-Saharan Countries. *Journal of Sustainable*, 17(2), 161–165. DOI: 10.35784/pe.2022.2.17
- Agale-kolgo, D. (2018). The impact of corruption on economic growth in developing countries. [Master's Thesis, Erasmus University Rotterdam]. Erasmus University Rotterdam Open Archive. <http://hdl.handle.net/2105/44870>
- Aina, A. T. (2025). An Assessment of Taxation Strategies and Policy Interventions for Nigeria's Informal Economy. *FUDMA Journal of Accounting and Finance Research*, 3(1), 103–128
- Alshubiri, S. F., Jamil, S. A. & Fekir, S. (2023). Corruption control, government effectiveness and banking stability: Does Corruption Grease or Sand the Wheels? *Journal of the Knowledge Economy*: <https://doi.org/10.1007/s13132-023-01277-x>
- Andohol, J. T. & Sokpo, J. (2020). The asymmetry of corruption-governance nexus on tax revenue in Nigeria. *The Journal of Economics and Finance*, 4(2): 284–399.
- Babatunde, T., Oladipo, J., & Yusuf, W. (2021). Globalization and economic growth in Nigeria. *International Journal of Economics, Commerce and Management*, 9(1), 1–19.
- Baklouti, N. & Boujelbene, N. (2019). Shadow economy, corruption and economic growth. An empirical analysis. *The Review of Black Political Economy*, 4(5), 1–19

- Boateng, K., & Asante, R. (2022). Institutional Weaknesses and Tax Corruption in West Africa. *Journal of Public Administration and Policy Research*, 14(2), 30–42.
- Bogoro, A. G. (2016). Effects of street trading on urban areas in Nigeria. *Global Advanced Research Journal of Management and Business Studies*, 5(2), 51–56.
- Byrne, B. M. (2016). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (3rd ed.). Routledge. <https://doi.org/10.4324/9781315757421>
- Churchill, O. A. & Gata, E. G. (2023). Problems of managing internal generated revenue in Bida Local Government of Niger State. *African Scholars Journal of Business Development and Management Research*, 27(7), 85-96.
- Cochran, W. G. (1963). *Sampling Techniques* (2nd ed.). New York: John Wiley & Sons
- Cresswell, J. W. (1994). *Research design: Qualitative and quantitative approaches*. Thousand Oaks. CA: Sage
- Dada, M. A., Adedeji, A.O., & Fatola, O.A. (2020). Corruption, government spending and economic growth in selected ECOWAS countries. *Malete Journal f Accounting and Finance*, 2(1), 38-56.
- Dankumo, A. M., Ishak, S., Bani, Y. & Hamza, H. Z. (2021). Governance, public expenditure, trade and poverty reduction in Sub-Saharan African countries. *Jurnal Ekonomi dan Studi Pembangunan*, 13(1), 16 -35.
- Dorji, K. & Phuntsho, T. (2024). Corruption risks in differential taxation on goods: Insights from Bhutan trade statistics and case examples. *Journal of Education, Society and Behavioural Science*, 37(3), 17-24.
- Epaphra, M., & Massawe, J. (2020). Corruption, governance and tax revenues in Africa. *Business and Economic Horizons*, 13(4), 439-467
- Essiet, I. (2024). *Ethical Issues and Tax Discipline: Their Role in Tax Compliance*. Conference Proceeding: 5th annual international conference of Institute Of Operational Research And Management Science Of Nigeriaat: Ignatius Ajuru University of Education, Port Harcourt
- Fagbemi, F., Fajingbesi, A., Osinubi. T. T. (2023). Corruption: Governance challenge towards reducing unemployment in Nigeria, *Journal of Public Affair*, 23(4), e2880 <https://doi.org/10.1002/pa.2880>
- Ganyam, A. I., Ivungu, J. A. & Anongo, E. T. (2019). Effect of tax administration on revenue generation in Nigeria: Evidence from Benue state tax administration (2015-2018). *International Journal of Economics, Commerce and Management*, 7(7), 394-414
- Gautier, C. L., & Vatsa, P. (2023). Corruption, remittances, and public goods: A unified framework. *Bulletin of Economic Research*, 75(4), 1078-1085. <https://doi.org/10.1111/boer.12396>
- Grundler, K., & Potrafke, N. (2019). Corruption and economic growth: New empirical evidence, IFO Working Paper, No. 309. Retrieved from <http://hdl.handle.net/10419/213586>
- Haddoud, M. Y., Nowinski, W., Onjewu, A. E., Souleh, S. & Elbaz, A. E. (2023). Perceived Corruption, entrepreneurial exposure and entrepreneurial career Intention: Evidence from five emerging countries. *Journal of Business Research*, 174: <https://doi.org/10.1016/j.jbusres.2024.114523>.
- Hegde, T., & Ganesha, K. S. (2024). Examination of risk management strategies for the use of futures and spot prices of agricultural commodities. *International Journal of Scientific Research in Engineering and Management*, 8(12), 1–7. <https://doi.org/10.55041/IJSREM39522>

- Hermann, D. Y. (2022). Corruption, tax reform and fiscal space in emerging and developing economies. *The World Economy*, 46(4), 1082-1118
- Huynh, C. M., & Tran, H. N. (2020). Moderating effects of corruption and informality on the fiscal decentralization-economic growth nexus: Insights from OECD countries. *Annals of Public and Cooperative Economics*, 92(2), 355-373. <https://doi.org/10.1111/apce.12298>
- Ibadin, P. O., & Adikemor, E. K. (2020). Tax fraud in Nigeria: A review of causal factors. *Journal of Taxation and Economic Development*, 19(1), 64-80
- Ighodaro, C., & Igbinedion, S. (2020). Corruption and economic growth in West Africa. *Journal Ekonomi dan Kebijakan*, 13(2), 265- 279. <https://doi.org/10.15294/jejak.v13i2.24228>
- Jacqueline M. Klopp, Melissa Trimble, Eleanor Wiseman. (2021). Corruption, gender, and small-scale cross-border trade in East Africa: A review <https://doi.org/10.1111/dpr.12610>
- John-Nsa, C. A., Onyebueke, V. U., & Enemuo, E. F. (2023). Street trading and urban distortion: rethinking impacts and management approaches from urban planners' perspective in Enugu City, Nigeria. *Journal of Contemporary Urban Affairs*, 7(2), 205-218.
- Kashyap, R. (2019). Concepts, components, and collections of trading strategies and market colour. *The Journal of Wealth Management*, 22(3), 115-128
- Kyarem, R., Sani, I. A., Oyolola, F., & Lawal, O. (2020). Political elites' corruption, political stability and economic growth in Nigeria: Bound testing approach. *ACTA Universitatis Danubius*, 6(2), 281-294
- Lucarelli, S., Klodian, M. & Enzo, V. (2024). Short run and long run effects of corruption on economic growth: Evidence from Balkan. *Economies*, 12(86): <https://doi.org/10.3390/economies12040086>
- Makar, T. A., Ngutsav, A., Ijirshar, V. U. & Ayaga, J.M. (2023). Impact of corruption on economic growth: an empirical evidence from Nigeria. *Journal of Public Administration, Finance and Law*, 28(5), 220-241
- Manogna, R. L., & Kulkarni, N. (2025). Does the financialization of agricultural commodities impact food security? An empirical investigation [Preprint]. arXiv. <https://doi.org/10.48550/arXiv.2502.05560>
- Markevych, M., & Marinkov, M. (2024). Corruption and economic growth in Moldova: A Re-examination. IMF Selected Issues Paper (SIP/2024/003). Washington, D.C
- Mazviona B.W. (2022). Causality dynamics of corruption and economic growth in an emerging economy. *Strategic Decisions and Risk Management*, 13(2): 129- 133. DOI: 10.17747/2618-947X-2022-2-129-133
- Mikaelsson, A., & Sall, S. (2020). Does corruption have a significant effect on economic growth? An empirical analysis examining the relationship between corruption and economic growth in developing countries. Retrieved from www.diva-portal.org › diva2:783809.
- Mueller, T. & Riker, D. (2023). Anti-corruption and international trade. (Working Paper 2023-09-A). Economics Working Paper Series
- National Bureau of Statistics (2022). National Bureau of Statistics, Nigeria. <https://www.nigerianstat.gov.ng/>
- Ngouhouo, I., Njoya, L. & Asongu, S. (2023). *Corruption, economic growth and the informal sector: Empirical evidence from developing countries*. (Working Paper. 22/014). African Governance and Development Institute
- Obamuyi, T. M. & Olayiwola, S. O. (2019). Corruption and economic growth in India and Nigeria. *Journal of Economics and Management*, 35(1): 80-105.

- Omodero, C. O. (2019). The implication of corruption on economic progress of Nigeria. *Review of European Studies*, 11 (2), 109-116.
- Salma, B., Alon, I., Josanco, F., & Cucculelli, M. (2023). Corruption, formal institutions, and foreign direct investment: The case of OECD countries in Africa. *International Business Review*, 65(5), 461-483. <https://doi.org/10.1002/tie.22361>.
- Sanchez-Vidal, J., Ramon-Llorens, C. M. & Rocca, (2024). Corruption and entrepreneurship. *International Business Review*, 33, 10217. <https://doi.org/10.1016/j.ibusrev.2023.102173>
- Seidu, B. A. Ph.D1, Samuel Kwaku Agyei, Ph.D2, Anokye Mohammed Adam, Ph.D2, Sampson Banflo Narteh-Yoe3 and Charles Ayariga4. (2024). Corruption Perception and Tax Compliance Behavioural Dynamics: Micro-Level Analyses in Ghana. *African Journal of Business and Economic Research*, 19(3), 12-24.
- Shahzad, N. (2024). Corruption and its deep impacts on good governance in Pakistan: Perceptual views of adults among Pakistani people. *Migration Letters*, 21(5), 1823-1847
- Spyromitros, E., & Panagiotidis, M. (2022). The impact of corruption on economic growth in developing countries and a comparative analysis of corruption measurement indicators. *Cogent Economics and Finance*, 10(1), 21293. <https://doi.org/10.1080/23322039.2022.2129368>
- Srihadiastuti, R., & Ekananda, M. (2024). Corruption, public debt, political years, and economic growth in democratic developing countries. *Integritas Jurnal Antikorupsi*, 10(2), 197-210.
- Susilowati, I., Wicaksana, T., Imantria, B., Febi, A., & Anjarsari, L. (2024). Does corruption hinder economic growth? A simultaneous analysis. *Economics Development Analysis Journal*, 13 (2), 211-223
- Tan, S. W., & Tusha, D. (2023). Effects of regulatory burden and corruption on firm performance: Evidence from Moldova. *Review of Development economics*, 27(4), 2149-2182. <https://doi.org/10.1111/rode.13033>
- Ugbem, E. C. (2014). The dynamics of identity construction among ethnic groups in Benue state, Nigeria. <https://repository.ui.edu.ng/server/api/core/bitstreams>
- Verma, H. (2024). The evolution of futures and options markets: From agricultural roots to high-frequency trading. *African Journal of Commercial Studies*, 5(2), 107-116. <https://doi.org/10.59413/ajocs/v5.i.2.5>
- World Trade Organization, (2023). Global trade flows. https://www.wto.org/english/res_e/booksp_e/tariff_profiles19_e.pdf
- Yilanci, Y. C. & Şaşmaz, M. Ü. (2023). The effect of corruption on the tax revenues: Case of European Union Transition Economies. *Journal of Statistical Research*, 13 (1), 73-84.