

FIRM CHARACTERISTICS AND FINANCING DECISIONS: EVIDENCE FROM LISTED NIGERIAN NON-FINANCIAL FIRMS

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Abstract

This study examined the determinants of financing choices of nonfinancial firms in Nigeria. The variables examined are firm size, firm profitability, firm liquidity, ownership concentration, and firm age. The data used for this study were obtained from the secondary source of published annual financial statements of firms in the sectors. The study employed ordinary least square (OLS) regression, and the adopted model was estimated using the STATA 14 statistical package. The major findings of the study are: firm size and ownership concentration positively and significantly impact firm financing decision, firm profitability and liquidity negatively and significantly impact financing decision, and firm age negatively but insignificantly affects firm financing decision. The study recommends that: appropriate trade-off should always be adopted between internal and external financing; firm ownership structure should be carefully watched to maintain its strategic advantage, firm liquidity should be regularly evaluated not to hamper profitability, and the advantages of firm age should be carefully mainstreamed upon.

Keywords: Financing decision, Firm size, Firm age, Liquidity, Non-financial sectors

1.0 Introduction

For many years researchers have studied and analyzed inherent factors that may impact firms' financial performance. Relationships of firm characteristics and financial strategies towards firms' financial performance improvement are topics that have received much attention in the financial literature (Sinthupundaja & Chiadamrong, 2015). Capital structure decision poses a lot of challenges to firms. Determining the appropriate mix of equity and debt is a strategic decision and all public entities are confronted with it. An irrational and unreasonable financing decision has the potential of hindering the fortunes of any business. Therefore, if managers are to achieve the goal of wealth creation, appropriate steps must be taken in the right direction to identify those factors that must be taken into consideration in determining right financing mix (Modugu, 2013).

It should be noted that a combination of factors would usually be responsible in shaping the financing decisions of firms. Some of such factors may be economic, others are socio-cultural and some may be political. Over time, the notion of firms being widely held, as introduced by Berle and Means (1932) became questioned. Instead, family ownership, often with high concentration of ownership, became recognized as the most common ownership structure in many parts of the world (Claessens, Djankov & Lang, 2000).

To understand how firms in developing countries finance their operations, Abor (2008) noted that it is necessary to examine the determinants of their financing or capital structure decisions. Company financing decisions involve a wide range of policy issues. Knowledge about capital structures has mostly been derived from data and from developed economies that have many institutional similarities – industrialized Europe and America (Booth Aivazian & Maksimovic, 2001). It is important to note that different countries have different institutional arrangements, mainly in terms of their taxes and bankruptcy codes, the existing market for corporate control, and the roles banks and securities markets play.

The structure of the remainder of the paper is as follows: the second section provides a review of the extant literature. Section three explains the methodology employed for the study. The

empirical results are presented and discussed in the fourth section and section five concludes the discussion.

1.1 Objectives of the Study

The broad objective of this study is to examine the effect of firm characteristics on financing decisions of such firms. The specific objectives of the study are to:

- i. Examine the effect of firm size on the financing decisions of listed Nigerian non-financial firms.
- ii. Examine the effect of firm profitability on the financing decisions of listed Nigerian non-financial firms.
- iii. Examine the effect of firm liquidity on the financing decisions of listed Nigerian non-financial firms.
- iv. Examine the effect of ownership structure on the financing decisions of listed Nigerian non-financial firms.
- v. Examine the effect of firm age on the financing decisions of listed Nigerian non-financial firms.

1.2 Hypotheses of the Study

The following null hypotheses are formulated to guide this study.

- i. Firm size has no significant effect on the financing decisions of listed Nigerian non-financial firms.
- ii. Firm profitability has no significant effect on the financing decisions of listed Nigerian non-financial firms.
- iii. Firm liquidity has no significant effect on the financing decisions of listed Nigerian non-financial firms.
- iv. Ownership structure has no significant effect on the financing decisions of listed Nigerian non-financial firms.
- v. Firm age has no significant effect on the financing decisions of listed Nigerian non-financial firms.

2.0 Review of Related Literature

2.1 Conceptual Review

Financing decision: this is also known as capital structure decision, and it refers to how a firm obtains financing for its operations. There have been several attempts to define capital structure, all the definitions explain the kinds of securities and the proportionate amounts that comprise capitalization. It is the mix of different sources of long-term sources such as equity shares, preference shares, debentures, long-term loans and retained earnings (Parsons & Titman; 2008). One of these definitions by Gangeni (2006) states that the study of capital

structure attempts to explain the mix of securities and financing sources used by corporations to finance real investment. Capital structure refers to the mix of long-term debt and equity maintained by the firm (Gitman & Zutter, 2012). Firms' capital structure consists of debt and equity financing. The optimal choice of capital structure is one that leads to the highest rate of returns at the lowest costs to meet the requirements of its various stakeholders (Chin & Zakaria, 2018).

Firm size: according to Abeyrathna and Priyadarshana (2019), the size of a firm refers to the quantity and array of production capability and potentials (assets) a firm possesses. Shaheen and Malik (2012) added that it refers to the quantity and diversity of services a firm can make available concurrently to its clients. Firm size has been frequently studied as a popular variable in explaining corporate decisions and performance (Wu, 2006; Punnose, 2008).

Firm profitability: according to Reschiwwati, Syahdina and Handayani (2019), profitability is a picture that measures how well the company can generate profits from operational processes that have been implemented to ensure the continuity of the company in the future. Reschiwati et al. (2019) note that higher profits generated by a company will increase the creditor's confidence to provide loans and can increase investor confidence to invest capital, so it can be said that profitability influences capital structure.

Firm liquidity: liquidity refers to the ready convertibility of a firm's assets to cash. According to Yameen, Farhan and Tabash (2019), liquidity points to the ability of firms to pay their short-term liabilities. It plays an important role in smoothening all operations of a firm. They note that the importance of liquidity is not new in the literature of finance. There are three major approaches to liquidity management namely aggressive, moderate and conservative. An appropriate approach is essential for effective and efficient operations management (Goel, Chadha, & Sharma, 2015).

Ownership structure: this refers to the combination of shareholders that hold the shares of the firm in terms of the concentration, dispersion, family ownership, management ownership, institutional ownership and foreign ownership of such shareholding. Corporate governance is a

set of procedures and principles which control the corporation by determining the rights of stakeholders, and protecting the interests of stakeholders (Basheer, 2014). However, the role of boards of directors largely depends on ownership structure, for instance, the role of monitoring is more important in organizations where the shareholders are dispersed while the role of providing resources is central to boards of directors where concentrated ownership dominates (Mohammed, 2018).

Firm age: this refers to the number of years the firm has been in existence since it was incorporated. Firms are comparable with organic entities. Shumway (2001) defines age as the length of time during which a being or thing has existed, hence he defines firm age as the number of years since the incorporation of the company; even though some believe that listing age, should define the age of the company. They have a life cycle of transformations. Each stage has unique features relative to performance. At birth, or early stages, the viable state of physical capability confers firms with strategic advantages. Experience gained over time may be internalized or settled in, causing inertia, resistance to change, irreversible with irrecoverable sunk costs. With respect to age, the growth in a firm's profitability is finite; a peak is attained at some point, strategic advantages get exhausted, and a firm may remain static thereafter. The age of Nigerian manufacturing firms differs and their performances differ despite the fact that they operate in the same industry (Gunu & Adamade, 2015).

2.2 Theoretical Framework

Studies on capital structure are usually hinged on such theories like: trade-off theory, pecking order theory, information asymmetry theory and resource based theory.

Trade-Off Theory The trade-off theory states that there is an optimal capital structure that maximises the value of a firm. Therefore, management will set a target leverage ratio and then gradually move towards that. De Wet (2006) has demonstrated that firms select target leverage ratios based on a trade-off between the benefits and costs of increased leverage. This target leverage ratio is influenced by three factors: tax, financial distress costs and agency costs. Managers will therefore choose the combination of debt and equity that achieves a balance

between the benefits of debt (tax advantage) and the various costs associated with debt (financial distress costs and agency costs) (De Wet, 2006).

Pecking Order Theory The pecking order theory states that there are asymmetries of information among the stakeholders; most firms utilize in optimal internal sources available to finance their investments before opting to use debt and equity (Myers, 1984). The pecking order theory differs from the trade-off theory in that there is no well-defined debt-equity ratio (Singh, Wallace, & Suchard, 2003). The pecking order theory assumes there is no target capital structure. Instead of putting a target debt-equity ratio into place, firms adapt their financing policy to minimize associated costs. The results from studies (La Rocca, Cariola & La Rocca, 2007) concluded that firms prefer internal financing to external financing. Therefore, if external financing is required, firms will issue the safest security first. The pecking order theory was first discussed by Donaldson in 1961, and he observed that management strongly favours internal revenue as a source of new funds even to the exclusion of external funds except for occasional unavoidable situations in the need for funds. It may be argued that we may not be able to find any theoretical foundation for these results that correspond with the modern theory of finance. The main argument is that the capital structure theories up to the 1980s did not explain actual financing behavior. Based on this information asymmetry, firms will use a specific order when it comes to financing. In the presence of information asymmetry studies have shown that firms may prefer debt to equity financing (Modugu, 2013).

Information Asymmetry: Stiglitz and Weiss (1981) stated that the presence of agency problems such as asymmetric information and moral hazards can impact the access to finance and thereby capital structure of SMEs. The concept of asymmetric information was first discussed in George A. Akerlof's 1970 paper *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*. In the paper, Akerlof develops asymmetric information with the example of automobile market. His basic argument is that in many markets the buyer uses some market statistic to measure the value of a class of goods. Thus the buyer sees the average of the whole market while the seller has more intimate knowledge of a specific item. Akerlof argues that this

information asymmetry gives the seller an incentive to sell goods of less than the average market quality (Auronen, 2003).

Resource Based Theory: Pearce and Robinson (2011) define the resource-based theory (RBT) as a method of analyzing and identifying a firm's strategic advantages based on examining its distinct combination of assets, skills, capabilities, and intangibles as an organization. This theory is concerned with internal firm characteristics and their effect on firm performance. It views the firm as a bundle of resources which are combined to create organizational capabilities which it can use to earn above average profitability (Grant, 1991). The resource based theory was propounded by Wernerfelt in the year 1984. This theory will aide in explaining profitability variation of intra industry firms as it specifically addresses firm characteristics rather than industry factors. The physical resources as measured by the assets size is one of the tangible resources the firm can use to gain competitive advantage, whereas business experience of the firm gives the firm organizational capabilities that it can use to gain a competitive advantage over its competitors thus being able to earn on above average financial performance (Dioha, Mohammed & Okpanachi, 2018).

This study is however anchored on the theory of pecking order because it is strongly felt that a firm's specific situation will determine its propensity to use internal/external financing, and that such situations have the capacity of changing from time to time.

2.3 Empirical Review

Firm size: firm size is one of the most reviewed variables of firm attributes. Ezeoha and Francis (2010) studied Nigerian evidence from generally, larger, well-known and concluded that such firms have easier access to the capital market and the stock market than their smaller counterparts. This is because the risk of default by a larger firm is much lower than for a smaller firm. Larger firms also have a better reputation in the debt market because they would generally receive higher credit ratings. Smaller firms have a higher risk of bankruptcy and will, therefore, borrow less. Also smaller firms tend to either use short-term funds such as bank loans, or issue stock. This will ultimately result in higher costs of capital for the smaller firms.

Hassan (2011), in his study, argued that firm size is significant determinant of capital structure for listed insurance firms in Nigeria.

Based on the above review, our apriori expectation is that firm size has a positive effect on the financing decision of firms.

Firm profitability: there are many studies on the effect of profitability on financing decisions. Iwarere and Akinyele (2010) in their study of the determinants of capital structure in the banking sector in Nigeria found that there is a positive relationship between profitability and capital structure. This is contrary to the findings of Thomas, Chenuos and Biwot (2014) who found that profitability negatively affected capital structure, and Cassar and Holmes (2003) that also found that profitability is negatively related to capital structure of Australian firms. Zubairi (2011) studied the impact of operating liquidity and capital structure on profitability of automobile firms in Pakistan and found statistically significant impact of both factors on profitability. Fama and French (2002) establish a positive relationship between leverage and profitability. Olokoyo (2013) establish a negative effect of leverage on firms' profitability among Nigerian quoted companies. Xin (2014) found that leverage has a statistically significant relationship with the firm's financial performance. Most studies found a negative relationship between profitability and leverage, which supports the pecking order theory where firms prefer internal financing to external financing (Booth et al., 2001; Baral, 2004; Drobetz, Pensa & Wanzeried, 2007). This negative relationship is observed for both developed as well as developing countries (Chen & Strange, 2005).

Based on this review, the apriori expectation of the study is that firm profitability negatively affects financing decisions of firms.

Firm liquidity: Sheikh and Wang (2013) establish a negative correlation between leverage and firms' performance. Charitou, Elfani and Lois (2010) examined firms listed in the Cyprus Stock Exchange and found that operating liquidity and its components are associated with the firms' profitability. Lazaridi and Tryfonidis (2006) analyzed companies listed on the Athens Stock Exchange and found statistically significant relationship between profitability and liquidity

position of firms. Mansoori and Muhammad (2012) examined a sample of Singapore firms and state that efficient working capital management can lead to an increase in profitability.

Based on this review, the apriori expectation of the study is that firm liquidity affects financing decisions of firms.

Ownership structure: it is often thought that ownership structure impacts corporate governance which in turn impacts financing decisions. Studying listed companies in hotels and manufacturing sectors of Sri Lanka, Kulathunga, Perera and Anagipura (2017) found results that revealed that managerial ownership and ownership concentration have a significant influence on the capital structure. Nofrivul, Subroto, Moeljadi and Djumahir (2017) studied the Indonesia Stock Exchange and found that the corporate governance and ownership structure of companies concentrated effect on the capital structure and corporate value. Driffield, Mahambare and Sarmistha (2015) studied East Asia and found that results obtained from 1994-98 panel data drawn from a sample of Indonesian and Korean firms are supportive of a significant simultaneity between capital structure and firm performance, though these results differ somewhat between these two samples. These results confirm the case of non-entrenchment dilution effects so that higher voting rights give rise to higher leverage in both countries though higher voting rights may increase or decrease profit margin depending on the level of concentration in ownership. Also, Zhang (2013) used evidence from Chinese firms and found a significantly reversed U-shape nonlinear relation between ownership concentration and capital structure which suggests that there might be an optimal level of ownership concentration, he found no evidence that managerial ownership affects firms' capital structure, he found a direct association between state ownership and capital structure which confirms the role of states in firms' corporate financing decisions, firms with state ownership prefer issuing more debt to resolve severe agency problem between shareholders and managers. Faccio and Lasfer (2000) also found a positive relationship for U.K firms.

Based on this review, the apriori expectation of the study is that ownership structure affects financing decisions of firms.

Firm age: firm age has the potentials of influencing the firms' contacts and reach which gives the firms' more access to the external equity and debt markets, also the longer the existence of the large-sized firms, the more they relied on short-term debt instead of long-term debt. The age of the firm is positively related to total debts of small-sized firms. The age of the firm is a means to assess the popularity of a business (Diamond, 1989). Chin and Zakaria (2018) from their study came up with findings that also revealed that the longer the Malaysian consumer product firms have existed, the greater their focus on short-term debt financing. After controlling for firm size, firms' growth showed a significant effect on the firm's capital structure. With an increase in the firm's capital expenditure, its total debt tended to increase regardless of the size of the firm. However, if the firm's R&D increased, small firms incurred more short-term debt financing.

Based on the above review, the apriori expectation of the study is that firm age affects financing decisions of firms.

3.0 Data and Methodology

The research design employed in this study is the cross-sectional design using pooled data from 2002 to 2019. The study used a sample of 133 observations purposively selected from the firms listed in the Nigeria Stock Exchange (NSE).

The STATA 14 statistical package was used to estimate the parameters of the model. The ordinary least squares (OLS) regression method was used to explain the causal relationship between the dependent variable and the independent variables of the adopted model.

3.1 Model Specification and Measurement

The model used in this study is based on the model adopted by Pontoh and Budiarto (2018) which is modified in this study as:

$$LIAB = F(FSZ, ROA, LIQ, OWC, FAG)$$

In a more specific causal form, this model is restated as:

$$LIAB = \beta_0 + \beta_1FSZ + \beta_2ROA + \beta_3LIQ + \beta_4OWC + \beta_5FAG + \epsilon_0$$

$\beta_0, \beta_1, \dots, \beta_5$ = Regression coefficients

Σ = Error term

These variables are operationally defined and measured as provided in Table 1.

Table 1: Definition and Measurement of Variables

Variables	Symbol	Expected Sign	Variable Type	Measurement
Financing decision	LIAB		Dependent	Ratio of Total debts to total assets
Firm size	SIZ	+	Independent	Logarithm of total assets
Firm Profitability	ROA	+	Independent	Total earnings before tax to total assets ratio
Liquidity	LIQ	+	Independent	Working capital ratio
Ownership concentration	OWC	+	Independent	Percentage of shareholding higher than 5%
Firm age	FAG	+	Independent	No. of years since incorporation

Table 2: Descriptive Statistics

Variable	Obs	Mean	Std Dev	Min	Max	Pr(Skewness)	Pr(Kurtosis)	Prob>chi2
LEV	133	0.6713	0.2704	0.2035	2.0299	0.0000	0.0000	0.0000
FMS	133	23.816	1.7636	20.26	27.670	0.2397	0.0000	0.0001
ROA	133	0.0496	0.1713	-0.5260	0.7927	0.0000	0.0000	0.0000
LIQ	133	1.2161	0.9901	0.1526	10.497	0.0000	0.0000	0.0000
OWC	133	0.5942	0.1759	0.1777	0.9825	0.0265	0.0719	0.0599
FAG	133	60.263	27.38	16	153	0.0000	0.0001	0.0000

SOURCE: Researcher's Computation using STATA 14

The results of the descriptive statistics reveal a largely normally distribution of data for nearly all the variables. Almost all the probability values of skewness, Kurtosis and chi squared statistics show significance, they are below the 0.05 benchmark which is indicative of statistical significance of the model. The results of the standard deviation indicate small dispersion of the variables from their respective mean values; 0.2704 for leverage, 1.7636 for firm size; 0.1713 for profitability; 0.9901 for liquidity; 0.1759 for ownership concentration; and 27.38 for firm age.

The results also revealed that: on the average the mean value of financial leverage is 0.6713; firm size has a mean value of 23.816, and that of firm performance (ROA) is 0.0496 for the sampled period while the maximum and minimum of ownership concentration are 0.9825 and 0.0265 respectively. The maximum and minimum values of leverage (LEV) are 2.029 respectively.

Table 3: Correlation Matrix

	LEV	FMS	ROA	LIQ	OWC	FAG
LEV	1.0000					
FMS	0.2557	1.0000				
ROA	-0.3972	0.0483	1.0000			
LIQ	-0.3381	-0.3077	0.0418	1.0000		
OWC	0.2463	0.2209	-0.1876	-0.0033	1.0000	
FAG	-0.0383	0.3016	0.2427	0.0216	0.2247	1.0000

SOURCE: Researcher's Computation using STATA 14

The result shows missed correlations. The explanatory variables of firms' profitability, liquidity, firm age are negative, while firms' size and ownership concentration are positive. The coefficients are relatively weak. The highest coefficient of correlation is 0.3016 between the dependent variables of firms' age and firms' size. The coefficients are not problematic since none is 1.0000 or nearly so. Thus, the table shows that no two of the explanatory variables are perfectly correlated or nearly so. This is indicative of an absence of any problem of multicollinearity.

Table 4: Regression Results

Source	SS	Df	Number of obs = 133	
Model	3.0321068	5	F(5, 127) =	11.63
			Prob > F =	0.0000*
Residual	6.61973732	127	R-squared =	0.3141
			Adj R-squared =	0.2871
Total	9.65184412	132	Root MSE =	.22831
LEV	Coef.	Std. Err.	t	P>t.

FMS	0.0254	0.0127	2.00	0.048**
ROA	-0.5671	0.1238	-4.58	0.000*
LIQ	-0.0740	0.0213	-3.47	0.001*
OWC	0.2271	0.1218	1.86	0.004**
FAG	-0.0003	0.0008	-0.35	0.729
_cons	0.0664	0.2967	0.22	0.823
VIF	= 1.19			

Breusch-Pagan/Cook-Weisberg test for
heteroskedasticity $\chi^2(1) = 0.25$; Prob > χ^2
= 0.6193

*, ** implies statistical significance at 1% and 5% levels respectively.

SOURCE: Researcher's Computation using STATA 14

In testing for the cause-effect relationship between the dependent and independent variables in the firm characteristics: FMS, ROA, LIQ, OWC and FAG are regressed against financing structure to examine their effects on financing choices.

Table 4 presents the results of the analysis, the VIF test (1.19) and the heteroskedasticity test [$P(\chi^2)$ 0.06193] shows the absence of any problem of multicollinearity, and that there is no need to eliminate any explanatory variable, and the absence of the problem of unequal variance, thus no problem of heteroskedasticity, and that there is no need for the robust regression analysis. These mean that the OLS regression results are used in the interpretation of the relationships. The table shows that R-squared statistic is 0.3141 and the adjusted R-squared is 0.2871 which imply that the combined explanatory variables have the capacity of explaining about 31% of the changes in the dependent variable and after adjusting for the degree of freedom, they can explain over 28% of the changes in the dependent variable. A p-value of the F-statistic of 0.0000 shows that on the whole the pooled regression model is statistically significant at 5% level and so can be used for statistical inference.

Firm size and financing decision: with a coefficient of 0.0254 the result indicates that firms' size positively impacts firm financing decisions, while the probability of 0.048 indicates that the positive impact is significant. This leads to the rejection of the null hypothesis, thus accepting

the alternative hypothesis that firms' size significantly affects financing decisions of firms, this effect is positive. This finding conforms to our apriori expectation and is consistent with the findings by Ezeoha and Francis (2010) and Hassan (2011). This may have been enhanced by the ease of accessing the capital market for big firms.

Firm profitability and financing decision: With a coefficient of -0.5671 the result indicates that firms' profitability impacts financing decisions negatively, while the probability of 0.000 indicates that the negative impact is significant. This leads to the acceptance of the alternate hypothesis that firm profitability has a significant effect on firms' financing decisions, this effect is negative. This conforms to our apriori expectation and is consistent with the findings of Thomas et al.(2014), Olokoyo (2013) and Chen and Strange (2005). It is suggested that the negative impact supports the pecking order theory.

Firm liquidity and financing decision: with a coefficient of -0.0740 the result indicates that firms' liquidity negatively impacts firms' financing decisions, while the probability of 0.001 indicates that the negative impact is significant at the 5% level of significance. This leads to the acceptance of the alternative hypothesis that firms' liquidity has a significant effect on firms' financing decisions, this effect is negative. This finding is not in conformity with our apriori expectation. The finding is not consistent with the finding of Charitou et al. (2010).

Ownership concentration and financing decision: with a coefficient of 0.2271 the result indicates that ownership concentration positively impacts firms' financing decisions, while the probability of 0.004 indicates that the positive impact is significant. This leads to accepting the alternative hypothesis that ownership concentration significantly affects financing decisions of firms, this effect is positive. This finding conforms to our apriori expectation and is consistent with the findings of Kulathunga et al. (2017), Nofrivul et al. (2017) and Driffield et al. (2015) but inconsistent with the finding of Zhang (2013).

Firm age and financing decision: with a coefficient of -0.0003 the result indicates that firms' age negatively impacts firms' financing decisions, but the probability of 0.729 indicates that the negative impact is insignificant. This leads to the rejection of the alternative hypothesis, thus accepting the null hypothesis that firms' age insignificantly affects financing decisions of firms, though the effect is negative. This finding conforms to our apriori expectation and is inconsistent with the finding of Chin and Zakaria (2018) in terms of the significance of the effect. This may be as a result of the notion that the age of the firms may be seen as a means of assessing the popularity and soundness of a business.

5.0 Conclusion and Recommendations

From the study the following findings were made:

- i. Firm size and ownership concentration positively and significantly impact firm financing decisions.
- ii. Firm profitability and liquidity negatively and significantly impact financing decisions of firms.
- iii. Firm age negatively but insignificantly affects firm financing decisions.

The study recommends that:

- i. Appropriate trade-off be adopted between internal and external financing;
- ii. Firm ownership structure should be carefully watched to maintain its strategic advantage;
- iii. Firm liquidity should be regularly evaluated so as not to hamper profitability,
- iv. The advantages of firm age should be carefully mainstreamed upon.

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