

Influence of Corporate Governance on Capital Structure Adjustments among Nigerian Listed Manufacturing Firms

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Abstract

This study examines the influence of corporate governance on capital structure adjustments of listed manufacturing firms in Nigeria from 2010 to 2019. Five internal corporate governance mechanisms such as board size, board independence, females on board, managerial ownership, and institutional ownership were regressed on the speed of adjustments. This study employed a correlational research design and a judgemental sampling technique was used to select the sample size of 35 out of 56 listed manufacturing firms. Data were generated from the annual accounts of selected manufacturing firms. A Generalized Method of Moments (GMM) system was employed in this study. The findings revealed that board size, females on board, and institutional ownership have a positive and significant influence on the speed of adjustments (SOA). In conclusion, the board size, females on board and institutional and managerial ownership serve as a part of major determinants of the speed of adjustments. Adjustment speed towards an optimal capital structure is 82%, which indicates that the faster adjustments, in turn, ease the means of acquiring financing through debt, thereby lowering adjustment costs. The study suggested that corporate managers of manufacturing companies should think about their internal corporate governance mechanisms because these elements are important to policymakers, bankers, other creditors, and equity holders.

Keywords: Corporate Governance, GMM, Speed of Adjustments, Leverage

JEL Classification: M14, G34

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1. Introduction

Corporate governance established the relationship concerning the board of the company, shareholders, and other stakeholders. It can also be mentioned as the mechanisms, processes, and relations through which firms are managed, measured, supervised, and focused. Corporate governance structures and principles identify the distribution of rights and responsibilities among different participants in the corporation, such as the board of directors, managers, shareholders, creditors, and other stakeholders (Awad et al., 2016). The relationship of corporate governance mechanisms and capital structure adjustment will help the company's owners, corporate boards and managers in making financing decisions that is in line with the fundamental objective as it will show the resultant effect of using debt or equity in financing projects based on the firm attributes to get an optimum capital structure

Moreover, corporate governance practices are affected by challenges to support the interests of shareowners. Indeed, the board of directors approves and ratifies management decisions, which include capital structure decisions, and so the role of the board in the decision on the capital structure adjustment cannot be ignored (Gulamhussen & Santa, 2010). Independent outside directors strengthen the board of directors' oversight function and reduce information asymmetry, which improves firms' capacity to get a secure substantial amount of loan capital to increase firms' value (Sani & Alifiah, 2021). The board of directors acts to connect the firm with the external resources required for the firm to existing in light of resource management.

However, since the company's owners do not have a direct financial commitment to the organization, the managers may act in ways that hurt the owners of the business (Ehikioya et al., 2021). In the present dynamic, the boards of directors perform work to ensure the smooth functioning of organizations by monitoring and controlling the actions of the management to guarantee shareowners' value maximization while minimizing agency costs (Jaradat, 2015; Mwambuli, 2018). An active board of directors enhances sound corporate governance practice by ensuring that managers make a timely adjustment to the optimum capital structure as suggested by Sani et al., 2020; Liao et al., 2015. The quality of corporate governance in an organization depends on the ability of the company's management to increase its profit by using debt.

Therefore, capital structure decisions are critical for a firm's survival and it is one of the key decisions made by the board of directors of any company. Haruna et al. (2020) opined that capital structure decisions play an important role in maximizing the shareholder's wealth. Mawitjere et al. (2016) describe a method by which firms close the gap between the prior year's leverage and the target leverage of the present period (Mawitjere et al., 2016). In determining how a firm adjusts, it compares the cost of adjustment to the loss incurred when the firm's leverage deviates from its target. Financial constraints, surpluses or deficits, external financing costs, financial hardship, and macroeconomic conditions all affect the enterprises' adjustment costs and, consequently, the speed at which they adapt to the optimal capital structure (Buvanendra et al., 2017). Consequently,

determinants of the deviation from the target and how quickly the deviation is minimized depend on the quality of the governance system which is paramount for organizational survival (Buvanendra et al., 2017). Hence, due to political exploitation in developing countries, particularly Nigeria, corporate governance has imperative issues in corporate finance which need to be debated. Leverage structure in a firm might be influenced by factors of corporate governance like board size, board independence, managerial ownership, and directors' compensation (Uddin et al., 2019). Thus, manufacturing firms in Nigeria play a significant role in transforming the economy towards sustainable development through their massive contributions to production and consumption patterns that meet the demands of the citizens at large. Therefore, capital structure decisions are critical for manufacturing firms' survival, and it is one of the key decisions made by the board of directors of any company. The main challenge for managers in capital structure decisions (Akintoye, 2016; Dada & Ghazali, 2016) is to determine the total amount of each source of finance that will yield an optimum return with little risk.

As a result of adjustment costs and market imperfections, firms do not always meet their target capital structure, but they strive to attain a certain adjustment speed toward the target leverage structure (Pervaiz et al., 2021). Vu et al. (2018) uphold that capital structure adjustment is meaningless without the approval of the ownership structure of firms. Since the board of directors approves and ratifies management choices, including capital structure decisions, in deed the board's influence on the decision of the capital structure adjustment cannot be overlooked (Gulamhussen & Santa, 2010). However, for corporate boards of firms to decide on an accurate and optimal capital structure are difficult since it involves an element of uncertainty and risk.

Even though many business issues are mostly related to financing, corporate boards still lack proper guidance for making the best financial structure. Corporate failures at firms including Qwest Communication in 2011 in the US; Palmer and Harvey in 2017; Carillion in 2018 in Europe, Unga Group, and National Bank of Kenya in 2011 among others have all contributed to the global threat of poor corporate governance. Aside from these crises, corporate governance was interrupted by a lot of recognized corporate failures in Nigeria such as the breakdown of Cadbury in 2006, African Petroleum in 2008, Shell in 2011, PZ Cussons Plc, Skye Bank and Diamond Banks in 2018, and Ondo Plc in 2019, respectively. Due to these circumstances, investors have lost wealth and faith in the stock market. Optimal capital structure is critical, and it is influenced by several notable factors, including board size, board independence, female board members, and managerial and institutional ownership. Several researchers such as (Barno, 2017; Eneh et al., 2020; Ehikioya et.al, 2021; Haruna et al., 2020; Lin & Lin, 2019; Sani, et al., 2020; Sani & Alifiah, 2021; Siromi & Chandrapala, 2017; Thakolwiroj & Sithipolvanichgul, 2021; Uddin, 2021; Uddin et al., 2019; Velnampy et al., 2012; Vijayakumaran & Vijayakumaran, 2019; Waworuntu et al., 2014) have been conducted studies on the relationship between corporate governance and capital structure decision in developed and developing countries including Nigeria. The above studies gave inconclusive evidence on the corporate factors that determined the leverage decision. However, some of the above studies take no account of adjustment towards the optimum/target capital structure and have different findings. There are few studies, such

as those of (Eneh et al., 2020 and Sani et al., 2020), that take corporate governance factors into account when adjusting capital structures without taking firm size and profitability into account as control variables.

Moreover, many of the above studies mainly employed Ordinary Least Squares (OLS), and fixed and random effects regression in ascertaining biased and inconsistent results. Given these shortcomings, this study used the Generalized Method of Moments (GMM). In the extant literature, the study is intended to fill the vacuum by examining the corporate governance mechanisms and capital structure adjustment of listed manufacturing firms in Nigeria for a period of 10 years from 2010 to 2019. A few questions need to be asked and answered, among them are: to what extent does board size influence capital structure adjustments? What is the relationship between board independence and capital structure adjustments? How do females on board affect capital structure adjustments? What is the influence of managerial ownership on capital structure adjustments? What is the effect of institutional ownership on capital structure adjustments? Answering these questions would be of importance to the management of the manufacturing firms to make relevant policies.

Hence, the specific objectives are to; investigate how board size influence capital structure adjustment; evaluate the influence of board independence on capital structure adjustments; assess the effect of females on board on the capital structure adjustments; ascertain the influence of managerial ownership on capital structure adjustments, and investigate the effect of institutional ownership on capital structure adjustments.

2. Literature Review

Corporate governance is a method used to oversee an organization's activities to ensure that businesses are managed under the expectations of shareowners and other interested parties. Corporate governance is a method of governing and conducting business that encourages objectivity, accountability, and openness. According to Ogunmakin et al. (2020), corporate governance includes the guidelines that direct management in carrying out its responsibilities within the organizational circle. Internal corporate governance mechanisms such as board size, board independence, and females on boards, managerial ownership, and institutional ownership are discussed one after the other.

The capital structure is the mixture of debt and equity employed by the management of a firm to finance its assets (Ibrahim, 2017). According to Akomeah et al. (2018), capital structure is the method through which a corporation finances its assets, typically by combining owner funds and debt. The several ways a company is financed, including the proportionate relationship between debt and shareholders' funds, is known as capital structure. Corporate governance has an impact on capital structure adjustment since it is a vital decision made by the organization while other decisions depend on it due to its crucial nature in corporate finance. One of the objectives of a corporate financial manager is to ensure that the shareholders' wealth is maximized through the adjusted cost of capital.

The majority of prior studies proxied capital structure by leverage include (Vijayakumaran & Vijayakumaran, 2019; Ezeani, 2019; Beli et al., 2019; Buvanendra, et al, 2017; Abdullahi & Suleiman 2020; Eneh et al, 2020; Sani et al, 2020). In finance, the term "leverage" is defined as a firm's debt over its total assets. Mawitjere et al. (2016) argued that the dynamic approach is performed by seeing the direction of change and the speed of the company in reaching its optimal leverage, which is known as adjustment speed. In other words speed of adjustments is the speed at which firms close the gap between the prior year's leverage and the target leverage of the present period.

Board Size: This is the number of directors on a board of directors for a company. The primary body of a company recognized for making strategic decisions is the board of directors. It oversees and keeps track of the company's expansion and continued existence. According to Bansal and Sharma (2016), bureaucratic organizational structures inevitably arise as the number of employees increases in the industrial sector. As a result, the board is faced with difficulties, and external funding sources are delayed. Prior accounting and finance research has highlighted the connection between board size and setting leverage (Uddin et al., 2019). The size of the board is one of the key factors that determine how a company makes financial decisions and approves strategic decisions. This helps to guarantee that the company works effectively, competitively, and with access to the vital resources required improving operations (Adusei & Obeng, 2019; Detthamrong et al., 2017). Thus, based on the above discussion, this hypothesis follows formulated H01: There is no significant relationship between board size and capital structure adjustments.

Board Independence: The predictions of the agency theory assume that board independence is related to capital structure. These frameworks contend that independent outside directors strengthen the role of the board of directors and lessen information asymmetry, which makes it easier for businesses to obtain a sizable amount of debt capital to increase their value (Sani & Alifiah, 2021; Tarus & Ayabei, 2016). An independent board has the primary responsibility to promote the application of the corporate governance principles within the company through the empowerment of the independent board to perform monitoring tasks and advising director board effectively and provide added value to corporate. Thus, this hypothesis formulated H02: There is no significant relationship between board independence and capital structure adjustments

Female on Board: This indicates that several women participate on the board. This might be a legitimate way to empower women on board. According to published research, there aren't many women serving on corporate boards, which may contribute to poor performance (Romano et al., 2012). Women tend to be risk-averse and have characteristics that make them more responsible with money. Additionally, they are more prone to acting and judging impartially. Findings demonstrate a favorable correlation between gender diversity and leverage (Alves et al., 2015; Bajaji et al., 2020; Farooq & Pashayev, 2019). This is supported by resource-based theory. This hypothesis formulated H03: There is no significant effect of females on board on capital structure adjustments.

Managerial Ownership: This is the type of manager that is willing to demonstrate professionalism in management and make a force to work to enhance the shareholders' interests and mitigate agency conflicts. Elmagrhi et al. (2018) and Vu, et al (2018) argued that the capital structure is meaningless without the approval of the ownership structure of firms. This implies that the ownership structure of a firm would affect the extent to which capital structure would influence a firm's performance. This is measured as the proportion of shares held by the directors and management over the aggregate number of shares of firms. This is consistent with prior studies (Al-Thuneibat, 2018; Doorasamy, 2021; Ehikiyoa et al., 2021). Hence, this hypothesis formulated H04: There is no significant influence of managerial ownership on capital structure adjustments.

Institutional Ownership: These are the investors, who are outside the organizations that own shares in the firm's equity with high volume. Institutional ownership plays an important role in firms' financing decisions as a result of their active responsibility performs in the Nigerian capital market (Ozo & Arun, 2019). This study measured it as the average percentage of shares outstanding owned by institutional investors, as supported by (Affan et al., 2017; Liu et al., 2021). This hypothesis formulated H04: There is no significant effect of institutional ownership on capital structure adjustments

Firm Size: This is one of the controlling variables. This represents the total assets owned by organizations and may also be measured as total assets. Several prior studies used total assets in the measurement of firm size (Hassan & Bello, 2013; Nguyen et al. 2017; Okonkwo & Azolibe, 2020). Thus, this study also measured firm size as a log of total assets. Hence, a positive relationship with capital structure adjustment is expected

Profitability: This is another control variable and is the one metric used to show how well organizations generate profits from their operational activities to ensure the going concern of the business. This study measured profitability as the percentage of profit after tax to total assets' book value. This is in line with previous empirical literature (Doorasamy, 2021; Wu, 2019; Al-Thuneibat, 2018). Given this, profitability is the most vital and reliable metric that gives a broad indication of the ability of firms to raise their income level (Ahmed et al., 2011). Hence, a negative relationship with capital structure adjustment is expected

Mawitjere et al. (2016) examined the variables influencing how quickly manufacturing businesses listed on the Indonesia Stock Exchange between 2010 and 2014 adjusted to their target leverage. The study employed the census method to determine the sample size of 66 manufacturing companies to form 330 observations. The authors found that the average adjustment leverage of manufacturing companies in Indonesia was 4.5% per year which is very low.

Siromi and Chandrapala (2017) examined how corporate governance affected the capital structure of 138 listed non-financial companies in Sri Lanka between 2009 and 2013. The authors applied multiple regression analysis to discover no significant effect of corporate governance

attributes on the capital structure except for the board composition, and the board committee had a significant influence on capital structure.

Chang et al. (2018) used purposive sampling to select a sample size of 4,297 firm-year observations to analyze how corporate governance affected the dynamics of capital structure from 1993 to 2009. The authors found that the speed of capital structure modification and corporate governance have different effects. The researchers discovered that organizations with weak governance, as well as over- and under-leveraged firms, slowly adapt toward their goal debt levels, though for various reasons.

Lin and Lin (2019) evaluated eighty-eight (88) Canadian companies' capital structure decisions and corporate governance practices from 2009 to 2012. Correlation and regression analysis were used in the investigation. The authors discovered a favorable correlation between corporate governance quality and a firm's leverage.

Uddin et al. (2019) assessed how corporate governance influences the leverage structure of 69 firms in Bangladesh from 2003 to 2017. The review used descriptive statistics, correlation analysis, and Panel Generalized Method of Moments. The authors' found that the leverage decision-making of corporate firms in Bangladeshi influenced by both political and family connections

Eneh et al. (2020) tested the influence of corporate governance on dynamic capital structure adjustments in Nigeria. The study sampled 73 firms within the range 2010-2018. The outcome from the Generalized Method of Moments (GMM) found that the main predictors of leverage adjustments in Nigeria are corporate governance and departures from goal leverage.

Similarly, Sani et al. (2020) compared the capital structure and board composition of 71 listed companies in Nigeria from 2012 to 2018. The Generalized Method of Moments (GMM) results showed that international directorship and board gender diversity have a favorable relationship with capital structure.

Sani and Alifiah (2021) investigated the relationship between board independence and capital structure with the moderating role of institutional ownership using 56 non-financial firms from 2012 to 2018. The random effect of multiple regressions was used to discover a level of institutional ownership strengthen the effect of board independence on the firms' leverage and vice versa.

Ehikioya et al. (2021) examined how corporate boards influence the capital structure dynamics among Nigerian listed firms by studying 93 quoted firms between 2010 and 2019. Fixed effects regression was used in the investigation. The results showed that board expertise and board gender diversity have a favorable relationship on capital structure whereas board size has a negative, minor impact on capital structure. The study used a large sample size but was unable to use GMM estimate approaches to capture the dynamic of capital structure.

This study was anchored on the Agency theory. Corporate governance can be seen as a veritable tool in ascertaining capital structure decisions that can address by agency cost.. This is because adjustment speed toward an optimal capital structure depends on the quality of different corporate governance. Due to the separation of ownership and control in organizations, there may be a potential conflict of interest between managers and shareholders as upheld by agency theory (Fama & Jensen, 1983). As a result of this, the board of directors that is set up can protect the interest of shareholders. The corporate board is to monitor the strategic policies of top-level managers and also designs their compensation schemes which an important role is played by the board (Jensen & Meckling, 1976). Jensen (1986) suggested that the board of directors should encourage corporate managers to plan their capital structure with more debt to reduce the free cash flow available at the discretion of managers. Corporate management of a company with poor vs good governance may be motivated differently to change their capital structures, leading to varying rates of adjustment.

3. Methodology

This study employed a correlational research design. The Population of the study consists of 56 listed manufacturing firms by Nigerian Exchange Group (NGX) as of November, 2021. A judgmental sampling technique was employed to determine the sample size of thirty-five (35) listed manufacturing firms with population. The study employed sampled 35 firms based on criteria that manufacturing firms that have not been listed by NGX as of January, 2010 were exempted and firms with incomplete data for all variables are eliminated to maintain homogeneity in the sample. Data were collected from the annual published accounts of 35 sampled manufacturing firms for a period of 10 years 2010-2019. Descriptive statistics, the Generalized Method of Moments (GMM), and relevant diagnostic tests were employed.

3.1. Measurement of Variables

The dependent variable is Leverage (Lev) measured as the ratio of total debt to total assets of book value and the independent variables are; board size (BOS) measured as the total number of directors on a board; Board Independence size(BIS) is the proportion of independent directors to a total number of directors on a board; Females on board (FOB) is the proportion of women directors on board; Managerial ownership (MOW) is measured by the proportion of shares held by the directors and management to an aggregate number of shares of a firm; and Institutional ownership (IOW) the percentage of shares outstanding owned by institutional investors: Control variables are profitability(PRF) is measured as the percentage of profit after tax to total assets of book value, and firm size (FIS) is measured as a log of total assets

3.2. Model Specification

To assess the influence of corporate governance and capital structure adjustments, the models below are specified through an econometric model adapted from the work of (Sani et al., 2019)

The model specification is as stated below:

$$Lev^*_{it} = (\lambda - 1)Lev_{it-1} + \Sigma cg_{it} + \Sigma cv_{it} + \omega_{it} \dots\dots\dots(1)$$

Where Lev^*_{it} denotes leverage, Σ summation; cg is a vector of corporate governance variables i.e board of director size, board independence size, females on board, managerial ownership, institutional ownership cv denotes control variable of profitability and firm size. Lev_{it-1} represents the lagged dependent variable, λ adjustment parameter, the SOA is denoted as $(\lambda - 1)$. Equation 1 can be specified in an explicit form as stated below

$$Lev^*_{it} = (1 - \lambda)Lev_{it-1} + \delta_1 Bos_{it} + \delta_2 Bis_{it} + \delta_3 Fob_{it} + \delta_4 Mon_{it} + \delta_5 Iow_{it} + \delta_6 Prf_{it} + \delta_7 fis_{it} + \omega_{it} \dots\dots\dots(2)$$

Lev= Leverage

Bos= Board of director size

Bis= Board independence size

Fob= Female on board

Mow= Managerial ownership

Iow= Institutional ownership

Prf = profitability

Fis= Log of total assets

$\delta_1 - \delta_7$ = Coefficient of parameters of a model

ω_{it} = Error terms

Note the subscription index “it”; i = firm; t = time

4. Results and Discussion

Table 1 reveals the average leverage, the board size, board independence size, females on board, managerial ownership; institution ownership, firm size, and profitability are 0.574179, 9.648571, 67.79250, 11.81074, 14.46112, 48.05265, 9.177711 and 5.657726 respectively. Table 1 also indicates that profitability had a maximum value approximately of 54% with a minimum value of -70% contributions to leverage. Table 1 equally shows the standard deviation for leverage, the board size, board independence size, females on board, managerial ownership, institution ownership, firm size, and profitability are 0.326570, 2.884488, 16.09997, 10.97218, 29.66860, 29.214985, 113227 and 12.17623 respectively. The outcome suggests that management ownership, which has a standard deviation of 29.66860 compared to other study factors, is riskier. The Probability values of Jarque-Bera of LEV, BOS, BOI, FOB, MOW, IOW, FIS, and PRF were less than the 0.05 significance level, indicating that the sampled data were normally distributed.

Table 1. Summary of Descriptive Statistics

	LEV	BOS	BOI	FOB	MOW	IOW	FIS	PRF
Mean	0.574179	9.648571	67.79250	11.81074	14.46112	48.05265	9.177711	5.657726
Median	0.540689	9.000000	70.00000	11.11110	2.612250	55.00000	7.544700	4.917600
Maximum	1.879447	19.00000	94.44440	50.00000	254.9639	94.87000	25.31153	53.95940
Minimum	0.027976	4.000000	0.000000	0.000000	0.006500	0.000000	5.092700	-70.34480
Std. Dev.	0.326570	2.884488	16.09997	10.97218	29.66860	29.21498	5.113227	12.17623
Skewness	1.581113	0.708232	-0.971784	0.572633	5.004048	-0.369195	2.326930	-0.635945
Kurtosis	6.837796	3.153390	4.758265	2.562097	37.97063	1.869952	6.733218	9.457543
Jarque-Bera	360.6219	29.60266	100.1722	21.92446	19295.31	26.57413	519.0985	631.7144
Probability	0.000000	0.000000	0.000000	0.000017	0.000000	0.000002	0.000000	0.000000
Sum	200.9628	3377.000	23727.38	4133.759	5061.394	16818.43	3212.199	1980.204
Sum Sq. Dev.	37.22012	2903.774	90464.00	42015.63	307198.7	297876.8	9124.638	51742.96
Observations	350	350	350	350	350	350	350	350

Note: Variable definitions: LEV= Leverage, BOS =Board Size, BOI= Board Independence, FOB= Females on Board, MOW= Managerial Ownership, IOW= Institutional Ownership, FIS= Firm size, PRF= Profitability

The tests adopted for stationarity of the series were based on the Levin, Lin & Chu (LLC), unit root tests as presented in Table 2. The LLC assumes a common unit root process for the series. The superiority of the LLC lies in its ability to capture any inherent heterogeneity among the cross-sections. The probability values of each variable under the unit root test at constant below the significant level of 0.05. This implies that all variables were stationary at the level.

Table 2. Unit root Tests

Variables	Constant LLC	Prob.	Remark
LEV	-51.2440	0.0000	1(0)
BOS	-5.34331	0.0000	1(0)
BOI	-7.77063	0.0000	1(0)
FOB	-9.41471	0.0000	1(0)
MOW	-7.28080	0.0000	1(0)
IOW	-13.3444	0.0000	1(0)

Variable definitions are the same as in table 1

Table 3 reveals the coefficient (Lev-1) is positively significant (coefficient =0.184241, P-value =0.0047). As a result, there was a substantial correlation between the speed of adjustments and board size (coefficient = 0.018368, P-value = 0.0027). The board independence had an inverse insignificance relationship (coefficient = -0.002177, P-value = 0.0691). This result is contrary to the study (Sani et al. 2020) which found that outside directors can use their influence to secure different sources of funding. Females on board positively and significantly has an influence on the speed of adjustments (coefficient. 0.008922, P-value= 0.0127). By implication, the inclusion of females on board would serve as risk averter and encourage prudent spending pattern. There was a positive and insignificant of managerial ownership on the speed of adjustments (coefficient= 0.014844, P-value=0.8858). Institutional ownership revealed a positive and significant influence on the speed of adjustments (coefficient = 0.007594, P-value= 0.0007). Profitability was negatively and significantly

related to the speed of adjustments (coefficient= -0.006838, P-value =0.0005) whereas the firm size had a positive and insignificant influence on the speed of adjustments (coefficient=0.027173, P-value =0.6588). This supported the outcome (Sani et al., 2020; Ghose, 2017).

However, the χ^2 Wald test (65.91852, p-value=0.000) disclosed that corporate governance mechanisms and control variables used in this study were considered as a part of the determinants factors of the speed of adjustments. This study used a coefficient diagnostic test to discover flaws in GMM estimation arising from the validity of data via (J-stat) which shows Sargan J-stat of (21.58250, P-v=0.758278) whereas AR (2) tests gave a P-value of 0.9937. This suggests that the model does not suffer from the problem of autocorrelation. This confirms the reliability and efficiency of the estimates.

Table 3. Determinants of Speed of Adjustment (GMM/ DPD System)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LEV(-1)	0.184241	0.064674	2.848753	0.0047
BOS	0.018368	0.006068	3.026756	0.0027
BOI	-0.002177	0.001193	-1.824899	0.0691
FOB	0.008922	0.003557	2.508016	0.0127
MOW	0.000147	0.001023	0.143733	0.8858
IOW	0.007594	0.002219	3.422887	0.0007
PRF	-0.006838	0.001952	-3.502495	0.0005
FIS	0.027173	0.061466	0.442084	0.6588

Sargan Test(J-stat.) 21.58250 (0.758278)

Wald Test χ^2 65.91852 (0.0000)

AR(2) P-Value 0.9937

Instrument rank 35

* LEV(-1)= lagged Leverage; Other variable definitions are the same as table 1

Table 4 reports (Lev-1) is significant at a 0.05% level of significance. From the estimated lagged leverage coefficient value of 0.184241 was inferred that manufacturing firms adjust leverage towards the target capital structure and the adjustment speed is 82% ($1-\lambda$) per year, which implies that the manufacturing firms take nearly 0.4 years to reach half of the target leverage from the present leverage. Half-life is the amount of time required by the process to reduce the difference between the actual and target firm leverage level by half (50%) following a one-unit shock to the error term. As a result, the half-life is computed as $\log(0.5)/\log(\lambda)$ (Aderajew et al,2017; Faulkender et al., 2012).

Table 4. Speed of Adjustments (GMM System)

Lev (-1)	0.184241
Speed of Adjustments λ_{it}	0.81576
Half –life years	0.4

4.1. Discussion

The result indicates that the board size had a positive and significant association with the capital structure adjustments in Nigeria. The result indicates that as the board size of manufacturing firm's increases, their debt level decreases. This is supported by (Sani et al., 2020; Sewpersadh, 2019). The positive influence of board size on capital structure adjustments confirms the assertion of the agency theory, which states that the moderate size of the board might be linked to better coordination and rapid corporate decision-making by reaching a consensus in the boardroom promptly. Board independence had an inverse insignificance relationship with capital structure adjustments. This finding is contrary to the finding of (Sani et al. 2020) who found that board independence has a positive significance. This indicates that outside directors can use their influence to secure different sources of funding. Females on board had a positive and significant influence on capital structure adjustments. This is in line with the findings of (Ehikioya et al.(2021; Sani et al. 2020; Bajaji et al., 2020). The finding agrees with the assertion in the literature that women have a risk averter higher than their male counterparts. There was a positive and insignificant of managerial ownership on the speed of adjustments. The insignificant of managerial ownership implies that board size may be more relevant than managerial ownership which is supported by (Waworuntu et al, 2014). Thus, this is consistent with agency theory. Institutional ownership revealed a positive and significant influence on the speed of adjustments. By implication institutional ownership plays an important role in firms' financing decisions as a result of their active responsibility performs in the Nigerian capital market. Hence, increases in institutional ownership would have a positive effect on leverage structure.

Profitability is negatively and significantly related to the speed of adjustments. This means that firms will shun borrowing, thereby using internal funds and giving room for firms to adjust target leverage, and this is supported by the pecking order theory. Other studies (Pervaiz et al., 2021; Buvanendra et al., 2017; Ezeani, 2019) have reported similar findings. The firm size is positively and insignificantly related to the speed of adjustments. This aligns with the outcome (Sani et al., 2020; Haron, 2016; Doorasamy, 2021) as they documented that firm size was not significant to the speed of adjustment. These results indicated that a firm with a large asset size would have lower debt. Findings also reveal that the adjustment speed is approximately 81.5%. This implies that the SOA of 81.5 %, indicates a proportion of the variation between target and actual total leverage is adjusted each year. This shows rebalancing or readjustment is due to reasonable and quick interference of management. The finding is similar to the work of Ezeani (2019) who reported that SOA of 82% and 72% for Nigerian oil and gas as well as industrial goods. This is compared with evidence reported low SOA such as Aderajew et al.(2017) who reported 65.28% for horticulture farms in Dutch farms, and Buvanendra et al. (2017) reported SOA of 45.4% for Sri Lanka firms.

5. Conclusion

The study concluded that board size, females on board, and institutional ownership have a positive and significant relationship with adjustment speed. This supports the postulation of the

agency theory. However, profitability had a negative significant association with the speed of adjustments. In conclusion, women have a higher risk of being averter than their male counterparts. It also concluded that an increase in institutional shareholding will increase leverage structure. It is also affirmed that profitable firms will use debt to take advantage of the tax shields. It is also argued that increases in profitability and the increased availability of internal funds give room for firms to adjust target leverage, which is in support of the pecking order theory.

Conclusively, corporate governance mechanisms such as board size, females on board, and institutional ownership, managerial ownership can be considered as part of the determinants factors that influence capital structure adjustment. The speed of adjustment towards an optimal leverage structure is 82%, with the period to be taken to make full adjustment towards target leverage being 0.4 years, respectively. However, the study contributes to the existing literature by shedding the light on how corporate governance mechanisms influence the capital structure adjustment of manufacturing firms for the period 2010-2019.

However, the study adds to the existing literature by shedding light on how corporate governance mechanisms influence manufacturing capital structure adjustment. The combined results show that identified measurements of corporate governance, such as board size, female representation on boards, and institutional and managerial ownership, have a significant effect on the capital structure adjustment of listed manufacturing firms. By implication, board size is collectively responsible for overseeing how quickly companies adjust their capital structure level, and institutional ownership provides a monitoring and oversight role on the managerial side through watchdogs to determine the proportionate share of debt to equity. From a theoretical perspective, the outcome of this study affirms the proposition of agency theory that board size and institutional ownership prove the monitoring and policing capacity of the firm, which triggers the management to commit to capital structure adjustments. The findings of this study are not specific to the business environment in Nigeria; they are comparable to those of other studies undertaken in emerging countries but distinct from those carried out in developed nations.

6. Limitation and Direction for Further Studies

This study was limited to sample manufacturing firms and ignored manufacturing firms that are not listed on the floor of the NGX. Further studies can be conducted to investigate the influence of other corporate mechanisms aside from those mentioned in this study to see their effect on capital structure adjustments. Based on the findings, this study recommends that corporate managers give due consideration to their internal corporate governance mechanisms as these factors are crucial to policymakers, bankers, other creditors, and equity investors. The management of the firms should have a moderate board size to avoid difficulty in coordination and delay in corporate decision-making. Management of firms should support the appointment of female board members for balanced representation because women tend to be more cautious and risk-averse. Management of manufacturing firms should take advantage of investing in assets, thereby leading to firms' growth

opportunities and profitability. To provide an all-inclusive corporate business, the management of manufacturing companies should choose the best capital structure while taking other firm-level considerations into account.

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Appendix

GMM, Arellano-Bond Serial Correlation Test and Wald Test

Dependent Variable: LEV

Method: Panel Generalized Method of Moments

Transformation: First Differences

Date: 04/25/22 Time: 16:17

Sample (adjusted): 2012 2019

Periods included: 8

Cross-sections included: 35

Total panel (balanced) observations: 280

White period instrument weighting matrix

White period standard errors & covariance (d.f. corrected)

Instrument specification: @DYN(LEV,-2) BOS(-1) BOI(-1) FOB(-1) MOW(-1) INSOW(-1) ROA(-1) FSIZE(-1)

Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LEV(-1)	0.184241	0.064674	2.848753	0.0047
BOS	0.018368	0.006068	3.026756	0.0027
BOI	-0.002177	0.001193	-1.824899	0.0691
FOB	0.008922	0.003557	2.508016	0.0127
MOW	0.000147	0.001023	0.143733	0.8858
INSOW	0.007594	0.002219	3.422887	0.0007
ROA	-0.006838	0.001952	-3.502495	0.0005
FSIZE	0.027173	0.061466	0.442084	0.6588

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	-0.003968	S.D. dependent var	0.199683
S.E. of regression	0.237207	Sum squared resid	15.30472
J-statistic	21.58250	Instrument rank	35
Prob(J-statistic)	0.758278		

Arellano-Bond Serial Correlation Test

Equation: Untitled

Date: 04/25/22 Time: 16:18

Sample: 2010 2019

Included observations: 280

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	-0.043936	-4.272110	97.234904	0.9650
AR(2)	-0.007957	-0.438411	55.100392	0.9937

Wald Test:

Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	21.97284	(3, 342)	0.0000
Chi-square	65.91852	3	0.0000