

CORPORATE GOVERNANCE PROCEDURES AND NIGERIAN LISTED COMPANIES' PRODUCTIVITY

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ABSTRACT

The study examined the relationships between labour productivity and corporate governance procedures publicly traded firms in Nigerian using a sample of 1376 firm-year observations during 1989-2020. The research employed a panel data technique to find the relationship between the dependent and independent variables. The Hausman test findings show that the Fixed Effect is the best estimator due to the differences between firms. Three predictor factors: board size, block holding, and company size have a positive and substantial relationship with the labour productivity of listed firms in Nigeria, according to the results of the panel regression analysis. However, directors' shareholding, board independence, and an independent audit committee are not significantly correlated with labour productivity of Nigerian publicly traded companies. Only leverage has a negative association with the dependent variable. The study showed that an ideal board size is one where increasing board size benefits Nigerian enterprises' production while doing so at a decreasing rate; as a result, the relationship between the two variables is quadratic. Growth in firm size and institutional investors also enhance dependent variable. On the other hand, more borrowing lowers productivity. However, the directors' shareholding, the presence of independent directors, or the independence of the audit committee is indifferent to labour productivity. This work contributes to the corpus of knowledge by expanding the study's time period from the normal ten years covered by other studies to thirty-four years. Additionally the use of labour productivity as a performance metric is unusual among experts of developing nations, including Nigeria.

Keyword: Governance; rising economies; productivity.

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1. INTRODUCTION

The major goal of establishing various corporate governance standards is to offer long-term remedies to the problem of moral hazard and adverse selection between the principal and the agent. Business governance, according to Senbet and John (1998), "involves the process whereby all stakeholders within an organization can pool their resources to restrain the excesses of managers and other insiders in order to safeguard the stakeholders' best interests.

Recently, the definition of "stakeholders" has gone beyond just referring to shareholders include others such as the creditors, employees, government and conservationists (Rissy, 2021). Additionally, academics have shown the value of high productivity in fostering economic growth and raising people's standards of life.

In general, businesses that are well-governed are expected to perform better, experience less stress, command higher share prices, and uphold a consistent dividend policy to inform shareholders of cash payouts and capital gains; conversely, businesses that are poorly-governed are expected to experience the opposite (Kyereboah-Coleman & Biekpe, 2006).

Many studies have demonstrated the significance of good corporate governance for raising the performance of businesses (Ahmad & Sallau, 2018; Gbadebo, 2017; Hamidu, & Modibbo, 2015; Uwuigbe, Peter, & Oyeniya, 2014; (Adewuyi & Olowookere, 2009; Olowookere 2008; ;Adelegan, 2007; Magbagbeola, 2006; Sanda, Mukailu & Garba 2005; Adenikinju & Ayonrinde, 2001, Brown & Caylor, 2005; Core & Rusticus, 2005; etc.) However, some others share the drawbacks of some corporate governance indicators (Ahmad & Sallau, 2018; Gbadebo, 2017; Chidambaran, Palia Zheng 2007; Core, Guay & Rusticus 2005; Adenikinju, 2005 and Demsetz & Lehn, 1985).

Thus, by extending the study period to include the years 1989 to 2020, or 32 years, this work contributes to the body of literature. This is longer than any previous empirical study in Nigeria, such as those by Abu (2016), Adebisi (2017), and Moses (2019), which covered 10 years, 11 years, and 18 years, respectively.

Data from both before and after the 2003 Corporate Governance Code were included in the study. As a result, the impact of the code may be compared to the period before to its implementation

Last but not least, the study attempts to address a few problems with financial performance indicators (ROA, ROE, ROCE, EPS, and Tobin's Q), such as the challenge of selecting a depreciation method and variances in accounting standards when pre-tax income is used as the denominator. Furthermore, it affects the value of the denominator in common financial performance proxies (Hill & Snell, 1989 and Hay & Morris 1979).

Therefore, employing labour productivity as a performance indicator contributes to proving that profitability ratios are a flawed performance measure.

To the best of the researcher's knowledge, there isn't much empirical research that looks at the relationship between governance and productivity of businesses with a Nigerian foundation (Olowookere, 2008; Adewuyi and Olowookere, 2009).

Given that productivity development has a positive impact on financial performance, the few empirical data on the relationship between corporate governance and financial success in the region point to an expected positive relationship.

Thus, this study explores the connection between corporate governance practices and firm performance in Nigeria. The labour productivity of Nigerian listed firms and the ownership of directors' shares do not significantly connect.

Hypothesis 1: There is no significant relationship between Board Size and Firms' Productivity in Nigeria

Hypothesis 2: There is no significant correlation between Outside board directors/Independent directors in Nigeria.

Hypothesis 3: There is no significant association between independent directors and labour productivity in Nigeria

Hypothesis 4: The independence of the audit committee and the labor productivity of listed businesses in Nigeria are not significantly associated.

Hypothesis 5: There is no substantial correlation between block holding and labor productivity in listed Nigerian companies

Hypothesis 6: In Nigerian listed companies, there is no substantial relationship between leverage and labour productivity.

Hypothesis 7: Firm size and labour productivity of Nigerian listed companies do not significantly correlate.

The remaining sections of the essay are organized as follows: part two provides empirical analyses of earlier research, and section three describes the technique.

Part four of the study contains the findings and comments, while section five of the study includes a conclusion and some policy implications.

2. LITERATURE REVIEW

2.1 Conceptual Review

Corporate Governance

In many nations' political economies, corporations have emerged as key players. They are viewed as the driving force behind growth and development in accordance with the present neo-liberal economic ideology. Based on this concept, both the government and the people are interested in how well these organisations are performing. Numerous procedures, models, and concepts have been devised both nationally and internationally to basically ensure that these organisations exist and function in the best interests of all stakeholders, including the government (Sanusi, 2002).

According to Sanusi, 2002 corporate governance is one of the most significant ideas recently created by finance and business specialists. The idea of corporate governance has been acknowledged for more than 20 years as essential to the existence of business enterprises all over the world. He further put it better when he said: The importance of corporate governance issues has increased in recent years, and many countries' political economies now depend heavily on the lessons learned from corporate organisations' experiences.

Furthermore, scholars have demonstrated the significance of high productivity in promoting economic growth and people's standard of living (Hassan, 2014).

Generally speaking, well-governed businesses are anticipated to perform better, experience less stress, have higher share prices, and maintain a consistent dividend policy to keep shareholders informed of cash payouts and capital gains; conversely, poorly-governed businesses are anticipated to experience the opposite. They are viewed as the driving force behind growth and development in accordance with the present neo-liberal economic ideology. Based on this concept, both the government and the people are interested in how these organisations perform.

Moreover, it is crucial to understand that the effectiveness and efficiency of a country's corporate governance have a significant role in determining its economic performance. Therefore, strong corporate governance has become a major priority

for governments, central banks, and business companies all over the world. It is critical to note that recent years, the importance of corporate governance has led to an unfathomable upsurge all over the world. The number of national corporate governance reports that have been created and released recently across the continent of Africa also demonstrates this (Rossouw, 2005).

Additionally, Wilson (2006) argued that if the practice of effective corporate governance is abandoned, no corporation can be too big to fail, either financially or in other ways. No company or bank may be too large financially or in other methods to miscarry, he claimed. That was the obvious lesson the corporate world learned from Enron, Parmalat, World Com, and Barings Bank. One element connected these large corporate failures: a culture of bad corporate governance, including poor management, insufficient regulation, and subpar supervision.

Developments in the global economy have therefore distinctly underlined the importance of corporate governance as the foundation of commercial businesses if they actually intend to remain in business (Wilson, 2006).

Corporate governance is a system that guides the conduct of the people within an organisation, as well as the direction of the organisation itself (Peterdy, 2022).

Garzón, and Manuel (2021) declared that corporate governance is the establishment of guidelines for the management and control of companies, directing their actions to guarantee investors that their invested resources are managed to achieve profitability and efficiency

2.1.2 Dependent Variables

2.1.2.1 Productivity

Productivity is input divided by output (Shiru, Chung, Shahid, & Alias 2020; Momade, Shahid, Hainin, Nashwan, & Tahir 2020). The output is a reflection of the products that the labour produces. The measures of input utilisation takes into account the skills, time, and effort of the labour force. Although there are many various perspectives on what productivity is, they all focus on the same goal, which is to meet the adopted resource, standard, or measure. All definitions of productivity use the following terminologies: output over input, with efficiency being the crucial component in calculating its worth. It permits optimisation, so that a useful method of making use of the resources in the projects. (Naoum 2016; Sveikauskas, Rowe, Mildenerger. Price & Young 2016; Dixit, Pandey, Mandal, & Bansal 2017; Durdyev & Mbachu 2018; Ohueri, Enegbuma, Wong, Kuok, & Kenley 2018; Alaghbari, Al-Sakkaf, & Sultan 2019; Ayele & Fayek 2019; Dixit, Mandal, Thanikal, & Saurabh 2019; Shiru et al. 2020;

Labour Productivity

The term "labour productivity" according to OECD 2002 refers to output per unit of labour input. This is also known as value-added per worker-hour or, as calculated in this study, productivity.

Labour productivity can be analysed at different levels: These are industry level consisting client's organization, contractors' organizations and consultants' organizations. (Muhammad, Sani, Muhammad, Balubaid, Ituma, Suleiman 2015)

The effectiveness of an operating system is gauged by its labour productivity mechanism for converting human labour into capital through the use of equipment and capital. It is not a measure of someone's capacity to translate input into valuable output solitary labour (Shiru et al. 2020; Momade et. Al. 2020; Momade Hainin 2018a;)

A nation's actual income per person or average economic welfare can be measured by looking at labour productivity at the level of the entire economy (OECD 2002). Do

the results of past research and economic theory lend credence to this? OECD (2002) established that when production functions interact often, there should be precise quantitative correlations between labour and capital inputs because capital inputs have an effect on labour productivity, hence businesses with more capital often have higher labour productivity.

Labour productivity measurement.

Labour productivity can be measured in diverse way which includes:

$$\text{Labour Productivity} = \frac{\text{Total output}}{\text{Total number of hours worked}}$$

2.1.3 Independent Variables

2.1.3.1 Board size

A larger board may seem preferable when the idea of boards is accepted because it allows for the inclusion of more diverse board members with a range of specialties; however, as boards grow larger, coordination and communication issues worsen, which reduces their ability to effectively monitor agents. (Eisenberg et al., 1998; Jensen, 1993; Lipton & Lorsch, 1992). Additionally, it has been discovered that larger boards are characterised by a diminished ability of directors to critique top management and to analyse and carefully evaluate firm performance (Lipton & Lorsch, 1992).

2.1.3.2. Outside board directors/Independent directors

According to De Andres et al., 2005 it is extremely debatable how board composition works and the extent to which it affects firms performance. Directors can be divided into three categories: executive, non-executive, outside board, and independent directors (who provide checks and balances to defend the interests of shareholders). Each group is distinguished by a range of incentives and behaviours. Most national and international corporate governance codes recommend combination of the two (e.g. the Combined Code in the UK, the OECD Code and the Sarbanes-Oxley Act in the US).

2.1.3.3 The independence of the audit committee

Agency conflict and other problems that result from the division of company ownership and control must be resolved through the efficient operation of audit committees as governance tools. The audit committee is regarded as a board of directors' effective sub - committee, which is essential for excellent corporate governance. (Abbott, Park & Parker, 2000; Jensen & Meckling, 1976). An independent audit committee, according to Garcia-Meca and Sanchez-Ballesta (2009), could raise the caliber and reliability of financial reporting.

2.1.3.4 Block holders

La Porta et al. 1999; Shleifer & Vishny, 1997 claim that in emerging countries, where investors are less protected, ownership concentration is higher. This may indicate that principals have a greater incentive and capacity to oversee agents, which would reduce managerial opportunism. The equity of ownership, according to Alchian and Demsetz (1972), has been proposed as a control mechanism to control managers by shareholders to reduce agency conflicts inside the company. According to them, this internal control mechanism is important in defining the shareholders' wealth, the firm's goal, and the managers' level of discipline. A large shareholder looks to be the shareholders' best option in this situation for managing and overseeing the managers.

2.1.3.5 Directors shareholding

Managers are preoccupied with increasing their personal wealth and future career chances, but shareholders are interested in maximising their returns. This will

create a conflict of interest between shareholders and management because the former want to avoid having their money taken from them or spent in activities which would not be lucrative (Jensen et al., 1976; Fama, 1980; Jensen, 1993).

2.1.3.6 Leverage

Leverage may have a beneficial or negative impact on a company's success, according to researchers. As a result of lenders' monitoring, a positive outcome might occur. According to Jensen et al (1976) Leverage, particularly free cash issues, play a significant impact on preventing agency problems as an internal corporate governance mechanism. According to Jensen (1986), raising the external debt may have advantageous effects. He further argued that Managerial discretion will be limited as debt levels rise while high amounts of debt will force management to spend the company's free cash flows for unprofitable investments, (opportunistic managers) since managers must make regular interest and principal payments.

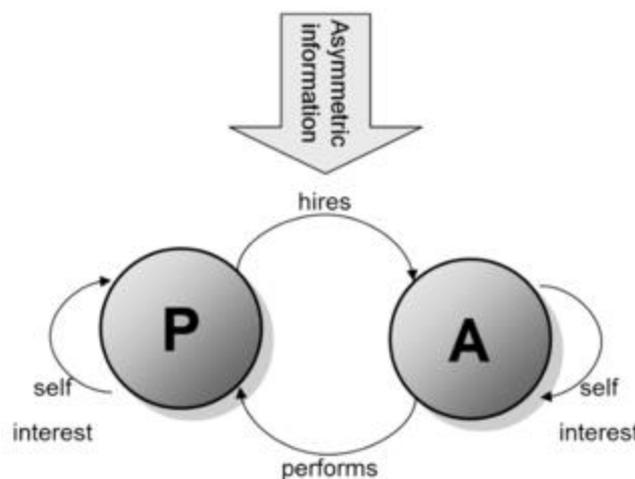
2.1.3.7 Firm size

Various academics claim that there is a shaky correlation between firm size and performance (Agrawal & Knoeber, 1996; Himmelberg et al., 1999; Nenova, 2003; Durnev & Kim, 2005); Short & Keasey, (1999) According to Joh, (2003) larger businesses have better opportunities than smaller ones to generate funds internally and access outside resources. Additionally, bigger businesses may profit from economies of scale by erecting entry barriers that improve performance. Furthermore, firm size can be utilised as a stand-in for the agency problem, according to Jensen (1986). He claims that when the quantity of assets under managers' control increases, they are motivated to grow the firm beyond the target size because doing so will give them more power. According to Boone et al. (2007) and Fama and Jensen (1983), a firm becomes more diverse as it grows in size. This indicates that a bigger explanation is possible for the company's inherent complexity.

2.2 Theoretical Review

The difficulties of principal-agent issues develop when a principal pays an agent to do a specific act that is beneficial for the principal but expensive for the manager, resulting to performance that is expensive to monitor Eisenhardt, (1989). To some extent, this applies to all contracts that are written in a world of knowledge asymmetry, uncertainty, and risk (see fig 1.1).

Figure 1.1: Basic idea of Agency Theory



(Note: P: Principal, A: Agent)

Source: Eisenhardt, (1989)

Several theories were propounded to avert this problem. These include a plan combining the efficiency compensation and monitoring, a revenue sharing plan, a forcing-contract plan and the use of economic tournament, among others (Schotter, 2001) The idea of corporate governance examines the optimal method for resolving the moral hazard and adverse selection problems associated with principal-agent glitches. Recently, a keen attention accorded this concept after the scandals involving WorldCom, Enron, and Adelphia.

Corporate governance is the process through which all parties to a firm cooperate to

ensure that managers and other insiders abide by the rules that protect their interests (Senbet & John, 1998). The term "stakeholder" has expanded in recent years; it now refers to more groups than it did previously, including as shareholders, employees, creditors, the government, and other groups like environmentalists (Norman, 2014).

2.3 Empirical Review

Board Size and Firms' Productivity

Studies by Koke (2001) for Germany, Dalton Daily, Johnson, & Ellstrand (1999) for Tunisia and Nwafor, (2022) for Nigeria discovered a transiently beneficial relationship between board size and labor productivity. Since adding more board members enhances output, but at a slower rate, they concluded that there is a non-linear quadratic relationship between board size and production, indicating an ideal size. Board size, on the other hand, is adversely connected with business value, according to Yermack (1996). To the best of the researcher's knowledge, the only studies for Nigeria that ever employed productivity were Olowookere (2008) and Adewuyi and Olowookere (2009) showed very little association between board size and productivity.

Independent directors and labour productivity

Gaitán, Herrera, and Pablo (2017) for Latin America; Shan and McIver (2011) for China; Reddy, Locke, Scrimgeour, & Gunasekarage (2008) for New Zealand; and Olowookere (2008) for Nigeria all noted a positive correlation between board independence and productivity. In China, however, Xu and Wang (1999) discovered an inverse relationship between board independence and worker productivity. Both Adewuyi et al. (2009) and Gbadebo (2016) revealed very little association between the two indicators for Nigeria.

Directors' Shareholding and business productivity

Australian researchers Tian and Twite (2011) and Min and Smyth (2014) found that stock-based pay increases business productivity. However, Adewuyi et al. (2009) and Olowookere (2008) found no correlation between the shareholding of directors and the productivity of the enterprises.

Audit committee independence and labour productivity

Olowookere (2008) found an inverse link between the independent and dependent variables for Nigeria. Adewuyi et al. (2009) asserted an insignificant association between the two variables for Nigeria,

Block Holders/ Institutional Investors and labour productivity

Gaitán et al analysis' Latin America, Mnasri and Ellouze for Tunisia (2015). Adewuyi et al (2009) for Nigeria, Shan and McIver (2011) for China, Chen, Du, Li, and Ouyang (2013) for China. Also, the United States, Rubin and Smith (2009), Koke (2001) for Germany, and Reddy et al. (2008) all found a strong positive correlation between block holders and firm productivity. However, Olowookere (2008) discovered a minimal link between Block Holders and Firm Productivity in Nigeria.

Leverage and the Productivity

In India, Mundakkad (2018) looked at the relationship between leverage and labour productivity and discovered a weak negative correlation between the two variables. The findings was supported by, Avarmaa, Squera and Serraqueiro, (2013) for Baltic countries, Khan and Thomas (2013) for Pakistan, Buera and Shin (2013) for Latin America, Coircelli, Driffield, Pal and Isabelle, (2012) for Central and Eastern Europe, Arellano, Yan and Jing (2012), Ghosh (2009) for India, Tian and Twite (2011) for Australian, Adewuyi et al (2009), and Olowookere, (2008) both for Nigeria, Nunes, (2007) for Portuguese, Kioke 2001 for Germany, Renneboog, (2000) for Belgium Schiantarelli and Sembenelli (1997) for United Kingdom, Nickell and Nicolitsas, (1999) for United Kingdom. On the other hand, studies Li (2016) for Japan,, Girma and Vencappa (2015) Buera and Yongseok (2013), Gatti and Love (2006) for Bulgaria, Musso and Schiavo (2008) for France Nucci, Pozzolo and Schivardi (2005) for Italy, Cooley and Quadrini (2001) allow borrowing capacity to rise with increase in productivity. On the other hand, leverage does not boost productivity at low production volumes, according to Mundakkad (2018), who observed that it tends to do so at medium and higher output of organisations. Because of this, the connection between leverage and labour productivity is non-monotonic, which means that a rise in leverage will reduce the output of firms with lower productivity.

Firm Size and labour Productivity

For instance for Canada, Leung, Meh, and Terajima (2008b) discovered a positive association between business size and labor productivity, whereas Olowookere (2008) discovered a negative correlation. Adewuyi et al. (2009) for Nigeria and Tian et al. (2011) for Australia asserted that there is no correlation between business size and production.

3. DATA & METHODOLOGY

Research Design

An ex-post facto study methodology was used to explore the relationship between corporate governance traits and performance as assessed by labour productivity based on listed companies in Nigeria.

Data

Using yearly financial statements and NSE Factbooks various problems, secondary data were collected from 43 of the 169 listed businesses that were listed on the Nigerian Stock Exchanges as of December 31st 2020. Only around 97 of the 169 firms that were in existence as of December 31st 2020 were listed as of 1990. Effectively the population of this study was 97 firms while 72 companies that were registered after 1990 were dropped. Consequently, that is over 44% of the population and 72 % in value of the firms that were incorporated on or before 1990 and submitted their financial statements to SEC for the period under review. The study used a technique called judgmental sampling. With this sample technique, the researcher can choose any member of the population depending on his prior research. This is in line with the ideas put forth by Krejcie & Morgan (1970), who claimed that a sample size for generalisation should be at least 5% of a defined population. The type and scope of business failures and scandals that have plagued the industries over time led to the selection of the chosen firms.

Model Specification

According to all the above objectives, the model definition intends to explore labor productivity as a performance measure in Nigeria. The Mousa, Desok, and 2012 model's equation, which connected firm characteristics, metrics of corporate governance, and business success, is as follows:

$$FP_{it} = \alpha + \beta CGOV_{it} + \gamma X_{it} + \varepsilon_{it} \tag{1}$$

Where: FP is a measure of firm performance, CGOV is a vector of Corporate Governance; X is a set of enterprise characteristics variables. Firm productivity as a measure of performance is to be captured by Labour Productivity, which is in line with Olowookere (2008) and Gupta (2015). Corporate Governance indicators used in this study are (i) Board Size; (ii) Outside Board Directors; (iii) Directors' Shareholding; (iv) Block Holders; and (v) Independence of Audit Committee. The Firm Characteristics (X) in the model are (i) Leverage; and (ii) Firm Size, The error term is represented by ε , subscript i stand for individual firm and t is time period.

The particular model, therefore, is specified explicitly as:

$$FP_{it} = \alpha + \beta_1 BS_{it} + \beta_2 OBD_{it} + \beta_3 DSH_{it} + \beta_4 BH_{it} + \beta_5 IAC_{it} + \gamma_1 L_{it} + \gamma_2 FS_{it} + \varepsilon_{it} \tag{2}$$

The variables are as previously defined. Meanwhile, ε_{it} consists of two error components as:

$$\varepsilon_{it} = \lambda_i + v_{it} \tag{3}$$

$$LP_{it} = \alpha + \beta_1 BS_{it} + \beta_2 OBD_{it} + \beta_3 DSH_{it} + \beta_4 BH_{it} + \beta_5 IAC_{it} + \beta_6 BS^2_{it} + \gamma_1 L_{it} + \gamma_2 FS_{it} + \lambda_i + v_{it} \tag{4}$$

Where: BS^2 is square of board size

The variables are as previously defined. Meanwhile, ε_{it} consists of two error components as:

$$\varepsilon_{it} = \lambda_i + v_{it}$$

Table 1: Definition of operative variables

S/N	Variab les	Definition	Type	Measurement	Supporting Scholars
1	LP	Labour Productivity	Dependent	Fixed assets divided by number of employees	Hassan, 2018, Gbadebo 2017, Li, 2016, Gupta, 2002
2.	BS	Board size	Independent	Number of directors on board both the executive and non-executive	Yermark, 1996 Dalton et.al. 1999 Olowookere 2008 & Gbadebo, 2017
3.	OBD	Outside Board Directors	Independent	The ratio of outside directors to internal directors	Gaitan et al. 2017, Gbadebo, 2016, Shan et al, 2011, Xu et al 1999 Reddy et al 2008
4.	DSH	Directors' Shareholding	Independent	Percentage of total shares owned by the directors	Gaitan et al, 2017 Min et al. 2014, Tian et al, 2011
5	BH	Block Holders	Independent	Substantial shareholders with 5% and above shareholding	Gaitan et al, 2017 Mnnasri et al 2015 Rubin et al 2009, K'oke, 2001

6	IAC	Independence of Audit Committee	Independent	Members of Audit committee that are not on Board	Adeyuyi et al 2009, Olowookere 2008
7.	FS		Independent	Log of Total Asset	Tian et al 2011, Leung, 2008a
8.	L		Independent	Ratio of Debt to Share Capital	Mundakkad, 2018, Gbadebo, 2017, Buera, 2013, Tian et al, 2011 Musso et al. 2008,

Source: Author's computation 2022

4. FINDINGS AND DISCUSSION

4.1 Descriptive analysis

This section explains the results of the study for both dependent and independent variables

Table 2: Measures of Firms' Performance (Dependent Variable)

Variables	Mean	Std. dev	Min	Max	Observations
Labour	~ 6676.96	14439.96	-15729.27	151250.46	N = 1376
Overall		8212.27	812.26	41856.34	n= 43
Between		11940.71	-34735.93	116071.05	T = 32
Within					

Source: computed by author with stata 14 software package 2022

According to the dependent variable's summary statistics, the average labour productivity is 6676.96, while the standard deviation is 14439.96. The standard deviation number shows that there is a broad range in Nigerian enterprises' productivity as measured by their performance. The significant difference between the maximum and minimum numbers is another indication of this. For instance, there is a difference of 166980 between the maximum and minimum values of labor productivity, which is 151250.46 and -15,729.27 respectively. This level of performance fluctuation is somewhat high. Additionally, it has been noted that performance within a company changed significantly over time. Labour force, for instance, is 11940.71. Within a particular firm throughout time, the maximum value for the labour productivity variable is 151250.46, and the least value is -15729.27. The large variation over time implies a significant amount of change in the business environment, which has an impact on how well businesses function.

Table 3: Corporate Governance Measures (Independent Variables)

Variables	Mean	Std. dev	Min	Max	Observations
BS ~ Overall	12.2180	4.835991	0	31	N= 1376
Between		3.540053	4.78106	25.08876	n= 43
Within		3.336962	-4.30738	21.73276	T = 32
OBD ~ Overall	80.2114	18.39908	0	108.60	N= 1376
Between		8.879417	59.91243	97.22556	n= 43
Within		16.16930	-0.1516891	109.59790	T = 32
DSH ~ Overall	9.2633	18.91941	0	107.00	N= 1376

	Between		13.3727	0.0719526	62.22533	n= 43
	Within		13.53211	-52.96206	85.9312	T = 32
IAC ~	Overall	61.1079	6.704151	0	92	N= 1376
	Between		2.289332	53.94225	67.14036	n= 43
	Within		6.310460	0.3576060	90.69370	T = 32
BH ~	Overall	53.841	32.02508	0	105.42	N= 1376
	Between		28.93781	4.608284	98.40133	n= 43
	Within		14.38580	-29.46100	129.4818	T = 32
L ~	Overall	827719.38	0.417439	-0.52	4.78	N= 1376
	Between		2399504	0.4160946	1.386508	n= 43
	Within		343464.6154	-0.415358	4.437991	T = 32
FS ~	Overall	18.9511	2.838959	12.59	27.31	N= 1376
	Between		2.17413	15.75574	24.05585	n= 43
	Within		1.854357	13.69717	23.31232	T = 32

Source: as in table 2

The statistics show that the average values for independent audit committee, block holding, leverage, and firm size are, respectively, 61.1079, 53.841, 827719.38, and 18.9511, while the average values for board size, outside board directors, and shareholdings of directors are, respectively, 12.2180, 80.2114, and 9.2633. In comparison to block holding, leverage, and firm size, the standard deviations for the board size, outside board directors, directors' shareholding, and independent audit committee are 4.835991, 14.9493, 18.39908, and 6.704151, respectively. It should be emphasised as well that the established corporate governance systems have evolved over time. While the minimums for board size, outside board directors, directors' shareholding, an independent audit committee, and block holding are all zero, the minimums for leverage and company size are, respectively, -0.52 and 12.59. The maximum board size, outside board directors, directors' shareholding, and independent audit committee are correspondingly 31, 108.60, 107.00, and 92. The block holding, leverage, and company size were recorded at 91.36, 3.88, and 22.19. Lastly, the maximums for block holding, leverage, and firm size were, in that order, 105.42, 4.78, and 27.31

Table 4: Effect of Corporate Governance Mechanisms on Labour Productivity: Fixed Effect Results

BS	0.152*** (0.0402)
NED	0.00485 (0.00345)
DSH	0.00429 (0.00431)
IAC	0.0102 (0.00882)
BH	0.0151*** (0.00414)
L	-0.317* (0.163)
FS	0.846*** (0.0316)

BS ²	-0.00591*** (0.00215)
Constant	-8.261*** (0.733)
Observations	1,118
R-squared	0.619
F-statistic	120.65***
Number of company	43
Hausman test	47.1***

Standard Error, p0.01 significant at 1%, p0.05 significant at 5%, and p0.1 significant at 10% (in parenthesis)

Source: as in table 2

Table 4 shows how corporate governance affects the labour productivity of Nigerian listed companies. According to the coefficient of determinant R² for the selected firms, the selected corporate governance mechanisms jointly and severally explained about 62% of the changes in labour productivity of the Nigerian listed firms, while only about 38% of the variance is not explained by the independent variables. The model matches well with the sampled businesses, according to the data. The square of board size (BS²) has a negative statistical significance level of 1%, but the board size (BS) from the sampled firms has a positive statistical significance level of 1%

This shows that an increase in board membership will continue to boost performance as measured by labor productivity up until a certain point before it starts to fall. This highlights even more clearly the quadratic relationship between BS and business performance as indicated by labour productivity. Block Holding (BH) is also statistically significant in favour at the 1% level. Raising Block Holding demonstrates that performance as measured by labour productivity will improve. Firm size (FS), a comparable measure of corporate governance, is positively significant at 1%. This depicts that as a firm's size grows, its performance as indicated by labour productivity will also grow. Leverage (L), however, is statistically significant in a negative direction at the 10% level. It demonstrates how a deterioration in the firm's performance as measured by labour productivity will occur as the level of long-term debt is raised relative to equity. The impact of board size on businesses' labour productivity continues to take the form of an inverted U. Block holding and company size, on the other hand, promote higher labour productivity. Leverage, however, lowers the degree of labour productivity. The discrepancy between the profit businesses received from their plants and equipment and the market cost of capital may be the cause of this. Board size, block holding, company size, and leverage all have p values of 0.01 or above, and the fourth indicator has a p value of 0.1, making them statistically significant; as a result, the null hypothesis (H₀) should be rejected for each of these variables. Alternative hypothesis (H₁) for non-executive directors, directors' shareholding, and independent audit committee should be accepted when labour productivity is used as a performance indicator for Nigerian listed companies.

4.2 Findings

This section compares the outcomes of findings with existing literature. The board size and labour productivity of Nigerian listed companies were shown to be positively and significantly correlated in this study. The study also discovered a non-linear quadratic relationship between the two variables since there is an optimum number of board members at which production increases positively but at a declining rate. The findings of Sarpong-Danquah, _Oko-Bensa-Agyekum,_Opoku,.(2022) for Ghana, Phan, and Duong, (2021) for Vietnam Koke of (2001) for Germany, and

Dalton Daily, Johnson, and Ellstrand (1999) for Tunisia are all in agreement with this outcome. On the other hand, using labour productivity as a measure, Yermack (1996), and Boshnak, (2021) indicate that board size is adversely connected with firms' value. Olowookere (2008) and Adewuyi and Olowookere (2009), both for Nigeria, found no correlation between board size and productivity. Thus, the null hypothesis (H_0) needs to be rejected.

The outcome also showed a substantial beneficial association between block holding and the labour productivity of Nigerian listed companies. This suggests that as institutional ownership grows, so does business performance as measured by labour productivity. This finding is reinforced by the studies of Mnasri and Ellouze (2008) for Tunisia, Reddy et al. (2009) for New Zealand, Rubin and Smith (2009) for Canada, Chen, Du, Li, & Ouyang (2013) for China, Shan and McIver (2011) for China, Mnasri and Ellouze (2015) for China, Gaitán et al. (2017) for Latin America, and Boshnak, (2021) for Saudi Arabia, Guluma, (2021) for China.. Block holding and business productivity were found to have a substantial negative association by Herdjiono, I. & Sari, I. M. (2017) for Indonesia, Adewuyi and Olowookere (2009) and Koke (2001). Olowookere (2008), however, found a negligible correlation between Block Holding and businesses' Productivity. As a result, it is necessary to refute the null hypothesis (H_0).

The study also discovered a positive, substantial relationship between firm size and labour productivity in Nigerian listed companies. This outcome was supported by Sarpong-Danquah, _Oko-Bensa-Agyekum,_Opoku,(2022) for Ghana, Leung, Meh, and Terajima (2008b) for Canada. Olowookere (2008) for Nigeria discovered the opposite of what had been observed: a negative correlation between the dependent and independent variables. No statistically significant link between the two parameters was found by Adewuyi et al. (2009) for Nigeria or Tian et al. (2011) for Australia. Consequently, it is essential to refute the null hypothesis (H_0).

Moreover, Leverage has a negative significant association with labour productivity of Nigerian listed firms. Gopinath, Kalemli-Ozcan, Karabarbounis, & Villegas-Sanchez, (2017) for South Europe, Avarmaa, Squera, and Serraqueiro (2013) for the Baltic nations, Khan and Thomas (2013) for Pakistan, and Buera and Shin (2013) for Latin America all support this conclusion. However, Coircelli, Driffield, Pal, and Isabelle (2012) for Central and Eastern Europe, Adewuyi et al. (2009) and Olowookere, (2008) both from Nigeria; Arellano, Yan, and Jing (2012); Ghosh (2009) for India; Tian, et al, (2011) for Australia at variance with the result findings. However, more recent research has been done, as seen in Sarpong-Danquah, _Oko-Bensa-Agyekum,_Opoku,(2022) for Ghana, Mundakkad (2018) for India, Girma and Vencappa (2015) for India observed a positive significant relations between the dependent variable and explanatory variables, and Buera and Yongseok (2013) for Italy argued that as productivity grows, so does a company's borrowing capability. Hence, the null hypothesis (H_0) needs to be negated.

The study also established a positive but insignificant link between the labour productivity of Nigerian listed companies and the shareholdings of directors. This is in agreement with research done for Nigeria by Adewuyi et al. (2009) and Olowookere (2008). In contrast, Min and Smyth (2014) for found a positive correlation between the two metrics for Korea, as did Tian and Twite (2011). Therefore, it is inappropriate to reject (H_0).

This research also showed no significant correlation between the audit committee's independence and the labour productivity of listed Nigerian companies. According to research conducted in Nigeria by Olowookere (2008) and Adewuyi et

al. (2009), Boshnak, (2021) and the connection between the independent and dependent variables was an inverse. As a result, (H_0) should not be declined.

Finally, the analysis demonstrated a favourable but insignificant relationship between independent directors and the labour productivity of Nigerian listed companies. This is not in tandem with China, Xu & Wang (1999) for China who found no positive correlation between board independence and labour productivity. However the findings of Sarpong-Danquah Gyimah, P., Afriyie, R. O., & Asiamah, (2018) for Ghana, Kao Hodgkinson, and Jaafar (2018) for Taiwan, Enilolobo, Adesanmi, and Aigbe (2019) for Nigeria, and Boachie (2021) for Ghana, Gaitán, Herrera, and Pablo (2017) for Latin America, Shan and McIver (2011) Reddy, Locke, Scrimgeour, & Gunasekarage (2008) for New Zealand, and Olowookere, (2008) for Nigeria, who observed a positive correlation between independent board and productivity, are incongruent with this. For Adewuyi et al. (2009) for Nigeria, who discovered, a negligible correlation between the two measures

4.3 Implication to Research and Practice

According to the study, the optimal board size has a positive but diminishing impact on the productivity of Nigerian businesses; as a result, the relationship between the two variables is quadratic. Additionally, the dependent variable is enhanced by an increase in institutional investors and firm size. The ownership of shares by directors, the presence of independent directors, or the independence of the audit committee, however, have no effect on the dependent variable, gauged by labour productivity.

This research contributes to the corpus of knowledge by using thirty two years instead of the standard ten years used by other studies. Analysts of emerging economies, including Nigeria, rarely use labor productivity as a performance indicator. Adewuyi and Olowookere (2009) and Olowookere (2008) are the only empirical studies that specifically explore the connection between corporate governance and business productivity in Nigeria, as far as the researcher is aware. Increases in corporate efficiency have a beneficial effect on financial performance, according to studies conducted in industrialized countries.

As a result, the little empirical data on corporate governance's impact on financial performance in Nigeria point to the anticipated correlative relationship between productivity and financial performance. As a result, the operators who can eliminate the flaw in using financial and market indicators as proxies for businesses' performance and raise firms' performance through the application of productivity would find enormous value in this study. Additionally, it will increase shareholders' value through cash and capital growth. Policy makers can also benefit from the study by analysing the structure and including productivity as a measure to address the limitations of finance and market as proxies for firm performance before computing either. Additionally, scholars will find the study to be a valuable source of data for further research on the topic.

5. CONCLUSION

The study looked at the productivity and corporate governance practices of Nigerian listed companies between 1989 and 2020. The financial statements of the chosen companies and the Factbooks of the Nigerian Stock Exchange were used to gather secondary data. As gauges frequently produce unreliable findings, the subject of the shortcomings of finance and market-based methods of assessing the performance of organizations has been discussed in literature/ This research employs labour productivity to overcome the impasse because studies done in industrialised

countries have demonstrated that there is a positive association between productivity and financial and market performances.

Thus, the study concluded that three of the seven independent factors, including board size, institutional investors, and firm size, have a positive effect on the labour productivity of Nigerian listed enterprises.

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