

# EFFECT OF ENTERPRISE RISK MANAGEMENT ON FINANCIAL PERFORMANCE OF LISTED CONSUMER GOODS FIRMS IN NIGERIA

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## *Abstract*

*Every step taken in life involves risk; Life itself is a risk. Risk occurs in the everyday life of humans, as well as companies. Consequently, it is imperative to identify source of risk and to prevent them in order to lessen their threats. Thus, the study examined the effect of enterprise risk management on the performance of listed consumer goods firms in Nigeria. Longitudinal panel research design was adopted in this study. The population of the study consists of all the twenty-one (21) listed consumer goods firms on the Nigeria Exchange Group as at 31<sup>st</sup> December 2021. In order to arrive at the sample size, the judgmental sampling technique was employed. eleven (11) firms meet the requirement to form the sample size of the study base on the availability of data. The study ranges from 2012 to 2021 a period of ten years. The secondary data adopted in this study were gathered from financial statements published on the Nigeria Exchange Group and the individual company's financial statements. The study employed regression analysis technique with the help of STATA version 13.0. The study found that market risk has positive and insignificant effect on financial performance of listed consumer goods firm in Nigeria while and liquidity risk and firm size have negative and insignificant effect on financial performance. The study concludes that enterprise risk management indicators do not have significant effect on financial performance indicator of listed consumer goods firms in Nigeria. The study therefore, recommends that consumer goods firms should establish the required cash in each product segment and maintain the optional level which will help in reducing the cash balance level and increase their customer deposit base through making the product accessible to more customers especially the low-income earners*

**Keywords:** *Enterprise Risk Management, Market Risk, Liquidity Risk, Return on Equity, Financial Performance and Consumer Goods*

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## INTRODUCTION

The global economic conditions are continuously changing due to use of technology, innovations, changing

nature of business environment and risk drivers. This illustrates the realities that organizations are facing risks that threaten reputation and brand as scope

of uncertainties broadens. The risks have become the most important factors that influence the goal of an enterprise (Antonius, 2015). The goal of an enterprise is to improve performance and performance itself is the ability of the firm to generate earnings given the risky environment that the enterprise operates. Therefore, dealing with risks and understanding their nature; has, overtime become most company's first priority. As it is widely acknowledged, companies are set up to create maximum value for their stakeholders, and all activities relating to wealth creation are exposed to risks, therefore, companies are constantly facing uncertainties. Risks are uncertainties which affect a company's ability to achieve its objectives and may result in many interdependent outcomes either negatively or positively (Yinka *et al*, 2018). Some risks are necessarily encountered in order to take advantage of strategic opportunities, while risks that impede success must be mitigated. Antonius (2015) posits that increased attention is being placed on the subject of risk management.

Consequently, enterprise risk management (ERM) is adopted as a strategic tool structured to help management identify and to respond to impending risks and management uncertainties using an integrated and all-inclusive approach. According to George and Anthony (2013), enterprise risk management is linked to corporate governance so that it can assist organizations to better understand, improve and assess risk in an appropriate manner. In the year 2017, there has been an appreciable attention on enterprise risk management as a strategic tool for effective corporate governance. Nigerian government, through its capital market regulators introduced code of corporate governance

where risk management was clearly stated and viewed as one of the principal responsibilities of management. Management is required to recognise principal risks of all aspects of the business, define their company's risk policy, risk appetite, risk limits and form an opinion on the efficacy of the entire risk management process.

Risk management links to conformity which leads to performance, while performance leads to sustainable profitability and growth. Hence, there is a direct linkage between Risk Management and performance (Ugwuanyi & Imo, 2012). Profit is a major way to measure financial performance of a company. Profit is the positive difference between revenues and expenses over some time usually one year, and it is regarded as the final output of a company's operation. A company without sufficient profit would have no future. Profit is vital but management decisions should not only be profit-oriented to the detriment of wealth maximization. In this study, financial performance is in terms of return on equity.

The inability of the consumer goods firms to manage their risk and capital on all valuable investment opportunities make it impossible for them to meet up with their obligation to shareholders. Given the controversy on whether general or specialized knowledge is required for improved performance, this study examined the effect of risk management using return on assets and return of equity as proxy of performance. The methodology adopted by this study distinguishes it from earlier studies as it was able to test for panel effect in the data series and whether the existence of it is fixed or random. Without testing for this and selecting the appropriate regression analysis, the result of the findings could be misleading or porous.

Besides, the study is an extension of earlier ones as it covers the period up to 2021. As study on the consumer goods firms has covered up to this period, to the best of the knowledge of the research. Therefore, it is against this background that this study seeks to determine the extent to which enterprise risk management affects performance in the consumer goods sub-sector in Nigeria. The major hypothesis underling this study is stated thus:

**Ho<sub>1</sub>:** Market risk has no significant effect on return on Equity (ROE) of consumer goods sector in Nigeria

**Ho<sub>2</sub>:** Liquidity risk has no significant relationship with return on Equity (ROE) of consumer goods sector in Nigeria.

## LITERATURE REVIEW

### Conceptual Framework

#### Enterprise Risk Management (ERM)

Enterprise Risk Management (ERM) is the process of planning, organizing, leading and controlling the activities of an organization in order to minimize the effects of risk on an organization's capital and performance (Ugwuanyi & Imo, 2012). Enterprise risk management expands the process to include not just risk associated with accidental losses, but also financial, strategic operating and other risk. Enterprise risk management and internal control system are interwoven in that internal control is the system of controls, financial and otherwise, established by management in order to carry on the business of the enterprise in an orderly manner, ensure the adherence to management policies, safeguard the assets and secure as far as possible the completeness and accuracy of the record (Antonius, 2015). The internal control structure consists of management's policies, procedures to reasonably prevent material errors and

irregularities from occurring or going undetected (George & Anthony, 2013). Enterprise Risk Management focuses on adopting a systematic and consistent approach to managing all the risks confronting an organization (Ozor, 2010).

Risk management is a pillar of rational and appropriate manufacturing practice in the consumer goods industry. In this way, manufacturing sector face different threats in the current uncertain world of the economy. To be precise, we have, market risk, credit risk, remote trading risks, liquidity risks, showcase risks, and cost risk financing. Among other factors, these listed threats could, in one way or another, contribute to the closing of consumer goods firm as a result of the failure to satisfy their financial responsibilities. Therefore, the researcher can infer that consumer goods industry is a risky business, hence, good risk control is essential to their existence (Carey, 2001).

Enterprise risk management (ERM) is a strategic issue for businesses and the academia which is now broader in scope and have been included in corporate philosophy (Kleffner *et al*, 2003). In carrying out enterprise risk management, Committee of Sponsoring Organizations (COSO 2004) emphasizes the existence of ERM framework such as objective setting, risk identification, risk assessment, risk response, internal control environment, involvement of management, divisions, and all line of directors within an organization (Arif, 2011). In addition, Committee of Sponsoring Organizations (COSO 2004) emphasized that the implementation of ERM by companies largely depend on corporate governance, enabling laws, regulations, and listing standards. Therefore, the implementation of ERM framework is usually affected by

existence of audit committee, risk management committee, chief legal officer, chief risk officer, regulations like, laws and other regulatory compliance and the size of the firm (Ishaya & Siti, 2015).

### Market Risk

This is regarded as the risk that an investor will incur losses as a result of factors affecting the aggregate performance of the capital markets in which he or she is a part. Business risk, by its essence, can be hedged, but cannot be fully diversified, according to Adeusi (2013). Interest rates and the perceived valuation of currencies are two market threats that affect the financial firms. Market risk affects efficiency, the banking process is exclusively dependent on them. Most banks, for example, closely watch interest rate risk. They also assess and control the exposure of the organization to variance in interest rates. Market risk can be measured using various indicators such as book-to-market ratio and the gearing ratio. The study makes use of gearing ratio, which is calculated as

$$\text{Market Risk} = \frac{\text{Total Debit}}{\text{Shareholders Fund (Total Equity)}}$$

### Liquidity Risk

This is referred to as an investment marketability and if it can be sold or bought quickly is enough to meet debt obligations. Liquidity risk is equally defined as the risk of a finance crisis, according to Adeusi (2013), such as an unexpected occurrence in form of a major charge off, lack of confidence or may be crisis in the nation such as a crisis of life. Risk management here focuses on liquidity services and the composition of portfolios. This study used total deposit to loans as a proxy for liquidity (Adeusi, 2013).

The liquidity and survival of companies in the consumer goods industry are very critical, since their products are for direct consumption, and are required across all stakeholders' groups. Consequent upon this, there could be high interest from participating stakeholders, especially shareholders whose capital constitutes a major source of funding, and as such expect a high return from their investment. Considering the demand for dividends and interest from equity and debt holders, and the intense competition in the industry, companies strive more to ensure that adequate liquidity is maintained so as to facilitate the discharge of obligations. The problem now is more on how to select the best alternative or position at which the company can manage its assets for the realization of corporate objectives of wealth creation for stakeholders' satisfaction because the capital acquired from different sources has a diverse influence on the level of profitability.

$$\text{Liquidity Risk} = \frac{\text{Current Assets}}{\text{Current Liability}}$$

### Financial Performance

Financial performance is a measure of how efficient a firm uses its assets to generate revenue from its operating activities. It can be said to be a term that is used to measure the financial health and growth of a firm over a period of time (Dsunday & Ejabu, 2020). It can also be used to compare different firms in the same industry. There are different measures of financial performance and since there are many stakeholders in a company, each group has its own interest in tracking the financial performance of that company. For instance, the trade creditors will be interested in the liquidity of the company, the bond holders will be interested in the solvency of the company, the shareholders will be

interested knowing how well their investment will yield return and the management will be interested in knowing how well the firm performs in the market (Aamir & Sajid 2012). Financial performance is commonly used as an indicator of a firm's financial health over a given period of time. The financial performance of a firm can be defined or measured in various different ways including profitability, gauge return, market share growth, return on investment, return on equity and liquidity. Financial performance was measured by the development of revenues and profits (Magara, *et al*, 2015). In order to assess the financial performance of consumer goods in Nigeria, this analysis employed return on equity (ROE)

### Return on Equity (ROE)

Return on equity is a measure of the profitability of a business in relation to the equity. ROE tests the viability of a company by demonstrating how much value a firm earns from the capital investors have spent (Kariuki, 2015). It is also regarded as a composite indicator of business success because it combines accounting-based benefit and market-based equity. Its rate of return on equity capital would better represent the effective control of running costs. Since it is the responsibility of the managers to operate and manage the organization and the utilization of the capital of the company, return on equity is a metric that helps users to determine how well the corporate governance structure of a company performs in protecting and encouraging the management performance of the company (Epps & Cereola 2008). This accounting metric was used by researchers including Tukur and Abubakar (2014), Aamir and Sajid, (2012).

ROE =  $\frac{\text{Profit after Tax}}{\text{Shareholders Fund (Total Equity)}}$

Shareholders Fund (Total Equity)

### Empirical Review

Banjo and Oloyede (2021) examined risk management strategies and the financial performance of Nigerian manufacturing firms. The objective of this study is to directly connect risk management strategies used by Nigerian manufacturing companies to financial performance. The cross-sectional research design was used in the study, along with a quantitative research strategy. In order to analyze the data gathered, the study used descriptive and inferential tools. To test the hypotheses, the regression analysis was used at the 0.05 or 5% level of significance. This study found that risk awareness has a significant impact on manufacturing company performance, and risk management practices improve manufacturing company performance substantially. Arising from the findings of this study, the study concludes that risk management has a significant effect on the Performance of manufacturing companies. The study recommended that management of manufacturing industry should ensure that their risk awareness is efficient and effective because risk awareness affect performance of manufacturing companies.

Agboola, et al (2020) examined enterprise risk management (ERM) and Firm's Performance: A Study of Listed Manufacturing Firms in Nigeria. At the same time, past studies on ERM disclosures have examined it within the context of book-based approach, which has not given the right and accurate information. However, the broad objective of this study is to examine the significance of enterprise risk management and listed manufacturing firms' financial performance in Nigeria

using both the book-based approach and the market-based approach. Relevant ERM theories in relation to financial performance such as agency theory, stakeholder's theory, and enterprise risk management theory were examined. The panel data analysis was employed on time series and cross-sectional data of thirty listed manufacturing firms in Nigeria from 2010 to 2018. The random effect of the Hausman test was found to be more appropriate and hence adopted in interpreting the results of the analysis. The results confirm the a priori expectations that profitability ratio, liquidity ratio, market-based ration to risk board committee, the board size, firm size, and directors' ownership all have varied impact on the firm's profitability with varied statistical significance levels. This study concluded that enterprise risk management has a significant impact on listed manufacturing firms' financial performance in Nigeria. The study recommends the following that organizations should look into the market-based area of the economy.

Dsunday and Ejabu (2020) examined the effect of liquidity risk management on the financial performance of consumer goods companies. It was aimed at establishing the extent of concern of consumer goods companies in the management of their liquid cash, cash defensive intervals, long term debts, and quick ratios, for the purpose of turning around their financial performance. Data were obtained from the annual reports and accounts of studied companies and were converted to liquidity measurement parameters. Analyses were done using multiple regression analysis methods and findings show that long term debts, quick ratios, and cash defensive intervals have a significant effect on EPS and ROA, while cash ratio and long term debts affect ROCE only.

Specifically, it was empirically established that there exists a significant relationship between liquidity risk management and the financial performance of consumer goods companies. Findings further reveal that companies' non-concerned attitude to liquidity risk management affects the financial performance of consumer goods companies significantly. The study therefore concludes that liquidity risk management affects the financial performance of consumer goods companies in Nigeria. The study recommends that consumer goods companies should incorporate a clear liquidity risk management approach in their strategic policy framework and communicate the same to all functional units.

Augustin et al, (2020) examined the effect of market risks on the financial performance of oil and gas firms in Nigeria. This study has chosen to investigate one of the components of the risks (market risk) and to ascertain how the risks affect the activities of firms in Nigeria. Four hypotheses were formulated in line with the objectives of the study. The study employed causal research design and used secondary data. The research covers the twelve (12) firms listed under Oil and Gas sector on the Nigerian Stock Exchange. Secondary data were collected from Central Bank of Nigeria Statistical Bulletin and the financial statements of the firms which spanned from 2014 to 2018. The data were analysed with descriptive statistics, correlation and multiple regression analysis. The results therefore indicate that exchange rate has significant effect on both ROA and ROE of Oil and Gas firms. Additionally, interest rate has significant effect on ROE and insignificant effect on ROA. More results show that commodity price change has no significant effect on both ROA and

ROE, also equity price change has no significant effect on ROA and ROE of firms in Oil and Gas sector in Nigeria. The study concludes that market risks really have a dominant role in determining the financial performance of Oil and Gas sector in Nigeria. The study recommends among other things that the firms should adopt the use of hedging to control exchange rate changes and government should maintain a low interest rate that will aid firms increase their profitability.

Diby et al, (2019) investigated the effect of market risk on the financial performance of 31 non-financial companies listed on the Casablanca Stock Exchange (CSE) over the period 2000-2016. The study utilizes three alternative variables to assess financial performance, namely return on assets, return on equity and profit margin. Next, the study use the degree of financial leverage, the book-to-market ratio, and the gearing ratio as market risk variables. Besides, the study employs the pooled OLS model, the fixed effects model, the random-effects model, the difference GMM and the system GMM models. The results show that market risk indicators have a negative and significant influence on the companies' financial performance. The elasticities are greater following the book-to-market ratio compared to the degree of financial leverage and the gearing ratio, respectively. In most cases, the firm size, the tangibility ratio, and the cash holdings ratio have a positive effect on financial performance, whereas the firms' age, the debt-to-income ratio, stock turnover, and leverage hurt the performance of these non-financial companies. Therefore, decision-makers and managers should mitigate market risk through appropriate strategies of risk management, such as derivatives and insurance techniques. The study concludes that market risk indicators

jointly had a significant adverse effect on the companies' financial performance, namely the return on assets, the return on equity and the profit margin, respectively. Therefore, the study recommended that decision-makers and managers of these companies should mitigate market risk by using appropriate risk management strategies through derivatives, forwards, futures, swaps, options, and insurance as well as securitization techniques.

Ajibade et al, (2018) investigated unsystematic risk and financial performance of selected manufacturing firms in Nigeria. This study is limited to organisations in the Manufacturing sector of the Nigerian economy from which only five most thriving organisations were considered. As regards the time period, the study was restricted to a period of ten (10) years from 2008 – 2017. The study adopted the ex-post facto research design by obtaining secondary data from the annual financial reports of the selected companies as well as from the publications of the Nigeria Stock Exchange (NSE). The study employed descriptive and Ordinary Least Squares regression model in analysing the data. The study revealed that unsystematic risk had a significant positive effect on the Gross Profit of the selected firms. The study concluded that unsystematic risk actually does affect the gross profit of the sampled manufacturing firms in Nigeria positively. The study, therefore, recommended that investors should pay close attention to unsystematic risk indices of companies as effective management of these risks can bring about the positive and significant influence of the financial performance to the companies.

Yinka et al, (2018) evaluated the relationship between enterprise risk

management (ERM) and performance of twenty (20) consumer goods companies listed on the Nigerian Stock Exchange. The independent variables used are existence of risk management committee, existence of financial expertise, existence of audit committee, existence of Chief risk officer and board size. The study adopted ex post facto research design and data were sourced from annual reports and accounts of the selected Consumer Goods Companies. The collated data were analysed using descriptive statistics and generalised least square. The results reveal that risk management committee, financial expertise and board size have significant positive effect on performance. The results also revealed that existence of audit committee has a significant negative effect on performance while existence of chief risk officer has no significant effect on performance. The study concludes that the significant correlation between enterprise risk management and firm performance suggests that ERM can leverage firm performance by ensuring that adequate resources are deployed to enhance risk management systems. The study therefore recommended that the regulatory authorities and other relevant institutions are enjoined to reassess their supervisory role with the view to strengthen the ERM process and taking the issue of risk management seriously at every level of organisations to provide reasonable assurance.

Arumona et al, (2017) studied the impact of Enterprise Risk Management (ERM) on financial performance in the emerging market with special focus on the Nigerian financial sector. The study investigates 40 companies from the period 2012 to 2016 resulting into 200 firm observations. The method used to measure financial performance was Return on Assets (ROA) while Value at

Risk (VaR) was used as a proxy for Enterprise Risk Management (ERM). The study used other control variables such as Leverage (LEV), Board Size (BSIZE), Firm Size (FSIZE), Institutional Ownership (INTOWN) and Risk Management Committee Size (RMC). Data were analysed using descriptive statistics and generalised least square. The result of regression coefficient shows that VaR (0.216), BSIZE (0.218), FSIZE (0.021), INTOWN (0.001), and RMC (0.032) are statistically significant with the exception of LEV (-0.572) which shows an inverse relationship with financial performance. The empirical findings show that ERM is positively and significantly related to financial performance. The results support the hypothesis that ERM has a significant impact on the financial performance of listed firms in the Nigerian financial sector. This study concludes that Enterprise Risk Management (ERM) has a significant and positive impact on the financial performance of listed firms in the Nigerian financial sector. The study recommends that the regulatory authorities (Central Bank of Nigeria, Financial Reporting Council of Nigeria) in charge of the financial sector should ensure that all firms in the financial sector adopt enterprise risk management implementation as a matter of urgency and continue to ensure strict compliance with the enterprise risk management framework.

Teoh et al, (2017) examined the impact of enterprise risk management on the performance of Malaysian public listed firms. The study used survey research to carry out the study with a total of 137 respondents from the questionnaire distributed in the main market of Bursa Malaysia. The study used Committee of Sponsoring Organizations (COSO 2004) framework to capture ERM implementation while financial and non-



financial indicators were used as a proxy for firm performance. The study found that enterprise risk management implementation in Malaysia impacted firms' performance positively; however, there is still need for more oversight function from the regulatory authorities. The study concludes that enterprise risk management have insignificant impact on Malaysian public listed firms. The study recommended that there is the need for managers in the public institutions to pay adequate attention to the issue of risk management by avoiding and minimizing threats or risk that could hinder financial performance.

Ugwuanyi and Imo (2012) examined the effect of Enterprise Risk Management and Performance of Nigeria's Brewery Industry. Given the complexity of today's business world, the process of planning, organizing, leading and controlling the activities of an organization in order to minimize the effect of risk on an organizations' performance is very important. This involves a risk management system which expands the process to include not just risk associated with accidental losses, but also financial, strategic operating and other risk. It is against this background that our study examined the effect of enterprise risk management on performance of firms in the brewery industry in Nigeria. The study adopted the cross-section survey design and copies of questionnaire were distributed to 375 respondent comprising top and middle level management staff of three major brewing firms in Nigeria. Using Z-test statistic, the study found that enterprise Risk Management enhances the performance of firms in the Brewery industry in Nigeria. The study concludes that the implication of enterprise risk management enhances the performance of the firms in the brewery industry in Nigeria is accepted. The study therefore

recommends that managers in the brewery industry in Nigeria should continue to adopt and implement enterprise risk management as a tool to enhance organizational performance and this should be backed by policy.

### **Theoretical Review**

The theories discussed for the purpose of these study are modern portfolio theory and moral hazard theory.

### **Modern Portfolio Theory (MPT)**

The hypothesis of Modern Portfolio Theory (MPT) is a speculation set forth by Harry Markowitz in his study. The hypothesis was distributed in 1952 by the Journal of Finance. The venture hypothesis depended on the possibility that risks disinclined financial specialists in the business can build portfolios to expand expected stock returns based on the level of market risks in a speculation, understanding that risks is an inborn and huge piece of higher reward in venture. The hypothesis came to be among the most critical and noteworthy financial speculations in the realm of fund and venture. The hypothesis is additionally alluded to as portfolio hypothesis and proposes that it is workable for financial specialists to build a proficient bleeding edge of ideal portfolios, which offers the most extreme and conceivable expected returns for a particular given level of risk. It encourages and recommends that, for speculators it is not sufficiently just to center at the normal risks and stock return of one particular stock. By putting resources into numerous stocks, a financial specialist can win in case of broadening, by diminishing the risks in the portfolio given. This hypothesis consequently tries to measure the advantages of enhancement.

For most investors, the risk part is that any return from an investment might be lower than the expected returns or put in

other words, the variations from the expected stock returns. According to the theory, each stock has its own deviation from the stock mean. This standard deviation from the mean is called risk, (Markowitz, 1952); cited in the work of Charles Matuku (2016)

The hypothesis likewise clarifies on capital assets pricing model (CAPM). As per CAPM, every single sane financial specialist ought to put the market portfolio, utilized or deleveraged with positions in the risk-free resource. Notwithstanding this, CAPM likewise thought of beta which relates an advantage's normal return. Portfolio hypothesis in this way gives a plain setting for comprehension the connections results of orderly risks and rewards. It has extensively formed how monetary institutional portfolios are overseen and persuaded the utilization of dishonorable and aloof speculation methods in the commercial banks. The comprehension of portfolio hypothesis and CAPM is utilized as a part of money related risks administration systems. In connection to this hypothesis, Commercial banks have a commitment to investigate all venture exercises by figuring the normal returns.

### **Moral Hazard Theory**

Rowell and Connelly (1962) developed moral hazard theory. This theory has been widely used in Economics world. The theory argues that one party takes more risks because other parties elsewhere bear the costs for those risks. This may occur where the actions of someone may change to the detriment of another party participating in an active role in economic or financial transactions (Krugman, 2009). The theory explains that, moral hazard occurs under a situation of information asymmetry where party taking the risk in a financial transaction knows more about the

transactions, its intentions than the other party paying for the problems as a result of the risk incurred in the transaction. Economist Krugman (2009) described moral hazard as a situation where one party comes up with decisions about how and when to take the risks because another party will bear the costs in the risks. The theory can be seen/perceived in a standard case where an agency setting in a bank or Insurance companies. The company has less information about the principal and the insured person can serve as the agent. In the Automobile insurance companies, the theory applies to for drivers; the theory creates an additional incentive for risky and careless driving since other parties will cater a part of the costs of the agent's careless driving and the accidents caused. In addition, a similar case is in the presence of unemployment insurance cover, an unemployed people have an additional incentive reluctantly look for employment because other parties will cater for his expenses.

This study will be underpinned on Moral Hazard theory. The hypothesis suggests that one party takes more chances so the liabilities for those chances are paid by other parties elsewhere. This can arise when someone's actions can shift to the detriment of another group engaging in economic or financial activities in an active capacity (Krugman, 2009). Thus, this study pitches its tents on Moral Hazard theory.

### **METHODOLOGY**

The expose facto research design was adopted in this study as it provides the support needed for collection of information on the existing nature of the phenomenon under study so as to provide and describe the nature of the relationship between the study variables. The population of the study consists of all the twenty-one (21) listed consumer goods firms on the Nigeria Exchange

Group as at 31<sup>st</sup> December 2021. In order to arrive at the sample size, the purposeful sampling technique was employed. Eleven (11) firms meet the requirement to form the sample size of the study base on the availability of data. The secondary data adopted in this study were gathered from financial statements published on the Exchange Group Plc and the individual company’s financial statements.

The data for this research consisted of annual data ranging from 2012 to 2021 a period of ten (10) years. Longitudinal panel research data estimation methodology is implemented as the data provides cross sectional data over a period of time. The secondary data which were collected for the dependent and independent variables was analyzed using descriptive statistics and panel regression using statistical package

STATA version 13. The descriptive statistics detect whether there are errors in the data set by determining mean, maximum and minimum values for each of the variable measures. Pearson correlation analysis will test the association among the variables, while panel regression will examine the effect of the independent variables on the dependent variable. Panel regression analysis for fixed effect model and random effect model will also be conducted. Thereafter, Hausman specification test to determine whether the fixed effect or random effect is most appropriate for the study. This research adopted approach of Naïmy (2011) to determine performance indicators.

**Model Specification**

The study adopted the model used by Agboola, et al (2020). The model takes the form;

*Model One*

$$ROE = \beta_0 + \beta_1MR + \beta_2LR + \beta_3FS + e_{it} \dots\dots\dots (i)$$

Where;

- ROE = Return on Equity
- MR = Market Risk
- LR = Liquidity Risk
- FS = Firm Size

**Table 3.1: Definition of Variables**

S/N	PROXY	TYPE	MEASUREMENT	Source
	<b>Variable of Interest</b>			
1.	Return on Equity (ROE)	Dependent	Measured by dividing profit after tax over shareholders fund (total equity)	Arumona et al, (2017)
	<b>Explanatory Variables</b>			
2.	Market risk	Independent	Measured by dividing total debit by shareholders fund (total equity)	Diby et al, (2019)
3.	Liquidity risk	Independent	Measured by dividing current assets by current liability.	Agboola, et al (2020)
4.	Firm Size	Control	Measure by natural log of total assets	Google

Source: Author’s compilation (2023)

## RESULT AND DISCUSSION

### Descriptive Statistics

The descriptive statistics of the dataset from the sampled consumer goods companies are presented in Table 4.1

where the mean, standard deviation, minimum and maximum values of the data for the variables used in the study are described.

**Table 4.1: Descriptive Statistics**

. summarize ROE MR LR FS

Variable	Obs	Mean	Std. Dev.	Min	Max
ROE	110	.1447296	.1429663	-.1722226	.5691969
MR	110	.1242625	.294069	0	2.099302
LR	110	1.296349	.6870399	.000981	3.592402
FS	110	7.733435	.6795293	6.240489	8.921525

Sources: STATA 13 Output, 2022

Table 4.1 depicts the result of the dependent and independent variables used in this study during the period of the research. In terms of firm performance, the overall mean of the return of equity (ROE) stood at 0.14%. The minimum and maximum value ranging from -0.1722226 to 0.5691969 with standard deviation of 0.1429663, signifying that the data deviate from the mean value by 0.14%. This implies that there is no variation across the sample firms because the standard deviation is not close to the mean. The mean value of 0.1429663 is an indication that quoted consumer goods firms performance very poor at 0% during the study period. The average mean ratio of market risk (MR) was 0.12% with the minimum and maximum value ranging from 0 to 2.099302 with the standard deviation of 0.294069, signifying that the data deviate from the mean value by 0.29%. This implies that there is no variation across the sample firms because the standard

deviation is not close to the mean. Also means that some firms face market risk than other. Looking at liquidity risk (LR) which stood at average mean value of 1.29% with the minimum and maximum value ranging from 0.000981 to 3.592402 and standard deviation of 0.6870399, indicating that the dataset deviates from the mean value by 1.2%. This implies that there is a variation across the sample firms because the standard deviation is close to the mean and the dataset can be said to be well distributed and normal. and last but not the least firm size (FSZ) which stood at average ratio of 7% with the minimum and maximum value ranging from 6,240489 to 8.921525 respectively. The standard deviation of 0.6795293, signifying that the dataset deviates from the mean value by 0.2%. This implies that there is a variation across the sample firms because the standard deviation is close to the mean and the dataset has normal distribution.

## Correlation Matrix of the Study Variables

**Table 4.2 Result of Pearson Rank Correlation Matrix**

```
. spearman ROE MR LR FS, star(0.05)
(obs=110)
```

	ROE	MR	LR	FS
ROE	1.0000			
MR	-0.0359	1.0000		
LR	-0.0675	-0.1182	1.0000	
FS	0.0487	0.3849*	0.0555	1.0000

Source: Stata 13 Output, 2022

From table 4.2, it can be seen that none of the correlation coefficients among or within the independent variables are above 0.80. This points to the absence of possible multicollinearity. The relationship among the independent variables indicates that return on equity is negatively correlated with liquidity

risk (LR) while the relationship within show that market risk has positive association with liquidity risk (11%) and also market risk also has positive association with firm size (38%). The overall relationship for the independent variables among and within themselves is significant.

## Multi-Collinearity Test

**Table 4.3 Result of Variance Inflation Test**

```
. estat vif
```

Variable	VIF	1/VIF
LR	1.02	0.983832
FS	1.02	0.984695
MR	1.00	0.999065
Mean VIF	1.01	

Source: Stata 13 Output, 2022

**DECISION RULE:** Using the variance inflation factor is that VIF of less than 10 shows the absence of multi-collinearity,

while the VIF of more than 10 is an indication of presence of multi-collinearity.

Variance inflation factor (VIF) is employed to detect the presence or otherwise of collinearity among the explanatory variables. The presence of multi-collinearity in a model has potential of biasing the regression results. The VIF and 1/VIF for MR, LR

and FSZ are 1.00, 1.02, 1.02, 0.999065, 0.984695 and 0.983832 respectively. As pointed out by Myers (1990), VIF of less than 10, and 1/VIF of less than 1 is an indication of absence of multi-collinearity. This suggest that there is no multi-collinearity issue in this study.

**Table 4.4: Hausman Specification Test**

```
. hausman fe re
```

	Coefficients			
	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
MR	-.0236264	-.0566305	.0330041	.0004677
LR	-.0594323	-.0542702	-.0051622	.0051522
FS	-.1561516	-.0292767	-.1268749	.0409815

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

```
chi2(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)
          = 8.71
Prob>chi2 = 0.0334
(V_b-V_B is not positive definite)
```

**Ho:** Random effect is most appropriate

**Ha:** Fixed is affect most appropriate

**DECISION RULE:** if the p-value is less than 0.05 the decision rule is to reject the null hypothesis which states that random effect is most appropriate for the panel regression analysis (meaning that the preferred model is fixed effects). Similarly, if the p-value is greater than 0.05 the decision rule is to accept the null hypothesis which states that random effect is most appropriate for the panel regression analysis (meaning that the random effect model is to be rejected).

Hausman specification test was conducted to choose the most appropriate model for the study, the test suggests that fixed effects regression

model is the most appropriate model for the study as evidenced by the chi2 of 8.71 and p-value 0.0334 less than 0.05 which is significant. Following the robustness of the results, the fixed effect regression estimators was used for the test of hypotheses formulated in this study.

### Test of Research Hypotheses

In this section, the regression results of enterprise risk management variables and financial performance are presented and analyzed. In view of the nature of the data, both fixed effect and random effect models were tested. The fixed effect regression estimators were used for the

test of hypotheses formulated in this study.

**Table 4.5: Fixed Effect Regression Result**

```
. xtreg ROE MR LR FS, fe

Fixed-effects (within) regression              Number of obs   =       110
Group variable: Firm                          Number of groups =        11

R-sq:  within = 0.1674                        Obs per group:  min =        10
        between = 0.0373                       avg =       10.0
        overall = 0.0018                       max =        10

corr(u_i, Xb) = -0.7712                       F(3, 96)        =        6.44
                                                Prob > F        =       0.0005
```

ROE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
MR	-.0236264	.0431042	-0.55	0.585	-.1091875	.0619347
LR	-.0594323	.0212613	-2.80	0.006	-.1016356	-.017229
FS	-.1561516	.0513331	-3.04	0.003	-.258047	-.0542563
_cons	1.432299	.3945334	3.63	0.000	.6491563	2.215442
sigma_u	.15215518					
sigma_e	.11572213					
rho	.63353634	(fraction of variance due to u_i)				

F test that all u\_i=0: F(10, 96) = 5.88 Prob > F = 0.0000

**Discussion of Findings**

The main objective of this study is to examine the effect of enterprise risk management on financial performance of listed consumer goods forms in Nigeria. The first null hypothesis (H0<sub>1</sub>) according to the analysis result revealed that market risk has no significant effect of the financial performance variable (ROE). The finding is in tandem with the study of Teoh et al, (2017) who concluded that enterprise risk management have insignificant impact on public listed firms. On the contrary, finding is inconsistent with the works of Diby et al, (2019) who found that market risk indicators have a negative and significant influence on the companies' financial performance.

Also looking at the second null hypothesis earlier formulated above, the analysis result shows that liquidity risk has positive and insignificant effect on the financial performance of listed consumer goods in Nigeria. This implies that liquidity risk as one of the indices of enterprise risk management has insignificantly affect the financial performance. The results serve as a basis for accepting the second null hypothesis, which states that liquidity risk management has no significant effect on return on equity (financial performance) of consumer goods firms in Nigeria. This could be due to CBN policy, the statutory liquidity requirement in Nigeria stood at thirty percent which all consumer goods firms were to strictly adhere to. However, study contradicts the study of Dsunday and Ejabu (2020) who

concluded that liquidity risk management affects the financial performance of consumer goods companies in Nigeria. On the other hand, the study congruent with the study of Ugwuanyi and Imo (2012). The study depicted that the control variable employed (firm size) has negative and insignificant effect on performance. The negative position implies that there is idle capacity in the firms indicating poor use of the equity.

## CONCLUSION AND RECOMMENDATIONS

On the basis of the research hypothesis of this study, the following conclusion were made; The study also found out that both market risk and liquidity risk management have no significant relationship with return on equity of listed consumer goods. This confirms that the lower the ability of consumer firms to withstand liquidity risk in the short term and the risk from the presence of large non-liquid assets, the lower the performance. At the end, the researcher concludes that listed consumer goods firms in Nigeria can raise the level of performance by improving their ability

to face risk from liquidity shocks, risk from high demand for short-term liquidity and the risk from the presence of the large non-liquid assets.

## Recommendations

In line with the findings and the conclusions of this study, the following recommendations were made.

- i. Firms managers and researcher should pay more attention on other measures of enterprise risk management either than market risk and liquidity risk as it shows to have no significance effect on the financial performance of listed consumer goods firms in Nigeria.
- ii. The study recommends that the CBN and other regulatory bodies should encourage risk identification, assessment, measurement and control strategies to avoid financial crisis and also improve on consumer goods firm's performance in Nigeria.

## REFERENCES

- Aamir, K., & Sajid H. A. (2012). Effect of board composition on firm's performance: A case of Pakistani listed companies. *Interdisciplinary Journal of Contemporary Research in Business*, 3(10) 853-863.
- Abdullahi, S. R. D. (2013). Efficacy of credit risk management on the performance of banks in Nigeria a study of Union Bank PLC. *Global Journal of Management and Business Research*, 13(4), 1-7.
- Adeusi, S., Akeke, N., Obawale S., & Oladunjoye, O. (2012). Risk management and financial performance of banks in Nigeria. *IOSR Journal of Business and Management (IOSR- JBM)*, 14 (6), 52-56.
- Agboola, O. O., Damilila, F. E., Tony, I. N., Sainey, F., Kerry, E. H. & Jemima, T. B. (2020). Enterprise risk management (ERM) and Firm's Performance: A study of listed manufacturing firms in Nigeria. *Research in World Economy*, 12(1), 94-111.
- Ajibade, F. I., Oyedokun, T. K. & Onibiyo, W. (2018). Unsystematic risk and financial performance of selected



- manufacturing firms in Nigeria. *Research Journal of Finance and Accounting* 6(14), 23-34
- Akporien, F. & Nsima, J. U. (2020). Effect of credit policy management on financial performance of listed consumer goods companies in Nigeria. *Research Journal of Finance and Accounting*, 11(10), 45-51.
- Ali, M. (2015). Effect of credit risk on management on financial performance of the Jordan commercial banks. *Journal of Investment Management and Financial Innovations*, 12 (1), 338-346.
- Antonius, A. (2015). The essential of enterprise risk management. Indonesia institute of commissioners and director. *Journal of Economic and Financial Studies*, 3(1), 1-9.
- Arumona, J. O., Erin, O., Eriki, E., & Jacob, A (2017) studied the impact of Enterprise Risk Management (ERM) on financial performance in the emerging market with special focus on the Nigerian financial sector. *International Journal of Management, Accounting and Economics*, 4(9), 54-63.
- Augustin, O. Wilson, U. D. & Meshack, I. (2020). Effect of market risks on the financial performance of oil and gas firms in Nigeria. *European Journal of Accounting, Auditing and Finance Research*, 8(6), 28-45.
- Banjo, K. A. & Oloyede, F. A. (2021). Risk management strategies and the financial performance of Nigerian manufacturing firms. *International Journal of Management Studies and Social Science Research*, 3(5), 63-77.
- Carey, A. A. (2001). Effective risk management in financial institutions: The turnbull approach. *Journal of Applied Business Research*, 9(3), 24 – 27
- Charles, M. (2016). Finance and growth: schumpeter might be right, quarterly. *Journal of Economics* 108, 717-37.
- Chukwunulu, J. I., Ezeabasili, V., N. & Igbodika, M., N. (2019) This study examined the effect of risk management on bank performance in Nigeria. *IIARD International Journal of Banking and Finance Research*. 5 (1) 1-8.
- Connair, S. (2013). Enterprise risk management: from silo to strategic objectives. *Armed Forces Comptroller*, 58(1), 24-26.
- Committee of Sponsoring Organizations COSO. (2004). Enterprise risk management – integrated framework executive summary. Retrieved November 2, 2020, from <http://www.coso.org/Publications>.
- Diby, F. K., Dilesha, N. R. & Akadje, J. R. E. (2019). Effect of market risk on the financial performance of 31 non-financial companies listed on the Casablanca Stock Exchange (CSE). *Journal of International Money and Finance*, 3(2), 3-21
- Dsunday, A. F. & Ejabu, F. E. (2020). Effect of liquidity risk management on the financial performance of consumer goods companies. *International Journal of Recent Technology and Engineering*, 9(1), 23-33.
- Epps, R. W., & Cereola, S. J. (2008). Do institutional shareholder services (ISS) corporate governance ratings reflect a company's operating performance? *Critical*

- Perspectives on Accounting*, 19, 1138-48.
- George, S. O., & Anthony, M. S. (2013). The place of risk management in financial institutions. *Financial Institution Center*, 3(2), 55-66.
- Ishaq, H. Abir, B. & Khadra, D. (2021). Impact of liquidity risk management on the financial performance of selected conventional banks in Saudi Arabia. *Emerging Market Journal*, 11(1), 4-10.
- Kariuki, J. K. (2015). Research on financial markets and policy. *Kenya bankers association. Journal of International Money and Finance*, 6(1), 4 - 12.
- Krugman, C. (2009). Philosophy, Methodology and action research. *Journal of Philosophy of Education*. 40(4), 421-436.
- Luy, D. D. (2010). Evaluation of credit risk management policies and practices in a Vietnamese joint-stock commercial banks transaction office. *Business Economics and Tourism journal*, 2(1)13-22.
- Matanda, J. W., Oyugi, & Lisiolo J. L. (2015). Relationship between board composition and performance of commercial banks in Kenya. *Research Journal of Finance and Accounting* 6(14), 23-34
- Mete, F. (2006). Risk management in banks and other financial institutions: lessons from the crash of long-term capital management (LTCM). *Bank and Bank Systems*, 1, 3-20.
- Mwangi, F. (2014). The effect of liquidity risk management on financial performance of commercial banks in Kenya. Unpublished MSc thesis, Nairobi: University of Nairobi.
- Naïmy, V. (2011). Overall Lebanese Banks' Performance: A risk-return framework. *International Business & Economics Research Journal*, 4(1), 1-10.
- Nurudeen, S. O. Enebi, D. & Kanwai, P. (2020). Impact of board characteristics and risk management on financial performance of listed insurance firms in Nigeria. *Research Review International Journal of Multidisciplinary*, 5(3), 31-38
- Ozor, O. S. (2010). Liquidity Management and Commercial Banks' Profitability in Nigeria. *Research Journal of Finance and Accounting*, 2(7), 24-39.
- Teoh, A., Lee, K., & Muthuveloo, R. (2017). The impact of enterprise risk management, strategic agility and quality of internal audit function on firm performance. *International Review of Management and marketing*, 7(1), 222-229.
- Tukur, G., & Abubakar, B. (2014). Corporate board diversity and financial performance of insurance companies in Nigeria: An application of panel data approach. *Asian Economic and Financial Review*, 4(2) 12-19.
- Ugwuanyi, U. B. & Imo, G. I. (2012). Effect of Enterprise Risk Management and Performance of Nigeria's Brewery Industry. *Developing Country Studies* 2(10), 60-67
- Yinka, M. S., Taibat, A. A. & Bamidele, A. O. (2018). Relationship between enterprise risk management (ERM) and performance of twenty (20) consumer goods companies listed on the Nigerian Stock Exchange. *Applied Finance and Accounting*, 4(1), 37-41.

**APPENDIX**  
**Transformed Data**

FIRM	YEAR	ROE %	Liquidity Ratio (%)	Market Ratio (%)	Firm Size (%)
Cadbury Nigeria plc	2012	0.1724	1.5477	0.0000	7.6038
Cadbury Nigeria plc	2013	0.2688	1.8233	0.0000	7.6352
Cadbury Nigeria plc	2014	0.1676	1.0028	0.0000	7.4596
Cadbury Nigeria plc	2015	0.0939	1.0938	0.0000	7.4536
Cadbury Nigeria plc	2016	-0.0268	1.0770	0.0000	7.4535
Cadbury Nigeria plc	2017	0.0255	1.1365	0.0000	7.4537
Cadbury Nigeria plc	2018	0.0649	1.3910	0.0000	7.4398
Cadbury Nigeria plc	2019	0.0789	1.5325	0.0000	7.4594
Cadbury Nigeria plc	2020	0.0688	1.4082	0.0000	7.5213
Cadbury Nigeria plc	2021	0.0330	1.3910	0.4837	7.6404
Champion Breweries plc	2012	0.3897	0.0807	0.0000	6.5168
Champion Breweries plc	2013	0.2556	0.0740	0.0000	6.6576
Champion Breweries plc	2014	-0.1270	0.4300	0.0000	6.7733
Champion Breweries plc	2015	0.0108	0.7435	0.0000	7.0141
Champion Breweries plc	2016	0.0691	0.0010	0.0000	6.8895
Champion Breweries plc	2017	0.0636	1.3283	0.0000	6.9274
Champion Breweries plc	2018	-0.0332	0.8912	0.0000	6.9128
Champion Breweries plc	2019	0.0187	0.9044	0.0000	6.9739
Champion Breweries plc	2020	0.0197	0.8027	0.0000	7.0557
Champion Breweries plc	2021	0.0473	1.1835	0.0000	7.1299
Dangote Sugar Refinery	2011	0.1892	1.8588	0.0000	7.8622
Dangote Sugar Refinery	2012	0.2333	1.9795	0.0000	7.9189
Dangote Sugar Refinery	2013	0.2515	2.0770	0.0000	7.9401
Dangote Sugar Refinery	2014	0.2035	1.8437	0.0000	7.9881
Dangote Sugar Refinery	2015	0.1907	2.0388	0.0000	8.0280
Dangote Sugar Refinery	2016	0.1904	1.4827	0.0000	8.2445
Dangote Sugar Refinery	2017	0.3812	1.7159	0.0000	8.2924
Dangote Sugar Refinery	2018	0.2410	2.1949	0.0000	8.2517
Dangote Sugar Refinery	2019	0.2041	2.2059	0.0000	8.2969
Dangote Sugar Refinery	2020	0.2504	1.1463	0.0079	8.4138
Dangote Sugar Refinery	2021	0.1745	1.0046	0.0000	8.5433
Flour mills of Nig. Plc	2012	0.1112	1.7246	0.0035	8.2368
Flour mills of Nig. Plc	2013	0.0935	1.3225	0.0796	8.3500
Flour mills of Nig. Plc	2014	0.1055	1.3072	0.0613	8.3426
Flour mills of Nig. Plc	2015	0.0250	1.1963	0.0534	8.3646
Flour mills of Nig. Plc	2016	0.1040	1.0343	0.0819	8.3679
Flour mills of Nig. Plc	2017	0.0909	1.0389	0.0681	8.5365
Flour mills of Nig. Plc	2018	0.0610	1.1021	0.0989	8.5087
Flour mills of Nig. Plc	2019	0.1263	1.0307	0.1569	8.4970
Flour mills of Nig. Plc	2020	0.0860	1.2441	0.3195	8.4973
Flour mills of Nig. Plc	2021	0.1262	1.2886	0.4291	8.4890
Guinness Nigeria plc	2012	0.3636	0.9648	0.2110	8.0109
Guinness Nigeria plc	2013	0.3694	0.6287	0.1911	8.0830
Guinness Nigeria plc	2014	0.2592	0.9230	0.6087	8.1217
Guinness Nigeria plc	2015	0.1612	0.7269	0.2534	8.0872
Guinness Nigeria plc	2016	-0.0484	0.7133	0.3369	8.1367
Guinness Nigeria plc	2017	0.0448	0.8981	0.5796	8.1645

Guinness Nigeria plc	2018	0.0767	1.2745	0.0927	8.1854
Guinness Nigeria plc	2019	0.0616	1.2147	0.0910	8.2063
Guinness Nigeria plc	2020	-0.1722	0.8907	0.0000	8.1588
Guinness Nigeria plc	2021	0.0169	2.0421	0.0000	8.2289
Nascon Allied Industry	2012	0.4206	2.0796	0.0059	7.0290
Nascon Allied Industry	2013	0.3918	1.4927	0.0056	7.0580
Nascon Allied Industry	2014	0.2960	1.0518	0.0061	7.0988
Nascon Allied Industry	2015	0.2971	1.1803	0.0054	7.2120
Nascon Allied Industry	2016	0.3002	1.2036	0.0048	7.3910
Nascon Allied Industry	2017	0.4632	1.2460	0.0033	7.4789
Nascon Allied Industry	2018	0.3717	1.1540	0.0032	7.4810
Nascon Allied Industry	2019	0.1664	1.0593	0.3011	7.5874
Nascon Allied Industry	2020	0.2115	0.9369	0.0030	7.6465
Nascon Allied Industry	2021	0.2031	1.1188	0.0026	7.6077
Nigeria breweries plc	2012	0.2588	0.6549	0.0000	7.4021
Nigeria breweries plc	2013	0.3834	0.4515	0.0000	7.6343
Nigeria breweries plc	2014	0.2473	0.4602	0.0000	7.6286
Nigeria breweries plc	2015	0.2208	0.3790	0.0000	7.5803
Nigeria breweries plc	2016	0.1713	0.5147	0.1025	7.4533
Nigeria breweries plc	2017	0.1853	0.5619	0.0449	7.5186
Nigeria breweries plc	2018	0.1164	0.5748	0.2460	7.2878
Nigeria breweries plc	2019	0.0961	0.5171	0.3037	7.2070
Nigeria breweries plc	2020	0.0467	0.4406	0.2460	6.8765
Nigeria breweries plc	2021	0.0751	0.4389	0.0397	7.1115
NNFM Plc	2012	0.2353	1.5755	0.0000	6.5275
NNFM Plc	2013	0.1402	2.3286	0.0000	6.5591
NNFM Plc	2014	0.1317	2.1697	0.0000	6.5141
NNFM Plc	2015	-0.1348	2.8162	0.0000	6.2610
NNFM Plc	2016	-0.1577	2.8808	0.0000	6.2405
NNFM Plc	2017	-0.0131	0.7690	0.0000	6.6372
NNFM Plc	2018	-0.0519	1.1012	2.0993	6.7721
NNFM Plc	2019	-0.0275	0.9658	1.8240	6.6984
NNFM Plc	2020	0.0233	0.9935	0.1390	6.9290
NNFM Plc	2021	0.0251	0.9877	0.2380	6.8672
McNichols Plc	2012	0.0532	2.3703	0.3149	8.4179
McNichols Plc	2013	0.1235	1.3602	0.2134	8.5066
McNichols Plc	2014	0.1826	1.1240	0.1822	8.5778
McNichols Plc	2015	0.2317	1.1434	0.0505	8.6234
McNichols Plc	2016	0.1855	0.9255	0.0287	8.6768
McNichols Plc	2017	0.1045	0.8954	0.1473	8.7318
McNichols Plc	2018	0.1226	2.8374	0.9523	8.9215
McNichols Plc	2019	0.0584	3.0429	0.2003	8.8589
McNichols Plc	2020	0.0456	3.5924	0.0486	8.8525
McNichols Plc	2021	0.0437	3.1360	0.1144	8.8407
Unilever Nigeria plc	2012	0.5692	0.6617	0.0148	10.1696
Unilever Nigeria plc	2013	0.5054	0.6535	0.0837	10.2648
Unilever Nigeria plc	2014	0.3226	0.5920	0.1020	7.2688
Unilever Nigeria plc	2015	0.1490	0.6055	0.0739	7.3224
Unilever Nigeria plc	2016	0.2628	0.7763	0.0354	7.6185
Unilever Nigeria plc	2017	0.0931	2.4515	0.0029	7.9540

Unilever Nigeria plc	2018	0.1103	2.3469	0.0457	8.0057
Unilever Nigeria plc	2019	-0.1115	2.0529	0.0106	7.8541
Unilever Nigeria plc	2020	-0.0638	2.3015	0.0000	7.8060
Unilever Nigeria plc	2021	0.0197	2.0975	0.0000	7.9434
Vitafoam Nigeria plc	2012	0.1694	1.0590	0.0823	5.9334
Vitafoam Nigeria plc	2013	0.1208	1.1919	0.0757	5.7883
Vitafoam Nigeria plc	2014	0.1761	1.1584	0.0596	5.9668
Vitafoam Nigeria plc	2015	0.0517	1.1952	0.1630	5.6897
Vitafoam Nigeria plc	2016	0.0959	0.9976	0.0385	5.7183
Vitafoam Nigeria plc	2017	0.0427	1.0273	0.0331	5.4628
Vitafoam Nigeria plc	2018	0.1008	1.3243	0.3439	5.7919
Vitafoam Nigeria plc	2019	0.2655	1.7504	0.1822	6.3972
Vitafoam Nigeria plc	2020	0.3979	1.9196	0.2138	6.6958
Vitafoam Nigeria plc	2021	0.3536	1.5626	0.0221	6.8312

Source: Nigeria Exchange Group (NGX) Factbooks.

### Raw Data

FIRM	YEAR	PAT	TOTAL EQUITY	CURRENT ASSET	CURRENT LIABILITY	TOTAL DEBT	TOTAL ASSETS
Cadbury Nigeria plc	2012	3,454,991	20,039,356	26,164,355	16,905,424	-	40,156,508
Cadbury Nigeria plc	2013	6,606,013	24,577,724	26,231,468	14,386,781	-	43,172,624
Cadbury Nigeria plc	2014	2,137,319	12,749,451	12,336,296	12,302,105	-	28,811,286
Cadbury Nigeria plc	2015	1,153,295	12,285,297	12,744,984	11,651,634	-	28,417,005
Cadbury Nigeria plc	2016	(296,403)	11,056,733	13,808,074	12,820,278	-	28,409,000
Cadbury Nigeria plc	2017	299,998	11,742,791	14,240,363	12,529,586	-	28,423,121
Cadbury Nigeria plc	2018	823,085	12,676,146	14,029,119	10,085,404	-	27,528,040
Cadbury Nigeria plc	2019	1,070,845	13,566,235	15,174,042	9,901,393	-	28,801,938
Cadbury Nigeria plc	2020	931,827	13,549,523	20,383,861	14,474,694	-	33,210,684
Cadbury Nigeria plc	2021	449,712	13,636,354	30,635,578	22,024,707	6,596,083	43,688,291
Champion Breweries plc	2012	(1,336,690)	(3,430,000)	820,759	10,166,205	-	3,286,979
Champion Breweries plc	2013	(1,178,025)	(4,608,386)	1,012,414	13,683,275	-	4,545,559
Champion Breweries plc	2014	(745,523)	5,870,431	1,538,973	3,578,929	-	5,933,426
Champion Breweries plc	2015	77,140	7,121,637	2,285,566	3,073,998	-	10,329,160
Champion Breweries plc	2016	530,389	7,670,880	2,166.26	2,208,173	-	7,753,087
Champion Breweries plc	2017	517,562	8,135,460	2,161,853	1,627,573	-	8,461,288
Champion Breweries plc	2018	(263,807)	7,935,532	2,054,569	2,305,491	-	8,181,519
Champion Breweries plc	2019	168,508	8,031,796	2,337,513	2,584,458	-	9,416,927
Champion Breweries plc	2020	158,793	8,042,994	1,807,338	2,251,657	-	11,368,517
Champion Breweries plc	2021	436,045	9,219,643	4,066,367	3,435,750	-	13,486,815
Dangote Sugar Refinery	2012	10,796,416	46,269,159	64,185,817	32,426,078	-	82,956,678
Dangote Sugar Refinery	2013	13,537,612	53,817,512	57,280,617	27,578,687	-	87,112,182

Dangote Sugar Refinery	2014	11,908,690	58,526,202	63,667,765	34,532,088	-	97,287,804
Dangote Sugar Refinery	2015	12,659,855	66,386,057	72,412,320	35,516,958	-	106,671,333
Dangote Sugar Refinery	2016	14,198,693	74,584,750	141,909,778	95,709,749	-	175,593,979
Dangote Sugar Refinery	2017	37,822,609	99,207,358	157,249,110	91,644,487	-	196,064,664
Dangote Sugar Refinery	2018	25,830,941	107,180,126	144,937,739	66,033,588	-	178,523,710
Dangote Sugar Refinery	2019	24,102,816	118,082,942	161,811,264	73,352,250	-	198,129,122
Dangote Sugar Refinery	2020	31,370,659	125,302,900	140,710,750	122,752,274	984,487.00	259,280,544
Dangote Sugar Refinery	2021	22,660,116	129,830,169	208,172,533	207,221,431	-	349,382,869
McNichols Plc	2012	9,186,177	172,573,299	81,370,141	34,328,416	54,351,601	261,735,107
McNichols Plc	2013	23,407,111	189,509,196	77,625,626	57,068,777	40,434,264	321,068,591
McNichols Plc	2014	40,538,746	221,947,942	101,988,823	90,738,668	40,434,264.00	378,273,496
McNichols Plc	2015	60,337,718	260,454,358	147,144,199.00	128,686,630.00	13,162,797.00	420,149,791
McNichols Plc	2016	55,932,162	301,533,497	134,390,486.00	145,202,111.00	8,642,726.00	475,140,932
McNichols Plc	2017	34,049,258	325,778,733	126,711,191.00	141,517,817.00	48,000,000.00	539,237,546
McNichols Plc	2018	40,849,692	333,152,614	433,996,129.00	152,954,732.00	317,250,000.00	834,689,554
McNichols Plc	2019	20,215,810	346,419,982	375,512,587.00	123,407,249.00	69,400,000.00	722,521,934
McNichols Plc	2020	16,132,919	353,732,002	355,597,431.00	98,985,975.00	17,187,508.00	711,959,346
McNichols Plc	2021	15,775,686	360,686,788	363,214,493	115,821,471	41,250,000.00	692,964,118
NNFM Plc	2012	318,337	1,353,145	2,599,672	1,650,012	-	3,369,113
NNFM Plc	2013	225,145	1,605,717	2,765,711	1,187,714	-	3,623,417
NNFM Plc	2014	233,545	1,773,912	2,576,926	1,187,714	-	3,266,615
NNFM Plc	2015	(199,558)	1,480,063	1,688,990	599,740	-	1,823,971
NNFM Plc	2016	(197,240)	1,250,937	1,081,103	375,277	-	1,739,760
NNFM Plc	2017	(16,234)	1,239,578	2,291,796	2,980,114	-	4,337,444
NNFM Plc	2018	(60,988)	1,174,262	3,715,732	3,374,312	2,465,130	5,917,639
NNFM Plc	2019	(31,696)	1,150,712	2,786,633	2,885,324	2,098,923	4,992,912
NNFM Plc	2020	64,635	2,768,993	4,752,125	4,783,206	384,989.00	8,491,986
NNFM Plc	2021	69,919	2,787,771	3,786,801	3,833,773	663,611.00	7,365,270
Unilever Nigeria plc	2012	5,597,613	9,834,229	14,778,273,382	22,332,575,505	145,183	21,719,350,677
Unilever Nigeria plc	2013	4,724,429	9,347,922	18,401,326,751	28,158,890,414	782,073	25,352,787,476
Unilever Nigeria plc	2014	2,412,343	7,478,808	18,571,159	31,370,833	762,602	45,736,255
Unilever Nigeria plc	2015	1,192,366	8,003,253	21,007,814	34,697,653	591,055	50,172,484
Unilever Nigeria plc	2016	3,071,885	11,689,943	41,542,547	53,513,389	414,275	72,491,309
Unilever Nigeria plc	2017	7,069,744	75,908,375	89,958,740	36,695,307	219,770	121,084,365
Unilever Nigeria plc	2018	9,132,152	82,789,543	101,310,243	43,167,053	3,782,000	131,843,373
Unilever Nigeria plc	2019	(7,419,674)	66,528,350	71,458,874	34,808,084	705,720	91,353,567
Unilever Nigeria plc	2020	(3,965,921)	62,129,120	63,979,978	27,798,857	-	89,237,503
Unilever Nigeria plc	2021	1,301,132	65,939,051	87,789,071	41,853,397	-	109,876,060
Nigeria breweries plc	2012	25,240,619	97,525,226	56,866,627	86,834,468	-	196,767,002.00

**Effect of Enterprise Risk Management on Financial Performance of Listed Consumer Goods Firms in Nigeria**

Nigeria breweries plc	2013	43,080,349.00	112,359,185	45,285,469	100,295,715	-	207,474,164.00
Nigeria breweries plc	2014	42,520,253.00	171,964,263	52,721,867	114,554,626	-	296,954,917.00
Nigeria breweries plc	2015	38,049,518.00	172,321,503	53,302,641	140,655,590.00	-	303,404,482.00
Nigeria breweries plc	2016	28,396,777.00	165,805,542.00	74,558,034.00	144,856,800.00	17,000,000.00	367,639,915.00
Nigeria breweries plc	2017	33,009,292.00	178,150,934.00	87,491,662.00	155,698,905.00	8,000,000.00	382,726,640.00
Nigeria breweries plc	2018	19,401,169.00	166,644,184.00	86,282,924.00	150,098,425.00	41,127,565.00	388,766,316.00
Nigeria breweries plc	2019	16,104,763.00	167,564,562.00	72,102,220.00	139,440,641.00	50,893,918	382,503,815.00
Nigeria breweries plc	2020	7,525,621	161,150,877	92,120,154	209,075,927	39,636,707	444,437,374
Nigeria breweries plc	2021	12,927,163	172,139,303	118,246,489	269,422,890	6,831,273	482,639,565
Flour mills of Nigeria plc	2012	8,896,718.00	80,016,501.00	84,550,488.00	49,026,827.00	276,066.00	172,501,941.00
Flour mills of Nigeria plc	2013	8,745,447.00	93,523,520.00	111,888,648.00	84,602,072.00	7,445,013.00	223,889,728.00
Flour mills of Nigeria plc	2014	10,437,522.00	98,943,111.00	107,036,628.00	81,883,577.00	6,069,924.00	220,087,648.00
Flour mills of Nigeria plc	2015	2,419,544.00	96,653,666.00	141,305,096.00	118,115,447.00	5,164,630.00	231,529,878.00
Flour mills of Nigeria plc	2016	10,425,786.00	100,244,139.00	137,613,069.00	133,052,468.00	8,209,155.00	233,296,607.00
Flour mills of Nigeria plc	2017	9,829,046.00	108,115,699.00	225,874,556.00	217,412,600.00	7,363,893.00	343,933,157.00
Flour mills of Nigeria plc	2018	9,244,729.00	151,446,296.00	154,380,788.00	140,074,526.00	14,984,392.00	322,604,582.00
Flour mills of Nigeria plc	2019	17,549,507.00	138,929,273.00	142,576,777.00	138,329,706.00	21,795,459.00	314,058,187.00
Flour mills of Nigeria plc	2020	12,582,571	146,316,890	125,183,222	100,624,270	46,741,771.00	314,267,060
Flour mills of Nigeria plc	2021	20,172,489.00	159,878,794.00	161,159,274.00	125,066,314.00	68,598,529.00	308,322,525.00
Guinness Nigeria plc	2012	14,671,195.00	40,352,504.00	37,622,976.00	38,996,801.00	8,513,058.00	102,534,172.00
Guinness Nigeria plc	2013	17,008,875.00	46,039,111.00	32,238,619.00	51,275,097.00	8,796,183.00	121,060,621.00
Guinness Nigeria plc	2014	11,681,560.00	45,061,717.00	40,840,041.00	44,248,479.00	27,429,985.00	132,328,273.00
Guinness Nigeria plc	2015	7,794,899.00	48,341,376.00	33,511,512.00	46,100,344.00	12,250,754.00	122,246,632.00
Guinness Nigeria plc	2016	(2,015,886.00)	41,660,605.00	47,869,835.00	67,109,622.00	14,034,546.00	136,992,444.00
Guinness Nigeria plc	2017	1,923,720.00	42,943,015.00	57,226,823.00	63,719,662.00	24,889,439.00	146,038,216.00
Guinness Nigeria plc	2018	6,717,605.00	87,588,174.00	54,610,047.00	42,847,115.00	8,116,367.00	153,254,968.00
Guinness Nigeria plc	2019	5,483,732.00	89,060,462.00	59,344,022.00	48,856,474.00	8,104,582.00	160,792,627.00
Guinness Nigeria plc	2020	-12,578,818	73,038,140	53,972,538	60,597,976	-	144,145,581
Guinness Nigeria plc	2021	1,255,338	74,286,575	169,406,525	82,958,885	-	169,406,525
Vitafoam Nigeria plc	2012	546,759.00	3,228,064.00	6,562,429.00	6,197,097.00	265,687.00	3,674,949.00
Vitafoam Nigeria plc	2013	394,690	3,267,313.00	6,212,526.00	5,212,095.00	247,449.00	9,376,225.00
Vitafoam Nigeria plc	2014	659,890.00	3,747,004.00	7,720,151.00	6,664,532.00	223,246.00	11,032,131.00
Vitafoam Nigeria plc	2015	196,640.00	3,802,832.00	8,075,473.00	6,756,676.00	619,766.00	11,734,739.00
Vitafoam Nigeria plc	2016	412,386.00	4,299,252.00	7,751,299.00	7,770,121.00	165,354.00	13,098,732.00
Vitafoam Nigeria plc	2017	190,540.00	4,463,206.00	7,829,820.00	7,622,014.00	147,839.00	12,974,483.00
Vitafoam Nigeria plc	2018	486,120.00	4,822,994.00	10,374,762.00	7,834,358.00	1,658,804.00	15,156,727.00
Vitafoam Nigeria plc	2019	1,574,909	5,932,044	7,811,566	4,462,649	1,080,794.00	12,358,342
Vitafoam Nigeria plc	2020	3,456,694	8,687,013	14,694,068	7,654,807	1,857,569.00	19,802,249

Vitafoam Nigeria plc	2021	4,384,859	12,401,122	23,806,958	15,235,021	273,744.00	29,693,840
Nestle Nigeria plc	2012	2,766,306	6,577,579	7,023,084	3,377,122	38,570.00	10,689,544
Nestle Nigeria plc	2013	2,699,542	6,890,626	5,682,112	3,806,716	38,570.00	11,429,167
Nestle Nigeria plc	2014	1,867,038	6,307,306	5,622,863	5,346,115	38,570.00	12,555,885
Nestle Nigeria plc	2015	2,105,646	7,088,233	9,385,415	7,951,500	38,570.00	16,294,826
Nestle Nigeria plc	2016	2,415,184	8,046,227	15,463,431	10,695,294	38,570.00	24,603,267
Nestle Nigeria plc	2017	5,343,591	11,535,212	20,700,000	16,620,000	38,570.00	30,121,247
Nestle Nigeria plc	2018	4,420,217	11,893,480	18,570,000	16,090,000	38,570.00	30,270,429
Nestle Nigeria plc	2019	1,845,243	11,089,285	19,854,173	18,742,264	3,338,570.00	38,668,792
Nestle Nigeria plc	2020	2,690,310	12,719,820	23,910,652	25,521,662	38,570.00	44,308,991
Nestle Nigeria plc	2021	2,970,982	14,630,680	22,620,028	20,218,075	38,570.00	40,521,398

## Langranger

. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

$$ROE[Firm,t] = Xb + u[Firm] + e[Firm,t]$$

Estimated results:

	Var	sd = sqrt(Var)
ROE	.0204394	.1429663
e	.0133916	.1157221
u	.0044884	.0669957

Test: Var(u) = 0

$$\text{chibar2}(01) = 22.13$$

$$\text{Prob} > \text{chibar2} = 0.0000$$



