

Foreign Exchange (Fx) Risk Management Structure and Its Impact on The Capital Adequacy Ratio (Car) of International Licensed Banks in Nigeria

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ABSTRACT

The need for financial stability and the ability to withstand financial crises due to ongoing fluctuations in foreign exchange rates have prompted an assessment of how foreign exchange risk management structures impact the capital adequacy ratio of deposit money banks with international authorization in Nigeria. This study utilized both survey and ex-post facto designs, focusing on the seven deposit money banks licensed for international operations. A sample of 296 staff members involved in foreign exchange trade and related functional units from these banks was studied. A regression model was employed to test the hypothesis. The findings indicated that the foreign currency risk management structure significantly affects the capital adequacy ratio of the selected banks in Nigeria. Consequently, it is recommended that deposit money banks in Nigeria enhance their foreign exchange risk management strategies. They should implement robust management information systems, develop contingency plans, and apply various managerial and analytical techniques to address all forms of foreign risk exposures and transactions. Additionally, banks should consider utilizing other hedging instruments to mitigate their foreign exchange risk exposures.

Keywords: *Capital adequacy ratio; Foreign exchange risk; Depreciation; Exchange rate fluctuation, International licensed banks*

INTRODUCTION

Over the past decade, the Nigerian economy has seen significant policy shifts, particularly in the financial sector. These changes have compelled financial institutions to adopt innovative strategies to maintain stability and effectively navigate financial crises. A critical indicator that banks closely monitor to protect depositors' funds and enhance confidence is the capital adequacy ratio. This ratio equips banks with a substantial financial cushion to absorb losses and promote economic stability. Nevertheless, some banks continue to face challenges with unhedged foreign exchange rate risks, which have negatively impacted their capital adequacy.

It is crucial to address these issues, especially given the notable volatility and depreciation of the Nigerian Naira in recent years. Between 2023 and 2024, the Naira sharply depreciated from approximately ₦460 to ₦1,738 per US Dollar in the unofficial market, while the official rate also fell by about 42% in 2024. By August 2025, the exchange rate stabilized, hovering between ₦1,526 and ₦1,554 per US Dollar after earlier fluctuations (Wise, 2025). These recent exchange rate fluctuations have severely affected import-dependent sectors, increased inflation, and weakened consumer demand, thereby impacting banking performance (Obiukwu & Adurogboye, 2025). Aliyu and Iheonkan (2025) argue that the depreciation of the Naira raises the naira value of foreign-denominated liabilities and operational costs, which in turn squeezes profit margins. This sudden currency depreciation continues to strain the financial positions of banks and heightens their vulnerability to market shocks. Tobal and Menna (2020) further noted that loan defaults tend to rise when businesses, particularly those reliant on imports or foreign currency revenues, face increased costs and financial strain due to exchange rate fluctuations. This situation leads to a deterioration in loan performance and heightened credit risk for banks.

Masvongo, Osman, and Damak (2025) highlight that persistent fluctuations in exchange rates are not merely inconveniences; they are critical drivers of broader inflationary pressures and operational unpredictability, significantly impacting both banks and their clients. These exchange rate volatility issues can severely exacerbate credit losses, compelling the banking sector into tightened lending conditions due to heightened credit risk and the urgent necessity for increased capital buffers to absorb potential losses. This predicament constrains loan expansion and undermines the growth prospects of the banking sector (CBN, 2025).

Moreover, the factors that determine exchange rate stability are largely beyond the control of deposit money banks, posing profound challenges to their intermediation functions. The variability of exchange rates represents a substantial risk to banks, with outcomes that can be either favorable or detrimental. Unfortunately, the Nigerian economy frequently grapples with unfavorable exchange rate fluctuations. As a result, the volatility observed in foreign exchange rates emerges as a significant risk factor for deposit money banks. In severe scenarios, substantial losses in foreign exchange can precipitate bank failures (Lambe, 2015). Even less catastrophic circumstances can lead to Naira depreciation, which increases risk-weighted assets and diminishes capital adequacy for some institutions. Given the pressing nature of foreign exchange risk and its profound implications for banks' financial stability and solvency, assessing banks' foreign exchange risk exposure has become an urgent priority for experts in risk management, academics, and central banks (Kyte, 2002).

To effectively tackle the significant foreign exchange risk inherent in banking operations, this study will investigate robust foreign exchange risk management structures essential for enhancing the capital adequacy ratio of banks in Nigeria. Safeguarding banks' assets and liabilities against volatile exchange rate fluctuations is critical for their long-term stability. This research seeks to evaluate the effectiveness of the measures employed to mitigate risk exposure from foreign exchange transactions during the review period, with the objective of bolstering the overall financial stability and solvency of deposit money banks in Nigeria. Specifically, it will examine the impact of foreign exchange risk management structures on the capital adequacy ratios of these banks.

REVIEW OF RELATED LITERATURE

FX risk management involves a comprehensive approach across the entire bank, utilizing both operational and financial hedges as part of an integrated strategy to mitigate foreign exchange risk exposure. This study is grounded in the International Fisher Effect (IFE) theory, which highlights the relationship among interest rates, exchange rates, and market expectations. The IFE posits that the returns for international investors consist of two key components: the nominal interest rate and fluctuations in the exchange rate. In the long run, an increase in a currency's interest rate is typically followed by a depreciation of that currency, meaning

an increase in the exchange rate (Salas-Ortiz and Gomez-Monge, 2015). The IFE provides a theoretical framework for predicting future currency depreciation or appreciation based on interest rate differentials. Risk managers can leverage these predictions to evaluate the potential likelihood and direction of currency risk. Additionally, the IFE is closely related to the concept of interest rate parity, which serves as the foundation for forward exchange rate pricing. Firms utilize these forward rates in hedging contracts, making the IFE indirectly important for forward pricing strategies and risk assessment (Picardo, 2021).

Foreign exchange risk management structure and capital adequacy ratio

A robust foreign exchange (FX) risk management structure in the banking sector is essential for effectively navigating the complexities of currency fluctuations. This comprehensive framework establishes clear organizational roles, policies, controls, and systems that empower institutions to identify, measure, monitor, and mitigate the inherent risks associated with exchange rate volatility. By implementing a well-designed FX risk management structure, banks can not only safeguard their earnings but also ensure regulatory compliance and enhance their foreign currency operations (Papaioannou, 2006).

Key Components of an FX Risk Management Structure include:

First, Governance and Oversight; the active engagement of the Board of Directors and Senior Management is paramount. Their responsibility includes approving and regularly reviewing the foreign exchange risk policy, ensuring that the strategy is in perfect alignment with the bank's risk appetite and overarching business objectives (Whidbee & Wohar, 1999). Research has shown that effective corporate governance and robust internal mechanisms are critical in addressing FX risks (Omagwa, 2005). Moreover, Hege, Hutson, & Laing (2021) demonstrated that reforms in corporate governance disclosure can significantly enhance FX risk management.

Second, is the Risk Management Policy. This vital component articulates the approved financial instruments, establishes risk limits (such as open position limits by currency), defines the bank's risk appetite, and delineates the mandate for authorized personnel. Additionally, it sets forth detailed procedures for monitoring risk exposure (Eyanuku, 2022; CBN, 2025).

The third key component is the Organizational Setup. Through this, an effective organizational structure strategically distributes risk management responsibilities across distinct units. The Front Office engages in executing FX deals within predefined risk limits, while the Middle Office consists of risk managers who independently monitor, measure, and report all risk exposures. Meanwhile, the Back Office manages settlement, compliance, and record-keeping. All units operate in concert under the coordinated oversight of a centralized treasury department (Al Mansoori, Al Sharafi, Al Mheiri, and Nobanee, 2024).

The fourth key component is Risk Measurement and Limits. Banks establish quantitative limits on their FX exposures, which include overall open position caps, limits by currency, and stop-loss levels. They regularly assess potential losses from exchange rate fluctuations through stress testing, typically considering adverse movements of 10-20% (Papaioannou, 2006; Singh & Gaur, 2021).

The fifth key component is Systems and Reporting. This involves implementing robust IT systems integrated with core banking platforms to provide timely and accurate FX position reports, risk metrics, compliance checks, and management information. Reporting is frequent—often daily—and includes details on exceptions and breaches of limits (Cayman Islands Monetary Authority, 2020; Zhu & Sardana, 2020).

The sixth component focuses on Risk Mitigation Techniques. Banks utilize hedging instruments such as forwards, swaps, options, and other derivatives to manage currency risks. Additionally, they employ strategies like portfolio diversification and currency matching (Damodaran, 2002; Mesler, 2004).

The final component is Control and Compliance. This ensures the establishment of internal controls that

promote adherence to policies. It includes monitoring limits, segregating duties, maintaining authorized dealer lists, and conducting regulatory audits (Ranaldo & Somogyi, 2021). Together, these key components ensure that FX risks are actively managed through clear policies, defined organizational roles, quantitative limits, frequent monitoring, and the use of mitigation instruments, all supported by strong IT infrastructure and regulatory oversight. This approach helps foster favorable outcomes.

The Capital Adequacy Ratio (CAR) is a key financial metric that assesses a bank's capital in relation to its risk-weighted assets. It reflects the amount of capital a bank maintains to cover potential losses and safeguard depositors (Hayes, 2025). CAR serves as an indicator of a bank's financial strength by comparing its capital to its risk-weighted assets (RWAs). Expressed as a percentage of a bank's risk-adjusted credit exposures, CAR is essential for regulators evaluating a bank's risk of failure (Anderson & Juelsrud, 2024). To calculate CAR, one divides the sum of a bank's Tier 1 capital (which includes core capital, such as equity and reserves) and Tier 2 capital (which encompasses supplementary capital like subordinated debt) by its risk-weighted assets. A minimum regulatory CAR of 15% is mandated for all banks and banking groups with international authorization, as well as those classified by the Central Bank of Nigeria (CBN) as Domestic Systemically Important Banks (D-SIBs). For all other banks, a minimum CAR of 10% is required (CBN, 2021).

Exceeding these requirements demonstrates robust risk controls and compliance, which are advantageous for fostering positive regulatory relations and enhancing operational flexibility (OSFI, 2024). The importance of the Capital Adequacy Ratio (CAR) also primarily lies in its function as a key indicator of financial strength, stability, and resilience against losses. Hayes (2025) noted that a higher CAR can improve financial stability and solvency, as it indicates that a bank possesses more capital to absorb potential losses, thereby mitigating the risk of insolvency during financial distress. It serves as a buffer that protects the bank (Saba, Narmeen, Kouser & Khurram, 2018), ensuring that depositors' assets remain secure even in challenging economic times (Kihara & Muturi 2016; Owoeye & Ogunmakin, 2013). By maintaining a strong capital base in relation to its risk-weighted assets, a bank reduces the likelihood of failure and the consequent risk to customer deposits (Greenwood, Hanson, Stein & Sunderam, 2017).

The capital adequacy ratio (CAR) is closely linked to foreign exchange (FX) risk. Currency depreciation can increase risk-weighted assets, particularly for loans and assets denominated in foreign currencies. When banks have unhedged FX exposure, they may incur losses that reduce their capital (Frazer & Pantzalis, 2004; Alaryani, Alameri, Alshamsi & Alghafli, 2024). To address this, regulators such as the Central Bank of Nigeria (CBN) and Basel III impose stricter capital requirements on banks that have significant FX risk. Capital adequacy requirements mandate that banks maintain a minimum capital buffer to protect against the risks they face (IIA, 2025). Regulators often require banks to conduct stress tests to estimate potential losses from unfavorable FX movements, ensuring that they maintain sufficient capital to absorb any resulting shocks.

METHODOLOGY

This study aimed to examine how Nigerian internationally licensed deposit money banks manage foreign exchange risk to enhance their capital adequacy ratios. The focus was specifically on the seven banks that qualify as internationally licensed deposit money banks. These institutions were selected because they operate at the intersection of local and global currency flows and handle significant volumes of cross-border transactions. The research utilised both survey and ex-post facto designs to analyse how the structure of foreign exchange risk management impacts the Capital Adequacy Ratio (CAR) of these banks. The target participants for the survey included bank management and staff from the Foreign Exchange departments in the zonal headquarters of the seven banks. A sample size of 296 individuals was determined using the formula by Yamane (1965) for sample size determination. Bowley's proportional allocation formula was employed to assign quotas to the respective banks. A questionnaire was developed to gather information on the foreign exchange risk management structures and the CAR of each bank, based on the responses from the participants. The CAR data was further validated using the banks' financial statements for the second quarter

(Q2).

This model utilizes primary data on (foreign exchange risk management structure) and secondary data on banks’ capital adequacy ratio for second quarter of 2025. The regression equation is as specified below:

$$CAR = \beta_0 + \beta_1 FXRMS + \varepsilon_1$$

Where:

β_1 = Parameters to the explanatory variables; β_0 = The Intercepts; ε_1 , = Error term.

FXRMS = Foreign exchange risk management structure

CAR= Capital adequacy ratio

The ‘a priori expectations for model one, is:

$\beta_1 > 0$; the implication here is that as FXRMS is higher, CAR is higher in Nigeria,

The questionnaire instrument was validated and reliability test value of 0.8906 was achieved using Cronbach’s coefficient alpha. The regression analysis was used to test the hypothesis and all assumption were based on 5 percent level of significance.

Reliability tests for the questionnaire

| Number | Reliability Test | Value | Remarks |
|--------|------------------|--------|---------------|
| 1 | Cronbach’s Alpha | 0.8906 | Very Reliable |

Source: Field study (2025).

DATA ANALYSIS AND RESULT

Table 1 displays the responses of participants regarding the foreign exchange (FX) risk management structure of deposit money banks that hold international authorization. The analysis of data from 296 respondents shows that the average scores were above 3.9, while the standard deviations were all below one. This indicates a positive response, as the data on effective foreign exchange risk management structures—emphasizing strong governance and comprehensive oversight by the Board of Directors and Senior Management, clear policies with established limits on FX risk exposures, robust risk measurement and monitoring systems through periodic stress testing, segregation of duties, active mitigation strategies, and thorough reporting and compliance processes—was consistently centered around the mean.

Table 1: Descriptive Statistics (FX risk management structure of respondents from deposit money bank licensed with international authorization)

| The following represent an effective FX risk management structure: | N | Minimum | Maximum | Mean | Std. Deviation |
|---|-----|---------|---------|--------|----------------|
| 1. Strong governance and comprehensive oversight by Board of Directors and Senior Management. | 296 | 3.00 | 5.00 | 4.0236 | .65583 |
| 2. Clear policies and establishment of limits on FX risk exposures | 296 | 2.00 | 5.00 | 4.4103 | .86528 |
| 3. Robust risk measurement and monitoring systems through periodic stress testing | 296 | 2.00 | 5.00 | 4.0570 | .72205 |
| 4. Segregation of duties and active mitigation strategies, | 296 | 1.00 | 5.00 | 3.9434 | .64930 |

| | | | | | |
|---|-----|------|------|--------|--------|
| 5. Thorough reporting and compliance processes. | 296 | 2.00 | 5.00 | 4.0503 | .30570 |
| Valid N (listwise) | 296 | | | | |

Source: Field work, (2025)

Table 2: Descriptive Statistics (Capital Adequacy Ratio of deposit money bank licensed with international authorization)

| | N | Minimu m | Maximu m | Sum | Mean | Skewness Std. | Kurtosis Std. |
|--------------------|-----------|-------------|-------------|-----------|-----------|------------------|------------------|
| | Statistic | Statistic | Statistic | Statistic | Statistic | Error | Error |
| CAR | 296 | 15.90 | 34.60 | 6856.20 | 23.1628 | .611 .142 | -.771 .282 |
| Valid N (listwise) | 296 | | | | | | |

Table 2 presents the descriptive statistics for the Capital Adequacy Ratio from the financial report of the seven deposit money banks licensed with international authorization for the second quarter (Q2) of 2025. The mean Capital Adequacy Ratio is 23.1628. The skewness value of 0.611, which measures the symmetry of the variable's distribution, falls between -1 and +1, indicating an excellent distribution. Additionally, a kurtosis value of -0.771 suggests that the distribution is normal.

Table 3: Regression Results between Foreign currency risk management structure on Capital Adequacy Ratio of deposit Banks in Nigeria

| PAT1 | Expected Sign | β (t stat) |
|----------|---------------|-----------------------|
| Constant | | 12.097 (12.245) ** |
| FXRMS | + | 0.193 (3.304) * |
| R Square | | 0.610 |
| F-Test | | 10.917 0.001 |

- a. Predictors: (Constant), FXRMS
- b. Dependent variable: CAR

Table 3 illustrates the impact of foreign currency risk management structures on the capital adequacy ratio (CAR) of deposit banks in Nigeria. The coefficient of determination (R^2) indicates a favorable fit of 0.610, meaning that 61.0 percent of the observed changes in the CAR are explained by variations in the banks' foreign currency risk management structures. The F-statistic shows a significant level, with $F_{cal} = 10.917$, which is greater than $F_{critical} (0.05) = 3.84$. This confirms that the model has reasonable predictive power. Additionally, the t-statistic of $t\text{-stat} = 3.304$ is significant at the 0.05 level ($t (0.05) = 1.96$). Therefore, we conclude that the foreign exchange risk management structure has a significant effect on the capital adequacy ratio of deposit money banks in Nigeria.

SUMMARY AND CONCLUSION

It is well-known that banks face various challenges during periods of market volatility, particularly concerning their foreign exchange (FX) transactions. The effectiveness of certain hedging measures can be limited due to factors such as inflexibility, liquidity and credit risks, regulatory challenges, margin requirements, and the risk of missing favorable exchange rates, all of which can adversely affect a bank's capital adequacy. In addition, unhedged FX exposure can lead to losses that diminish a bank's capital (Alaryani, Alameri, Alshamsi & Alghafli, 2024). The findings of this study indicate that a well-structured FX risk management framework can help banks protect their earnings, maintain regulatory compliance, optimize foreign currency operations, reduce losses, and enhance their capital adequacy ratio. This framework can also aid in hedging against high levels of non-performing loans (NPLs), which can erode capital. Deposit money banks should be proactive in ensuring that their FX risk management structure incorporates oversight from the board and senior management, as well as sound strategy and control. The approach should focus on ensuring that banks maintain a minimum capital buffer against the risks they face and that foreign exchange risks are included in the calculation of risk-weighted assets. Furthermore, banks should adhere to regulatory requirements by conducting stress tests to estimate potential losses from adverse FX movements, ensuring that adequate capital is set aside to absorb such shocks. When these elements are combined with other components of FX risk management, banks will be better positioned to maintain financial stability and protect depositors, even amid unpredictable foreign exchange fluctuations. Therefore, it is recommended that deposit money banks in Nigeria implement robust foreign exchange risk management information systems, develop contingency plans, and employ various managerial and analytical techniques to address all forms of foreign exchange risk exposures and transactions. Additionally, banks should consider utilizing alternative hedging instruments to further mitigate their foreign exchange risk exposures.

REFERENCES

- Al Mansoori, G.H., Al Sharafi, E.A., Al Mheiri, S.M. Nobanee, H. (2024). Foreign Exchange Risk Management: A Comprehensive Literature Review and Mitigation Strategies in Floating Exchange Rate Regimes. Retrieved from https://www.researchgate.net/publication/386147590_Foreign_Exchange_Risk_Management_A_Comprehensive_Literature_Review_and_Mitigation_Strategies_in_Floating_Exchange_Rate_Regimes
- Alaryani, A., Alameri, B. Alshamsi, S. & Alghafli, Z. (2024). Foreign Exchange Exposure and Hedging Strategies: A Case-Based Analysis of MNCs. Retrieved from <file:///C:/Users/MLU%2010/Downloads/ForeignExchangeExposureandHedgingStrategies.pdf>
- Aliyu, I. & Iheonkhan, I. S. (2025). Impact of Exchange Rate on The Profitability of Commercial Banks in Nigeria. International Journal of Economics and Financial Management (IJEFM) E-ISSN 2545-5966 P-ISSN 2695-1932 Vol 10. No. 3 2025 www.iiardjournals.org online version. DOI: 10.56201/ijefm.v10.no3.2025.pg114.127
- Anderson, H. & Juelsrud, R. E. (2024). Optimal capital adequacy ratios for banks. [Latin American Journal of Central Banking](#), 5(2), 1-16
- Cayman Islands Monetary Authority (2020). Statement of Guidance: Foreign Exchange Risk Management. Policy and Research Division. Retrieved from https://www.cima.ky/upimages/regulatorymeasures/SOG-ForeignExchangeRiskManagement_
- CBN (2021). Guidelines on regulatory Capital. Retrieved from <https://www.cbn.gov.ng/Out/2021/BSD/1.%20GUIDELINES%20ON%20REGULATORY%20CAPITAL.pdf>
- Central Bank of Nigeria (2025). Economic Report. Retrieved from <https://www.cbn.gov.ng/Out/2025/RSD/January%202025%20Economic%20Report.pdf>
- Damodaran, A., (2002). *Investment valuation* (2nd ed.). New York: John Wiley and Sons, Inc., 76p.
- Eyanuku, J. P. (2022) An Analysis of Foreign Exchange Risk Management and Profitability of Deposit Money Bank in Lagos, Nigeria. Retrieved from <file:///C:/Users/MLU%2010/Downloads/journallasumanagementmanuscriptmarch2019updated.pdf>

- Frazer, S. P., & Pantzalis C. (2004). Foreign exchange rate exposure of US multinational corporations: a firm-specific approach, *Journal of Multinational Financial Management*, 14(3): 261-281.
- Greenwood, R., Hanson, S.G., Stein, J. C. & Sunderam, A. (2017). Strengthening and Streamlining Bank Capital Regulation. Brookings Papers on Economic Activity, Fall 2017. Retrieved from <https://www.brookings.edu/wp-content/uploads/2018/02/greenwoodtextfal17bpea.pdf>
- Hayes, A. (2025). What Is the Capital Adequacy Ratio (CAR)? Retrieved from <https://www.investopedia.com/terms/c/capitaladequacyratio.asp>
- Hege, U., Hutson, E., & Laing, E. (2021). Mandatory governance reform and corporate risk management. *Journal of Corporate Finance*, 68, 101935. Retrieved from doi:<https://doi.org/10.1016/j.jcorpfin.2021.101935>
- Institute of Internal Auditors (IIA) (2025). Auditing Capital Adequacy and Stress Testing for Banks: Global Practice Guide. The Institute of Internal Auditors, Inc. All rights reserved. Retrieved from https://www.theiia.org/globalassets/site/content/guidance/recommended/supplemental/practice-guides/global-practice-guide-auditing-capital-adequacy-and-stress-testing-for-banks/gpg_auditing_capital_adequacyand_stress_testing_for_banks_3rd_edition.pdf
- Kihara, M. and Muturi, w (2016) Foreign Exchange Risk Management Techniques on The Financial Performance of Commercial Banks in Kenya. *International Jprnal of Social Sciences and Information Technology* 2(4), 23-34.
- Kyte, A. (2002). The hedging imperative: making the choices. *Balance Sheet*. 10(2): 32-40.
- Lambe, I. (2015). Assessing the Impact of Exchange Rate Risk on Banks Performance in Nigeria. *Journal of Economics and Sustainable Development*, 6(6):1-13.
- Masvongo, C., Osman, A., & Damak, M. (2025). Nigerian Banking Outlook: Resilient Performance Amid Macroeconomic Pressures. Copyright © 2025 by Standard & Poor's Financial Services LLC. All rights reserved. Retrieved from <https://www.spglobal.com/assets/documents/ratings/research/101612115.pdf>
- Obiukwu, F.E.& Adurogboye O. A. (2025) Effect of Exchange Rate Fluctuation on the Growth of SMES Performance In Nigeria (2013-2024) *Lagos Journal of Banking, Finance & Economic Issues*, 6(1), 102-114.
- Omagwa, J. O. (2005). Risk management techniques by foreign owned Commercial Banks in Kenya. Retrieved from <http://erepository.uonbi.ac.ke:8080/>
- OSFI (2024). Capital Adequacy Requirements (CAR): Chapter 1 – Overview of Risk-based Capital Requirements. Retrieved from <https://www.osfi-bsif.gc.ca/en/guidance/guidance-library/capital-adequacy-requirements-car-2024-chapter-1-overview-risk-based-capital-requirements>
- Papaioannou, M. (2006). Exchange rate risk measurement and management: Issues and approaches for firms. IMF Working Paper WP/06/255 Retrieved from www.imfworkingpaperswp/06/255 23/7/2019.
- Picardo, E. (2021). Using Interest Rate Parity to Trade Forex. Retrieved from <https://www.investopedia.com/articles/forex/08/interes-rate-parity.asp>
- Ranaldo, A., & Somogyi, F. (2021, May). Asymmetric information risk in FX markets. *Journal of Financial Economics*, 140(2), 391-411. Retrieved from doi:<https://doi.org/10.1016/j.jfineco.2020.12.007>
- Saba, I., Narmeen, S., Kouser, R., Khurram, H. (2018). Why Banks need adequate Capital Adequacy Ratio? A Study of Lending & Deposit Behaviors of Banking Sector of Pakistan. *Journal of Accounting and Finance in Emerging Economies*, 4(1)11-26
- Salas-Ortiz, A. and Gomez-Monge, R. (2015). [Finding International Fisher effect to determine the exchange rate through the purchasing power parity theory: the case of Mexico during the period 1996-2012. *Applied Econometrics and International Development*, Euro-American Association of Economic Development, 15\(1\): 97 – 110.](https://doi.org/10.1016/j.appecon.2015.07.007)
- Singh, D., & Gaur, A. S. (2021). Risk mitigation strategies in international B2B relationships: Role of institutions and governance. *Journal of Business Research*, 136, 1-9. doi:<https://www.sciencedirect.com/science/article/abs/pii/S0148296321004999>
- Tobal, M. & Menna, L. (2020). Monetary policy and financial stability in emerging market economies. [Latin American Journal of Central Banking](https://doi.org/10.1016/j.lambs.2020.100001), 1(1),

- Whidbee, D.A., and Wohar, M. (1999). Derivative activities and managerial incentives in the banking industry. *Journal of Corporate Finance*, 5(3), 251-276.
- Wise Payments Limited (2025). US dollar to Nigerian Naira's Historical Exchange Rates. Retrieved from <https://wise.com/gb/currency-converter/usd-to-ngn-rate/history>
- Zhu, Y., & Sardana, D. (2020). Multinational enterprises' risk mitigation strategies in emerging markets: A political coalition perspective. *Journal of World Business*, 55(2), 101044. doi:<https://doi.org/10.1016/j.jwb.2019.101044>