

Market Risk and Corporate Financial Performance of Manufacturing Firms in Nigeria

Dibua, Ekene C¹. and Okonkwo, Mary Theresa²

¹Department of Accountancy, Paul University Awka, Anambra State

²Internal audit unit, Federal Polytechnic Oko, Anambra State

Mail: dibuaekene@gmail.com; marytheresaokonkwo@gmail.com

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Abstract

The study examined the impact of market risk on corporate financial performance of manufacturing firms in Nigeria. Descriptive research design was adopted for this study. Data on corporate financial performance of the firms in manufacturing sector were extracted from annual report and accounts of eight (8) firms individually in manufacturing sector in Nigeria. Data were analyzed using multiple regressions with the aid of (SPSS version 20) to examine the impact market risk has on corporate financial performance. Findings indicate that there was evidence that market risk has no significant impact on corporate financial performance of firms in manufacturing sector. The implication of the findings is that the higher the market risk taken, the higher the corporate financial performance and reverse is the case. We therefore, recommend that management must at all times identify the level of interest rate risk and ensure that strategies, policies and processes are implemented effectively and fully integrated into the firm's corporate financial performance in the manufacturing sector. Monetary policy committee should work tirelessly to ensure that the naira foreign exchange rate to other currency are stable despite a sharp fall of the currency on the parallel market due to shortage of other currencies.

Keywords: Market risk, Corporation financial performance, Extreme value theory, manufacturing firms.

Introduction

The manufacturing sector is a vital component of Nigeria's economy, contributing significantly to employment, industrialization and GDP growth. However, the sector faces numerous challenges, among which market risk stands out as a critical factor influencing firms' financial performance. Manufacturing industry is part of the very fabric of our country, helping to grow the economy by generating productivity, encouraging research and development and investing in the future. Manufacturing has a positive effect on 'personal' economics as well. In the process of providing services, manufacturing firms may be affected by various kinds of market risks among them (NBS, 2023).

In Nigeria, the manufacturing industry faces unique market risks stemming from macroeconomic instability, foreign exchange volatility, inflation, and fluctuating demand (Oke, 2021). For instance, the depreciation of the Nigerian Naira has historically increased the cost of imported raw materials, thereby impacting production costs and profit margins (CBN, 2023). Similarly, global commodity price swings, especially in oil and gas, have cascading effects on local manufacturing firms, affecting their competitiveness and profitability (Akinboade & Kinfack, 2022). The decline in global oil prices post-2014 led to reduced foreign exchange earnings, affecting import-dependent manufacturing firms and increasing currency risk (Akinboade & Kinfack, 2018). Additionally, Nigeria's exposure to volatile commodity prices, inflation, and interest rate swings has created an environment

where firms face unpredictable operating conditions (Ogege & Uche, 2019). These market risks can erode profit margins, impair investment decisions, and threaten overall financial stability.

Market risk, broadly defined, refers to the potential for financial loss arising from fluctuations in market variables such as commodity prices, exchange rates, interest rates and demand and supply conditions (Hull, 2015). Understanding the impact of market risk on manufacturing firms is essential for stakeholders aiming to enhance resilience and sustain profitability. Market risks can lead to significant losses very quickly in volatile market conditions and also compete institutional resulting from movements in market prices, in particular, changes in interest rates, foreign exchange rates and equity and commodity prices. Form of market risk also arises where firms accept financial instruments exposed to market price volatility as collateral for loans. It is practically a measure of the degree of financial risk, thus the higher the ratio is the more risky the business is considered to be as it relies too much on debts and any changes within the economic environment or which interest rates may have an extremely negative impact on how the business evolves (Adegbe & Akinmoladun, 2022).

The development and establishment of a system for market risk management is extremely important from the viewpoint of ensuring the soundness and appropriateness of a manufacturing firm's business. Therefore, the institution's management is charged with and is responsible for taking the initiative in developing and establishing such a system. It is important for the inspector to review whether the market risk management system developed is an appropriate one suited to the manufacturing firm's strategic objectives, the scale and nature of its business and its risk profile. It should be noted that the type and level of the market risk measurement and analysis methods to be used by a manufacturing firm should be determined according to the institution's strategic objectives, the diversity of its business and the level of complexity of the risks faced, by it and therefore a complex or sophisticated market risk measurement and analysis methods are not necessarily suited to all manufacturing firms (NBS, 2022).

The permissible doorway of market risk is the amount of potential unexpected loss which the firm is willing to assume because of unexpected loss which the firm is willing to assume because of unexpected and unfavourable changes in the market variables. The permissible doorway of market risk should not exceed the losses which the firm can assume without disturbing its financial stability. The firm's ability to overcome losses caused by market risk depends on its capital and reserves on the potential losses originating from other non-market risks and on the regulatory capital required for maintaining the business activity.

Risk monitoring is the fundament for effective management process. This is the reason why the firms should have adequate internal reporting systems reflecting their exposure to market risk. Sufficiently detailed regular reports should be submitted to the top management and to the various management levels (Adewuyi & Afolabi, 2018; Ogunleye et al., 2019). Risk associated with investing in a particular product, company or industry sector are called 'Business' or 'Non-systematic' risks. Common business risks include: management risk – also called 'Company Risk', which encompasses a wide array of factors that can impact the value of a specific company. For example, the managers who run the company might make a bad decision or get embroiled in a scandal, causing a drop in the value of the company's stocks or bonds. Alternatively, a key competitor might release a better product or service. Credit risk also called 'Default risk' is the chance that a bond issuer will fail to make interest payments or to payback the principal when the bond matures (Obi & Udegbum, 2020).

Market risk, sometimes referred to as 'systematic risk', involves factors that affect the overall economy or securities markets. It is the risk that overall market will decline, bringing down the value of an individual investment in a company regardless of that company's growth, return on sales, return on investment, earnings per shares, revenues, earnings, management

and capital structure (Financial Industry Regulatory Authority, 2016).

Quite a number of studies have been carried out to examine aspect of the operations of risk management. Some studies assessed the effect of the operations of risk management while some assessed the effect of market risk on financial performance of commercial banks in Kenya (Murithi, Mutrui & Waweru, 2016). There are studies on credit risk management (Ah, 2017; Gizaw *et al.*, 2015). Some other studies centered attention on the significance of the market risk factors for the consumer banking in Pakistan (Khan & Sarwat 2026); while others carried out their studies on financial risk management (Yegon *et al.*, 2014). There are studies that examined bank exposure to market risk and the risk of loss from adverse movements in financial market rates and prices and the effect of system risk management (Nimalathasan & Pratheepkanth, 2012). Risk management is however considered by these various scholars, as a yard-stick for determining failure or success of manufacturing firms. It has not been given much attention in recent times. Though, most investors know that investing involves risks as well as rewards and that generally, attests that the higher the risk, the greater the potential reward. This research paper however, seeks to bring to light the need for manufacturing firms to pay attention to the management of market risk.

The manufacturing sector in Nigeria, a crucial component of the national economy, faces significant challenges stemming from various economic and external factors. A key concern is the impact of market risk on the financial performance of manufacturing firms. Market risk, encompassing fluctuations in commodity prices, exchange rates, interest rates, and overall market sentiment, can significantly disrupt the profitability and stability of these businesses. This problem is exacerbated by Nigeria's unique economic environment, characterized by volatile macroeconomic conditions, limited access to capital, and infrastructure deficiencies.

Specifically, the following issues highlight the need for this research: **Limited Empirical Evidence:** Existing literature on the relationship between market risk and corporate financial performance in the Nigerian manufacturing sector is scarce. While studies exist globally, their applicability to the Nigerian context is limited due to the unique characteristics of the Nigerian market. This lack of specific research hinders a deep understanding of the mechanisms through which market risk affects manufacturing firms. **Varied Impact of Market Risk Factors:** Different market risk factors may have varying degrees of influence on different manufacturing firms. For example, a firm heavily reliant on imported raw materials will be more vulnerable to exchange rate fluctuations than a firm using locally sourced inputs. Similarly, firms operating in sectors sensitive to global commodity prices (e.g., food processing, textiles) will be more susceptible to these fluctuations. The unique operating characteristics of individual firms need to be considered. **Lack of Robust Empirical Models:** Existing models used to assess the impact of market risk on corporate performance may not fully capture the complex interplay of factors in the Nigerian context. Developing a robust model tailored to the Nigerian manufacturing sector would allow for a more accurate assessment of the magnitude and direction of the effects.

Limited Policy Implications: Understanding the impact of market risk is crucial for developing effective policies to support the manufacturing sector. Without empirical evidence demonstrating the specific effects of market risk, policymakers struggle to design targeted interventions to mitigate these risks.

Moreover, when referring to the prior empirical studies on market risk, most-researches have been conducted mainly on other sectors of studies like banking sector but hardly there is any which has been established from manufacturing sector. Therefore, no study to the knowledge of the researcher has related the actual performance of market risk on the corporate financial performance for manufacturing firms. This research aims to address these gaps by

investigating the specific impact of market risk on the financial performance of manufacturing firms in Nigeria. It will explore the relationship between different market risk factors (e.g., exchange rate volatility, commodity price fluctuations, and interest rate changes) and key financial performance indicators (e.g., profitability, liquidity, and solvency). The study will employ a robust empirical model tailored to the Nigerian context to provide conclusive findings and offer valuable insights for policymakers and industry stakeholders

Objective of the Study

The main objective of this study is to examine the impact of market risk on corporate financial performance of firms in manufacturing sector in Nigeria. Specifically, the researcher seeks to:

- (i) Determine the impact of interest rate risk management on return on sales of firms in the manufacturing sector in Nigeria.
- (ii) Examine the impact of foreign exchange risk management on return on investment of firms in the manufacturing sector in Nigeria.
- (iii) Ascertain the impact of price change risk management on earnings per share of firms in the manufacturing sector in Nigeria.

Conceptual Framework

Market Risk

According to Oye (2008), risk occurs where it is not known what the future outcome will be but where the various possible outcomes maybe expected with some degree of confidence from knowledge of past or existing events. In other words, probabilities of alternative outcome can be estimated. Risk tends to be used in discussion on outcome of particular projects, fortunes of a particular class or investor or determination of the market response for a product. Market risk is the possibility for an investor to experience losses due to overall fluctuation which could arise from political events, inflation, economic problems, international crisis etc. that affects the overall performance of the financial markets which the investor is involved.

In the Nigerian context, market risk manifests primarily through foreign exchange volatility, interest rate fluctuations, and commodity price swings, which directly affect firms' costs, revenues, and competitiveness (Adewuyi & Afolabi, 2018). Market risk, also called 'Systematic risk' or 'Non-diversifiable risk', is the unavoidable that affects risky investments. It can be thought as the opportunity cost of putting money at risk and caused by the overall stock market fluctuations. Every investor faces systematic risk as a securities market follows economic indicators, recession and the normal business cycle. Nonetheless, the most basic strategy for minimizing market risk is diversification, which Nzewi (2008) attests that it means holding various securities of different companies. By doing this, the investors spread his fund over different securities and avoid putting all his eggs in one basket. This type of risk arises on account of the economy-wide uncertainties and the tendency of individual securities to move together with changes in the market and cannot be reduced through diversification. It is the risk of loss emerging from alterations in the value of assets and liabilities (including off-balance sheet assets and liabilities) due to fluctuations in risk factors such as interest rates, foreign exchange rates and stock prices and the risk of loss resulting from changes in earnings generated from assets and liabilities.

Market risk is the risks associated with change in market prices, such as interest rates, exchange rates, commodity prices, on the cost of the individuals, financial firms, manufacturing firms, organizations and government's debt servicing. According to Morgan (2013), market risk refers to the sensitivity of an asset or portfolio to overall market price movements such as interest rates, inflation, equities, currency and property. Pension funds are

heavily exposed to interest and inflation rate risks as these determines the present value of the scheme's liabilities, typically referred to as 'unrewarded risks', as these are intrinsic to the liabilities. While market risk cannot be completely removed by diversification, it can be reduced by hedging. The use of interest and inflation rate swaps can produce off-setting positions whereby the risks are hedged.

Forms of Market Risk

- (i) **Interest Rate risk:** This is the risk of loss resulting from changes in interest rates. As a result of a mismatch of interest rates on its assets and liabilities or timing differences in the maturity thereof, a manufacturing firm may suffer a loss or a decline in profit due to changes in interest rates. It is the risk that the value of a security will fall as a result of increase in the interest rates. However, in complex portfolios, many various types of exposures can arise.
- (ii) **Foreign Exchange risk:** This is the risk or loss resulting from the difference between assumed and actual foreign exchange rates in the case where a manufacturing firm has a long position or short position on a net basis with regards to its assets and liabilities denominated in foreign currencies. This type of risk arises because of the fluctuations in the currency exchange rates. It can be exposed to the foreign exchange in their normal course of business because of the unhedged positions or imperfect hedges.
- (iii) **Price Change risk:** This is the risk or loss resulting from a decline in the value of assets due to changes in the prices of securities etc.

Market Risk and Nigerian Manufacturing Firms

Market risk's influence on Nigerian manufacturing firm's manifests in various ways:

- (i) **Exchange Rate Fluctuations:** The naira experienced substantial depreciation during this period, especially amid foreign exchange shortages and policy shifts like the Central Bank's currency reforms (CBN, 2020). Exchange rate volatility affects the cost of imported raw materials and equipment, thereby impacting production costs and profitability (Akinboade & Kinfack, 2018).
- (ii) **Interest Rate Variability:** Changes in interest rates influence the cost of borrowing, which is crucial for capital-intensive manufacturing operations. The Central Bank's monetary policy adjustments aimed at controlling inflation and stabilizing the economy have led to fluctuating interest rates (CBN, 2021). Higher interest rates increase financing costs, reducing firms' net income.
- (iii) **Commodity Price Volatility:** Many Nigerian manufacturing firms depend on imported raw materials whose prices are linked to global commodity markets. Fluctuations in commodity prices can cause unpredictable production costs, affecting profit margins and financial performance (Ogege & Uche, 2019).
- (iv) **Demand and Supply Shocks:** Changes in consumer demand, often driven by macroeconomic conditions or policy interventions (e.g., import bans, tariffs), can create demand shocks that influence sales and profitability (Nnanna & Ogbalu, 2020).

Market Risk and Corporate Financial Performance

According to the Classification of Corporate Risks introduced by foreign economists – Koach & MacDonald (2014), market risk can be generally said to consist of three lesser risks – interest rate risk, foreign exchange risk and price change risk. The form of market risk also arises where firms accept financial instruments exposed to market price volatility as collateral for loans. Cornelia (2012) explained that price fluctuation or volatility increases and decreases in the day-to-day market. This type of risk mainly applies to both options and tends to perform well in a bull (increasing) market and poorly in a bear (decreasing) market.

Generally, the more volatility within the market, the more probability there is that the will increase or decrease.

Market risks may be divided into interest rate risks and exchange rate risks including gold, share price risks and commodity; price risks which refer to the risks created by any adverse change in interest rate, exchange rate share prices and commodity-prices. Market risk which comprises of exchange rate, inflation interest rate risks and price change risk affects the financial performance of manufacturing firms. Usually, market risks are outside the control of the manufacturing firms, as they factors that affect the overall economy. Degree of financial leverage, foreign exchange rate exposure and interest rate risk were used as indicators of market risk. Degree of financial leverage (DFL) is best used to help a company determine financial leverage risk.

Financial performance is the manufacturing firm's ability to generate new resources, from day-to-day operations, over a given period of time and performance is gauged by net-income and cash from operations. Nzewi (2008) posits on how profitability will enable firms to identify and inquire the financial strength, weakness and profitability of the firms. He further stressed on that ratios reveal how efficiently the industry is utilizing the resources available to it in generating profits that will eventually determine the value of the share. It can be analyzed using these indices like return on sale, return on investment, earnings per share, dividend per share, price earnings ratio etc.

Market risk is a dominant source of income fluctuations in manufacturing firms all over the world. The manufacturing firms with significant amounts of trading activity proved to be very vulnerable to extreme market movements and, in time, the measurement of market risk became a primary concern for regulators and also for internal risk control. This calls for indicators showing the risk exposure of firms and the effect of risk reducing measures.

Empirical Studies

Empirical studies within Nigeria and comparable emerging markets suggest that market risk significantly influences firms' financial health. For instance, Abor & Biekpe (2017) observed that exchange rate volatility negatively affects manufacturing firms' profitability in Ghana, a similar emerging economy. Similarly, Adegbe & Oladipo (2018) noted that interest rate fluctuations impair investment and profitability among Nigerian manufacturing firms.

Empirical evidence suggests that market risk significantly affects the financial performance of firms. For example, Oke (2021) found that exchange rate volatility adversely impacted the profitability of manufacturing firms in Nigeria. Similarly, Oluwatobi & Olusola (2023) demonstrated that interest rate fluctuations influenced firms' investment decisions and overall financial outcomes. Conversely, some firms adopt hedging strategies and financial derivatives to mitigate these risks, thereby buffering potential negative impacts (Adegbe & Akinmoladun, 2022).

Murithi, Muturi & Waweri (2016) in their study assessed "*The effect of market risk on financial performance of commercial banks in Kenya*". The study covered the period between year 2005 and 2014 and depicts that market risk was measured by degree of financial leverage, interest rate risk and foreign exchange exposure while financial performance was measured by return on equity. The study used the balance sheets components and financial ratios for 43 registered commercial banks in Kenya. Panel data techniques of random effects, fixed effects estimation and generalized method of moments (GMM) were used to purge time-invariant unobserved firm specific effects and to mitigate potential endogeneity problems. The pair-wise correlations between the variables were carried out and F-test was used to determine the significance of the regression while the coefficient of determination within and between R^2 , were used to determine how much variation in dependent variable is explained by independent variables. The results shown that financial

leverage, interest rate and foreign exchange exposure have negative and significant relationship with bank profitability. It was however recommended that commercial banks especially locally owned ones required to consider finding ways of mitigating the market risks by use of financial instruments such as financial derivatives and be active in derivatives markets. These may however reduce the interest rate risk and foreign currency risk exposure and the commercial banks are also required to monitor the financial leverage so as to reduce the financial risk.

Summarily, notwithstanding all the above reviewed, to the best of knowledge of the researcher in the Nigeria context, it is not possible to get a study which examined the effect of market risk on corporate financial performance of firms in manufacturing sector in Nigeria. However, the current study aimed at contributing to the literature gap on the subject matter.

Methodology

This study employed the descriptive research design. Descriptive seek to find out ‘how’, ‘what is’, or ‘to what extent’ it is related to proceeding events that have influenced or affected a present condition or events. All the eight (8) top manufacturing firms in Nigeria listed in the top 10 Nigeria finder comranking, were purposively adopted as sample of study. Data on corporate financial performance of the manufacturing firms were return on sales, return on investment and earnings per share were extracted from annual report and accounts of the firms understudied. Data collected were analyzed with descriptive statistics, correlation and regression analysis used to test the effect of market risk and corporate financial performance of the manufacturing firms. Secondary literatures such as journals, annual reports or financial statement of firms and Nigeria’s business directory were used. Central Banks information booklet and bureau of statistics were also consulted and reviewed which highlighted additional supporting credence to issues raised in the discussion.

Data Analysis and Findings

Corporate financial performance and market risk variables for the selected firms are shown below and Appendix (see back of page):

Table 1: Multiple Regression on Market Risk as the Predictor (ROS)

Variables	B	Beta	t	P-value	R ²	F-value	P-value
Interest rate risk	2.763	.71	.652	.516			
Foreign exchange risk	.000	-.045	-.410	.683			
Price change risk	2.31	.294	2.684	.009			
					.093	2.589	.059

R² is 0.093.

Table 1 above shows that 9.3% of the change in return on sale can be explained by the model while 90.7% of the change in return on sale is due to factors outside the model. Based on the above, jointly the independent variable – interest rate risk, foreign exchange risk and price change risk did not predict the outcome of the dependent variables – return on sales since $p > .05$ level of significance. Also independently, interest rate risk, foreign exchange risk and price change risk did not predict the outcome of the dependent variables – return on sales since $p > .05$ level of significance. Therefore, the effect of these independent variables has no significant impact on the dependent variable at a $p > .05$ level of significance, thus have a significant impact on return on sale with beta value .071, -0.45 and .294 and statistical not significant since $p > .05$ and $t = .652, -.410$ and 2.684 respectively.

Table 2: Multiple regression on market risk as the predictor of the dependents (ROI)

Variables	B	Beta	T	P-value	R ²	F-value	P-value
Interest rate risk	18.750	.022	.196	.845			
Foreign exchange risk	.007	.097	.850	.398			
Price change risk	1.826	.011	.094	.925			
					.010	.2.66	.850

R² is .010

Table 2 implies that 1.0% of the change in return on investment can be explained by the model while 99% of the change in return on investment is due to factors outside the model. Based on the above, jointly the independent variable interest rate risk, foreign exchange risk and price change risk did not predict the outcome of the dependent variables since $p > .05$ level of significance. Also, the independent variable did not predict the outcome of the dependent variables since $p > .05$ level of significance. Therefore, the effect of these independent variables has no significant effect on the dependent variable with beta value .022, .097 and .011 and statistically not significant since $p > .05$ and $t > .196$, .850 and .094 respectively.

Table 3: Multiple regression on market risk as the predictor of the dependents (EPS)

Variables	B	Beta	T	P-value	R ²	F-value	P-value
Interest rate risk	91.860	0.59	.516	.605			
Foreign exchange risk	.011	.080	.711	.479			
Price change risk	4.908	.154	1.364	.176			
					0.36	.939	.426

R² is .036.

Table 3 implies that 1% of the change in earnings per share can be explained by the model while 99.96% of the change in earnings per share is due to factors outside the model. Based on the above, the independent variable did not predict the outcome of the dependent variables since $p > .05$ level of significance. Also independently, the independent variable did not predict the outcome of the dependent variables since $p > .05$ level of significance. However, the effect of these independent variables has no significant effect on the dependent variables with beta value .059, .080 and .154 and statistically not significant since $p > .05$ and $t = .516$, .711 and 1.364.

Discussion of Findings

This research was carried out on the “Effect of Market Risk on Corporate Financial Performance of Firms in Manufacturing Sector in Nigeria”. The findings of the research indicates that there is a clear evidence that market risk has no significant impact on corporate financial performance of firms understudy in the manufacturing sector in Nigeria.

Conclusion

This research paper sought to find out the effect of market risk on corporate financial performance of firms in manufacturing sector in Nigeria. However, risk in every aspect of business life cannot be overlooked as many young firms have had to die prematurely or grow tremendously due to the effect of market risk taken in the face of changes in purchasing power of customers. The implication is that the higher risk taken, the higher the corporate

financial performance and reverse is the case.

Recommendations

The researcher makes the following recommendations:

- (i) Management must at all times identify the level of interest rate risk and ensure that strategies, policies and processes are implemented effectively and fully integrate into the firm's corporate financial performance of firms in the manufacturing sector.
- (ii) The monetary policy committee should work tirelessly to ensure that the naira foreign exchange rate to other currency are stable despite a sharp fall of the currency on the parallel market due to shortage of other currencies.
- (iii) The federal government should come up with strategies and policies that will stabilize the price of raw materials and goods produced from fluctuations

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