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DETERMINANTS OF CORPORATE FUNDING DECISION:A QUANTITATIVE STUDY OF LISTED NIGERIAN MANUFACTURING FIRMS

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Abstract

Following the necessity for corporate managers to have extensive understanding of the roles and multiplier effects of their funding decisions on their firm's survival quest and growth, this study is conducted to provide useful empirical information on how manufacturing companies behave in response to a number of influencing factors. Specifically, the study is designed to find out if a firm's net cash flow and change in its product's sales do influence its funding decisions, using a regression approach. The methodologies adopted for the study is anchored on the duo of the Agency and Trade-off theoretical framework while its coverage is the 35 listed Nigerian manufacturing firms between year 1990 and 2019 (a total of 29 years). Variables examined were selected on the premise of a three economic logic, viz: firm-specific factors, industrial-wide factors and economic factors. And being a quantitative type of study that focuses on a developing economy (Nigeria), the data used are of unbalanced panel and secondary type. Accordingly, finance (which is the mix of equity and borrowings) is the study's dependent variable, which is measured on the submission of extant finance literature, on which variables such as: capital investment, dividend payout, net cash flow, corporate size, asset' tangibility, economic uncertainty and change in product' sales were tested. Overall, using a multivariate econometric model that captures all study's intended variables, the study revealed through the regression analysis that all the tested factors in the study are determinants of firm's funding decision, with the exception of corporate size, and that a firm's net cash flow and change in its product's sales informs corporate funding decisions positively.

Keywords: Decision, Funding, Net cash flow and Firm's product

Introduction

Running a firm entails taking sensitive decisions, and if intentions behind such decisions will be achieved, it will require understanding of the factors informing such decisions, the consequences attached, and the measures needed in managing eventualities that may arise from such decisions (Nguyen, 2019). This is because, most business decisions, if not all, revolves around financing decisions, which scholars tagged capital structuring: a trilogy type of corporate decision making that involves investment, funding and dividend management (Jing, 2020).

From the submissions of Das (2020); Annamalah (2019); Olowe (2018); and Yan (2018), it can be deduced that if corporate long-term financing decisions are properly structured, growing firms will attain full potential. But for the full potential to be achieved, it will require that firms will not only focus on their short-term goals, but must also pay attention to how long-term business aspirations can influence and sustain their short-term goals, and make them competitive (Rasool, 2020). And given the importance of capital structure and the challenges surrounding agency and institutional approaches to money management, economic and financial scholars still believe that the effect of managerial decisions on firms' survival, valuation, competitiveness and its growth cannot be overemphasized, in view of how notable factors influence firm's decisions, especially

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those concerning the long-term finance - viz: investment, funding and dividend payout decisions (Das, 2020). This could explain why scholars pay much attention to issues of capital structuring and other challenges of managerial finance, particularly as to what influence financing decisions, their relationships, and their multiplier effects on corporate behaviour and value (Smith, 2019).

Analytically, the existence of mixed submissions on the factors informing financing decisions of firms, especially those operating within a developing economy has pointed to how the dynamic nature and the differences in economic peculiarities of some economies have rendered a number of economic and finance theories somehow irrelevant in some market situations (Jing, 2020). For instance, empirical evidence as documented in the works of Idewele (2019); Olowe (2018); and Davom (2017), shows the need to verify what informs funding decision, which this study sought.

Given the importance and immense contributions of the manufacturing sector to the growth and development of the global economies, it then becomes logical to enquire at empirical study level, one of the major managerial challenges facing this sector, especially as it concerns the root cause and measures required to improving existing approaches to corporate funding decisions.

From the submission of Adelegan (2015), it can be deduced that majority of firms operating in emerging economies act differently in comparison to those in the much advanced economies. Adelegan (2015) cited some factors like: access to fund, interest rate, institutional structure, understanding of the economy and governmental support, as being responsible for the corporate behavioural gap. Smith (2019) then posited that for an economy to thrive under an uncertain economic situation, it would require adequate understanding of factors influencing corporate behaviour (particularly as it concerns manufacturing firms).

In respond to this necessity, the global research community has endeavored to shed light on the importance of understanding corporate behaviour and challenges around decision making at both theoretical and empirical level. For instance, Fatima (2019), Yan (2018), and Frank and Shen (2017), to name a few, argue the explanatory powers of the firm's specific factors upon which most studies stands. This yardstick was however faulted by Roj (2019), Paseda (2016), and Jindrinschovska and Korner (2010), who make a case for industry-wide factors.

It would also be informative to fill the lacuna found in areas of variables' selection and their measurements, geographical and/orsectoral and, most importantly, address the estimation techniques' gap of most existing studies. To address these gaps, the study chose to cover firm-specific; industry-specific and economic-related factors, by introducing variables like: firm's net cash flow, change in firm's product' sales and other hitherto ignored variables of extant studies.

Research Objective

The specific objective is to verify if a firm's net cash flow and changes in its product' sales, amongst other factors, influences firm's funding (finance) decision and how (i.e., effect).

Research Question

What effect does a firm's net cash flow and changes in product' sales, amongst other factors, have on its funding (finance) decision?

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Research Hypothesis

H_0: A firm's net cash flow and changes in its product' sales, amongst other factors, does not influence firm's funding decision.

Conceptual Review

The scholarly interpretations and the stand of this study on what corporate financing, firm's net cash flow and the change in firm's product' sales are, among other study's explanatory variables, are discussed in this sub-section in order to aid quick comprehension of the study in entirety. Hassan (2017) describes *corporate financing* as the ability of a firm to raise funds to finance a working capital or acquisitions through borrowing (secured and unsecured loan) that is meant to be paid back at future date with interest. Annamalah (2019) provide more expansive description of investment from a corporate perspective by positing that it is every conscious act of corporate firms in deploying money (cash) on either securities or real assets, estates, plants, machineries, bonds, credits, debentures, new products and many more, with the aim of storing monetary value and realizing profits from them in order to take care of other corporate needs and growth.

Paseda (2016) sees *dividend payout*as distribution of profits earned from a firm's productive/investment activities in a period of time to the firm's shareholders, mostly on a yearly basis. A firm's *net cash flow* is the difference between a company's cash inflows and outflows in a given period, that is, changes in a firm's cash balance as stated in its cash flow statement (Frank & Shen, 2017; Paseda, 2016 & Adelegan, 2015). A *change in sales* is the marginal increases or decreases in a firm's products' turnover (Dada & Ghazali, 2017). *Firm's other financial need* means all other firm's commitments and expenditures (apart from dividend payout), which requires spending of cash in order to ensure a smooth running of the firm (Rasool, 2020 &Gordon 2015).All of these definitions are what this study means by those words

Theoretical Review

Agency theory is a corporate theory propounded in the early 70's from two independent theories of economics and management, the result of the combined efforts of Ross and Mitnick (1973; 1975), which is designed as a template to address managerial conflicts between agents and their principals (Hassan, 2017). The theory is considered in this study due to its explicit analysis of the corporate structure, following how it explicitly address issue relating to business-contractual relationship, financing decisions and corporate control and conflicts of interest. Its prediction is that, most shareholders desire high investment returns but at no or most minimum risk level, of which such shareholders would object corporate management on the investment or financing decisions relating to risky portfolios, high cost of debt, or any form of financial distress approaches that managers may prefer at the expense of the firm (Jindrichovska & Korner, 2010).

T*rade-off* theory of capital structure is a corporate finance theory, propounded by Kraus and Litzenberger (1973), who considers a balance between the dead-weight costs of bankruptcy and tax saving benefits of debt financing. This finance postulate explicitly explains how wise it is for a company seeking growth to balance its financing decision with equity financing and debt, in prosecuting investment and other corporate growth projects. This theory is explicit in describing ideal corporate financing methodology, which most studies documented to be preferred by both big and smaller firms operating within developed and the developing economies (Baker, 2017). The rationale behind trade-off theory is to project companies to weigh the cost and benefits associated with both equity financing and debt financing before deciding corporate financing

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standards. Accordingly, the theory posited that equity financing option alone might not be enough or most efficient option under some economic situations (uncertainty) to execute corporate projects, and when debt is considered alongside equity financing, it is wise that corporations must first consider the tax involved, firms' financial obligations, and the associated costs of such debt so as to focus more on trade-off (Baker, 2017).

Empirical Review

Jindrichovska and Korner (2010) examined the determinants of financing decisions, using Czech Republic quoted firms as the case study. The study explored the role of financial management (agents) in generating superior performance for a firm, using unbalanced panel data, which was regressed through the GMM approach. The conclusion of this study was that a firm's financial policies should be in harmony with its sources. Bellavitis (2017) examined Portuguese firm's financing policies as to whether the variation in financial policy has any significant relationship(s) with the firm's profitability. Forty-eight samples of public firms from 1990 to 2015 were employed and the OLS regression approach was adopted in the analyzing the data. The Pecking Order theory was tested with secondary data used. The firms' finance policy was found to have no effect on their profitability, which is contradictory to the subsequent Nguyen's (2019) findings.

Sutomo (2019) examined the determinants and impact of corporate finances on the value of shares of Bangladesh quoted firms. The study aimed at providing evidences on the extent to which a firm's finance structure may differ and how the value of firm changes as a result. The study analyzes 77 firms from the four most dominant sectors of Bangladesh capital market. Cross sectional and time series fixed effect model were used to analyze available data, while cross sectional regression analysis measures the observations over the same period but differ in dimension. The study considers a firm's value (share price) as the dependent variable while profitability, public ownership of finances, assets and operating efficiency were tested as independent variables. Variables used as independent variables are considered as proxy for the financing decision of respective firms and it was revealed that there is a strong positive correlation between firms' funding structure and value, which is tandem with Davom (2017).

Finally, Pettit (2020) examined the capital structure and corporate performance of "large capped firm" from four economies in Asia: Hong Kong, Malaysia, Singapore and Korea. The study investigated the exact influence of country of origin on both financial performance and capital structure. Pecking-order theory was tested and Analysis of Variance (ANOVA) was adopted to test for differences based on country of origin; while estimated factor model regression was adopted to capture possible effects of variables tested on performance. Four different measures of corporate performance were considered, viz: return on equity (ROE), the return on invested capital (ROIC), pretax operating profit margin (PTM) and the market return on stock (RETURN) and two measure of leverage, which are the ratio of total debts to the market value of equity (TD/Equity) and the ratio of long-term debt to market value of equity (LTD/Equity), were used.

In all, both profitability performance and capital structure were reported as being influenced by the country of origin with firms from Hong Kong having significantly higher returns on equity and invested capital; performance differences amongst firms from other countries were not statistically significant; the stock market return model was not significant, thereby suggesting

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that expected differences in financing performance across countries are rapidly incorporated in stock prices; and that evidence from the study could only lend limited support to extant capital structure theories. The strength of the study lies in its ability to correct for problems of short-term measurement instability and bias by taking five years average of employed variables. The failure to verify economic uncertainty and other related factors seems responsible for the study's negative outcome. However, the reported significant impact of total debt to total equity (TD/TE) on return equity (ROE) of firms operating in Asia (totaled 81 companies) is impressive.

Methodology

The study is a single-country study for Nigerian manufacturing companies that were listed in the Nigerian stock Exchange (NSE) between a period of 1990 and 2019. A total of thirty-five NSE's listed manufacturing firms are covered by the study. Manufacturing sector is chosen to enable the study address some gaps in the existing studies, given the manufacturing sector's existing and potential contributions to the growth and the development of the Nigerian economy (Olowe, 2018; Yinusa et al., 2019). Sampled firms include industrial and consumer goods producers, and the rationale being to ensure a wide coverage of the Nigerian manufacturing industry. The sample size is limited to only thirty-five as a result of the limited numbers of firms having the requisite data for the study. It is an unbalanced panel that is used, due to non-availability of data for the entire period for most of the firms. The period covered is between 1990 and 2019 (i.e., 29 years). The 1990 commencement period is informed by the fact that most of the companies were not officially listed in the NSE until the 1990s while 2019 was the most recent year of data availability as at the time of carrying out data analysis for the study. Data used in this study are mainly secondary, and were collected from the following sources:

The Nigerian Stock Exchange Fact Books of 1990 to 2019;

Annual reports of the sampled listed firms within the period covered and,

The daily official lists of the NSE for the last day of trading in each of the years covered.

Model Specification

The study specifies the following panel econometric equation:

$$\left(\frac{FIN}{K}\right)_{it} = \beta o + \beta_1\left(\frac{INV}{K}\right)_{it} + \beta_2\left(\frac{DIVP}{K}\right)_{it} + \beta_3\left(\frac{CF}{K}\right)_{it} + \beta_4 SZ_{it} + \beta_5 TAN_{it} + \beta_6\left(\frac{\Delta Sales}{K}\right)_{it} + \beta_7 EUNC_{it-1} + \mu_{it} \quad \text{_____(1)}$$

where:

INV:	Investment
DIVP:	Dividend Payout
K:	Capital stock at the initial period
i, t:	Subscripts for the manufacturing firm i' and time period t' respectively
ΔS:	Change in Sales
$\boldsymbol{\beta_0}$**:**	Intercept term
FIN:	Finance (the mix of corporate equity and debts)
SZ:	Size of the firm

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CF: Cash Flow
TAN: Asset Tangibility
EUNC: Economic Uncertainty indicator (equity market volatility)
μ: Error term
β_1-β_7: Parameters of the explanatory variables

***Note*:** *All the variables (with the exception of TAN and EUNC) are normalized with either K or S while the study's adoption of a two-equation approach is an econometric means of ascertaining which of the two specified equations better explains the funding and liquidity behaviour of the listed Nigerian manufacturing firms.*

Model Estimation techniques

This section discusses the estimation approaches adopted in the study. In the main, inferential statistics were adopted to estimate variables parameters, verify stated hypotheses, and then draw logical inferences on the study. To achieve the study's objective, the study executes conventional panel data regression analysis, using the 3-Stage Least Squares regression type, through the R-system fit estimation software to assist address the unbalanced nature of the data and also to cater for its zero entries. This regression method adopted is to enable the study verify Baltagi's (2015) submissions on the modeling of some interrelated variables. Using this approach will provide evidence regarding the study's specified interrelated models and presumed relationships between corporate funding and its influencing factors.

In addition to this estimation method, series of diagnostic tests were conducted on data employed in this study and they includes; Linearity and co-linearity tests, Normality and Non-normality tests of the distribution of residuals, Multicollinearity test, Homoskedasticity, Heteroskedaticity, Unit root and Robustness tests amongst others.

Results

Regression Equation Estimates on the Role of Economic uncertainty on Investment

Table 1: The 3-Stage Least Squares Regression Results

Variables	Coeff.	Z	p-values
INV/K	174.37	2.15	0.000
DIVP/K	-15.32	-3.52	0.004
CF/K	52.03	4.34	0.000
LogTAN	50.06	4.84	0.000
LogSIZE	-0.006	-0.52	0.605
ΔSALES/K	34.79	3.42	0.001
EUNC	-44.00	-3.52	0.004
Constant	46.98	0.61	0.544
No. of Observations	299		
R-squared(R^2)Statistic	0.603		

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Chi-squared (χ^2) Statistic	165.72	0.000
Hausman Spec. Test	10.69	0.153
Harvey LM test	1.648	0.131
Jarque-Bera Normality	0.36	0.401

Source: Author's Computations, 2020.

Discussion of Findings

Evaluation of the Results of the Diagnostic Tests

From Table 1, it can be seen that R-squared produced a value of 0.603, which implies a 60.3% of variations in funding liquidity (finance). However, since the study has adopted the 3-Stage Least Squares estimation approach, which assumes that the respective error terms in the equation are correlated, R^2 value is less important compared to the overall model fitness (Ascioglu, 2017). Based on this position, the overall fitness of this model, which is indicated by the Chi-squared statistic, can be gauged by the chi-square statistic value of 165.72, with a corresponding p-value of 0.000. This signifies that the test statistic is significant and, hence, the test's null hypothesis is supported. This therefore implies that the overall model is in good fit.

Evaluation of the Specific Performance of the Explanatory Variables

Having evaluated the performance of the overall model, the study now proceeds to the evaluation of the specific performance of each of the explanatory variables included in the model:

(a) Net Investment (INV/K): Net investment has a positive coefficient of 174.37, with a p-value of 0.000, indicating that this coefficient is statistically significant. This, in turn, implies that capital investment has a positive effect on funding decisions. It is also in tandem with what most previous studies, such as Sutomo (2019); Davom (2017) and Jabouri (2016), reported.

(b) Dividend Payout (DIVP/K): Dividend pay out as a negative coefficient of -15.32, with a p-value of 0.004, indicating that the coefficient is statistically significant. This, in turn, implies that dividend payout has a negative effect on firms' financing decisions. This simply means that a marginal increase in a firm's dividend payout will lead to a marginal decrease in such firm's finances, thereby limiting its financing strength. It is also in line with what most previous studies, like Nguyen (2019); Jensen (2016) and Miller and Rock (2015), reported.

(c) Net Cash Flow (CF/K): Net cash flow has a positive coefficient of 52.03, with a p-value of 0.000, indicating that this coefficient is statistically significant. What this result implies is that the net cash flow of a firm has a positive effect on its funding decision. This, in turn, means that on each Naira spent, and after all deductions, 52.03 kobo will be at firm's disposal as net cash, which is an addition to a firm's liquidity. It is also in line with what most previous studies, like Yan (2018) and McDonalds (2015), reported.

(d) Asset Tangibility (log TAN): The logarithm of asset tangibility has a positive coefficient of 50.06, with a p-value of 0.000, implying that the coefficient is statistically significant. What this result indicates is that assets' tangibility of a firm has a positive effect on its funding decision. This means that when a firm has tangible assets, it allays fear of funding. This evidence supports the study's a priori expectation and findings of Ascioglu (2017); and Aggarwal and Zang (2016), among others.

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(e) Corporate Size (log SIZE): Corporate Size produces a negative coefficient of -0.006, with a p-value of 0.605, indicating that this coefficient is not statistically significant. This implies that a firm's size has no effect on its finance. It therefore implies that how 'big' a firm is, does not guarantee its chances of boosting its finances or securing external aids. However, this result is in line with the reported findings of Bellavitis (2017) and Kayser (2015).

(f) Change in Sales (ΔSALES/K): Change in sales has a positive coefficient of 34.79, with a p-value of 0.001, indicating that this coefficient is statistically significant. What this result means is that change in sales has a positive effect on finance. This can be interpreted that a change in firm products' sales influences its funding decision positively.

(g) Economic Uncertainty (EUNC): Economic uncertainty has a negative coefficient of -44.00, with a p-value of 0.004, which shows that economic uncertainty is statistically significant, but has negative effect on firm's finance. This simply means that when economic future is uncertain, business and finance institutions fear the unknown, which reduces corporate access to funding. This finding provides an insight into the role of economic uncertainty on corporate funding and liquidity decision, since no existing empirical studies ever investigated its roles.

Conclusion

Following the study's discoveries, it is concluded specifically that net cash flow and change in product sales are determinants of corporate funding decision, with positive effect. Generally, it is concluded that all factors tested in this (investment, dividend payment, net cash flow, change in firm's product sales, asset tangibility and indicator of economic uncertainty) are determinants of corporate funding decision, with the exception of corporate size that failed the test.

Recommendations

The study suggests that:

1. If corporate executive (particularly the financial managers) can monitor and control firm's excessive spending, this approach will boost the firm's net cash flow that could be used for more productive and growth enhancing activities (investment). be logical if corporate authorities can adopt economists' predicting tools, as suggested in extant literature, viz: monitoring all markets' and
2. Corporate executive should adopt the mix of marketer' suggested marketing strategies in the existing literature that seems most appropriate to improve their products' sales, or better still, design other suitable sales promoting techniques that they considered best for their product, if order they will indeed improve their sales contribution to the corporate purse. These approaches are considered by this study as long-lasting solutions to improving firm's funding strength and its ability to secure external credit when need arises.

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