JORMASS
Volume 11, Issue 2, Dec. 2025
JOURNAL OF RESEARCH IN MANAGEMENT AND SOCIAL SCIENCES
DOI: To be assigned

Financial Derivatives Inflows and the Performance of Selected Financial Service Firms in African Economies

Ozioko, Joyce Nneka, Ihemeje, James Chinedu & Osuala, Alex Emmy
Department of Banking and Finance, Michael Okpara University of Agriculture, Umudike
Corresponding author: ozioko.joyce@mouau.edu.ng

ABSTRACT:
This study examined the impact of financial derivatives inflows on the performance of selected financial service firms in Africa economies, focusing on Nigeria and South Africa from 2013 to 2024, using the Panel Autoregressive Distributed Lag (ARDL) approach. The selected financial services firms in Nigeria are Guaranty Trust Bank Limited, United Bank for Africa Limited, Zenith Bank Limited, and Stanbic IBTC Bank Limited, while ABSA Bank (a member of the Barclays Group), Capitec Limited, FirstRand Limited, and Standard Bank of South Africa were selected for South Africa. The variables used to represent financial derivatives inflows include financial derivatives assets and the ratio of derivatives to other money market instruments. Return on Assets (ROA) was employed as a measure of firm performance. The selection of these variables was guided by established economic theories and earlier empirical studies. An ex post facto research design was adopted for the study. Unit root tests and a Panel data Autoregressive Distributed Lag (ARDL) model were used to determine the impact of the explanatory variables on firms' performance. The unit root test indicated mixed integration orders among the variables, justifying the application of the Panel ARDL model. Using the short-run Panel ARDL estimates, the results revealed that derivative assets have a positive, statistically significant effect on the performance of financial services firms in Nigeria and South Africa. For the ratio of derivatives to other money market investments, the finding revealed that the ratio has a negative, statistically insignificant influence on the performance of financial services firms in Nigeria and South Africa. The study concluded that financial derivatives inflows have a significance effect on the performance of financial services firms in African economies. The study recommends that financial service firms in African economies. Firms should focus on derivative assets that generate fair-value cash inflows, especially those used for effective trading or hedging. Enhancing expertise in derivative valuation and management can help capitalize on these positive effects across different market environments.

KEYWORDS: *Financial derivatives inflows, financial service firms, Bank performance, Panel ARDL.*

MANUSCRIPT TYPE:
Research Paper

PUBLICATION DETAILS:
Received: XX Jul. 2025
Revised: XX Nov. 2025
Accepted: XX Dec. 2025

Publication College of Management Sciences, Michael Okpara University of Agriculture, Umudike Nigeria

INTRODUCTION

The primary motive for a financial firm to invest in financial derivatives is risk management (hedging). Though some financial service firms used derivatives for speculation, the main reason for corporate use of derivatives is to mitigate market imperfections and enhance a firm's stability and value (Mishra, 2025). The main objective of every investment decision is to maximize returns while minimizing risk. To minimize risk, financial service firms invest in financial derivatives. (Holm, 2024). As firms in the financial services sector operate, their activities become increasingly complex, and they find themselves increasingly exposed to

business risks, including exchange rate and interest rate fluctuations. To mitigate the risks associated with running their businesses, most firms trade in financial derivatives. Financial derivatives are financial instruments tied to specific financial instruments or commodities, through which specific financial risks can be traded in the financial market (Osayi et al., 2018). Similarly, the Nairobi Securities Exchange derivatives manual (2015) defined a derivative as a financial instrument whose value and characteristics depend on those of an underlying asset, typically a commodity, bond, equity, or currency. Financial derivatives come in many shapes and forms. They include futures, forwards, swaps, options, structured debt obligations, and deposits, as well as various combinations thereof. Some are traded on organized exchanges, whereas others are privately negotiated transactions (IMF, 2008).

According to Fabozzi et al. (2016), a financial derivative is a complex contract between two or more parties whose value is derived from an underlying asset, such as stocks, bonds, equities, or commodities (Hull, 2017). These instruments are used for risk management, enabling institutions to hedge against adverse price movements. Besides hedging, derivatives can be employed for speculative purposes to enhance returns. Financial derivatives have a complex impact on bank performance, primarily for mitigating certain operational risks. Banks employ derivatives to manage risk exposure, such as interest rate fluctuations, exchange rate volatility, and other operational uncertainties, thereby stabilizing their operations (Ahmed, 2021). Financial firms mainly use derivatives as hedging tools to protect against interest rate and foreign exchange risks, thereby reducing uncertainty and supporting their lending and operational activities (Jones & Taylor, 2018).

Financial derivatives have a significant relationship with the performance of financial services firms. Studies show that the strategic use of derivatives correlates with significant improvements in performance metrics, such as net operating income and profitability ratios. The use of derivatives for hedging typically decreases the cost of capital and increases the firm's stability (Vengesai, 2025). Derivatives help energy companies reduce risk and play an important role in the capital chain (Chen, 2025). The study revealed that trading income from derivatives, loans, and advances to customers, and bank size have significant effects on bank performance (Ehiedu & Nwaokoacha, 2024). The user of derivatives in Shariah-compliant firms performs better than non-users, thus reflecting the effective risk management strategies of the firms (Zamzamin et al., 2023). By effectively utilizing financial derivatives, firms improve risk management, capitalize on market opportunities, increase liquidity, and achieve capital efficiency. These benefits allow firms to safeguard against unexpected market shifts, speculate on trends, optimize portfolios, and develop customized products for clients, ultimately enhancing overall financial performance (Gralton, 2025). However, it is crucial to acknowledge that derivatives also pose risks, especially when used for speculation or excessive leverage (Stulz, 2019). Financial derivatives can be an extremely useful tool in risk management. However, when banks misuse derivatives, it can create additional risks that could lead to a financial crisis (Adcock et al., 2014). Speculation involves using derivatives to predict future price movements of the underlying asset. This can expose the firms to greater risks. The derivative portfolio holdings may be associated with higher profits for banks, but the speculative purpose might increase banks' risk exposure (Li & Yu, 2010; Adam et al., 2017). Derivatives have led to the collapse or bankruptcy of successful companies and banks in global financial markets over the past two decades (Alnassar et al., 2014).

The Knowledge Sharing Program (KSP) Policy Consultancy report for 2018/2019 stated that derivatives markets across most African countries are largely undeveloped and underutilized, with the notable exception of South Africa. Furthermore, many firms in Africa do not use financial derivatives to hedge against future risks. Financial derivatives are mostly used by financial service firms in Africa. In contrast, in developed economies, they are used by both financial and non-financial service firms (KSP, 2018). Financial service firms in some African countries, such as Ethiopia and Kenya, rarely use derivatives. Instead, they rely on other traditional money market instruments, such as treasury bills, commercial paper, and promissory notes, for risk hedging. This limited use partly explains why there are few studies on the impact of financial derivatives on the performance of financial service firms in African economies than in developed economies. Most existing research in Africa and other developing regions broadly focuses on the effects of derivatives use on the performance of financial and non-financial service firms.

Many academic researchers have pioneered research on the relationship between the used of financial derivatives in hedging against risk by firms in the past, but most of these studies were carried out in developed countries (Gül & Reis, 2021; Ahmed, 2021; Miloş & Miloş, 2022; Fazari et al., 2022; Bernal-Ponce et al., 2020; Iordanashvili, 2020). In comparison, little attention was given to developing countries, especially Africa. Given this context, research on the impact of financial derivatives on hedging and firm performance should be a global priority, particularly in emerging markets, which constitute a significant share of the global market. In this light, the researchers decided to conduct a study on the impact of financial derivatives on the performance of listed financial services firms in African economies. The impact of financial derivatives on firm performance has not received sufficient attention in some African financial markets, perhaps due to limited awareness of derivatives and the small size of countries' financial markets. This study

focuses specifically on two African markets: Nigeria and South Africa. Evidence from previous studies shows that most studies on financial derivatives were conducted in developed economies, focusing primarily on their use and their impact on financial services firms and on the performance of non-financial services firms. Also, most research on the impact of financial derivatives on the performance of listed financial firms in Nigeria used profit after tax as a performance measure (Efanga et al., 2020; Eragbhe & Omokhudu, 2018; Osayi et al., 2018). According to Harvard Business School, the best performance metric is return on assets, because it helps determine how effectively and efficiently a firm uses its assets. For this study, the researchers examined the impact of financial derivative assets and the ratio of financial derivatives to other money market investments on the performance of financial service firms in African economies. The reason is that most banks do not invest in derivatives. However, rather invest in other traditional money instruments. This ratio helps determine the portion of the money market investments allocated to financial derivatives. For this study, we used panel data extracted from the annual reports of commercial banks in Nigeria and South Africa. A panel-data autoregressive distributed lag model was employed for the study. This study will contribute to the existing literature by comparing the impact of financial derivatives on the performance of financial service firms in African economies. The study will also help financial service firms' management develop policies on the strategic use of derivatives and on balancing the ratio of derivatives to other money market instruments. This study contributes to existing knowledge in two basic areas: most prior work on the impact of financial derivatives on the performance of financial service firms in Africa has focused solely on individual countries, with little or no attention to comparative studies. To the best of my knowledge, this is the first comparative study in Africa on the subject matter. In terms of variables, this study contributed to knowledge by introducing the ratio of derivatives to other money market investments. Financial service firms invest in various money market instruments, including derivatives.

LITERATURE REVIEW

Concept of financial derivatives

Derivative is the generic name for a set of financial contracts that include forward contracts, futures, swaps, and options. The term derivative comes from the fact that the instruments obtain their value (derive it) from the behaviour of more basic underlying variables. Hence, derivatives are also often referred to as contingent claims. The underlying variables can be a specific asset or security, index, commodity, or even the relationship between different assets. The main classes of instruments are forward contracts, futures, swaps, and options (Moles, 2004). From the above, define a derivative as a contract whose value derives primarily from an underlying asset, reference rate, or index. Our definition is premise on the fact that derivatives must be based on at least one underlying asset. An underlying is the asset, reference rate, or index from which a derivative inherits its principal source of value. Within our definition are several types of derivatives, including commodity and financial derivatives, which are developed principally as hedging instruments against the risks associated with exposure to interest rate, exchange rate, and commodity and stock price movements over a specific period (Bakshi et al., 2000). Derivatives are instruments whose value are derived from that of another instrument (Osuoha et al., 2015). Financial derivatives are derived from instruments such as interest rates, exchange rates, shares, bonds, and treasury bills, among others, while commodity derivatives are derived from commodities such as agricultural produce, precious metals, oil and gas (Adedamola & Shittu, 2020).

Financial Derivatives and Performance of Financial Services Firms in Nigeria

Financial derivatives impact financial services firms' performance primarily through two channels: hedging and trading. Hedging helps mitigate risks such as interest rate and foreign exchange fluctuations, thereby improving performance metrics like return on assets (ROA). Trading derivatives can generate additional revenue but carries the risk of increased volatility and potential losses when used excessively for speculation. Empirical studies present mixed findings. Hedging generally stabilizes performance by reducing exposure to market risks, smoothing earnings volatility, and enhancing profitability and firm value. Conversely, excessive speculation via trading derivatives can harm performance, as seen in instances of over-speculation leading to substantial losses. The prudent use of derivatives aligns with financial theories such as the pecking order theory, where firms prioritize internal stability before taking on external risks.

Research by Ehiedu & Nwaokoacha (2024), Owoeye et al. (2023), and Lee (2019) demonstrates a positive and significant impact of financial derivatives on firm performance. In contrast, studies by Aydin & Tanrioven (2024), Asif et al. (2023), Ahmed (2021), and Tron & Colantoni (2021) find no significant effect. Overall, evidence leans toward a beneficial role for derivatives in hedging but cautions against speculative misuse. Factors like firm size and market maturity influence these outcomes. Otero et al. (2025) summarizes the consensus well: hedging tends to boost ROA and enhance stability, while

unchecked speculation erodes performance. Financial service firms should therefore strike a careful balance to maximize the empirically supported benefits of derivatives across different regions.

Financial derivatives assets and the performance of financial services firms.

The use of financial derivatives plays a crucial role in enhancing bank performance by improving risk management and boosting profitability. Financial services firms commonly employ derivatives such as forwards, futures, swaps, and options to hedge against various risks, including interest rate, foreign exchange, and credit risks (Guay, 1999). Through these hedging strategies, banks are able to stabilize their earnings and effectively manage mismatches between assets and liabilities. This not only reduces volatility in financial results but also contributes to improved risk-adjusted returns and greater operational stability.

Derivative assets enhance the overall performance of financial institutions by providing tools to manage exposure to market fluctuations. On the balance sheet, derivatives are reported at fair value, which reflects the current market price agreed upon by willing buyers and sellers. At any point in time, a derivative may appear as an asset (when its fair value is positive) or as a liability (when negative). Fair value measurement therefore offers a transparent representation of a derivative's market worth.

Empirical studies further support the positive impact of derivatives on the performance of financial services firms. Research by Uchechukwu and Okafor (2022) and Adedamola and Shittu (2020) shows that the strategic use of derivatives is associated with significant improvements in key performance indicators, including net operating income and various profitability ratios. Thus, derivatives function not only as risk-management instruments but also as important contributors to the financial health and long-term sustainability of banks.

While numerous studies on financial derivatives in Africa focus on individual countries, there remains limited comparative evidence across multiple economies. This study therefore aims to examine the impact of financial derivative assets on the performance of financial services firms in African economies, with a specific focus on Nigeria and South Africa.

H_1: Financial derivative assets have a significant positive effect on the performance of financial services firms in African economies (Nigeria and South Africa).

Ratio of derivatives to other money market instruments and the performance of financial services firms.

The ratio of derivatives to other money market investments refers to the proportion of derivative instruments used or held within money market portfolios relative to traditional money market instruments. This ratio highlights the scale and strategic importance of derivatives compared to cash or cash-equivalent instruments in financial services firms' investment activities. A firm's ratio of derivatives to money market investments can significantly influence financial performance, largely through its effects on risk management and hedging effectiveness.

Firms that incorporate derivatives into their money market investment strategies often demonstrate better risk-adjusted returns, enhanced liquidity management, and greater resilience to market volatility than firms relying solely on traditional money market instruments. Although derivatives may increase the complexity and risk profile of a portfolio, they provide effective tools for hedging interest rate, currency, and liquidity risks. Empirical evidence shows that certain derivatives-based strategies outperform traditional money market investments on a risk-adjusted basis, although they may introduce higher variability.

The balance between derivatives and traditional money market instruments is therefore crucial. Excessive reliance on derivatives, especially without proper controls, can expose firms to significant risks and potential losses, as illustrated by cases where heavy use of swaps and similar instruments reversed earlier performance gains. Conversely, moderate and well-managed use of derivatives—complementing instruments such as treasury bills, commercial paper, and certificates of deposit—can enhance financial performance by supporting liquidity, income generation, and overall financial stability.

Traditional money market instruments generally contribute positively to return on investment and firm stability. When derivatives are used judiciously alongside these instruments, the combined strategy tends to optimize performance by mitigating risks while enhancing returns. Overall, the ratio of derivatives to other money market investments provides insight into the extent to which firms rely on derivatives for hedging or speculative purposes relative to direct investment in money market securities (Sundaram, 2012).

H_2: The ratio of financial derivatives to money market investments has no significant impact on the performance of listed financial service firms in the Nigerian and South African economies.

Financial services firms

Financial services firms provide banking, investment, and insurance services. Financial services firms help to channel funds from savers to borrowers and help to redistribute risk. They also monitor investments and pool risk to keep it manageable for individual members.

Theoretical Framework: No-arbitrage theory and black-scholes-metron (BSM) model

This study is anchored on the No-Arbitrage Theory and the Black–Scholes–Merton (BSM) model. The No-Arbitrage Theory provides the foundational principle that in an efficient market, identical assets or portfolios should not yield different returns. This principle underlies modern derivatives pricing and ensures that financial instruments are valued without creating opportunities for risk-free profit. Building on this foundation, the BSM model (Black et al., 1973) operationalizes the no-arbitrage concept by offering a mathematical framework for pricing options and other derivative products based on market variables such as volatility, interest rates, and the behavior of the underlying asset.

In the context of African financial markets, the integration of these two theoretical frameworks has significant implications for firm performance. The BSM model allows financial services firms to price and hedge options and structure products more accurately, thereby reducing mispricing risk and enhancing risk management efficiency. This capability supports the development and deepening of derivatives markets such as the Johannesburg Stock Exchange (JSE) in South Africa and the Nigerian Stock Exchange (NSE), enabling firms to expand product offerings in currency, commodity, and equity derivatives. Such innovations create opportunities for diversified revenue streams beyond traditional banking activities, strengthening firm competitiveness and profitability.

However, the application of the BSM model in African markets is often constrained by the model's underlying assumptions—such as constant volatility, continuous trading, and high market liquidity—which rarely hold in practice. African markets are characterized by volatility smiles, price jumps, liquidity gaps, and episodic market disruptions. When firms adopt the BSM model without adjusting to these market realities, they face higher risks of mispricing, ineffective hedging, and subsequent financial losses. Firms that adapt No-Arbitrage principles and BSM pricing methodologies to local conditions—by incorporating stochastic volatility, jump-diffusion processes, or liquidity-adjusted models—tend to gain a performance advantage through more accurate pricing, better risk mitigation, and improved financial resilience.

Despite the relevance of these theories, empirical studies that examine how adaptations of No-Arbitrage and BSM frameworks influence the performance of African financial institutions remain limited. Existing research largely focuses on hedging effects within non-financial sectors or general derivatives use without considering the customization of pricing models to African market conditions. Comparative firm-level evidence—particularly between more liquid markets like South Africa and relatively illiquid ones like Nigeria—is especially scarce. This study contributes to addressing this gap by examining how derivatives usage, grounded in these theoretical principles, affects financial performance across selected African economies.

METHODOLOGY

This study employed an ex post facto research design. The ex post facto research design was used for the study because it offers advantages for establishing an empirical relationship between the dependent and independent variables using existing data. This study used secondary data from 2013 to 2024, extracted from the annual reports of selected banks in Nigeria and South Africa. For Nigerian banks, the researcher used Guaranteed Trust Bank Limited, United Bank of Africa Limited, First Bank Limited, and Stanbic IBTC Limited, while for South Africa, the researchers selected ABSA Bank (a member of the Barclays group), Capitec Bank Limited, FirstRand Bank Limited, and Standard Bank of South Africa.

The main analytical technique employed in this investigation was the Panel Autoregressive Distributed Lag (ARDL) model. The degree of correlations between integrated variables of mixed orders can be effectively ascertained using this method.

The implicit form of the models is given in equation 1.

$$ROA = f(,FDA, RDO) \quad \text{Eq1}$$

The functional model in equation 1 can be presented in equation form as given by equation 2:

$$ROA_t = \beta 0 + \beta 1FDA_t + \beta 2RDO_t + \mu t \quad \text{Eq2}$$

Where:

ROA = Return on Assets

FDA = financial derivatives assets

RDO = Ratio of financial derivatives to Money market instruments

$\beta 0$ = Constant parameter

β1 and β2 = Coefficient estimates of the independent variables
μ = Stochastic term.
t = time period (in years)
However, in order to scale the very large values so that they can be displayed on a comparatively compact scale, the model was log-linearized as shown in equation 3:

$$ROA_t = \beta_0 + \beta_1 Ln(FDA_t) + \beta_2 RDO_t + \mu_t \quad \text{Eq3}$$

N/B: ROA and RDO do not need to be logged because they are ratios.
The above equation was used to achieve the study's objectives.

RESULT AND DISCUSSIONS

Stationarity Test

Table 1 Augmented Dickey-Fuller (ADF)

ADF at level:1(0)			ADF at first difference 1(1)		
Variables	**t-statistic**	**Prob**	**t-statistic**	**Prob**	**Conclusion**
ROA	-2.46732	0.0068	_	_	1(0)
FDA	0.14158	0.5563	-4.70462	0.0000	1(1)
RDO	9.58164	0.9442	-3.34561	0.0004	1(1)

The results of the unit root test using the Panel Augmented Dickey-Fuller method, including the t-statistic and P-values, are presented in Table 1. The variables are either integrated at level 1 (0) or at first difference 1 (1). From the unit root results above, LNFDA and RDO were non-stationary at levels but became stationary at first differences; in contrast, ROA was stationary at levels. This result indicates a mixed order of integration among the variables. This justifies the use of the panel ARDL (Auto Regressive Distributed Lag) model for modeling the relationship between the target variable and the regressors in the study.

Long-run Panel ARDL estimates

Long-run Auto Regressive Distributed Lag (ARDL) estimates indicate a stable relationship between the variables, showing how a 1% change in the independent variable affects the dependent variable in the long run. Table 2 below displays the result of the long-run estimates of Nigeria and South Africa jointly.

Table 2 Results of long-run ARDL estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNFDA	0.2415	0.0832	2.9046	0.0057
RDO	-0.0157	0.0008	-19.9624	0.0000

The long-run equation shows the estimated impact of financial derivatives assets and the ratio of financial derivatives to other money market investments on return on assets (ROA) for Nigerian and South African financial service firms over a 12-year period. The result above showed that financial derivatives assets, with a coefficient of 0.2415 and a p-value of 0.0057, had a positive, statistically significant impact on the return on assets of financial service firms. This implies that the return on assets of the selected financial service firms will increase by 0.2415 units due to a percent increase in financial derivatives assets, implying that the financial derivatives asset has a positive and statistically significant impact on the performance of the selected financial service firms in Nigeria and South Africa in the long run.
The ARDL result above also revealed that RDO (Ratio of financial derivatives to other money-market investments) has a coefficient of -0.0157 and a Prob. 0.0000, made a negative and statistically significant impact on the return on assets of the financial service firms, implying that a unit increase in RDO led to a 0.0157 unit decrease in the performance of the selected financial service firms in Nigeria and South Africa in the long run.

In summary, the results indicate that only LNFDA increases return on assets in the long run. At the same time, RDO significantly reduces return on assets in the long run, meaning that while LNFDA helps improve performance, RDO tends to decrease performance for the selected firms.

Hypothesis testing

HO1: Financial derivatives assets have no significant impact on the performance of listed financial service firms in Nigeria and South African economies.

Given the result of Table 2, financial derivatives assets with a Probability value of 0.0057, which implies the rejection of the null hypothesis and the acceptance of the alternative hypothesis that financial derivatives assets have a statistically significance impact on the performance of listed financial services firms in African economies.

HO2: Ratio of financial derivatives to money market investment has no significant impact on the performance of listed financial service firms in Nigeria and South African economies.

Given the result of Table 2 above, the ratio of financial derivatives to money market investment with a Probability value of 0.0000<0.05, which implies the rejection of null hypothesis that RDO has no significance impact and acceptance of the alternative hypothesis that Ratio of financial derivatives to money market investment has a significant impact on the performance of listed financial services firms in African economies.

The above financial derivatives have a significant impact on the performance of listed financial service firms in African economies.

Discussion

This study aims to examine the impact of financial derivatives inflows on the performance of selected listed financial services firms in African economies, with a focus on Nigeria and South Africa financial services firms. Unit root tests and panel ARDL were used in the study. The Panel Augmented Dickey-Fuller test indicated that the variables exhibit mixed integration orders. This justifies the use of the panel ARDL (Auto Regressive Distributed Lag) model for modeling the relationship between the target variable and the regressors in the study.

The study found that financial derivatives inflows and the performance of listed financial services firms in African economies were bound by a long-run relationship. The discussion of our findings was based on the long-run estimates from the Panel ARDL model. The analysis revealed that, in the long run, financial derivatives inflows have a significant impact on the performance of listed financial service firms in African economies.

Specifically, findings showed that financial derivatives assets have a positive and significant influence on the performance of listed financial service firms in African economies. Given the result of Table 2, financial derivatives assets with a coefficient of 0.2415 and a Probability value of 0.0057, which implies the rejection of the null hypothesis and the acceptance of the alternative hypothesis that financial derivatives assets have a statistically significant impact on the performance of listed financial services firms in African economies. This implies that the cash or assets generated by financial service firms at fair value for investing in financial derivatives, either for trading or hedging purposes, in their daily operations, increase their return on assets in the long run. This finding aligns with those of Uchechukwu & Okafor (2022), Uche-Udo & Okafor (2022), Orie et al. (2022), Adedamola & Shittu (2020), Adigun (2020), Nguru & Kariuki (2018), and Blaise & Mulyungi (2018). That financial derivatives asset has a positive, statistically significant impact on the performance of financial services firms. However, Miloş & Miloş (2022) report contrasting results: their study found that market value is negatively affected by the accumulation of derivative assets. This may be due to differences in geographic location and in how financial service firms utilized the derivatives market.

For ratio of derivatives to other money market investment, given the result of Table 2 above, Ratio of financial derivatives to money market investment with a Probability value of 0.0000<0.05, which implies the rejection of null hypothesis that RDO has no significance impact and acceptance of the alternative hypothesis that Ratio of financial derivatives to money market investment has a significant impact on the performance of listed financial services firms in African economies. The findings revealed that the ratio of derivatives to other money-market investments has a negative, significant influence on the performance of listed financial services firms in African economies. The ratio of derivatives to other money-market investments is not a common variable in empirical literature, the researchers introduced it in course of this study. However, since money market investments are low-risk, highly liquid assets, balancing derivatives with money market assets can affect overall risk management and thus, firm performance if derivatives are not used prudently for hedging.

Implications

The study's results present several policy implications. Since financial derivatives have a positive and significant impact on firm performance, firms should be encouraged to strategically invest in derivatives. Derivatives should not be used solely for speculative purposes but, more importantly, for hedging and risk

management to increase returns on assets over the long term. Since cash or assets from derivatives at fair value drive positive outcomes, policies should emphasize transparency in valuation methods and disclosure. Regulators might require firms to adopt international financial reporting standards related to derivatives to improve market confidence and investor decision-making.

Furthermore, the negative impact of the derivatives-to-money-market-investments ratio suggests that excessive and imprudent use of derivatives relative to other money-market assets can hurt firm performance. Firms should strengthen their internal risk management policies to ensure derivatives are appropriately balanced and predominantly used to mitigate risks rather than amplify them.

Given the complexities of derivatives, firms and regulators alike should invest in training and capacity-building. This will ensure that financial service firms in Africa can use derivatives efficiently and understand the implications of their derivative positions.

Firms should develop policies that promote optimal asset allocation between derivatives and traditional, low-risk investments such as money market instruments. This balance can improve performance by effectively managing liquidity and risk.

Differences in study findings across geographical areas indicate that derivative utilization must consider local market dynamics and regulatory environments. Firms in African economies should develop derivative policies that reflect their specific market liquidity, legal structures, and risk profiles.

These implications highlight the need for financial firms to adopt prudent, well-regulated, and context-sensitive derivative strategies to enhance sustainable corporate performance.

CONCLUSION AND RECOMMENDATION

The use of financial derivatives has a mixed impact on the performance of financial service firms in African economies. While financial derivatives significantly enhance firms' performance, the ratio of derivatives to other money-market investments tends to reduce the performance of financial service firms. Importantly, maintaining a balanced ratio of derivatives combined with low-risk liquid money-market investments can improve firm performance, underscoring the value of prudent risk management and hedging strategies. Overall, the effectiveness of derivatives depends on how they are managed and contextual factors such as market conditions and firm practices.

Based on the study's findings, the following suggestions are offered for the attention of the authorities concerned.

1. Firms should focus on derivative assets that generate fair-value cash inflows, especially those used for effective trading or hedging. Enhancing expertise in derivative valuation and management can help capitalize on these positive effects across different market environments.
2. Firms should combine derivatives with liquid, low-risk money market instruments to optimize risk-return trade-offs. Prudence is key: derivatives should primarily be used as hedging tools rather than speculative investments to enhance risk management and firm performance

REFERENCES

Adam, T. R., Fernando, C. S. & Salas, J. M. (2017). Why do firm engage in selective hedging? Evidence from the gold mining industry. *Journal of Banking and Finance*, 77, 269-282.

Adcock, C., Hua, X., Mazouz, K. & Yin, S. (2014). Derivatives activities and Chinese banks exposure to exchange rate and interest rate movements. *The European Journal of Finance*, 23(7), 727-751.

Adedamola, S. L., & Shittu, I. O. (2020). Financial derivatives and profitability of selected deposit money banks in Nigeria. *ACTA Universitatis Daubius*, 16(11), 54-65.

Ahmed, R. (2021). *A study on the impact of derivatives on bank risk and profitability: Evidence from 25 banks in developed market*. Unpublished MBA Theses.

Alnassar, W. I., Al-shakrchy E. & Almsafr M. K. (2014). Credit Derivatives: Did they exacerbate the 2007 Global Financial Crisis? AIG: Case Study. *Procedia - Social and Behavioral Sciences*, 109:1026-1034doi:10.1016/j.sbspro.2013.12.584.

Asif, R., Hassan, S. & Nisar, S. (2024). Investigating the impact of derivatives on stability in financial performance of banking sector of Pakistan. *Journal of Account and Finance in Emerging Economies* 9(3), 329-336.

Aydin, E. & Tanrioven, C. (2024). Effect of using derivatives on risk management, financial performance and firms' value. *International Journal of Management, Economic and Business*, 20(1).

Bakshi, G. S., Cao, C. & Chen, Z. (2000). Pricing and hedging long-term options. *The Journal of Finance*, 5, 2003-2049.

Black, F., Scholes, M. & Merton, R. C. (1973). The pricing of option and corporate liabilities. *Journal of Political Economics*, 81(3), 637- 654.

Blaise, N. & Muilyuungl, P. (2018). Effect of financial derivatives use on financial performance of commercial bank in Rwanda. *International Journal of Management and Commerce Innovation*, 6(1), 474-480.

Chen, S. (2025). *Research on the impact of financial derivatives on companies in energy industry*. SHS web Conference 218.

Diversification.com (2025). *No arbitrage principle: meaning, criticism and real world uses*. hittp://diversification.com.

Efanga, U. O., Hanson, U.E. & Ekanem, B. C. (2020). Derivatives securities and its impact on the Nigeria stock market. *International Journal of Research and Scientific Innovation*, 7(4), 2321- 2705.

Efanga, U. O., Hanson, U.E., & Ekanem, B. C. (2020). Derivatives securities and its impact on the Nigeria stock market. *International Journal of Research and Scientific Innovation*, 7(4), 2321- 2705.

Ehiedu, V. C. & Nwaokoacha, K. O. (2024). Financial derivative and its effect on financial performance of deposit money bank in Nigeria. *IIARD International Journal of Banking and Finance* 10(1), 43-61.

Eragbhe, E. & Omokhudu, O. O. (2018). Value relevance of financial derivatives: Evidence from Nigeria listed banks. *European Journal of Business and Management*, 10(17), 2222-2839.

Febozzi, F., Modigliani, F., & Ferri, M. (1998). *Foundation of Financial Markets and Institutions*. Prentice Hall.

Gralton, P. (2025). How can derivatives be used for risk management. Investopedia Newsletters.

Guay, W. R. (1999). The impact of derivatives on firm risk: An empirical examination of new derivatives user. *Journal of Accounting and Economics*, 26, 319-351.

Gul, Z. & Reis, S. G. (2021). Financial derivatives and bank risk: Evidence from D8 countries. *Journal of Academic Researcher and Studies*, 13(2) 551-561.

Holm, S. (2024). *Investment triangle: maximizing returns and minimizing risk*. Morpher. https://Morpher.Com/investment.Triangle.

Hull, J. C. (2017). *Risk Management and Financial Institutions*. (6th ed.). John Wiley & Sons.

IMF (1998). *Financial derivatives. Eleventh Meeting of IMF Committee on Balance of Payments Statistics*.

IMF (2000). *Financial derivatives: A supplement to the fifth edition of Balance of Payment manual.*

Iordanashuili, L. (2020). Analysing the Impact of derivatives on emerging market financial stability. *European Scientific Journal*, 6(28).

Knowledge Sharing Program (2018). *Establishment and Operation of Derivatives Market in Nigeria.* Knowledge Sharing Program. Ministry of Economy and Finance, Sejong Korea.

Li, L. & Yu, Z. (2010). The impact of derivatives activity on commercial banks: evidence from us bank holding companies. *Asia Pacific Financial Market*, 17(30), 303-322.

Mishra, B. (2025). Hedging Vs Speculation: The Role of Derivatives Instruments in Risk Management. *International Journal of Multidisciplinary Research*, 7(2).

Moles, P. (2004). *Derivatives*. Edinburgh Business School Heriot-Watt University.

Mullin, L. and Murphy, K. R. (2009). *Management and organizational behavior* (5th ed.). Prentice Hall.

Nguru, K. & Kariuki, P. (2018). Effects of derivatives on performance of firms listed at the Nairobi securities exchange. *The International Journal of Business and Management*, 6(4).

Orie, J. C., Obiora, F., & Orie, S. (2022). Effect of financial derivatives on the performance of deposit money bank in Nigeria stock exchange. *International Journal of Business System and Economics*, 13(5), 88-99.

Osayi, V. I., Kasimu, A., & Nwonta, H. C. (2018). Financial market derivatives and performance of deposit money banks in Nigeria. *International Journal of Economic, Commerce and Management*. 6(11).

Osuaha, J. I., Martin, S. & Osuaha, E. O. (2015). Impact of corporate governance on derivatives usage: empirical evidence from Africa non-financial firms. *British Journal of Economics Management and Trade*, 8(11), 19-31.

Osuala, A. E. (2010). *Econometrics: Theory and Problem*. Toni Prints.

Otero, L., Satomil, P., Marouf, D. & Gil, L. R. I. (2025). *How does the use of derivatives affect bank default risk, performance and value? An examination of European and MENA countries*. http://ssrn.com/abstract=5172398

Owoeye, O., Ambashe, M. & Singh, P. (2023). *Financial derivatives and commercial banks in UAE*. Grow Science Canada accounting

Ponce, L. A., Ramirez, C. G. E. & Martinez. F. (2020). Impact of exchange rate derivatives on stocks in emerging markets. *Journal of Business, Economic and Management*, 21(2), 610-626.

Stulz, R. M. (1996). Rethinking risk management. *Journal of Applied Corporate Finance*, 9, 8-24.

Sundaram, R. K. (2012). *Financial Derivatives in Developed Market.* International Growth Centre, Working paper, Stern School of Business, New York University.

Taskin, D. & Sariyer, G. (2020). Use of derivatives, financial stability and performance in Turkish banking sector. *Quantitative Finance and Economics*, 4(2), 252-273.

Tron, A. and Colantoni, F. (2021). The use of corporate derivatives: effects on firm value in the Italian market. *Corporate Ownership and Control*, 9(1) 55-68.

Uchechukwu, C. J. & Okafor, R. G. (2022). Effect of financial derivatives on performance of commercial banks in Nigeria. *Afro-Asian Journal of Finance Accounting*, 11(6).

Uche-Udo, N. N., & Okafor, M. C. (2022). Financial derivatives and financial performance of listed commercial banks in Nigeria. *Journal of Research in Management and Social Sciences*, 8(2).

Zamzamin, Z. Z., Haron, R., Ulum, Z. A. & Othman, A. (2023). Impact of derivatives user on firms' performance of sharia compliant firm. *International Journal of Business and Society*, 24(1), 1-17.