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Research Paper

Multinational companies and transfer pricing manipulations in Nigeria: Challenges and way forward

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ABSTRACT

Transfer pricing manipulation has become a persistent dilemma in tax revenue collection worldwide and Nigeria in particular. It reduces the amount of revenue that the host nations generate. This study aims at examining the relationship between transfer pricing manipulation and economic growth in Nigeria. The study used secondary data from the Federal Bureau for Statistics and Central Bank of Nigeria Statistical Bulleting covering the period from year 2000 to 2024. The study used auto-regressive distributed lag (ARDL) technique for data analysis. The results show that the relationship between economic growth and explanatory factors such trade openness, government revenue, unemployment rate, and transfer pricing manipulation is negligible. Additionally, the outcome demonstrates a strong inverse relationship between economic growth and exchange rates. This study highlights a significant finding, which is that multinational corporations frequently abuse revenue to generate unjustified profits, adding needless expenses to the market, undermining the competitiveness of other businesses, and taking advantage of customers and purchasers. The study recommends that in order to verify the daily transaction operations of multinational corporations, the government should establish appropriate oversight of them. Federal Inland Revenue Service (FIRS) in collaboration with the Financial Reporting Council of Nigeria FRCN should modify the existing transfer pricing regulations to address the obstacles to its realistic execution while supporting the existing administrative and human skills of current policy operations in the country.

1 | INTRODUCTION

In an attempt to draw in Foreign Direct Investments (FDI) and strengthen its income base, Nigeria, as a developing country operating in a global economy, opened her market to a number of Multi-National Companies (MNCs). However, in order to conduct business and earn profits within the nation, these foreign corporations must consistently pay taxes on their earnings and remittances (Ebiaghan et al., 2021). Since transfer prices impact related firms' taxable earnings in various tax jurisdictions where MNCs operate, they have major ramifications for both national tax authorities and MNCs. Specifically they affect associated enterprises' revenue and expenses. Because organizations within the same group but under separate tax jurisdictions may choose to underprice or overprice intra-group transactions depending on their intended objective, multinational transfer pricing regulations can provide a channel for tax fraud. On the other hand, these MNCs and their proxy companies, especially those in the extractive industries (petroleum and mining), have taken advantage of transfer pricing laws to shortchange the government of desperately needed Internally Generated Revenue (IGR) (Choe & Hyde, 2020; UNCTAD, 2023). When taxes are adjusted to lower government revenue, multinational corporations influence transfer prices, which impedes economic growth. Additionally, given the amount of money involved and the effect it has on the nation's ability to generate income, the ongoing practice of transfer pricing in Nigeria by foreign investors is generating a lot of concern. Because organizations within the same group but under separate tax jurisdictions may choose to under-price or over-price intra-group transactions depending on their intended objective, multinational transfer pricing regulations can provide a channel for tax fraud. On the other hand, these MNCs and their proxy companies, especially those in the extractive industries (petroleum and mining), have taken advantage of transfer pricing laws to short-change the government of desperately needed Internally Generated Revenue (IGR). When taxes are adjusted to lower government revenue, multinational corporations influence transfer prices, which impedes economic growth. Additionally, given the amount of money involved and the effect it has on the nation's ability to generate income, the ongoing practice of transfer pricing in Nigeria by foreign investors is rapidly growing concern. Transfer price manipulation has been linked to significant financial losses and is thought to be a primary factor in the capital flight of Nigerians who avoid paying right amount of taxes. This is regarded as one of the methods, or systems, that impede economic expansion. The majority of the MNCs' manipulation of invoices for capital flight and transfer pricing in Nigeria took place between 1970 and 2004, leaving a cumulative total of $135 billion in capital outflows, with an average of $385 million per year (Ajilore 2010). Furthermore, Nigeria lost £502 million in transfer pricing due to trade miss-invoicing between 2015 and 2017 (Christian Aid Report 2021).

By using accounting and tax transaction packages, oil companies like Chevron, Halliburton, and Shell International Petroleum have been able to avoid paying some taxes to both domestic and foreign governments. In Nigeria, Chevron avoided $17 857 142.86 in 2003, Halliburton avoided $14 285 714.20 in 2002, and Shell International Petroleum avoided about $710 506 000 in 1992 (Bakare 2016). Inadequate data from the parent company causes transfer pricing and other types of tax evasion in Nigeria, which causes other capital flight problems and other types of tax evasion. Multinational corporations that have a tendency to under- or over-invoice imports or exports in order to evade taxes manage the production in the oil industry (Bakare 2016). It has been suggested that governments must act quickly to prevent MNCs' taxable profits from being forcibly transferred outside of their borders in a globalized economy where MNCs are major players. In a similar vein, MNCs' tax bases in their host nations are an accurate representation of the dominant economic activity carried out there. Therefore, Global tax authorities and MNCs are increasingly concerned about the transfer pricing mechanism (KPMG, 2021; Ernst & Young, 2023 & Lawal, 2018). Additionally, it is estimated that 60% of transactions worldwide take place between interconnected MNC entities located in various nations (Abu-Serdaneh, et al., 2021; Choe & Hyde, 2020). Determining the "prices" at which these transactions are denominated within a corporate enterprise's subsidiaries is the main problem arising from such transactions (Borkowski, 2020). Some MNCs may manipulate the transfer prices of their transactions with associated subsidiaries in different countries in order to maximize group profit and minimize tax liability by artificially raising or lowering prices, which could result in capital flight from their host country. These subsidiaries of the same MNCs exchange goods and services within the group and these transactions are exposed to the different market forces between independent enterprises. Sadly, transfer pricing manipulation, or mispricing, within multinational corporations has been identified as the primary cause of tax revenue loss. Nigeria is only able to capture about 40% of the tax potential of these businesses. It is sufficient to say that the lack of regulations governing transfer pricing is likely to provide MNCs with opportunities to engage in

transfer mispricing, which has a detrimental effect on the tax revenues of the relevant countries. In light of this, the Federal Inland Revenue Service (FIRS), Nigeria's tax oversight body, implemented the General Anti-Avoidance Rule (GAAR). Under the Companies Income Tax Act 2004 (as amended) 2007, Section 13 (2) (d) gives the FIRS the authority to alter any transactions between related entities that they believe to be fictitious or artificial and that are likely to reduce Nigeria's taxable income (Akinyele, et al., 2022).

It has been asserted, nevertheless, that this clause is too onerous and inadequate to regulate MNCs and their affiliates in Nigeria (Akhidime, 2021). Thus, through the FIRS, the Federal Government of Nigeria established a regulatory framework in the form of subsidiary legislation known as the Income Tax Transfer Pricing Regulations, 2012, in an effort to fortify and expand the Nigerian tax base. This study aims to re-examine the relationship between transfer pricing manipulation and economic growth in Nigeria due to the disparities in the findings of previous studies on the relationship between transfer pricing, revenue generation, and foreign direct investment among MNCs in both high- and low-tax countries, as well as the paucity of such studies in the literature. Therefore, the goal is to provide an answer to the query of how transfer pricing manipulation affects Nigeria's economic growth. Nigeria was selected as the "laboratory" due to the number of MNCs operating there and the anticipated influence of the tax money collected from the MNCs on economic expansion. The article's remaining section is presented as follows: The empirical literature is reviewed in the section titled "Literature review," the model and methodology are covered in the section titled "Methodology," the data and empirical findings are provided in the section titled "Results and discussion of findings," and the article is concluded in the section titled "Conclusion and policy recommendations."

2 | ITERATURE REVIEW

2.1 | Transfer Pricing

Determining the prices at which tangible or intangible goods and services are exchanged between departments within the same organization or between various entities that are controlled by one another is known as transfer pricing. Sometimes the entities are located in the same tax jurisdiction (country); however, when they are located in different tax regions, taxes become a significant concern (OECD, 2012, 2022). Transfer pricing is a tool used by MNCs to distribute products and services among their networked businesses around the world. The process of determining the prices at which related entities exchange tangible goods, intangible property, or services with one another is known as transfer pricing (Deloitte, 2012). A transfer price is the amount that one division of an organization charges another division for goods or services. Transfer pricing, then, comprises a way to distribute profits by crediting an entity's net profit or loss before taxes to the appropriate tax authorities. As a result, charges made among related legal entities that belong to the same group are represented by transfer pricing. It also serves as a general term for pricing cross-border transfers between related parties and transactions within the same firm. These are categorized as "controlled" transactions in contrast to "uncontrolled" transactions involving, say, unrelated businesses that are assumed to function independently ("on an arm's length basis"). The pricing and arrangement of transactions between entities in the same controlled group is also a part of transfer pricing. Usually, the problems with cross-border trade agreements involve the distribution of costs and revenues among taxpayers in several jurisdictions. On the other hand, a number of nations, such as Nigeria, take into account domestic transactions between friends. Sales of physical goods, intellectual property licensing, service provision, and credit financing are all examples of transactions involving related parties. The main goals of a transfer pricing policy are to: (1) Assess the financial performance of various commercial units (profit centers) of a parent company; and (2) Move earnings from a high-tax jurisdiction to a low-tax jurisdiction. Tax authorities typically oppose transfer pricing strategies intended to evade taxes and maintain that each internal division of the entity transacts with the other at "arm's length" because the prices charged by an entity are directly proportionate to the declared profit. Any manipulation of variables suggests that the stated profit is not real. Transfer pricing manipulation has led to an increase in tax evasion cases, which is orchestrating a reverse shifting of income/gains from one state or country to another, thereby resulting in a significant reduction in tax payable.

2.1.1 | Tax implications of multinational transfer pricing

Transfer pricing affects declared profits, which serve as the foundation for an entity's taxation. Events outside of market conditions sometimes reveal the prices at which goods and services are transferred within the group, since related enterprises conduct business with each other. hence causing profit to be transferred from the nations where they originate to areas that are better suited for the MNCs (Ernst & Young, 2014). MNCs may use transfer pricing strategies to move profits to areas with low tax rates, which lowers their overall tax obligations (Clausing 2003, Dean et al., 2018). Transfer pricing also affects the customs duties that are paid for imports and exports. For example, import tariffs and other duties based on the declared value will decrease if the transfer prices declared on imports into a country are reduced. Another complex situation is when MNC head offices incur costs that were shared by multiple group members; dividing these joint costs among the group will have an impact on profits and taxation. Similarly, management fees are just one strategy that multinational corporations are using to lower their taxable incomes in African nations. These fees typically have nothing to do with the true cost of using any management services. When it comes to the provision of intangibles like trademarks, patents, and licenses, the holding company can likewise impose severe fees on its overseas affiliates or subsidiaries. It can then use these channels to divert money to tax havens with advantageous tax laws. For example, the amount of royalties that a Nigerian subsidiary pays to its parent company—which is based in another nation—in exchange for a license to manufacture the company's products in Nigeria will be deducted from the subsidiary's taxable profits. The related taxable profits and liabilities in Nigeria would be reduced if the royalties paid by the Nigerian subsidiaries were excessive. Transfer pricing affects the declared profits, which serve as the foundation for an entity's taxation. Events outside of market conditions sometimes reveal the prices at which goods and services are transferred within the group, since related enterprises conduct business with each other. MNCs may use transfer pricing strategies that enable them to shift profits to low-tax regions, thereby lowering their aggregate tax burdens, resulting in profit shifting from the countries in which they originate to regions that are more suitable for the MNCs (Choe & Hyde, 2020; Clausing 2023; UNDP, 2021; Ebiaghan, et al., 2021).

2.1.2 | Effect of transfer manipulation on tax revenue

Tax evasion, avoidance, or fraud are examples of transfer pricing abuse or manipulation, which is synonymous with transfer mispricing. In cases where pricing is done in accordance with the law to minimize taxes, it is considered legal tax avoidance; on the other hand, when transactions involve artificial price manipulation, they are considered illegal tax evasion or scams (Eden, et al., 2021; Sikka, & Willmott, 2020). Abuse of transfer pricing occurs when subsidiaries inflate or deflate the monetary value of goods and services in order to distribute profits or costs among their partners in order to evade taxes (Osei, 2020). Furthermore, transfer pricing facilitates capital flight and allows multinational corporations (MNCs) to reallocate profits, typically from their home countries to tax havens (high tax to low tax jurisdictions) (Christian, 2011). They accomplish this by using loans extended as debt rather than equity from affiliated foreign entities to finance the projects of their subsidiaries. Regarding the price at which goods and services are traded within the company during its international transactions, there is another variation of income shifting (Bartelsman & Beetsma, 2020). A wide range of transactions, including those involving intangibles, contracts, management services, trade, or cost-sharing, typically involve transfer pricing manipulations. Anandarajan et al., (2017) state that a number of tax officials are troubled by the prospect of losing tax revenue as a result of multinational corporations' (MNCs) deliberate manipulation of transfer prices in order to further their goals at the expense of the host government. Over the past ten years, multinational corporations (MNCs) have faced accusations of manipulating transfer pricing transactions within their subsidiaries, which has resulted in adverse effects on tax revenue and hindered the economic development of the host nation (Plasschaert & Dunning, 1994). According to statistics provided by Global Financial Integrity (GFI), illicit financial outflows caused developing nations to lose an estimated $8.44 trillion between the decades prior to the end of 2009; of this total, 54% was attributable to transfer pricing abuse. According to Hollingshead (2010), the amount of tax revenue lost in 2006 as a result of MNCs transfer mispricing varied between $125 billion and $135 billion. This amount almost doubled the $64 billion to $68 billion range from 2002 (Hollingshead, 2010; Scott, 2013; UN, 2023). According to Christian (2011), tax dodging by multinational corporations (MNCs) costs developing countries approximately $160 billion a year. He also suggested that there are two types of tax dodging: abusive transfer pricing and false invoicing. Furthermore, a number of studies have revealed that transfer mispricing causes Nigeria to lose the most tax revenue of all these developing nations.

2.2 | Theoretical framework

The institutional theory serves as the foundation for this study. As defined by Scott (2015), institutional theory takes into account the processes through which structural components like norms, rules, schemas, and routines are created in order to produce rules for social behavior that are both persuasive and enforceable. He went on to say that it is also used to investigate how these variables are introduced, accepted, distributed, and altered over time (Scott, 2015). He also mentioned that institutions set the

social norms for a community. "Humanly devised constraints that shape human interaction" are what institutions are. A system of ideas, customs, laws, and structure that together create a social norm of conduct is called an institution. In this way, the main demands of the OECD's 2022 transfer pricing guidelines—which stand for the cornerstone global norm for governing transfer pricing—are evaluated. Notably, the Transfer Pricing Guidelines (TPG) for the OECD in 2022 suggest giving certain transactions, such as financial guarantees, treasury operations, and captive insurance companies, a special accounting treatment. In the event that the guaranteed party defaults, the financial guarantee requires the guarantor to fulfill specific financial obligations. In the context of transfer pricing, the accounting treatment of financial guarantees necessitates a thorough comprehension of the type and extent of the guaranteed obligation as well as the associated penalties for each party. The 2022 OECD TPG describes five techniques for determining the arm's length price of guarantees, including: (1) the Capital Support Method; (2) the Valuation of Expected Loss method three methods: (3) cost; (4) yield; and (5) comparative uncontrolled price (CUP) method. The practice of guaranteeing the effective financing of the group's economic activities is known as the treasury function. The core value-creating activity's support function is the main treasury function. The OECD maintains that it is important to pinpoint the precise transactions and financing option that the entity intends to pursue when evaluating the transfer pricing concerns related to treasury operations. The guidelines list a number of options, such as hedging, intra-group loans, and cash pooling.

In conclusion, captive insurance in conjunction with reinsurance is covered in the 2022 OECD TPG on financial transactions. Policies taken out to provide risk coverage for the group's subsidiaries are referred to as captive insurance. Precise delimitation is essential for captive insurance and reinsurance, just like in other transactions. When determining the pricing of intra-group transactions involving captive insurance and reinsurance, it is crucial to take into account the unique economic conditions that each of the group's subsidiaries operates in in addition to their commercial relationship. There are a few methods that could be best suited, including: (1) analyzing the profit from agency sales. (2) A study of the benefit of group cooperation; (3) a collaborative approach that takes claims and return on capital cost-effectiveness into account; and (4) the CUP Method.

2.3 |Empirical review

Numerous studies have been drawn to the need to ascertain the reasons behind the low tax revenue, despite the volume of transactions carried out by both domestic and foreign businesses. A good number of researchers have discovered that transfer price manipulation hinders economic expansion. For instance, Ibitoye (2020) investigates the impact of transfer pricing manipulation on the Nigerian economy. It was discovered that the increase in transfer pricing had a significantly negative impact on the GDP. In the normalized long-term equilibrium, Obasi (2015b) likewise demonstrates a negative relationship between transfer pricing, unemployment, and economic growth. Nguyen (2019), in contrast, finds that transfer pricing has a negligible, if not insignificant, impact on economic growth in Vietnam, a low-tax nation. Additionally, using cross-sectional data for US MNCs, Ofei et. al (2018) adopted the augmented Dickey-Fuller (ADF) test and concluded that taxes and transfer pricing in multinational corporations show that reporting profits in high- and low-tax jurisdictions is consistent with income shifting behavior. Income shifting suggests that, in order to lessen their tax liability, multinational corporations typically aim to transfer their profit before taxes to nations or jurisdictions with low tax rates. Precisely, the outcome suggests that low tax influences foreign company attraction and, consequently, revenue generation. Similarly, the authors discover that the success of the host nation's tariff policies and tax rates affect actual investment. They discovered evidence of discrepancies between the study's findings from the perspectives of foreign investment abroad and in the host nation with regard to TPMs. Additionally, a statistically significant positive correlation is found by Salihu, et al., (2015) between tax evasion and foreign investors' interest in Malaysia.

The impact of transfer-pricing regulation and compliance on tax administration in Nigeria is examined by Akinyele, et al., (2022) using a survey design that is descriptive. Responses to the questionnaire were obtained, and it was then analyzed using ordered logit regression, Pearson product-moment correlation, variance inflation factor (VIF), and white heteroscedasticity test. The results of the ordered logit regression showed that transfer-pricing regulation and tax administration in Nigeria were significantly positively correlated, while transfer-pricing compliance was negatively correlated. This suggests that transfer pricing and adherence to it can enhance Nigeria's tax administration's efficacy and efficiency. According to Sikka & Willmot (2020), regulatory authorities have greater access to use transfer-pricing to reduce tax avoidance and evasion than the general public does because it is more expensive and difficult for them to detect tax avoidance and evasion through other means. Because of this, it's a complicated game with lots of different bodies—corporations.

In his study into the Russian economy, Tanzi (2021) found that certain businesses manipulate prices to shift profits from high-tax regions to low-tax regions. Mutua (2022) investigated the use of transfer-pricing management strategies by multinational corporations (MNCs) and came to the conclusion that there is a higher level of enforcement of tax compliance, whereby Nigeria would be compelled to carry out transfer pricing audits and assessments on MNCs that do not adhere to the regulations. He noted that Nigeria has not imposed penalties on companies that do not have transfer pricing policies, and he recommended that MNCs be made aware of the meaning of transfer pricing and that education regarding the effects of the volume of intercompany transactions with related companies be undertaken. It was suggested that MNCs should understand transfer pricing and that performance management should be measured, regardless of whether sales levels or other factors. According to KPMG (2021), all taxpayers with cross-border related party businesses are currently being requested to provide transfer pricing documentation by Nigeria in order to evaluate their risk profile for transfer-pricing audits. Multinational corporations were advised to maintain appropriately documented transfer-pricing policies and give transfer pricing more consideration. Through transfer-pricing, which allows foreign corporations to avoid paying taxes, the Nigerian government may be losing billions of dollars to shady tax deals involving these corporations. This deprives the nation of critically needed revenue for development.

3 | MATERIALS AND METHODS

3.1 |Model specifications

The model employed in this study is based on Obasi's (2015a) research regarding the arm's length theory. According to the model specification, GDP is calculated as follows: GDP = f (TPM, UN), where TPM and the unemployment rate (UN) are the independent variables. The calculation of transfer pricing manipulation involves deducting current account balances from foreign direct investment. GDP is used as a proxy for the dependent variable, which is economic growth. As stated, the model is:

$GDPt = \beta o + \beta 1\ TPMt + \beta 2\ UNt + \mu t$. [Eqn 1]

Trade openness (TO), the exchange rate (EXR), and GR can be included in this model by modifying Obasi's (2015a) model. In this case, the equation is: GDP = f (TPM, UN, TO, EXR & GR) [Eqn 2].

This can be stated explicitly as:

$GDPt = \beta o + \beta 1TPM_t + \beta 2UN_t + \beta 3TO_t + \beta 4EXR_t + \beta 5GR_t + U_t$ [Eqn 3]

This model was log-linearised and stated as:

$LNGDPt = \beta o + \beta 1TPMt + \beta 2\ UNt + \beta 3LNTOt + \beta 4EXRt + \beta 5LNGRt$ [Eqn 4]

Where transfer pricing manipulation is (FDI – CA), trade openness ($\frac{Export-Import}{GDP}$), LN natural logarithms, and μt are the stochastic variables, with βo the intercept, while β1 – β5 represent the parameter estimates.

3.1.1 |Auto-Regressive Distributed lag (Error Correction Model (ECM))

Prior to establishing the long-term relationship, the short-term dynamics between the variables are ascertained using the ECM. The following is the model specification in general ECM form:

$LNGDPL = \beta o + \beta 1\ TPM_t + \beta 2\ UN_t + \beta 3\ LNTO_t + \beta 4\ EXR_t + \beta 5\ LNGR_t + ECM_t\text{-}1 + \varepsilon t$ [Eqn 5]

Where L is the lag operator and ECMt-1 represents the error correction term in a year.

3.1.2 |Sources of Data

The impact of transfer pricing manipulation on Nigeria's economic growth from year 2000 to 2022 is examined in this study. The Central Bank of Nigeria Statistical Bulletins provided annual data on unemployment rates, EXR, TO, and GR. The Federal Bureau of Statistics in Nigeria provided data for empirical research on GDP, foreign direct investment, current account balances, exports, and imports.

4 | RESULTS AND DISCUSSIONS

The results of the estimated mean value that was used to analyze the distribution of the data are summarized in Table 1. LNGDP, logarithm of national income; TPM, transfer price manipulation; UN, unemployment; LNTO, logarithms of trade openness; EXR, exchange rate; LNGR, logarithms of government revenue; SD, standard deviation.

Table 1 summarises the results of the estimated mean value used to observe the outlook of the data distribution. It shows The EXR recorded the highest mean, 157.88, while the lowest average value of 2.135 was found in transfer pricing manipulation. A detailed analysis of the standard deviation of each variable reveals that the log of GDP (0.185), transfer pricing manipulation (1.320), unemployment (1.112); the log of TO (1.245), the log of government revenue (0.115), have low standard deviations, indicating very

low variability away from the mean, while other variables, like the EXRs (71.249), have a high variability distant from the mean. Table 1 also shows that other variables are positively skewed, aside from log of GDP, the log of TO, and the log of GR. The GDP and EXR logs' estimated kurtosis statistics are less than 3. This suggests that the distribution of the variables was thinner at the tails than it would have been for a normal distribution, and that the variables are platykurtic. The transfer pricing manipulation, unemployment rate, TO, and GR kurtosis statistics are all greater than 3. This suggests that the variables are leptokurtic, which further suggests heterogeneity in the data because the variable's distribution tails are thicker than those of a normal distribution.

Table 1. Descriptive Statistics

Variables	LNGDP	TPM	UN	LNTO	EXR	LNGR
Mean	5.534	2.135	7.303	3.641	157.88	4.525
Median	4.539	2.409	3.441	3.215	129.542	4.127
Minimum	2.612	1.719	5.53	2.923	106.921	2.635
Maximum	6.213	3.216	9.518	4.476	37545	5.213
SD	0.185	1.320	1.112	1.245	71.249	0.115
Skewness	-1.7	21.56	2.394	-1.555	0.673	-1.7
Kurtosis	2.232	3.140	6.321	4.142	2.675	6.212
Jarque-Bera	38.442	1.650	54.223	16.119	2.125	38.543
Probability	0	-0.811	0	0.045	0.222	0
Sum	153.849	3.861	146.45	91.168	3667.919	153.849
Sum sq Dev	0.221	4.833	68.469	62.437	277.363	0.237
Observations	40	40	40	40	40	40

The significance test of 1% was passed by the Jarque-Bera value for every variable, with the exception of the log of GDP, transfer pricing manipulation, and EXRs. This suggests that there is an abnormal distribution of the variables.

Table 2: Unit Root.

Stationarity	At levels			At 1st difference			Level of integration
	ADF-test	1% CV	5% CV	ADF-test	1% CV	5% CV	
LNGDP	-0.05	-3.65	-2.95	-4.54	-3.65	-2.96	1(1)
TPM	-2.14	-3.65	-2.95	-5.13	-3.66	-2.96	1(1)
UN	-2.06	-3.71	-2.98	-3.66	-3.68	−2.97	1(1)
EXR	0.99	-3.65	2.95	-4.03	-3.65	-2.96	1(1)
LNTO	-4.21	-3.65	-2.95	-6.90	-3.65	-2.96	1(0)
LNGR	-6.36	-3.65	-0.95	9.13	-3.65	-2.96	1(0)

LNGDP, logarithms of gross domestic product; CV, coefficient of variation; ADF, augmented Dickey-Fuller test; TPM, transfer price manipulation; UN, unemployment; LNTO, logarithms of trade openness; EXR, exchange rate; LNGR, logarithms of government revenue; SD, standard deviation. The ADF test results, which are displayed in Table 2, show that none of the variables were stationary in the same order. While TO and GR were stationary at level, the GDP, TPM, unemployment, and exchange were stationary at first difference. This is because, in absolute terms, the ADF statistics for every variable were higher than their respective 5% critical values. These findings demonstrate the short-term equilibrium relationship between all the variables under consideration. The requirements for the ARDL co-integration tests were satisfied with regard to the ADF tests. For co-integration analysis, the ARDL bound testing approach may therefore be used.

Table 3: Lag length selection criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-674.12	NA	1.2120	63.27	53.576	61.321
1	-804.04	261.148†	2.4416†	44.712	72.655†	55.745†
2	-741.11	35.192	3.3416	44.829	58.437	56.008
3	-731.894	22.935	5.2316	64.574†	69.327	56.223

†, Shows the selected lag order by the criterion; the sequential modified likelihood ratio test (LR) at 5% level. FPE, final prediction error; AIC, Akaike information criterion; SC, Schwarz information criterion; HQ, Hannan-Quinn information criterion.

In table 3, the lag length is extended to four lags and beyond, probably to the point where there is no more room for optimization or options regarding the lag length selection.

Table 4a: Bound test for co-integration in auto-regressive distributed lag

Test statistic	Value	*K*
F-statistics	1.60	5

Table 4b: Bound test for co-integration in auto-regressive distributed lag

Critical value bounds: Significance	I(0) bound	I(1) bound
10% (0.1)	2.34	3.08
5% (0.05)	2.55	4.77
1% (0.01)	3.22	5.92

The result of Table 4 demonstrates that all criteria point to an ARDL model with a maximum lag of one. It presents the values of the critical upper and lower bounds based on Pesaran, Shin, and Smith (2001) with an F-statistic of 1.60. 1.601757 is the lower and upper bound of the F-statistics at a 5% level of significance. As a result, the study comes to the conclusion that there is no proof of a sustained correlation between GDP and the group of other independent variables.

Table 5: Unrestricted auto-regressive distributed lag

Variable	Coefficient	SE	*t*-statistic	Prob.
LNGDP(-1)	0.855	0.067	12.813	0.0000
TPM	-3.0812	2.6112	-1.182	0.249
UN	-0.054	0.0543	-1.0006	0.327
LNTO	-0.131	0.094	-1.392	0.177
LNTO(−1)	0.126	0.084	1.505	0.146
EXR	-0.001	0.0017	-0.75	0.461
EXR(−1)	0.004	0.002	2.152	0.042
LNGR	-0.552	0.585	-0.945	0.355
LNGR(−1)	0.304	0.391	0.778	0.445
C	4.93	3.25	1.517	0.143
R2	0.986	Mean dependent var		25.609
Adj. R2	0.98	SD dep. var		1.003
SE of regression	0.141	Akaike info criterion		-0.841
Sum squared residual	0.455	Schwarz criterion		-0.387
Log-likelihood	23.868	Hannan-Quinn critter.		-0.688
F-statistic	178.314	Durbin-Watson stat		2.07
Prob (F-statistic)	0		-	-

SE, standard error; LNGDP, logarithm of gross national income; TPM, transfer price manipulation; UN, unemployment; LNTO, logarithms of trade openness; EXR, exchange rate; LNGR, logarithms of government revenue; SD, standard deviation. Table 5 of the ARDL test indicates a weak but negative short-term correlation between TPM and GDP in Nigeria. Though statistically insignificant, the EXRs and TO are likewise negative. Both GR and unemployment are negatively correlated, albeit not statistically. This outcome is in line with that of Obasi (2015b), who also discovers a negative correlation between manipulation of transfer pricing and unemployment. However, a year's gap between GR and EXR typically has a sizable positive relationship with GDP. This suggests that over time, there is typically a direct correlation between the variables and GDP. With a coefficient of determination of 0.98587, the R^2 indicates that 98.6% of the variation in the GDP can be accounted for by other factors. It also measures the goodness of fit. However, a parsimonious ARDL is chosen due to the explanatory variables' significance level and the requirement to identify the pertinent variables in the model.

Using an ARDL, the relationship between TPM and economic growth in Nigeria from 1986 to 2019 is examined. The ADF unit root tests were used at a 5% critical value to test the properties of the time-series variables that were chosen in the first step. The results of the unit root test showed that other variables were stationary at first difference, but only the logarithms of government revenue (LNGR) and trade openness (LNTO) were stationary at level. The ADF test indicated that the requirement for ARDL lag co-integration was satisfied. The results of ARDL short-term dynamics revealed a negative short-term relationship between GDP and independent variables such as TPM, unemployment rate, TO, the EXR and GR. This result is in line with Obasi's (2015b) findings on how transfer pricing affects economic growth in Nigeria. The empirical evidence reveals an indirect link between transfer pricing, unemployment, and economic variables in Nigeria. This is in line with Ibitoye's (2020) study on TPM and the Nigerian economy for the period 1970 to 2016. The study also determined that there is no long-term co-integration between the variables. The regression results, which were based on the ARDL, indicated that real GDP in Nigeria responded significantly negatively to an increase in transfer pricing. Moreover, Asongu (2016) discovered that transfer mispricing was a factor in the declining growth of African countries, Jeroh, (2020a) demonstrated that transfer pricing mispricing correlates negatively with economic growth in developed nations.

5 | CONCLUSION AND RECOMMENDATIONS

This article examines the impact of transfer pricing manipulation on Nigerian economic growth between year 2000 and 2022. The study reveals that transfer pricing manipulation limits economic growth, which confirms the conclusion of several researchers in the past like Clive & Jorissen 2013 and Ibitoye 2020. This finding suggests that during the review period, TPM impeded Nigerian economic growth. Nonetheless, the study finds a statistically negligible and inverse relationship between manipulation of transfer pricing and economic growth. The outcomes corroborated the earlier discovery (Obasi 2015b; Ofei et al. 2018) that transfer pricing manipulation may have a negative impact on the unemployment rate, TO, EXR, and GR. This suggests that TO is discouraged by transfer pricing manipulation, which may have an impact on the expansion of economic output. Therefore, it is

advised that multinational corporations be properly monitored in order to assess their daily business operations, as this could provide governments with an opportunity to increase revenue and job opportunities. Additionally, the government ought to make sure that multinational corporations that manipulate transfer pricing in order to obtain growth that would have come from the import and export of goods and services are subject to penalties. There is a dearth of empirical research despite the obvious need to learn more about how businesses shift profits and the value that the government loses as a result of transfer pricing. The reason for this is the deficiency of a data set that can distinguish between the tax that multinational corporations deem optimal and the arm's length price, which is the global benchmark for transfer pricing.

6 | REFERENCES

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