



Accounting Conservatism and Firm Structure in Nigeria: Evidence from Publicly Listed Manufacturing Firms

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ABSTRACT

This paper assessed the relation between accounting conservatism and firm structure in Nigeria. The expo facto research design was adopted and a sample of thirty-eight (38) publicly listed manufacturing firms was employed. Data of accounting conservatism (earnings accrual) and firm structure (equity-to-asset and asset tangibility ratios) were obtained from 2012-2020. The Fixed (FE) and Random effects (RE) regression statistical technique was used. We find evidence that a firm with more conservative financial disclosure of its earnings accrual adjusts its asset structure towards the companies target more rapidly; this in particular is common for publicly listed manufacturing firms that rely on external financing for adjustment. Moreover, we found that the level of accounting conservatism positively and significantly affects the firm structure and this effect arises due to debt issuance. Overall, the paper suggests that the level of accounting conservatism plays a vital role in enhancing under-levered firms' adjustment of asset structure of publicly listed manufacturing firms in Nigeria.

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1. INTRODUCTION

In reality, the market reacts to bad and good news from accounting conservatism information in diverse ways. Predominantly, the reactions by the market hover around the levels of under-statement of gains/assets and over-statement of losses liabilities in the financial statements of corporations

(Govcopp, 2020; Asiriwa, Akperi, Uwuigbe, Uwuigbe, Nassar, Ilogho&Eriabe, 2019; and Odi&Osazevaru, 2018). Accounting conservatism according to Houcine (2013); Zhong, and Li (2017), are the process used by corporations in tumbling the risks in accounting disclosure arising from events like implementation of poor decisions and contracts. Similarly, Basu (1997) sees accounting conservatism as the earnings or the market reactions to bad news than good news.

Explicitly, the likely relationship between accounting conservatism and firm structure occurs from the existence of extant literature enumerating an association between the knowledge of the directors in forestalling projects delivery time, benefits, profitability, and their exposure to such information stimulating markedly risky investment decisions (Amran&Manaf, 2014; and Ibrahim, Wang and Hailu, 2019). Prior studies (see Habib&Hossain, 2013; Alkurdi, Al-Nimer&Dabaghia, 2017; Odi&Osazevaru, 2018; Asiriwa, *et al*, 2019) found that the firm structure is positively influenced by accounting conservatism.

By and large, the firm structure can take several forms but not limited to ownership, asset and capital structures (see Ahmed &Duellman, 2011; Gao, 2013; Garcia-Lara, Garcia-Osma&Penalva, 2014; Ajina, Sougne&Lakhal, 2015; and Asiriwa, *et al*, 2019); however, emphasis in this paper is on the asset structure. Specifically, asset structure refers to a blend of a corporation's short and long-term tangible and intangible assets investments in an accounting period (Dalvi&Mardanloo, 2014). Generally, the asset structure is employed in assessing the business complexity or operating risks arising from a firm's investment.

In the literature, how the market reacts to bad and good news from accounting conservatism information are usually poised on numerous factors such as the cash flow from operations, stock returns, and changes in operating cash flows (Felix &Umanhonien, 2015; and Dalvi, &Mardanloo, 2014). This view is clearly captured by the Ball and Shavakumar models of how the market reacts to bad and good news from accounting conservatism information. On the other hand, asset structure can be measured on the basis of several ratios such as the equity-to-assets, non-current assets, intangible assets, receivable assets, inventory and receivable assets, and asset tangibility amid others (Odi&Osazevaru, 2018).

Furthermore, while most empirical studies had focused on accounting conservatism and capital structure, there are relatively few studies that had focused on accounting conservatism and asset structure using Givoly, Hayn, Beaver and Ryan model. The model measures the market value of equity-to-book value of total-equity, current accrual and earning accrual. The import of this study lies in its contribution to knowledge on how accounting conservatism affects the firm structure of publicly listed corporations on the floor of Nigerian Exchange Group (NEG). Consequent upon this, the following research hypotheses were formulated:

Ho₁: Accounting conservatism (earnings accrual) has no positive and significant effect on firm structure (equity-to-assets).

Ho₂: Accounting conservatism (earnings accrual) has no positive and significant effect on firm structure (asset tangibility).

2. REVIEW OF RELATED LITERATURE

2.1 Accounting Conservatism

In relation to asset structure, accounting conservatism serves as a valuable means of reducing the agency problem as it restrains the opportunistic behaviour of management. Watts (2003) opined that accounting conservatism decreases the ability of management to overstate firms' net assets and

earnings. For instance, accounting conservatism deters management from investing in projects with negative net present value since management may be incapable of deferring loss recognition to the future (Ball & Shivakumar, 2005).

Watts (2003) sees accounting conservatism as a differential verifiability needed for losses and gains recognition. Similarly, Hille (2011) asserted that accounting conservatism involves an asymmetry between the substantiation of overstated losses and overstated gains. Thus, when a differential verifiability is accorded to gains, they are considered as good news than bad news in corporate reporting (Ibrahim, *et al*, 2019). The focus on ‘news-dependent’ conservatism is substantiated, given that timely loss recognition encouraged by accounting conservatism is one of the vital determinants of earnings accrual.

Empirical studies indicated that the firm structure is positively influenced by accounting conservatism. The study by LaFond and Watts (2008) showed a positive association between the level of accounting conservatism and firm structure. Similarly, Cheon (2003) found evidence that accounting conservatism (earnings response) positively and significantly affect the ownership structure of firm. The rationale for the positive association between accounting conservatism and firm structure may be connected with the fact that the structure of the firm plays crucial role in investment decisions.

The empirical results of Habib and Hossain (2013) revealed that firm structure is positively and significantly impacted on by accounting conservatism. In the same vein, Mohammadi, Heyrani and Golestani (2013) using a sample of 300 listed companies on the Tehran Stock Exchange found evidence of a positive and significant link between accounting conservatism and firm structure. In a related study, Habib and Hossain (2013) examined the connection between accounting conservatism and firms’ capital structure decisions. Findings indicated that accounting conservatism positively and significantly impacts on firms’ leverage structure.

Furthermore, the empirical studies of Alkurdi, *et al* (2017); Odia and Osazevbaru (2018); Santhosh and Yong (2018); Asiriwa, *et al* (2019); Govcopp (2020); and Abbas, Yasin, Ramazan and Hamed (2020) showed that the level of accounting conservatism positively and significantly affects the firm structure. In this paper, accounting conservatism was measured via earnings accrual ratio; this measure of accounting conservatism is similar to those employed in the studies of Mohammadi, *et al*, (2013); Govcopp, (2020); and Abbas, *et al* (2020).

2.2 Firm Structure

Firm structure attributes such as the asset, ownership, capital, affect accounting conservatism. Broadly speaking, the asset structure is used in evaluating the complexity or operating risks emanating from a corporation’s investment. In this paper, one component of the firm structure was used – asset structure. Asset structure as observed by Dalvi and Mardanloo (2014), is a mixture of the short and long-term tangible and intangible assets of a corporation in a fiscal period. Thus, firm structure can be seen as the formation or the composition of the ownership, capital, or asset of a corporation.

Prior literature (Gao, 2013; Garcia-Lara, *et al*, 2014; Asiriwa, *et al*, 2019; Govcopp, 2020; Abbas, *et al*, 2020) support the significant effect of the firm structure attributes on the level of information disclosure by corporations. For instance, if the structure of the firm is viable, it may greatly affect the functioning and quality of financial disclosure of the corporation. There are empirical evidences to support the association between the firm structure and accounting conservatism (Alkurdi, *et al*, 2017; Asiriwa, *et al*, 2019; and Govcopp, 2020).

Several accounting ratios have been used to measure asset structure of the firm such as equity-to-asset, asset tangibility, non-current asset, intangible asset, inventory asset, receivable asset, inventory and receivable asset ratios among others. However, in this paper, asset structure was measured using two (2) of these ratios *inter-alia*, asset tangibility and equity-to-asset; this measure of firm structure is similar to those used in the studies of Mohammadi, *et al*, (2013); Asiriwa, *et al*, (2019); and Odia and Osazevbaru, (2018).

2.3 Theoretical Framework

There are several theories explaining the relationship between accounting conservatism and firm structure such as stewardship, stakeholder, resource dependency, transaction cost, and information asymmetry, among others. However, this paper is anchored on the agency theory; the theory seeks to explain the self-interested actors (agents) who rationally want to maximize their personal gains over the interests of the owners of wealth (principals). This results to the agency problem between the agents and the principal (Donaldson & Davies, 1991). The theory acknowledges that corporations are made up of the principal and agent.

The agent is working for the principal and he reimburses the agent for services rendered. According to Vladu and Matis (2010), due to the separation of ownership from management, conflict of interest may occur. Within the structure of a corporation, agency relationship exists between the principal and the agents. There are three (3) forms of agency costs as noted by Jensen and Meckling (1976) - bonding, residual and monitoring. These costs (bonding, residual and monitoring) reduce the accounting disclosure of the corporation.

As a matter of fact, in order to reduce information asymmetry or have an efficient level of accounting conservatism practices, management strives to incur lesser costs, thereby improving shareholders' wealth (Abdullah & Valentine, 2009; and Al-Malkawi&Pillai, 2012). There are theoretical evidences, supporting the relationship between accounting conservatism and firm structure. The theoretical perspective guiding this study is linked to the idea that firms with a good structure may have an efficient level of accounting conservatism practices than those without it.

3. RESEARCH METHODS

This study adopted the *ex-post facto* research design because the study assessed variables that are linked with specific kind of occurrence by evaluating past events of previously existing settings. The variables of interest are accounting conservatism (proxied by earnings accrual ratio) and firm structure (asset tangibility and equity-asset ratios) in the financial statements of listed manufacturing firms.

The study population comprised of listed manufacturing firms in Nigeria as of 2020; however, as of 31st December, 2020, there are forty-eight listed manufacturing firms on the floor of the Nigerian Stock Exchange (NSE, 2020). A multi-stage sampling method was used in selecting the sample of the study. *First*, a probabilistic sampling (Taro-Yamane) was used in arriving at the sample size, resulting to forty-three firms; *second*, a convenience sampling method was employed in selecting a sample of thirty-eight firms out of the forty-eight firms, representing 79% of the entire population.

The study period covered 2012-2020 financial years. Secondary data were obtained from the financial statements of the listed manufacturing firms. The study builds on existing models of Ball and Shavakumar (accounting conservatism model) and the Givoly, Hayn, Beaver and Ryan (firm structure) models. In light of this, the empirical models is estimated as follows:

$$assetan = F(earacc) \quad eq.1$$

$$eqass = F(earcc) \quad eq.2$$

Equations 1-2 showed the association between accounting conservatism and firm structure measures. Given equations 1-2, equations 3-4 were re-estimated in their explicit forms:

$$assetan_{it} = \alpha_0 + \alpha_1 earacc_{it} + \varepsilon_{it} \quad eq.3$$

$$eqass_{it} = \alpha_0 + \alpha_1 earac_{it} + \varepsilon_{it} \quad eq.4$$

Where: *earacc*=earnings quality; *assetan*=asset tangibility ratio; *eqass*=equity-to-asset ratio; α_0 - α_7 =coefficients of regression; e=error term; $i=1$, t =time-frame.

Table 1: Measurement of Variables

S/N	Variables	Measurement
1	Earnings quality ratio (Independent Variable)	Computed as net cash from operating activities divided by net income
2	Asset tangibility ratio (Dependent Variable)	Computed as non-current assets divided by total assets (percentage)
3	Equity-to-assets ratio (Dependent Variable)	Computed as the total equities divided by the total assets (percentage)

Source: Compiled by the Researchers, 2021

Accounting conservatism (earnings quality ratio) is the independent variable while the firm structure (asset tangibility and equity-to-assets ratios) is the dependent variable of the study. The data obtained were analyzed in phases: Summary of descriptive statistics (mean, median, minimum and maximum values, standard deviation, kurtosis and skewness, and Karl Pearson correlation); Post-estimation test (Breusch-Pagan/Cook-Weisberg); and ordinary least square, fixed and random effect regression and Hausman specification tests. A-priori expectations are that accounting conservatism will be positively influenced by firm structure. The statistical analysis was carried out via STATA 13.0 statistical package.

4. RESULTS AND DISCUSSION

Table 2: Summary Statistics of the Variables

Statistics	Earnings Quality (<i>earacc</i>)	Asset Tangibility (<i>assetan</i>)	Equity-to-Asset (<i>eqass</i>)
Mean	0.6087	0.3764	6.7665
Median	0.6679	0	6.2612
Maximum	2.7280	2.8801	2.1919
Minimum	0	0	0
Standard Deviation	0.1712	0.1735	1.9348
Skewness	-0.9158	3.6603	0.1594
Kurtosis	4.4790	1.8567	1.5773

Source: Computed by Researchers, via STATA 13.0

Presented in Table 2 is the summary statistics of the variables (earnings quality ratio – *earacc*, asset tangibility – *assetan*, and equity-to-asset ratios – *eqass*). From the result, none of the variables showed average mean value; this is expected due to the characteristics of the period studied (2012-2020),

earmarking improvement in disclosure requirement by firms orchestrated by the International Financial Reporting Standards (IFRS).

The standard deviation values are .1712 (*earacc*), .01735 (*assetan*), and 1.9348 (*eqass*). The standard deviation values were not too far from each other, indicating that the studied firms' accounting conservatism and asset structure measures are closely related in terms of disclosure. Besides, all panel data-series of *assetan* and *eqass* displayed non-zero skewness except *earacc*. All variables had positive kurtosis as shown by the positive values attached to their coefficients. Again, all the variables have a normal distribution as shown in the kurtosis values; this suggests that variables satisfy the normality condition.

Table 3: Karl Correlation of the Variables

Statistics	Earnings Quality (<i>earacc</i>)	Asset Tangibility (<i>assetan</i>)	Equity-to-Asset (<i>eqass</i>)
<i>earacc</i>	1.000		
<i>assetan</i>	0.1453	1.000	
<i>eqass</i>	0.0142	0.0776	1.000

Source: Computed by Researchers, via STATA 13.0

Table 3 indicates that correlation between accounting conservatism and the structure of firm is positive as captured in the Karl Pearson r values. A-priori expectations are that accounting conservatism will positively relate with the structure of firm; the result conforms to a-priori expectation. Moreover, the Pearson coefficient did not exceed the maximum benchmark of 0.8, as suggested by Gujarati (2003), indicating the nonexistence of multicollinearity among the variables of the study.

Table 4: Breusch-Pagan and Cook-Weisberg Results of Variables

Ho: Constant Variance		Variables: Fitted values of csrdi
Chi ² (1) = 45.10		Prob. > Chi ² = 0.0000

Source: Computed by Researchers, via STATA 13.0 software

The Breusch-Pagan/Cook-Weisberg result (Table 4) showed that accounting conservatism and firm structure fit-well in the estimated models, since it is statistically significant at 5% level; an indication of the nonexistence of heteroskedasticity problem in the empirical models of the study.

Table 5: Accounting Conservatism (earnings quality) and Firm Structure (asset tangibility)

Estimator Variable	OLS		Fixed Effect		Random Effect	
	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.
assetan	.1367* (2.84)	0.0001	.1383* (2.88)	0.0001	.1457* (2.45)	0.0001
R-Squared	0.905					
R-Squared Adj.	0.879					
Prob. F.	0.000					
R-Squared (within)			0.8308		0.9080	
R-Squared (between)			0.7272		0.8272	
R-Squared (overall)			0.779		0.8676	
Wald Ch2					14.88	
Prob. Ch2					0.000*	
Hausman Test			Chi2(2) = 0.78		Prob>Chi2= 0.4788	

Source: Computed by Researchers, via STATA 13

In model 1, we found that accounting conservatism (earnings quality) is highly significant at 1% level in explaining firm structure (asset tangibility). Output of OLS shows that asset tangibility (*assetan*) has a larger beta coefficient in absolute terms using FE and RE. More so, the beta value measures the degree to which the explanatory variable affects the dependent variables. Using the OLS and RE, coefficient of firm structure is .1367 & .1457 respectively, indicating that when publicly listed manufacturing firms' employ accounting conservatism, it will lead to approximately 14.57% change in their level of firm structure.

Furthermore, the beta coefficient for FE is .1383 but both the FE and RE are significant at 5% levels. Impliedly, when publicly listed manufacturing firms' employ accounting conservatism, it will lead to approximately 13.83% change in their level of firm structure. The result of Hausman specification test is $\text{Chi}^2(2)=0.8$ and $p\text{-value}=0.4788$; this means that the fixed effect is more efficient than random effect. Since the Wald Ch^2 -statistics is 14.88 with a probability value of 0.000, it implies that it is statistically significant, leading to the rejection of the null hypothesis and acceptance of the alternate hypothesis that there is a positive and significant relationship between accounting conservatism (earnings quality) and firm structure (asset tangibility) among listed manufacturing firms in Nigeria.

Table 6: Accounting Conservatism (earnings quality) and Firm Structure (equity-to- asset)

<i>Estimator</i>	<i>OLS (Obs.=378)</i>		<i>FE (Obs.=378)</i>		<i>RE (Obs. =378)</i>	
<i>Variable</i>	<i>Coef.</i>	<i>Prob.</i>	<i>Coef.</i>	<i>Prob.</i>	<i>Coef.</i>	<i>Prob.</i>
Egass	.0012 (2.27)	0.0001	..0019 (2.37)	0.0001	.0013 (2.26)	0.0001
R-Squared	0.9003					
R-Squared Adj.	0.8102					
Prob. F.	0.000					
R-Squared (within)			0.9204		0.9004	
R-Squared (between)			0.8149		0.8102	
R-Squared (overall)			0.8676		0.8553	
Wald Ch2					13.13	
Prob. Ch2					0.000	
Hausman Test			Chi2(2) = 0.74		Prob>Chi2= 0.8756	

Source: Computed by Researchers, via STATA 13.

In model 3, we found that accounting conservatism (earnings quality) is highly significant at 1% level in explaining firm structure (equity-to-asset). Output of OLS shows that equity-to-asset (*eqass*) has a larger beta coefficient in absolute terms using FE and RE. Using the OLS and RE, coefficient of firm structure is .0012 and .0019 respectively, indicating that when publicly listed manufacturing firms' employ accounting conservatism, it will lead to 1.9% change in their level of firm structure.

Furthermore, the beta coefficient for both FE and RE are significant at 5% levels. Impliedly, when publicly listed manufacturing firms' employ accounting conservatism, it will lead to approximately 1.3% change in their level of firm structure. The result of Hausman specification test is $\text{Chi}^2(2)=0.74$ and $p\text{-value}=0.8756$; this means that the fixed effect is more efficient than random effect. Since the Wald Ch^2 -statistics is 13.13 with a probability value of 0.000, it implies it is statistically significant, leading to the rejection of the null hypothesis and acceptance of the alternate hypothesis that there is a positive and significant relationship between accounting conservatism (earnings quality) and firm structure (equity-to-asset) among listed manufacturing firms in Nigeria.

The study results supports a-priori expectation and earns the support of prior findings of Alkurdi, *et al* (2017); Odia and Osazevbaru (2018); Santhosh and Yong (2018); Asiriwa, *et al* (2019); Govcopp (2020); and Abbas, Yasin, Ramazan and Hamed (2020) who found that the level of accounting conservatism positively and significantly affects the firm structure. Thus, the level of accounting conservatism plays a fundamental role in enhancing under-levered firms' adjustment of asset structure of publicly listed manufacturing firms in Nigeria.

5. CONCLUSION AND RECOMMENDATIONS

In the accounting literature, quite a number of studies have assessed the relationship between accounting conservatism, capital structure, corporate governance with little focus on whether accounting conservatism affects the firm structure, particularly its asset structure for publicly listed manufacturing companies in Nigeria. Given the gap in the literature, the study examined the relationship between accounting conservatism and firm structure of listed manufacturing firms in Nigeria from 2012-2020.

Accounting conservatism was measured using earnings quality while firm structure by asset structure (i.e. equity-to-asset and asset tangibility). On the basis of the analysis, we find evidence that a firm with more conservative financial disclosure of its earnings accrual adjusts its asset structure towards the companies target more rapidly; this in particular is common for publicly listed manufacturing firms in Nigeria that rely on external financing for adjustment. Furthermore, we found that the level of accounting conservatism positively and significantly affects the firm structure and this effect arises due to debt issuance.

Overall, the level of accounting conservatism occupies a central place in enhancing under-levered firms' adjustment of asset structure of publicly listed manufacturing firms in Nigeria. The study recommends that the regulatory framework of accounting and companies should ensure that mechanism is put in place which is aimed at the strict application of accounting conservatism by firms and firms erring should be compelled to face strict penalty. Finally, this study contributes to knowledge by establishing that accounting conservatism increases and affects the firm structure of publicly listed corporations on the floor of Nigerian Exchange Group (NEG).

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