BOARD STRUCTURE, REMUNERATION AND CORPORATE FINANCIAL PERFORMANCE: EVIDENCE FROM NIGERIAN FIRMS

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ABSTRACT

Corporate governance, encompassing the complex arrangement of board structure, is crucial in guaranteeing the long-term prosperity of a company, protecting the privileges of shareholders, and reconciling the concerns of various stakeholders, such as employees, customers, suppliers, and the wider community. The increasing importance of corporate governance in developing economies such as Nigeria necessitates a comprehensive knowledge of the interplay between these components. This understanding is of utmost importance for policymakers, investors, and business executives. The present study aims to investigate the complex interplay between board structure, executive compensation, and corporate financial performance in the specific context of Nigerian consumer firms.

The research design adopted for this study is longitudinal research design. Secondary data were utilized for the study and sourced from the annual financial reports of the sampled thirteen consumer for the period of twelve years between 2011 to 2022. Data were analyzed using both descriptive and inferential statistics to achieve the study objectives. Panel regression was used to analyze the effect of board structure and board remuneration on corporate financial performance of selected consumer firms in Nigeria. Finally, Box plots were also used to remove the effects of outlier that may distort the results of the study.

Results of fixed panel regression showed that board size (BDZ) (P=0.0028), board independence (BNDE) (P=0.025), board gender diversity (BD) (P=0.005) and CEO pay slice (CPS) (P=0.006) have positive and significant impact on return on assets for consumer goods firms. The box plots also show information about the data set's outliers. This could be owing to anomalous values in the predictor variables. Hence, this study uncovers a problem that has never been adequately addressed by any Nigerian scholar working on board structure, remuneration and corporate financial performance of firms in Nigeria while taking into account assumption of outliers

The study concluded that board structure and remuneration had positive and significant effect on corporate financial performance. It is therefore recommended that the firms should enhance executive performance through clear metrics, shareholder engagement, regular board evaluations, compliance with corporate governance codes, and penalties for non-compliance.

Keywords: Corporate governance, board structure, remuneration, corporate financial performance, panel regression

1.0 INTRODUCTION

Every company's ability to generate gains and boost stock price is a sign that it will succeed in the long run. Investors consider this possible power when deciding which investments to make. Through their corporate governance mechanisms, firms are also assessed for the quality of their control and management (Bacha, 2019). KPMG (2020) highlights the importance of sound corporate governance principles in Nigeria, particularly in the context of the COVID-19 pandemic. The pandemic has significantly impacted Nigerian industries, with lockdowns, devaluation of local currencies, and the decline in crude oil prices (Zhitao, Adel, Laoucine, Abdelfatteh, 2020).

The effectiveness of the board is affected by factors such as board size, independence, gender diversity, CEO pay, audit committee size, and equity ownership (Usman, Oladejo, Alimi and Adeoye, 2022). The study aims to measure the performance of consumer goods companies with appropriate remuneration, which are crucial for firms and policymakers. The disclosure of directors' compensation fosters transparency and enables shareholders to utilize their ownership rights in a knowledgeable manner. This study is crucial for ensuring that executive directors are fairly compensated for their success.

Nigeria's economic structure is characterized by agriculture, oil and gas, and consumer products manufacturing. Agriculture accounts for over half of the GDP, while oil and gas contribute over 95% of export earnings and 85% of government revenue (Chete, Adeoti, Adeyika and Ogundele, 2016). However, only 6% of economic activity is industrial, with manufacturing making up 4% of GDP in 2011 (Nkiruka, 2022). The country's consumer products manufacturing industry experienced a 25% increase in production costs in the first half of 2020, despite rising inflation (Peter, 2022). Boards of directors have faced criticism for declining shareholder wealth and firms' failures, with scandals and accounting irregularities cited as reasons. Research has focused on the remuneration of directors and the suitability of performance measures linking remuneration with performance (Van Essen, Heugens, Otten, and van Oosterhout, 2012). The debate on executive directors' remuneration is driven by concerns about overpaying directors, particularly in consumer goods companies. By addressing these issues, Nigerian firms can improve their financial performance and contribute to the country's overall growth and success. A new study is needed to examine board structure, remuneration, and impact on firm performance in Nigeria. The study is divided into five parts, including an introduction, literature review, methodological aspect, results and discussions, and conclusions and recommendations.

Research Hypotheses

Ho1: Board structure has no significant effect on corporate financial performance of Nigeria's selected consumer goods firms

Ho2: Board remuneration has no significant effect on the financial performance of selected consumer good firms in Nigeria

2.0 LITERATURE REVIEW AND CONCEPTUAL EXPLANATION

2.1 Theoretical Review

The Stewardship Theory

This was developed by Donaldson and Davis in 1991 out of their seminar work in 1976 with regards to corporate governance. The theory holds that, because people can be trusted to act in the public good in general and the interest of their shareholders in particular, it becomes reasonable in creating management and authority structures. This is because they provide unified command and facilitate autonomous decision making, enable companies to act (and react) quickly and decisively to market opportunities. According to this theory, managers represented by the board of directors are considered a good stewardship that will actually act in the best interest of owners. Donaldson and Davis (1991), observe a strong connection between managers and firm good performance thereby protecting and optimizing the shareholders' value. It is expected that acting in the best interest of the owner will lead to firm success.

Stakeholder Theory

This idea first appeared in Milton Friedman's work (1970). The stakeholder principle notes that all stakeholders must be taken into account in the organization's decision-making process (David and Shahla 2014). According to this theory, the management of stakeholders, or corporate social responsibility, is not an end in itself but is merely seen as a way of enhancing economic efficiency. While it is explicitly stated by Atkinson, Waterhouse and Wells (1997), this belief is also implied and is inconsistent with the ethical reasons for following the theory of stakeholders. Therefore, instead of enhancing economic or financial performance, stakeholder management suggests that a wider corporate social performance target should be used (Jones and Wicks, 1999).

The Gaia Theory

In the 1970s, Lovelock proposed the Gaia Hypothesis, a concept that posits Earth's ecosystem and living matter are interconnected. This theory suggests that all animals and their environments form a complex self-regulating system that preserves the planet's living conditions. Organization theory emerged as firm-centric, controlling actions only as they influenced the firm. The Gaia hypothesis emphasized the interdependence of organisms and the consequences of actions on their environment. This concept can be extended to modern society's economic activity organization and its implications (Lovelock, 2000)

Signaling Theory

Although the signaling theory was initially developed to explain the information asymmetry in the labor market (Spence, 1973), it has also been utilized to explain voluntary disclosure in corporate reporting (Ross, 1977). Signaling theory focuses on how businesses interact with financial statements, using financial success as a signal. Profits influence dividend policies, increasing share prices and attracting investors (Karasek III & Bryant, 2012). The theory suggests that communication is costly, and signals provide information about the sender's intentions. It assumes rational communication between sender and receiver, but individuals may have limitations or biases that affect their ability to accurately assess signals (Steigenberger & Wilhelm, 2018).

2.2 Concept of Board Structure, Remuneration and Financial Performance

Equity Ownership Structure

Among the aforementioned four internal governance mechanisms, ownership structure is vital to the firm's wealth maximization. It is believed that when equity concentrated ownership is with certain group of shareholders, they will then possess a significant discretionary power to use the firm's resources for personal gain at the expense of other shareholders (Claessens, Djankov & Lang, 2000).

Board of Directors

The board of directors is the second device through which shareholders can exercise influence on the behaviour of managers to ensure that the company is run in their interest (Hermalin, & Weisbach, 2003). The monitoring role of the board of directors is compromised in duality functions when a CEO controls the board fully or partly. The result of this is expected to have a negative effect on a firms overall corporate governance level. When the board is dominated by members of the management team, the effective monitoring and control is hindered.

Managerial Compensation

Providing the executives with incentive-related pay is another potent device to govern their behaviour (Jensen & Murphy 1990). They stated that the interest of the top managers can be better aligned with that of the shareholders if they have a big stake in the organization. This may be measured by the percentage of shares that these top executives hold as a measure of their pecuniary interest in the organization.

Board Size

Board size which uses the number of directors as a proxy is an essential yardstick in corporate governance. Previous studies on board size show that there exists both a positive and negative relationship between board size and firm value. Mak and Yuanto (2003) found that firm value is highest when board sizes are small. Sanda et al. (2005), on the other hand, discovered that small board size, rather than large board size, is positively associated with firm financial efficiency.

  i. The composition of the board of directors and a clear-cut job definition of all board members is another index.
  ii. Separation of the CEO from the chairman of the board of directors. Previous studies showed that firms are more valuable when the CEO and the chairman of the board positions are manned by different persons.

The composition of board members is also proposed to help reduce the agency problem (Hermalin and Weisbach, 2017). The proportion of outside directors on the board of directors is assumed to have a positive relationship with firm efficiency. Outside directors, instead to inside directors, are more positioned to challenge CEOs. Outside directors are expected to make up at least two-thirds of the board in the United Kingdom, perhaps in acknowledgment of their

importance. In the United States, they must make up at least three-quarters of the board (Bhagat and Black, 2002).

Block holdings or ownership concentration

The next significant element of governance mechanisms examined is ownership concentration, which refers to the proportion of a firm's shares owned by a given number of the largest shareholders. A high concentration of shares puts more pressure on managers to act in ways that maximize shareholder value. According to Shleifer and Vishny (2017), an increase in ownership concentration would be correlated with an increase in firm value at low levels of concentration, but the relationship may be negative above a certain level of concentration.

Audit Committee

The principle behind audit committees varies according to the objectives, functions, and responsibilities assigned to them. According to Arens, Elder and Beasley (2009), an audit committee is a group of people chosen from the board of directors who are responsible for maintaining the auditor's independence. Furthermore, according to Al-Thuneibat (2006), it is a committee made up of non-executive directors in the company. The audit committee was formed with the primary aim of improving the quality of auditing and questioning of the board of directors.

CEO Pay Slice (Remuneration)

According to Bebchuk, Cremers, and Peyer (2011), the CEO's pay slice (CEOP) reflects the CEO's relative importance in terms of skills, contribution, and power. CEOP is described by Bebchuk et al.(2011) as the CEO's total compensation as a percentage of the combined total compensation of the company's top five executives (including the CEO). Salary, bonus, other annual pay, long-term retention payouts, the total value of restricted stock awarded that year, Black-Scholes value of stock options granted that year, and all other total compensation are included in total compensation. Previous studies have used a variety of power metrics, including the number of titles held by the CEO and CEO duality, in which one person serves as both CEO and chairman of the board (Adams et al. 2007; Harrison, Torres, and Kukalis 1988).

2.3 Review of Empirical studies

Board structure, remuneration, and corporate financial performance are critical elements of corporate governance, and they have been the subject of extensive research in the literature. In recent years, researchers have paid particular attention to the Nigerian context, where the corporate governance environment has undergone significant changes. This section provides a review of empirical studies on board structure, remuneration, and corporate financial performance in Nigerian firms.

Board Structure and Firm Financial Performance:

Several studies have examined the relationship between board structure and corporate financial performance in Nigerian firms. A study by Abdullahi (2017) found a positive and significant

relationship between board size and return on assets (ROA), indicating that larger boards positively affect firm performance. However, another study by EL-Maude, Bawa and Shamaki (2018) found a negative and significant relationship between board size and ROA, suggesting that smaller boards are more effective in enhancing firm performance. Similarly, studies by Sharifah, Syahrina and Julizaerma (2015) found a positive and significant relationship between board independence and ROA, indicating that independent boards enhance firm performance. However, a study by Afzalur (2018) found no significant relationship between board independence and firm performance.

Remuneration and Corporate Financial Performance:

The relationship between remuneration and corporate financial performance has also been examined in several studies. A study by Mohamed, Amr and Ahmed (2019) found a positive and significant relationship between executive remuneration and ROA, suggesting that higher executive pay enhances firm performance. However, another study by Junarsin (2011) posited a negative and significant relationship between executive remuneration and ROA, indicating that higher executive pay negatively affects firm performance.

Board Structure, Remuneration, and Corporate Financial Performance:

A study by Shubhi (2020) found a positive and significant relationship between board independence and executive pay, indicating that firms with independent boards tend to pay their executives more. However, this study did not find a significant relationship between board independence and firm performance. Similarly, a Chaohui, Su, Subhan, Raza, and Farid (2021) found that the positive effect of executive pay on firm performance is more pronounced in firms with larger boards. This suggests that the combination of board structure and remuneration is an important determinant of firm performance. PeiZhi and Ramzan (2020) stressed that the capital structure with the optimum balance of debt and equity is the primary decision made by the board of directors to make organizations profitable. His research involves both time-variant and time-invariant variables, and these variables often have the issue of an outlier. The study is primarily interested in the impact of corporate governance and capital structure on companies' market-oriented and accounting-based results, particularly concerning outliers. For the period 2013 to 2017, For 45 publicly traded Chinese companies, M-estimators and S-estimators of robust regression were used to test hypotheses. The findings show that companies with a board of directors, independent directors, institutional investors, an audit committee, and female directors have a higher chance of succeeding.

Adeolu and Afolabi (2019) used a regression model to analyze publicly available data for a sample of ten Nigerian listed companies to determine the effect of corporate governance on results. The research used a sample of 64 publicly traded non-financial companies from 2002 to 2006 to capture the effect of the New Code of Corporate Governance, which was published in 2003, on previous findings. Estimates based on panel regression show that board size, audit committee independence, and ownership concentration help result. Higher independent directors and directors' portion of shares unexpectedly dampen performance, while firms vesting both the roles of CEOs and chairs in the same individual perform better

Board structure, remuneration and corporate financial performance were examined for several years, however, researchers have observed various outcomes in different contexts. There is also

no particular outcome that can be generalized on the scale of the relationship between the board structure, remuneration and corporate financial performance in Nigeria using consumer goods firms, so this new research is constant to gain a more complete understanding of the nature of the relationship between Board structure, remuneration and corporate financial performance. It is therefore very important to see the relationship in Nigeria as a developing economy

Further study was specifically carried out in Nigeria on manufacturing company sectors by Oke, Saheed, and Quadri (2019) using the ordinary least square method and Muritala and Oguntade (2013) using Panel Least Square (PLS) regression and the annual data of five firms for a period of eleven years (2002-2012) were employed with one or two dependent variables. Their studies have methodological inadequacies of not taking into cognizance of adequate sample size. To adjust and control for relationship that may exist, granger causality and correlation analysis are employed in this study which creates an important gap

3.0 METHODOLOGY

This study used a longitudinal design covering a time period of twelve years from 2011 to 2022. Since this study is on board structure of quoted consumer firms in Nigeria, population of the study is made up of firms listed on the floor of the Nigerian Exchange Group (NXG). However, firms belonging to the financial services industry and regulated utility companies are excluded from the population. The study only considered firms that had been listed and had full financial statements from 2011 to 2022. Simple random and purposive sampling technique are used in selecting the sample used for this study. A total sample of twelve (12) firms was selected for the study. Information relating to firm performance (ROA) and board characteristics (board size, board independence, board gender diversity, audit committee size and CEO pay slice) were collected from the sampled company's annual reports for the year ended 2022. Dependent variable of the study is firms' financial performance which is represented by ROA and (measured as the proportion of Profit after tax to total assets). The independent variables are bored size, board independence, board gender diversity, audit committee size and CEO pay slice. The data used for the study were collected via the official listing of the Nigerian Exchange Group which constituted the secondary data. A control variable, according to Bowerman et al., (2003), is a variable that is kept constant during an experiment to analyze or clarify changes in other independent variables. To evaluate the relationship between corporate governance procedures and company success, this study used total assets as a control variable. At the end of the year, total assets represent the book value of all firm assets (Alagha 2016; Pathan et al., 2007). In this study, pooled regression was used. Outliers were discovered with high-leverage data points in some cases. There is no evidence of a data entry or other form of error in these data points. As a consequence, outliers were not overlooked in this analysis; then, a robust regression, which is the best method for dealing with outliers, was used.

The fixed effect (FE) estimator of the panel OLS analysis and the GLS random effect (REGLA) estimator of the panel OLS on the strongly balanced panel were conducted in this study to compensate for the within-effect of the firms, which may skew the predictor or outcome variable. As a result, FE removes time-invariant features within groups, and the analysis measures the explanatory's exact effect on dependent variables (Bartels 2016). Afterward, the analysis of the study also employed the GLS random effect estimator of the panel OLS model

to protect the findings from heteroscedasticity and autocorrelation problems since the model includes both time-variant and time-invariant variables, which are prone to heteroscedasticity and autocorrelation (Aslam, Kalim and Fizza 2019). The random-effects model is based on the assumption that variance between entities is random and uncorrelated with the explanatory or independent variables used in the model (Bartels 2016).

The fixed effects model is

$$y_{it}, = \alpha + \beta^{`}X_{it} + \mu_{it},$$
$$\mu_{it} = \mu_i + v_{it}$$

$\mu\_i$are individual-specific, time-invariant effects because they are taken as fixed over time

The random effects model is stated as:

$$\mu_i \approx i.i.d. N(0, \sigma_\mu^2)$$

And

$$v_i \approx i.i.d. N(0, \sigma_v^2)$$

assumes that the two error components are independent of each other. The Hausman test is used to select the most appropriate model out of the two. This test is employed to determine the existence of any significant difference between the estimates of the fixed effect regression and that of the random effect regression. It follows the asymptotic chi-square distribution with the null hypothesis that the random effect is most appropriate.

Multicollinearity, Autocorrelation and Heteroscedasticity Test

The analysis employed a variance inflation factor (VIF) to check for multicollinearity, the Durbin-Watson test to check for autocorrelation, and the Breusch Pagan and Cook-Weisberg tests to check for heteroscedasticity of the variance of the residuals.

Model Specification

This study adapted the econometric model of PeiZhi and Ramzan (2020) with little modification stated as follows;

$$FP_{it} = \alpha + \alpha_1 BS_{it} + \alpha_1 BR_{it} + \eta_i + v_t + u_i + \varepsilon_i)$$

where $⟦FP_{it}⟧\_it$ is the performance of firm i at time t, $⟦BS_{it}⟧\_it$ is board structure of firm i at time t, $⟦BR_{it}⟧\_it$ is board remuneration. v_t is a time-fixed effect that will be used to control for unobserved time-variant effects to all firms in the study while η_i is firm fixed effect to control for unobservable firm-specific and time-invariant heterogeneity, u_i is for between-entity errors, and ε_i is within entity errors.

Model: Board structure, board remuneration and financial performance (ROA) of selected consumer goods companies in Nigeria

ROAt = f(BNEDt, BDZt, CPSt, EQt, ADCt, NLTAt , BDt)_____(Eqtn 3.2)

$$ROA_{cs} = \alpha_0 + \alpha_1 BIND_i + \alpha_2 BDSZ_i + \alpha_3 CEPS_{it} + \alpha_4 EQO_t + \alpha_5 ADCZ_t +$$
$$\alpha_6 BGD_t \alpha_7 lnTA_{it} \varepsilon_{it} \text{—————————————————————Eqtn 3.3)}$$

Where:

Dependent variables

$$ROA_{cs} = Return\ on\ assets\ of\ selected\ firms\ i\ in\ consumer\ sector$$

BNDE=Board of Independent Director
BDZ = Size of board of directors
BD = Board Gender Diversity
EQ = Equity ownership
CPS = CEO pay slice
ADC = Size of Audit Committee
NLTA= Natural logarithms of total assets

eit, = Stochastic error Term
   $\alpha_1 - \alpha_7 = regression\ parameters$
   i=individual firms
   t=time

The a priori expectation is such that:

$BNDEt, BDZ_t, BD_t\ EQ_t, ADC_t, Ln\ TA, CPS_t > 0$. A positive relationship is expected between explanatory variables ($BNDEt, BDZ_t, BD_t\_EQ_t, ADC_t, Ln\ TA, CPS_t$) and the dependent variable (ROA). The correlation coefficient (β_o) will help to explain the various levels of association between the independent variables.

Descriptions of Variables and Measurement

Table 1 represents the variables that were used in the model to capture board structure and board remuneration, and firm financial performance and how they will be measured:

Table 1: Measurement of Variables

Variables	Definitions	Previous Studies
Return on Asset (ROA)	This measures the net income divided by total assets at the end of the year	Ahmadi et al. (2018), Đặng et al. (2020) and Yang et al (2019)
Board size (BDZ)	Total number of directors that are on the board	Haque, Deegan and Inglis (2016)
Equity ownership (EQ)	The percentage of equity ownership held by the management who run the operations of the firm	Ahmadi et al. (2018)
Audit Committee size (ADC)	Total number of members of the Audit committee	Werder, Talaulicar and Kolat (2005).

Board Independence (BNED)	Board Independence is measured as the ratio of non-executive directors on the Board divided by the total directors on the Board	Nadeem, Suleman and Ahmed (2019)
Board gender diversity	Percentage of Female Executives	Haque, Deegan and Inglis (2016)
CEO pay slice (CPS)	Fraction of the total compensation to the group of top-five executives that is received by the Chief executive officer (CEO)	Xiangwei (2017)
Firm size	Natural logarithms of total Assets	Byoun et al. (2016)

Source: Author's compilation, 2023

4.0 RESULTS AND DISCUSSIONS

Unit Root Tests

Table 2 reported all the variables used in the study for consumer goods companies and the first row of the table depicts different panel unit root test results which are given at the level as well as the first difference against each variable. The results indicated that most of the variables are stationary at the level and other variables are stationary at first difference i.e I(1)

Table 2: Unit Root Test

Variables	IPS		FADF		LLC	
	I(0)	I(I)	I(0)	I(I)	I(0)	I(I)
ROA	-3.10	-3.57	-3.57	-5.70	90.15	144.68
BDZ	2.87	-3.96	0.41	-5.37	20.29	195.35
BNDE	-2.61	-7.78	-5.98	-12.04	64.15	144.91
BD	-2.01	-3.43	-5.57	-6.86	62.31	150.09
CPS	1.50	-3.28	0.72	-6.07	46.94	223.48
ADC	1.22	-4.44	0.18	-6.10	49.94	155.91
EQ	-1.02	-1.54	-3.91	-3.80	46.56	140.26
NLTA	-1.26	-3.48	-3.82	-6.47	77.40	179.17

Source: Field Survey, 2023
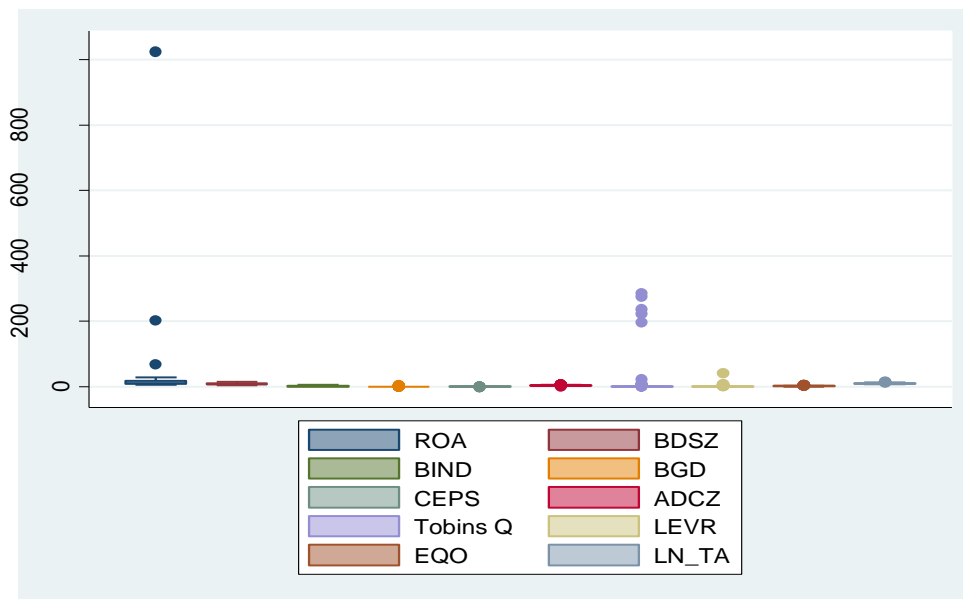
Detection of Outliers

The results of correlation analysis for both sectors demonstrated that the residual terms are not related to even a single predictor. As a result, the research moves on to the next diagnostic test, an outlier identification test in a model. The box plot in the figure shows information about the data set's outliers. The observations with large residual values are known as outliers, and this could be owing to anomalous values in the predictor variables. Any observation of predictor variables with extreme values has a larger leverage point; a higher leverage point has a more significant impact when the regression coefficient is measured in the study (Veradi, 2022).

Vertical outliers are observations with extreme values near the Y-axis, while poor variables are observations with extreme values near the x-axis. Figure 1 shows an outlier problem in this study, which means that we must first remove any outliers that are present. The outlier has been

removed, as shown in Figure 2. As a result, when extreme values are observed in the study model observations, the estimate of the Panel OLS model is disrupted.

The statistical power of the study would be reduced in the presence of the outlier, leading to incorrect conclusions. Then, would it be wiser to eliminate the outlier? Removing the outlier might be a possibility if researchers are solely interested in good statistical results

Consumer Goods Firms

Figure 1: Detection of Outliers through Box cox

Source: Field Survey, 2023
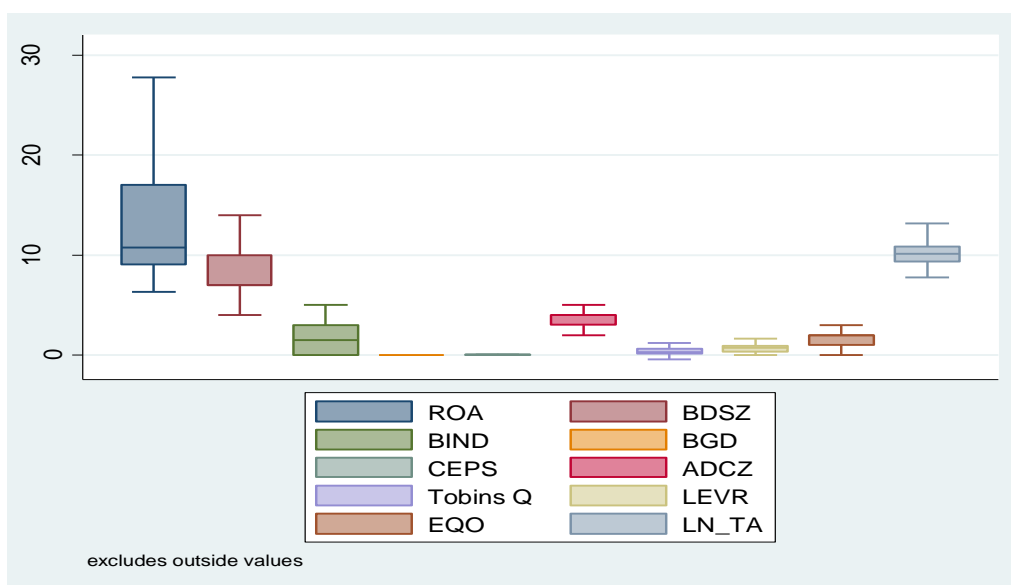
Figure 2: Removing of Outliers through Box cox plot

Source: Field Survey, 2023

Descriptive Analysis

The descriptive statistics presented a summary of all variables employed in the study for consumer and industrial goods firms. Statistics reported under this section include meaning, standard deviation, minimum, and a maximum of the pooled observations of all variables across units and periods i.e 13 consumer goods companies over twelve years period spanning 2011 to 2022. A summary of the descriptive statistics is presented in table 4

The minimum value of the variable ROA is 22 percent for consumer goods, while the maximum, or most significant, value of ROA is 77.000. The arithmetic mean across the observations is the most widely used measure of central tendency. It is commonly called the average. The descriptive statistics of all the variables were examined; the ROA value of 52.6615 for consumer goods companies showed the average return from assets of each firm. This means that every company listed on the Nigerian Stock exchange generates an average profit margin of 42% and 53% of the total assets which is a good indicator for consumer markets.

Table 4: Descriptive Statistics

Variables	N	Mean	Standard deviation	Minimum
ROA	156	52.66154	14.3395	22.0000
BDZ	156	9.33077	1.64443	6.0000
BNDE	156	6.29262	1.35935	0.0700
BD	156	1.85385	0.81755	1.0000
EQ	156	29.6692	6.8476	12.000
CPS	156	41.2231	17.7660	6.0000
ADC	156	3.37692	0.6502	2.0000
NLTA	156	10.2965	1.2299	7.7941

Source: Field Survey, 2023

Effects of Board structure and remuneration on the Financial Performance

Panel OLS Estimation

The panel OLS is a good choice of estimation because it minimizes squared residuals and enhances model accuracy. Moreover, the most restrictive panel data estimating technique is the pooled OLS estimator, which assumes that the regression coefficients and constant estimates are the same for all cross-sectional subjects over time (Aslam et al., 2019). Table 5 reported the estimates of model 1 specified in the study with the focus of ascertaining the connection between board structure, board remuneration and the financial performance of Nigerian consumer goods firms. The table 4.8 presents estimate of explanatory variables including board size (BDZ), board independence (BNDE), board gender diversity (BD), CEO pay slice (CPS), audit committee size (ADC), equity ownership, and the natural logarithm of total assets (NLTA) and for dependent variables such as return on asset (ROA).

Table 5 revealed the coefficient estimates reflecting the impact of all the explanatory variables on return on asset. Specifically, it reported estimates of 0.00826, 0.02013, 1.78919, 0.04586, -0.01602, -0.00380, and 0.00251 for board size (BDZ), board independence (BNDE), board gender diversity (BD), CEO pay slice (CPS), audit committee size (ADC), equity ownership (EQ) and the natural logarithm of total assets (NLTA) respectively. The reported probability values corresponding to the reported estimates in table 6 stood at 0.200, 0.240, 0.043, 0.514, 0.302, 0.707, and 0.687 for BDZ, BNED, BD, CPS, ADC, EQ, and NLTA respectively. The estimates and corresponding probability values reported showed that board size, board independence, board gender diversity, and CEO pay slice exert a positive impact on the financial performance of the sampled consumer goods companies measured in terms of return on asset, while the audit committee and equity ownership on return of asset tends to be negative.

The image of this positive relationship is presented when these components of corporate governance increase, it can trigger higher financial performance in terms of increased return on assets. Contrariwise estimation result reported in table 6 revealed that the financial performance of the selected consumer goods companies measured in terms of return on assets tends to decline by an average unit of -0.01602, and -.00380 for every one unit increase in audit committee size and the number of shares held.

Evaluation of the significance of the parameter estimates at a 5% level of significance revealed among all the reported coefficient estimates only the estimates corresponding to board gender diversity is statistically significant, which means that among all the explanatory variables board gender diversity has a significant influence on the financial performance of the sampled consumer goods companies measured in terms of return on asset. R-square statistics reported in table 5 stood at 0.3930 which connotes that about 39 percent of the systematic variation in the financial performance of the sampled consumer goods companies measured in terms of return on assets can be explained jointly by corporate governance variables including board size (BDZ), board independence (BNDE), board gender diversity (BD), CEO pay slice (CPS), audit committee size (ADC), equity ownership and the natural logarithm of total assets. This showed that the joint explanatory variables did not explain much of the variation.

Reported f-statistics and probability values of 1.29 and 0.00258 respectively authenticated the level of significance of the joint influence of all explanatory variables used to proxy board structure, board remuneration and financial performance measure in terms of return on asset.

Table 5: Pooled OLS Parameter Estimates

Series: ROA BDZ BNDE BD CPS ADC EQ NLTA

Variable	Coefficient	Standard Error	T-Test Values	Probability
C	0.05812	0.09461	0.61	0.540
BDZ	0.00826	.0.00641	1.29	0.020*
BNDE	0.02013	.0.01706	1.18	0.024*
BD	1.78919	0.87372	2.05	0.013*
CPS	0.04586	0.07013	0.65	0.514
ADC	-0.01602	0.01546	-1.04	0.520
EQ	-0.00380	0.01009	-0.38	0.707
NLTA	0.00251	0.05813	0.40	0.687

> *R-square= 0.3930, Adjusted R-square=0.2932, F-statistics=1.29 Prob(F-stat)= 0.0258*

Source: Field Survey, 2023

Fixed and Random Effects of Examining Board Structure and Remuneration on the Financial Performance of Selected Consumer Goods Firms in Nigeria

A fixed effect model is based on the assumption that observations are heterogeneous or individual, with each sampled firm having its intercept value. In essence, the fixed-effect model assumed that, while the intercept may vary between firms, it remains constant over time. The fixed effect test is used to uncover the impact of other factors that aren't included in the study's pooled OLS model. The random effect model, on the other hand, implies that all of the subjects in the sample size (firms) have a uniform mean value as an intercept. This implies that the heterogeneity is random and is accounted for in the overall error term (Kayode et al., 2020). Table 7 showed a summary of the findings of both the fixed and random effect tests. Hausmann test indicated that the fixed effect is an appropriate model for this study

The result of the fixed effect estimation for model 1 is shown in Table 7. The findings revealed that board size, board independence, board gender diversity, CEO pay slice, and the natural logarithm of total assets had positive and significant impact on consumer goods of selected firms' performance measured in terms of return on assets, while audit committee size and equity ownership have a negative impact on performance measured in terms of return on assets. The reported R-square statistics in table 7 were 0.4456, implied that board size, board independence, board gender diversity, CEO pay slice, audit committee size, equity ownership, and the natural logarithm of total assets can explain about 45 percent of the systematic variation in the return on equity of the selected consumer goods companies.

When the heterogeneity effects are subsumed into the error term, Table 7 showed the influence of board size (BDZ), board independence (BNDE), board gender diversity (BD), CEO pay slice (CPS), audit committee size (ADC), equity ownership (EQ) and the natural logarithm of total assets (NLTA). For BDZ, BNDE, BD, CPS, ADC, EQ, and NLTA, table 7 reported coefficient estimates of 0.0082597, 0.201336, 1.789098, 0.0045857, -0.0160212, 0.0038041, 0.0025047 respectively. Table 7 indicated an R-square value of 0.5545, indicating that all explanatory factors combined can explain around 55 percent of the systematic variance in return on assets as a performance indicator.

Table 7: Fixed and Random Effect Estimation

| Variable | Fixed Effects Model | | | | Random Effects Model | | | |
| | Dependent Variable (ROA) | | | | Dependent Variable (ROA) | | | |
	Coefficient	Standard Error	T-Test Values	Probability	Coefficient	Standard Error	T-Test Values	Probability
C	0.06936	0.870693	0.69	0.495	.058126	.09461	0.61	0.539
BDZ	0.00809	0.00667	1.21	0.028	.0082597	.0064123	1.29	0.198
BNDE	0.02021	0.01772	1.24	0.025	0.201336	0.17061	1.18	0.238
BD	1.77175	0.92248	1.92	0.005	1.789098	.8737219	2.05	0.041
CPS	0.03792	0.07337	0.52	0.006	.0458569	.0701281	0.65	0.513
ADC	-0.01674	0.01627	-1.03	0.305	-.0160212	.0154622	-1.04	0.530

EQ	-0.00329	0.01091	-0.30	0.763	-.0038041	.0100901	-0.38	0.706
NLTA	0.001818	0.00674	0.27	0.788	0.0025047	.0062066	0.40	0.687
	R-square= 0.4456, Adjusted R-square=0.3692, F-statistics= 2.08, Prob(F-stat)=0.0050 Hausman Test chi2(7) =89.28 Prob>chi2 = 0.00001				*R-square= 0.5545, Adjusted R-square=0.4532, F-statistics= 13.08, Prob(F-stat)=0.0030*			

Source: Field Survey, 2023

5.0 DISCUSSION OF FINDINGS

Post-estimation tests conducted in the study revealed that the most consistent and efficient estimations that best track the impact of the corporate governance variables on performance indicators are those presented in table 8 for model 1 where performance was measured in terms of return on assets (ROA). From the estimated results presented in the above-listed tables the following discoveries were made:

1. The findings revealed that board size, board independence, board gender diversity and CEO pay slice had positive and significant impact on selected consumer firms' performance measured in terms of return on assets, while audit committee size and equity ownership had a negative impact on performance measured in terms of return on assets. As reported in table 7, performance measured in terms of return on assets tends to increase on average by 0.00804, 0.02021, 1.77175 and 0.0397 for every one percent increase in the board size, board independence, board gender diversity and CEO pay slice for consumer goods.

2. The discovery made in this study about the interrelationship between board qualities and performance is in agreement with the apriori expectation, according to an evaluation based on a-priori expectation. This finding supports recent findings by Peizhi and Ramzan (2020), Khan and Subhan (2019), Kung and Munyua, (2016), and Ruth and Korolo (2017) that board composition had a beneficial impact on a company's financial performance. The result disagreed with the findings of Opanga (2013). Through deductive reasoning, it could be established from this discovery that any manufacturing company in the country can maximize their performance by increasing proportion of board size, board remuneration, board independence and board gender diversity sitting on the board.

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The study concluded that corporate governance variables had a positive and significant effect on the accounting-based measure of performance whereas in terms of market-based measure of performance, board size and board gender diversity were positive and significant for consumer firms. The presence of independent directors on the board has a beneficial impact on how well the company performs. The effectiveness of such independent directors on the board would be in jeopardy if there were no association or negative relationship with the firm's performance. The corporation may have the necessary number of independent directors on its

board, according to Wang and Oliver (2009), but various measures have been taken to limit these directors' authority.

The study is in agreement with Wallison (2006), asserted that having independent directors on the board was not for better performance but for better governance in response to the conflicting results of the association between independent directors and business performance. In order to improve a company's performance, the board should be independent so that shareholders may oversee management and executive director actions. As a result, the executive directors would not have any opportunity to act improperly in their own best interests.

The study also concluded that corporate governance is used by the corporation not just to increase profits but also to improve corporate social performance. Firms should exercise their corporate accountability to diverse companies' stakeholders while using the stakeholder value strategy. Instead of defending shareholders' interests, it now prioritizes stakeholders' interests. Meanwhile, the increased number of outside directors on the board can keep an eye on top management's opportunistic behavior and help to solve the agency issue (Fama and Jensen, 1983).

Board independence also can help to mitigate bad corporate reputation due to the disclosure of information to shareholders (Zhang, 2012). Further, a previous study by Dunn and Sainty (2009) on the relationship of the board characteristics and corporate social performance, showed a positive relationship.

6.2 Recommendations

Based on the above conclusion, the following recommendations are suggested:

1. The evaluation mechanism should be designed to factor in dynamic adjustment that might be inherent in the patterns of influence of board structure on performance.
2. Since the least square result revealed a negative relationship between audit committee size and financial performance as measured by ROA, the FIRS-issued code of corporate governance in Nigeria must consider compliance with other appropriate measures such as competence (financial expert in committee) and independence of the committee, which will ensure a check and balance framework in the audit process and thus positive performance.
3. The manufacturing companies' regulatory bodies should act as soldiers to all the firms in the country so as to monitor and enforce the effective corporate governance practice.

REFERENCES

Abdullahi, B. A. (2017). Corporate Governance as a mechanism for measuring Financial Performance of Banks in Nigeria. Journal of Finance, Accounting and Management, 8(1): 1-19

Adams, R., Almeida, H., & Ferreira, D. (2007). Powerful CEOs and their Impact on Corporate Performance. Review of Financial Studies, 18(4), 1403-1432

Afzalur, R. (2018). Board independence and firm performance: Evidence from Bangladesh. Future Business Journal Volume 4, Issue 1, June 2018, Pages 34-49.

Ahmadi, A., Nakaa, N., & Bouri, A. (2018). Chief Executive Officer attributes, board structures, gender diversity and firm performance among French CAC 40 listed firms. Res Int Bus Finance 44:218–226. https://doi.org/10.1016/j.ribaf.2017.07. 083

Alagha, H.S. (2016). Corporate Governance Practices and Firm Performance of Listed Companies Including Islamic Financial Institutions in the United Arab Emirates', Victoria University

Al-Thuneibat, A. (2006) Audit in the light of the international auditing standards and regulations and local laws: the theory and application. Amman, Jordan University publications.

Arens, A., Elder, R. & Beasley, M. (2009). Auditing and Assurance Services: An Integrated Approach. Pearson.

Aslam, E., Kalim, R., & Fizza, S., (2019). Do Cash Holding and Corporate Governance Structure Matter for the Performance of Firms? Evidence from KMI 30- and KSE 100- Indexed Firms in Pakistan. Global Business Review. 1–18.

Atkinson, A. A., Waterhouse, J. H., & Wells, R. B., (1997). A stakeholder approach to strategic performance management, Sloan Management Review, Spring.

Bacha, S. (2019). Corporate Governance Practices and Audit Quality: Do They Matter for the Cost of Debt? Theoretical Economics Letters, 9, 2262-2282. doi: 10.4236/tel.2019.97143.

Bebchuk, L. Martijn Cremers, A. J. & Peyer, Urs. C (2011). The CEO pay slice. Journal of Financial Economics. 102(1):199-221

Bowerman, B. L, O'Connell, R.T, Murphree, E, Huchendorf, S.C & Porter, D.C (2003). Business statistics in practice, McGraw-Hill/Irwin New York.

Chaohui, W., Su, Z., Subhan, U., Raza, U., Farid, U. (2021). Executive compensation and corporate performance of energy companies around the world. Energy Strategy Reviews, 38: 100749

Claessens, S., Djankov, S, Fan, J and Lang, L (2002): Disentangling the Incentive and Entrenchment Effects of Large Shareholdings, Journal of Finance, 57(6): 2741-71.

Đặng, R, Houanti L.H, Reddy K, Simioni, M (2020). Does board gender diversity influence firm profitability? A control function approach. Econ Model 90:168–181. https://doi.org/10.1016/j.econmod.2020.05.009

David, C., & Shahla S., (2014). Corporate Governance and International Business. © 2014 David Crowther, Shahla Seifi & bookboon.com ISBN 978-87-7681-737-4.

Donaldson, L. and Davis, J.H., (1991): Stewardship Theory or Agency Theory: CEO Governance and Shareholder Returns. Australian Journal of Management, Vol.16, Pp. 11- 19

EL-Maude, J. G, Bawa, A. B., Shamaki, A. R. (2018). Effect of Board Size, Board Composition and Board Meetings on Financial Performance of Listed Consumer Goods in Nigeria. International Business Research; 11 (6); ISSN 1913-9004 E-ISSN 1913-9012. Published by Canadian Center of Science and Education

Fama, E. & Jensen, M. (2018). Separation of Ownership and Control. Journal of Law and Economics.1983; 8 (1): 301–326.

Fama, E. & M. Jensen (1983). Separation of ownership and control. Journal of Law and Economics 26, pp. 301-325.

Haque, S., Deegan, C., & Inglis, R. (2016). Demand for, and impediments to, the disclosure of information about climate changerelated corporate governance practices. Accounting and Business Research, 46(6), 620–664

Harrison, J. R., Torres, D. L., & Kukalis (1988). The changing of the guard: Turnover and structural in the top management positions. Adams Sci Q. 33: 211-232

Hermalin, B. E., & Weisbach, M. S. (2003). Board of directors as an endogenously determined institution: A survey of the economic literature. Economic Policy Review, 9(1), 7–26.

Ibrahim, N. A., Md Zin, N. N., Md. Kassim, A. A., & Tamsir, F. (2019). How Does Directors' Remuneration and Board Structure Impact on Firm Performance in Malaysia Telecommunication Industry?. European Journal of Business and Management Research, 4(4). https://doi.org/10.24018/ejbmr.2019.4.4.96

Jensen, M and Murphy, K (1990): Performance Pay and Top Management Incentives, Journal of Political Economy, 98, 225-262

Jones, T. & Wicks, A. (1999). Convergent Stakeholders Theory. Academy of Management Review, 24, 206-221.

Junarsin, E. (2011). Executive compensation and firm performance: An empirical examination. European Journal of Economics, Finance and Administrative Sciences.

Kayode, P. A., Oke, M. O., and Adegboyega, A. O. (2020). Firm Characteristics and Stock Returns of Nigerian Quoted Firms: A Two-Sector Comparative Analysis. In: Journal of Economics and Business, 3 (1): 313-327. ISSN 2615-3726. DOI: 10.31014/aior.1992.03.01.200

Karasek III, R., & Bryant, P. (2012). Signaling theory: Past, present, and future. Academy of Strategic Management Journal, 11(1), 91.

KPMG (2020). Impact of COVID-19on the Nigerian Consumer and Industrial Markets.

Lovelock, J. (2009). The Vanishing Face of Gaia. Basic Books, p. 163. ISBN 978-0-465-01549-8.

Mohamed, A. A., Amr, Y., and Ahmed, M. S.(2019). The Effect of Executive Compensation on Financial Performance in Egypt. Vol.6 No.12. DOI: 10.4236/oalib.1105760

Oke, L.A., Saheed, D.O., & Quadri, Y.O. (2019). An empirical analysis of corporate capital structure and financial performance of listed conglomerates in Nigeria. Copernican Journal of Finance & Accounting. 8(3): 95 114. http://dx.doi.org/10.12775/CJFA.2019.014

Opanga, B. O. (2013). The relationship between corporate governance and financial performance: a study of insurance firms in Kenya. University of Nairobi School of business. D61/62892/2011

Pathan, S, Skully, M & Wickramanayake, J 2007, 'Board size, independence and performance: an analysis of Thai banks', Asia-Pacific Financial Markets, 14 (3): 211-27

PeiZhi, W. & Ramzan, M. (2020). Do corporate governance structure and capital structure matter for the performance of the firms? An empirical testing with the contemplation of outliers. PLoS ONE 15(2): e0229157. https://doi.org/10.1371/journal.pone.0229157

Mak, Y. T. & Yuanto, K. (2005). Size Really Matters: Further Evidence on the Negative Relationship Between Board Size and Firm Value. Pacific-Basin Finance Journal. 13(3):301-318. DOI: 10.2139/ssrn.303505

Muritala, T. & Ajibola, O. B. (2014). Does Capital Structure Enhance Firm Performance? Evidence from Nigeria. The IUP Journal of Accounting Research & Audit Practices. 12(4): 43-55. Available at SSRN: https://ssrn.com/abstract=2458892

Mohamed, A. A., Amr, Y., and Ahmed, M. S.(2019). The Effect of Executive Compensation on Financial Performance in Egypt. Vol.6 No.12. DOI: 10.4236/oalib.1105760

Nkiruka, N. (2022). Industrial goods sector booms despite depleting purchasing power. https://www.vanguardngr.com/2022/06/industrial-goods-sector-booms-despite-depleting-purchasing-power/

Ross, S. (2017). The Determination of Financial Structure: The Incentive Signaling Approach. Bell Journal of Economics, 8, 23-40.Classens

Ruth, O.O. and Korolo, E.U. (2017). Effect of corporate governance on the financial performance of quoted oil and gas in Nigeria. International Journal of Business and Social Science, 8(7), 114-224

Shubhi, A. (2020). Literature Review on the Relationship between Board Structure and Firm Performance. International Journal of Business Ethics in Developing Economies, 9 (2) 2020, 33-43; http://publishingindia.com/ijbede/

Sharifah, F. S. F., Syahrina, 'A. A., and Julizaerma, M. K. (2015). Board Independence and Firm Performance. Fifth International Conference on Marketing and Retailing (5TH INCOMaR). Procedia Economics and Finance 37: 460 – 465. doi: 10.1016/S2212-5671(16)30152-6

Shleifer A. and R. Vishny (1997): A Survey of Corporate Governance, Journal of Finance, Vol. 52, pp 246- 253.

Shubhi, A. (2020). Literature Review on the Relationship between Board Structure and Firm Performance. International Journal of Business Ethics in Developing Economies, 9 (2) 2020, 33-43; http://publishingindia.com/ijbede/

Spence, M. (1973): "Job Market Signaling," Quarterly Journal of Economics, 87(3), Pp 355-379.

Steigenberger, N., & Wilhelm, H. (2018). Extending signaling theory to rhetorical signals: Evidence from crowdfunding. Organization Science, 29(3), 529-546.

Usman, D.A (2015). Corporate governance mechanisms and Capital Structure of Listed foods and Beverages firms in Nigeria. Thesis. Ahmadu Bello University, Zaria

Usman, O. A., Oladejo, M. O., Alimi, A. A., and Adeoye, M. A (2022). Board Characteristics, Audit Committee and Firms' Financial Performance in Nigeria: Hausman Test Approach. London Journal of Research in Management and Business. 22(8). LJP Copyright ID: 146451. Print ISSN: 2633-2299

Van Essen, M. Heugens, P. P. Otten, J.and van Oosterhout,J. H. (2012). An institution-based view of executive compensation: A multilevel meta-analytic test. Journal of International Business Studies, 43 (4): 396- 423, 2012

Wallison, P. J. (2006). All the Rage: Will Independent Directors Produce Good Corporate Governance? American Enterprise Institute for Public Policy Research

Wang, Y. & Oliver, J. (2009). Board composition and firm performance variance: Australian evidence. Accounting Research Journal 22 (2): 196-212

Werder, A., Talaulicar, T. & Kolat, D. (2005). Compliance with German Corporate Governance Code: An Empirical Analysis of the Compliance Statement by German Listed Companies. Corporate Governance an International Review, 13(2), 178-187.

Xiangwei, K. (2017). Relationship between CEO Pay Slice and Firm Performance. Master of Financial Economics Department of Economics University of Western Ontario

Yang, P, Riepe J, Moser K, Pull K, Terjesen S (2019) Women directors, from performance, and from risk: A causal perspective. Leadership Q 30(5):101297. https://doi.org/10.1016/j.leaqua.2019.05.004

Zhang, L. (2012). Board Demographic Diversity, Independence, and Corporate Social Performance. Corporate Governance, 12 (5): 686-700

Zhitao, Xu, Adel, E.,, Laoucine, K., Abdelfatteh, El. O (2020).Impacts of COVID-19 on Global Supply Chains: Facts and Perspectives. IEEE Engineering Management Review, 48 (3).