British International Journal of Applied Economics, Finance and Accounting
B. J. Int. J. A. Econ. Fin. & Acc.
Volume: 7; Issue: 3
May-June, 2023
ISSN 2234-2418
Impact Factor: 5.23
Advance Scholars Publication
Published by International Institute of Advance Scholars Development
https://aspjournals.org/Journals/index.php/bijaefa

FIRM SPECIFIC DETERMINANTS AND SUSTAINABLE GROWTH OF INDUSTRIAL GOODS FIRMS NIGERIA

Clement Edojor Ozele[1] and Agbo Innocent Sunny[2]
[1]Department of Accountancy Igbinedion University, Okada, Edo State, Nigeria
Mail: *ozele.clement@iuokada.edu.ng*
Department of Accountancy
[2]Igbinedion University, Okada, Edo State, Nigeria
Mail: *blessedsamsun@gmail.com*

Keywords: *Sustainable Growth, Profitability, and Capital structure.*

Abstract: *This study examined firm characteristics determinants of sustainable growth of listed industrial goods firms in Nigeria. The scope of this study covers a 10-year period ranging from 2011 to 2020. In this study, profitability and capital structure are the firm specific characteristics proxies adopted. In testing the hypotheses, the study conducted panel least square regression before proceeding to check for inconsistencies with the basic assumptions of the OLS regression. Findings from the analysis show that profitability and capital structure have a negative insignificant effect on sustainable growth, while has a negative insignificant effect on sustainable growth. Based on the findings of this study, It is recommend that management of these industry goods companies should advocate for policies that will enhance swift conversion of inventory to cash to improve firm growth. This could range from the provision of cash discussant to customer to encourage purchase.*

INTRODUCTION

Determining the factors that affect a company's sustainable growth (SGR) is to help stakeholders (either internal or external management or customers) make the right decisions. According to Hartono and Utami (2016) and Radasanu (2015), four factors affect SGR: the profit ratio, where an increase in the profit ratio increases the generation of internal funds, which directly affects the achievement of growth; asset turnover ratio, where an increase in this ratio increases the sales generated per unit of assets, which reduces the need for additional funds to increase sales and which leads to an increase in SGR; fiscal policy in which an increase in total debt provides additional resources and increases the SGR; and dividend policy, where increasing the retention

British International Journal of Applied Economics, Finance and Accounting
B. J. Int. J. A. Econ. Fin. & Acc.
Volume: 7; Issue: 3
May-June, 2023
ISSN 2234-2418
Impact Factor: 5.23
Advance Scholars Publication
Published by International Institute of Advance Scholars Development
https://aspjournals.org/Journals/index.php/bijaefa

rate increases capital growth and indirectly SGR. Johnson and Soenen (2003) argued that strategic planning that addresses political constraints and limits on leverage and dividend payments can help a company sustain its growth. This will help companies in the crisis of the COVID-19 pandemic, where the priority should be to improve and move companies to higher SGR performance. Based on the above, we examine what determines sustainable company growth through a selection of listed industrial manufacturing companies in Nigeria. However, not all studies in Africa, and especially Nigeria, used data up to 2020, showing a gap in the time frame; (2) We also found in Nigeria that the few studies done were on manufacturing companies (Alayemi and Akintoye, 2015) and banks (Aregbeyen, 2012). Although we acknowledge the work of Akpovbera, Onodje and Farayibi (2014) who conducted their study on the determinants of firm growth in the manufacturing goods sectors, they only use a few non-financial firms and their generalization may be uncertain. ; (3) Most studies examine the determinants of firm performance and firm value (Filsaraei and Zarei, 2017; Badu, 2013; Sardar 2015; Mohammed 2016; Pandey and Ashvini 2016; Mahdzan and Zainudin 2016; and Christopher, 2014, is not defined. growth). , hence the timeliness of our research; (4) These previous studies also completely ignore determinant variables such as working capital, which are key factors that can potentially determine firm growth.

This study therefore aims to address these research issues by first ensuring the inclusion of variables such as capital structure as determinants of firm growth. Second, we use a panel regression technique with an effect estimator that is able to capture within-firm heterogeneity. Third, we ensure that unlike previous studies (Rahim, Nor, Ramli, & Marzuki, 2021; 2021); No, Ramli, Marzuki, and Rahim, 2020; Rahim, Nor, Ramli and Marzuki, 2019 and Rahim, 2017), Indonesia (Sunard, Pertiwi and Supramono 2021; Listiani and Supramono, 2020; Nastiti, Atahau and Supramono, 2019; and Wahyuni, 2016 and Dinos using short periods and a small stable .observations. The main objective of this study is to investigate the determinants of sustainable business growth in Nigeria. However, the specific objectives of the study are as follows:

1. Examine the effect of profitability on sustainable growth rate of listed industrial goods firms in Nigeria.
2. Investigate the effect of capital structure on sustainable growth rate of listed industrial goods firms in Nigeria.

LITERATURE REVIEW

Sustainable Growth

Sustainable Growth Rate (SGR) results can be used to guide the growth strategies of companies and businesses that are trying to reduce their leverage. The SGR formula tells firms entering the financial markets whether they must raise new funds to achieve sales growth greater than the SGR (Platt, Platt, and Chen 1995). In addition, Harkleroad (1993) argued that SGR provides an analytical framework to help determine which elements of the management of a company's operational and financial structures should be focused on to improve financial performance. It also allows analysts to compare performance over time to quickly identify key elements of a competitor's strategy so they can focus on identifying

British International Journal of Applied Economics, Finance and Accounting
B. J. Int. J. A. Econ. Fin. & Acc.
Volume: 7; Issue: 3
May-June, 2023
ISSN 2234-2418
Impact Factor: 5.23
Advance Scholars Publication
Published by International Institute of Advance Scholars Development
https://aspjournals.org/Journals/index.php/bijaefa

competitor strengths and weaknesses. SGR is also an important tool to help managers make important corporate financial decisions (Babcock, 1970). Arora, Kumar and Verma (2018) mentioned that SGR can be useful for managers to balance their operational and financial strategies. It was mentioned in the modern context of financial management as a practically applicable concept that can be used as a tool for strategic planning and control of a company (Fonseka, Ramos and Tian, 2012).

A sustainable growth rate is the company's long-term growth goal. Faster growth rooted in alignment with real growth and internal resources would burden the company's limited asset base, and too slow growth can limit the confidence of investors and interest groups and create lost opportunities. Faster growth further overburdens the company, making the underlying capital structure riskier. External (or acquisitive) growth means that a company achieves growth from external resources through partnerships or acquisitions in related or independent business areas. Thus, external growth in its broadest sense includes not only MandA strategies but also joint ventures, strategic alliances, licensing, franchising and investments (Chen and Chiou-Wei, 2009). Despite their relative importance, however, studies measuring foreign growth almost always exclude strategic alliances, licenses, franchises, and investments. This omission is due to the quantitative challenges of measuring these strategies and the lack of clear objective data. For example, in the case of alliances, it is problematic to distinguish their effect on the result, because no objective accurate data has been published: information about alliances must be extrapolated from financial statements (Killing, 1983). MandA stands for Merger and Acquisition. A merger occurs when two companies merge into one company. An acquisition occurs when a company, the buyer, takes over the assets or control of another company. This is done by owning the majority of shares in that company (Mallikarjunappa and Nayak, 2007). Some of the main strategic motives encountered in the literature when firms choose MandA are diversification, synergy and market power. Decentralization as a growth method is based on the fact that MandA is an opportunity for companies to acquire new resources and know-how to expand their activities in a new field. When expanding into a new field, acquiring an already established company can reduce costs, risks and required expertise.

Firm growth

The growth of a company starts when the company starts losing money to develop and establish its products in the market. Direct sustainable growth is the official form of the old saying "Money begets money". Sales growth requires using more assets and paying the associated price. Accumulated profits on new loans lead to limited liquidity. If the company does not finance through new equity issues, liquidity constraints determine the limit growth without pressure on the company's resources. This is a sustainable growth rate. This process is growing fast and is currently profitable, but it is growing so fast that it needs regular funding from outside the organization. Rapid growth can put significant pressure on a company's resources. If the management is not aware of this and does not try to control it, it can lead to bankruptcy. It is a bitter truth that fast-growing companies go bankrupt more than slow-

British International Journal of Applied Economics, Finance and Accounting
B. J. Int. J. A. Econ. Fin. & Acc.
Volume: 7; Issue: 3
May-June, 2023
ISSN 2234-2418
Impact Factor: 5.23
Advance Scholars Publication
Published by International Institute of Advance Scholars Development
https://aspjournals.org/Journals/index.php/bijaefa

growing ones, while research results show that smaller companies grow faster than large and older ones; therefore, smaller ones are more exposed to risks (Amaral, 2008). It is unfortunate that very fast growing companies due to market favorable production lead to low growth due to smart financial managers. On the other hand, companies that grow very slowly and at the same time ignore financial considerations, if they do not understand the economic concept of their slow growth; they are potential subjects for intelligent opportunists.

Profitability

Profit is the main objective of business (Nimalathasan, 2009). As for the large investments that are necessary for most businesses to succeed. Profit in accounting tends to become a long-term goal that measures not only the success of a product, but also the development of its market. It is determined by comparing the revenues with the related costs. Only those expenses that contribute to the generation of such income are recognized in income. A business must make a profit to survive and grow in the long run. It provides evidence of the business's revenue potential and how efficiently the business is run. The invested capital is used up and if this situation continues, the company will eventually cease to exist. Profit and profit are two different concepts. Profit is an absolute measure of earning power, while profitability is a relative measure of earning power.

Iyer (1995) defines profit as "the excess of income over costs" (Nimalathasan, 2009), while profitability is defined as "the ability of a given investment to generate income from its use". The word profitability consists of two words: profit and capacity. The word profit is already defined, but the meaning of profit varies depending on how the company uses the profit and for what purpose it generates the profit. Thus, the word profitability can be defined as the ability of a particular investment to generate income from its use. Profitability ratios measure a company's ability to generate profits and centralized investments in information security analytics, shareholders and investors. Profitability is a key indicator of a company's overall success. Analyzing profitability ratios is important for shareholders, creditors, potential investors, bankers and the government. Profitability is defined as the return on invested capital and is measured as the net return on equity for the reporting year. Profit or return (ROE) is used as a proxy for management quality in Hypothesis II. In this study, we compare profitability in terms of return on assets and return on equity. Profitability determines the company's long-term growth prospects. A high return on assets (ROA) creates opportunities for investment, and good investments lead to accelerated growth. Although a company does not have to reinvest all of its profits, we expect all companies to reinvest at least a minimal portion of their profits. Some companies may choose to retain some of the company's assets and distribute some of the profits to shareholders as dividends. We consider that the growth of the investment budget is compatible with profitability. In the following, various previous works are referenced to see if the concept of continuity of investment budgets works in the relationship between profitability and firm growth.

Capital structure

Many definitions have been given about the capital structure of companies. Brealey and

British International Journal of Applied Economics, Finance and Accounting
B. J. Int. J. A. Econ. Fin. & Acc.
Volume: 7; Issue: 3
May-June, 2023
ISSN 2234-2418
Impact Factor: 5.23
Advance Scholars Publication
Published by International Institute of Advance Scholars Development
https://aspjournals.org/Journals/index.php/bijaefa

Myers (1991) defined capital structure as the amount of debt, equity or hybrid securities issued by a company. VanHorn (1989) defined capital structure as the ratio of debt to total equity of firms. Pandey (2005) defined capital structure as the choice of firms between internal and external financial instruments. Based on the definitions of many previous researchers, the capital structure of a company describes how a company obtains the capital it needs to start and expand its business. It is a mix of different equity and debt conditions that the company maintains as a result of the company's financial decisions. The amount of debt a company uses to finance its assets is called leverage. A company that has a lot of debt in its capital structure is said to be highly leveraged. A company that has no debt is said to be debt free. Capital structure basically refers to a company's combination of debt and equity financing (Brealey et al. 2007). An important difference between these two instruments is that the first creates a financial obligation to repay the principal and its interest, while the second collects all the residual income for its owners. A company's capital structure describes the way a company obtains the capital it needs to start and expand its business. It is the mix of different equity and debt terms that a company maintains as a result of its financial decisions. Leverage describes a company's debt intensity. Financial leverage widely used in the literature is the financial debt ratio

Empirical Review

Rahim, Nor, Ramli, and Marzuki (2021) investigate the corporate factors affecting sustainable growth rate by distinguishing the financial behavior situations of Shariah-compliant firms listed on the Malaysian Stock Exchange. They use structural equation modeling (SEM) in STATA software to analyze 181 Shariah-compliant companies in Malaysia from 2007 to 2016. Based on the results, the Shariah-compliant company listed in the Malaysian Stock Exchange has a target leverage and dividend policy. companies They found that profitability is significantly positively related to sustainable growth rate for all types of matrix financial behavior, while firm size is significantly positively related to sustainable growth only in matrix 1 (overleveraged and overpaid) and (underleveraged and underpaid).). In addition, firm performance is significantly positive with sustainable growth rate in Matrix 3 (overpaid and underpaid), but significantly negative in Matrix 1 (overpaid and overpaid) and 2 (underpaid and overpaid). Ionita and Dinu (2020) investigate the relationship between investments in intellectual capital (IC) of companies and their transformation into economic value. The study uses an ordinary least squares (OLS) model using linear regression. It estimates the relationship between dependent variables and intangible assets such as R&D, IT programs and patents. Among the 78 companies listed on the Bucharest Stock Exchange (BSE), a sample of 42 companies was selected based on the 2016-2019. on the importance of the information presented in the annual financial reports. The results show that intangible assets classified under innovative competence (RandD and Patents) does not have a positive impact on the SGR and FV values of Romanian listed companies.

Mamilla (2019) analyzes both the real growth rate and the sustainable growth rate (SGR) and examines the overall effect of selected

British International Journal of Applied Economics, Finance and Accounting
B. J. Int. J. A. Econ. Fin. & Acc.
Volume: 7; Issue: 3
May-June, 2023
ISSN 2234-2418
Impact Factor: 5.23
Advance Scholars Publication
Published by International Institute of Advance Scholars Development
https://aspjournals.org/Journals/index.php/bijaefa

independent variables on the SGR. The study found that firm size and leverage had a significant negative relationship with SGR. The sample companies were more dependent on debt, creating an adverse leverage effect. Companies with high debts have less flexibility to meet their financial obligations. Therefore, companies must plan and control the level of financial leverage to achieve business sustainability. The results of the study help companies that need a permanent capital structure to use their financial leverage in the best possible way. Xu and Wang (2018) empirically examine the impact of IC on financial performance and sustainable growth in the Korean manufacturing industry. Multiple regression models are used with data from 390 Korean listed manufacturing companies from 2012 to 2016. The results of the analysis show that IC has a positive impact on the financial performance and sustainable growth of companies. In addition, firm performance and sustainable growth are positively related to physical capital, human capital (HC) and relational capital (RC). RC is found to be the most influential factor. Yoo, Choo and Lee (2018) studied the sustainable growth of SMEs. They defined a method to improve the business efficiency and organizational effectiveness of small and medium-sized enterprises (SMEs) for sustainable growth. Empirical analysis is conducted in the study using a questionnaire. The dependent variable is organizational performance, while the independent variables are technological innovation capability, organizational metacognition, and business performance. Research results show that technological innovation capability has a positive impact on both business outcomes and organizational performance. Hassan, Ben, Francesco, and Marco (2018) looked at the drivers of young business growth in Tunisia. This study aims to investigate the growth dynamics of young small firms (as opposed to larger and older established firms) in a developing country context using a unique and comprehensive dataset of Tunisian non-agricultural firms. The research results show that significant differences can be found between young and mature companies in terms of their growth engines. The OLS estimation method was adopted. The dependent variable used in the empirical estimates is the growth rate of each firm, and the independent variables are the employment rate, firm age, and sales. The research results show that young and mature firms are very different, except for demand policy, which can be considered as an argument. Solomon, Tadele, Shiferaw and Daniel (2016) investigated the determinants of micro and small enterprises (MSES) growth in Ethiopia. The main objective of this study was to identify the determinants of MSEs' investment in growth and innovation through a 300 firm-level survey conducted in Addis Ababa, Ethiopia. The study uses both descriptive statistics and econometric methods to analyze both internal and external factors and the relative impact of these factors on the performance of MSE firms. The results of the study show that MSEs suffer from many internal problems (such as weak human resources and other assets) and external factors such as lack of access to credit, limited market opportunities, political and regulatory bottlenecks. Akpovbera, Onodje and Farayibi (2014) investigated the determinants of manufacturing growth in Nigeria. This study

British International Journal of Applied Economics, Finance and Accounting
B. J. Int. J. A. Econ. Fin. & Acc.
Volume: 7; Issue: 3
May-June, 2023
ISSN 2234-2418
Impact Factor: 5.23
Advance Scholars Publication
Published by International Institute of Advance Scholars Development
https://aspjournals.org/Journals/index.php/bijaefa

examines the determinants of growth in the manufacturing sector in Nigeria from 1980 to 2018 using dynamic ordinary least squares (DOLS) econometric analysis, which can provide reliable estimates than static OLS. The findings of the study show that the main drivers of productivity growth in Nigeria are foreign direct investment (FDI), interest rate, labor force, inflation and exchange rate. The study concludes that foreign direct investment (FDI), interest rate, labor force, inflation and exchange rate are the main determinants of productivity growth in Nigeria. Burger, Damijan, Kostevc, and Rojec (2014) evaluate a panel VAR system on a large firm-level dataset for the response of firm employment and investment to cyclical and financial shocks. They find that cyclical declines in demand reduce firm employment in subsequent periods, but there is considerable heterogeneity across different types of firms. Old and especially small old firms react faster, while the downward adjustment in employment of exporters and foreign firms is not as severe.

METHODOLOGY

The study used a firm-level approach. In addition, we used a firm-level approach based on expo-fact and non-experimental research. The study is a longitudinal study covering ten (10) years. In other words, between 2011 and 2020, in the service of industrial products companies listed on the floor of the Nigerian Stock Exchange Group. Study a population

The main collection of the study consists of all industrial product companies listed on the stock exchange. As of December 2020, we had 14 industrial products companies listed on the Nigerian Exchange Group (NGX).

Sample size and sampling technique

The sampling technique used is purposive, as the companies were included in the sample based on specific selection criteria. These criteria were based on companies listed on the Nigerian Exchange Group market between 2011 and 2020; They had access to their annual financial statements during the period and there were no Nigerian subsidiaries not listed on the Nigerian Stock Exchange Group. New listed companies and delisted companies were excluded from the study. Therefore, the sample included only companies manufacturing industrial products that had all the relevant information due to their continued existence. Our final sample size is 12 industrial manufacturing firms, determined by the availability of ten years of data on all study variables.

Sources of data collection

In this study, we used secondary data sourced from the reference books of the Nigerian Exchange Group and the annual financial statements of related companies for the periods. In this study, we used secondary data source which is justified by recent studies by Jayeola, Agbatogun and Akinrinlola (2017). Data on the sampled industrial manufacturing companies were obtained from the annual reports and footnotes of the Nigerian Exchange Group Fact Books and related companies for the periods covered by the study.

Data collection method

This study used secondary data. However, the variables that determine sustainable growth, profitability, capital structure, dividend payment and working capital are derived from the annual audited financial statements prepared by Id Ratios Nigeria of each listed company.

British International Journal of Applied Economics, Finance and Accounting
B. J. Int. J. A. Econ. Fin. & Acc.
Volume: 7; Issue: 3
May-June, 2023
ISSN 2234-2418
Impact Factor: 5.23
Advance Scholars Publication
Published by International Institute of Advance Scholars Development
https://aspjournals.org/Journals/index.php/bijaefa

Model specifications

The study explains our model for determining the sustainable and internal growth of a company. Thus, the study applied the model defined by Wijaya and Atahau (2021) modified to determine the relationship between the dependent variables and linear combinations of several determining variables captured in the study. Briefly, the econometric form of our model is expressed as:

$SUGS_{it} = \beta_0 + \beta_1 RETA_{it} + \beta_2 DETA_{it} + \mu_{it}$

Where:

SUSG	=	Sustainable Growth
RETA	=	Return on Asset (proxy for profitability)
DETA	=	Debt to Asset (Proxy for capital structure)
β_0	=	Constant
β_1- β_2	=	Slope Coefficient
μ	=	Stochastic disturbance
i	=	i^{th} firm
t	=	time period

Thus, our apriori expectations are stated as; X_1-X_2><0: which means that a rise in the determinant variables of profitability and capital structure was lead to a rise or fall in firm growth rate of listed industrial goods firms in Nigeria.

Data Analysis Technique

In particular, the econometric methods used in this study are fixed panel and random effects regression techniques. When evaluating panel regression results, the Hausman specification test is used to choose between fixed effect and random effect. Individual test of statistical significance (T-test) and overall test of statistical significance (F-test) are also used. It is important that the fit of the model is checked by the coefficient of determination (R2). Our panel analysis is performed after descriptive statistics, normality test, correlation analysis, variance inflation test (multicollinearity test) and heteroskedasticity test. All analyzes are performed at the 5% significance level using STATA 16 software.

ANALYSIS OF RESULTS

Descriptive Analysis

In this section, we examine the descriptive statistics for both the explanatory and dependent variables of interest. Each variable is examined based on the mean, standard deviation, maximum and minimum. Table 1 below displays the descriptive statistics for the study.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
susg	88	46.81091	132.1358	-531.37	511.32
reta	90	7.458157	27.53647	-179.9173	108.8969
deta	90	58.61678	32.35541	.04	180.91

Source: Author (2022)

The mean of sustainable growth (SUSG) for the sample industrial goods firms was 46.81 while its standard deviation value was 132.14. The maximum value of sustainable growth was 511.32 while the minimum was -531.37. In the case of the independent variables, we find that the mean of profitability as proxied by return on asset (RETA) is 7.45 with a standard deviation of 27.54. On the minimum, profitability was -179.92 with a maximum value of 108.90. The table also shows that the mean of capital structure as proxied by the ratio of debt to asset (DETA) was 58.62 with a standard deviation of 32.36. Capital structure has a minimum and maximum of 0.04 and 180.91.

British International Journal of Applied Economics, Finance and Accounting
B. J. Int. J. A. Econ. Fin. & Acc.
Volume: 7; Issue: 3
May-June, 2023
ISSN 2234-2418
Impact Factor: 5.23
Advance Scholars Publication
Published by International Institute of Advance Scholars Development
https://aspjournals.org/Journals/index.php/bijaefa

Normality Test

One of the assumptions of ordinary least squares regression is that the data is normally distributed. In other words, the observations follow a normal (Gaussian) distribution. Therefore, it is assumed that the population from which the samples are collected is normally distributed. However, the null hypothesis is that "the sample distribution is normal." If the test is valid (significant), the distribution is non-normal, we follow the results of Mendes and Pala (2003), and they concluded From the table above, we find that the dependent variables of sustainable growth (prob>z = 0.00000) is not normally distributed since the probability of the z-statistics as reveal by the Shapiro-Wilk test is significant at 1% significant level. The same can be said of the independent variables of profitability (prob>z = 0.00000), capital structure (prob>z = 0.00001). However, proceed with the ordinary least square regression but carefully interpreting the probability statistics against the t-statistics in line with the recommendation of Guajarati, (2004).

Data Analyses

that the Shapiro-Wilk test is the most powerful normality test. Therefore, we conducted a residual normality test, as shown in the table below.

Table 2: Normality Test

Variable | Obs W V z Prob>z

susg | 88 0.72981 20.061 6.606 0.00000
reta | 90 0.65665 25.971 7.183 0.00000
deta | 90 0.90707 7.029 4.301 0.00001

Source: Author (2022)

In this section we conduct the correlation and the regression analyses. The results is presented in the tables that follows

Regression Analyses

However, to examine the cause-effect relationships between the dependent variables and independent variables as well as to test the formulated hypotheses, we used a panel regression analysis since the data had both time series (2011 to 2020) and cross-sectional properties (9 listed industrial goods firms). The panel data regression and an OLS pooled results obtained is presented and discussed below.

	SUSG Model (Pool OLS)	SUSG Model (Fixed Effect)	SUSG Model (Random Effect)	SUSG Model (LSDV Regression)
C	32.97 {0.317}	67.57 {0.128}	32.97 {0.314}	28.49 {0.567}
RETA	0.69 {0.210}	-0.24 {0.715}	0.69 {0.206}	-0.24 {0.715}
DETA	-0.12 {0.782}	-0.58 {0.433}	-0.12 {0.781}	-0.58 {0.433}
F/Wald Stat.	4.56 (0.01) **	4.53 (0.01) **	18.23 (0.01) **	2.66 (0.01) **
R- Squared	0.18	0.20	0.16	0.30
VIF Test	1.19			
Heter. Test	29.19 (0.00)			

British International Journal of Applied Economics, Finance and Accounting
B. J. Int. J. A. Econ. Fin. & Acc.
Volume: 7; Issue: 3
May-June, 2023
ISSN 2234-2418
Impact Factor: 5.23
Advance Scholars Publication
Published by International Institute of Advance Scholars Development
https://aspjournals.org/Journals/index.php/bijaefa

	***	
Hausman Test	13.16 **(0.043)**	

Table 3: Regression Result
Note: (1) bracket {} are p-values
(2) **, *, implies statistical significance at 5% and 1% levels respectively**

The table above represents the regression results obtained from the panel data and an OLS pooled estimate of this study. From the table, we observed from the OLS pooled regression results of that the R-squared value of 0.18 shows that about 18 of the systematic variations in sustainable growth of the pooled industrial goods firms over the period of interest was jointly explained by the independent variables in the model. The unexplained part of sustainable growth can be attributed to the exclusion of other independent variables that can impact on sustainable growth but were captured in the error term. The F-statistic value of the OLS regression of 4.56 and the associated P-value of 0.01 shows that the OLS regression on the overall is statistically significant at 5% level. This means that the regression model is valid and can be used for statistical inference. However, to further validate the fitness of the OLS model, we proceed to check for inconsistencies with the basic assumptions of the least square regression. These regression diagnostics tests include test for multicollinearity and test for heteroscedasticity as well as test for fixed and random effects.

Fixed and Random Effect Regression

As noted by Ajibolade and Sankay (2013), the fixed-effects model which is the main technique for analysis of panel data is used when it becomes important to control for omitted variables that differ between cases but are constant over time. It allows the use of the changes in the variables over time to estimate the effects of the predictor (independent) variables on the outcome (dependent) variable. On the other hand, the random-effects model is used when there are reasons to believe that some omitted variables may be constant over time but vary between cases, and others may be fixed between cases but vary over time. Specifically, in this study, the F-statistic and Wald-statistic value of 4.53 (0.01)} and 18.23 (0.01) as it relates to the fixed and random effect regression respectively shows that both models are valid for drawing inference since there are statistically significant at 5%. In the case of the coefficient of determination (R-squared), it was observed 20% and 16% of the systematic variations in sustainable growth of the pooled industrial goods firms over the period of interest was jointly explained by the independent variables in the models respectively. The unexplained part of sustainable growth can be attributed to the exclusion of other independent variables that can impact on sustainable growth but were captured in the error term.

Test of Hypotheses

Hypotheses 1: ***Profitability has no significant effect on sustainable growth rate of***

British International Journal of Applied Economics, Finance and Accounting
B. J. Int. J. A. Econ. Fin. & Acc.
Volume: 7; Issue: 3
May-June, 2023
ISSN 2234-2418
Impact Factor: 5.23
Advance Scholars Publication
Published by International Institute of Advance Scholars Development
https://aspjournals.org/Journals/index.php/bijaefa

listed industrial goods firms in Nigeria

The results obtained from the Least square dummy variable regression reveals that profitability {-0.24 (0.715)} as an independent variable to sustainable growth appears to have a negative insignificant effect on sustainable growth of the industrial goods firms under study. This therefore means we should accept the null hypothesis and reject the alternate hypothesis. Hence, profitability has no significant effect on sustainable growth rate of listed industrial goods firms in Nigeria the period under study.

Hypotheses 2: ***Capital structure has no significant effect on sustainable growth rate of listed industrial goods firms in Nigeria***

The results obtained from the Least square dummy variable regression reveals that capital structure {-0.58 (0.433)} as an independent variable to sustainable growth appears to have a negative insignificant effect on sustainable growth of the industrial goods firms under study. This therefore means we should accept the null hypothesis and reject the alternate hypothesis. Hence, capital structure has no significant effect on sustainable growth rate of listed industrial goods firms in Nigeria the period under study.

CONCLUSION AND RECOMMENDATION

This study investigated firm characteristics determinants of sustainable growth of listed industrial goods firms in Nigeria. The scope of this study covers a 10-year period ranging from 2011 to 2020. In testing for the hypotheses, the study conducted panel least square regression before proceeding to check for inconsistencies with the basic assumptions of the OLS regression. Regression analysis was first conduct and diagnostic tests were carried out to check if it violates the basic Gauss Markov Theorem and assumptions (Woodridge, 2002). The study revealed that profitability {-0.24 (0.715)} as an independent variable to sustainable growth appears to have a negative insignificant effect on sustainable growth of the industrial goods firms under study. The capital structure is {-0.58 (0.433)} as an independent variable to sustainable growth appears to have a negative insignificant effect on sustainable growth of the industrial goods firms under study.

This study provides evidence on firm specific determinants of sustainable growth rate of industrial goods firms in Nigeria. Since, the study is an extension of existing studies, only few findings in literature are not in agreement with the current positions of this study. However, our study shows that profitability and capital structure have no significant effect on sustainable growth rate.

Recommendations

Based on the findings of this study, we carefully recommend that management of these industry goods companies should also advocate for policies that will enhance swift conversion of inventory to cash to improve firm growth. This could range from the provision of cash discussant to customer to encourage purchase.

REFERENCES

Alayemi, S. A., & Akintoye, R. I. (2015). Strategic management of growth in manufacturing companies in Sub-Saharan Africa: A case study of

British International Journal of Applied Economics, Finance and Accounting
B. J. Int. J. A. Econ. Fin. & Acc.
Volume: 7; Issue: 3
May-June, 2023
ISSN 2234-2418
Impact Factor: 5.23
Advance Scholars Publication
Published by International Institute of Advance Scholars Development
https://aspjournals.org/Journals/index.php/bijaefa

Nigeria. *Journal of Economics, Management and Trade*, 151-160.

Aregbeyen, O. (2012). The determinants of firm growth in Nigeria. *Pakistan Journal of Applied Economics*, *22*(1-2), 19-38.

Arora, L., Kumar, S., & Verma, P. (2018). The anatomy of sustainable growth rate of Indian manufacturing firms. *Global Business Review*, *19*(4), 1050-1071.

Babcock, G. C. (1970). The concept of sustainable growth. *Financial Analysts Journal*, *26*(3), 108-114.

Burger, A., Damijan, J. P., Kostevc, Č., & Rojec, M. (2017). Determinants of firm performance and growth during economic recession: The case of Central and Eastern European countries. *Economic Systems*, 41(4), 569-590.

Chen, C. F., & Chiou-Wei, S. Z. (2009). Tourism expansion, tourism uncertainty and economic growth: New evidence from Taiwan and Korea. *Tourism Management*, *30*(6), 812-818.

Fonseka, M. M., Ramos, C. G., & Tian, G. L. (2012). The most appropriate sustainable growth rate model for managers and researchers. *Journal of Applied Business Research (JABR)*, 28(3), 481-500.

Harkleroad, D. (1993). Sustainable growth rate analysis: Evaluating worldwide competitors' ability to grow profitably. *Competitive Intelligence Review*, *4*(2-3), 36-45.

Hartono, G. C., & Utami, S. R. (2016). The comparison of sustainable growth rate, firm's performance and value among the firms in Sri Kehati index and IDX30 index in Indonesia stock exchange. *International Journal of Advanced Research in Management and Social Sciences*, *5*(5), 68-81.

Johnson, R., & Soenen, L. (2003). Indicators of successful companies. *European Management Journal*, 21(3), 364-369.

Killing, P. (1983). *Strategies for joint venture success (RLE international business)*. Routledge.

Listiani, N., & Supramono, S. (2020). Sustainable Growth Rate: Between Fixed Asset Growth and Firm Value. *Management and Economics Review*, *5*(1), 147-159.

Mallikarjunappa, T., & Nayak, P. (2007). Why do mergers and acquisitions quite often fail. *Aims International*, *1*(1), 53-69.

Nastiti, P. K. Y., Atahau, A. D. R., & Supramono, S. (2019). Working capital management and its influence on profitability and sustainable growth. *Business: Theory and Practice*, *20*, 61-68.

Nimalathasan, B. (2009). Determinants of key performance indicators (KPIs) of private sector banks in Sri Lanka: an application of exploratory factor analysis. *The USV*

British International Journal of Applied Economics, Finance and Accounting
B. J. Int. J. A. Econ. Fin. & Acc.
Volume: 7; Issue: 3
May-June, 2023
ISSN 2234-2418
Impact Factor: 5.23
Advance Scholars Publication
Published by International Institute of Advance Scholars Development
https://aspjournals.org/Journals/index.php/bijaefa

Annals of Economics and Public Administration, *9*(2), 9-17.

Nor, F. M., Ramli, N. A., Marzuki, A., & Rahim, N. (2020). Corporate sustainable growth rate: The potential impact of COVID-19 on Malaysian companies. *The Journal of Muamalat and Islamic Finance Research*, 25-38.

Platt, H. D., Platt, M. B., & Chen, G. (1995). Sustainable growth rate of firms in financial distress. *Journal of Economics and Finance*, *19*(2), 147-151.

Radasanu, A. C. (2015). Cash-flow sustainable growth rate models. *Journal of Public Administration, Finance and Law*, (07), 62-70.

Rahim, M. A. (2017). *Managing conflict in organizations*. Routledge.

Rahim, N., Nor, F. M., Ramli, N. A., & Marzuki, A. (2019, October). Determinants of Sustainable Growth Rate and Share Price Performance: The Mediating Effect of Sustainable Growth Rate. In *e-PROCEEDINGS* (p. 190).

Rahim, N., Nor, F. M., Ramli, N. A., & Marzuki, A. (2021). Sustainable Growth Rate for Malaysian Public-Listed Shariah-Compliant Companies: Does Financing Behaviour Matter?.

Sunardi, S. (2021). Conservative Working Capital Policy: Can it Increase Profitability and Sustainable Growth Rate?. *Turkish Journal of Computer and Mathematics Education*

Wahyuni, N. I., & Dino, N. V. G. (2016). Determinant Of The Sustainable Growth Rate. *Business: Theory and Practice*, *20*, 61-68.

Yoo, W. J., Choo, H. H., & Lee, S. J. (2018). A Study on the sustainable growth of SMEs: The mediating role of organizational metacognition. *Sustainability*, 10(8), 2829.