

**RISK TRANSFER MECHANISMS AND BANK'S PERFORMANCE IN NIGERIA:
A DYNAMIC PANEL PERSPECTIVE**

**¹SOYEBO, Yusuf Aina, Matthew Adeolu ABATA, Godwin OMOREGBEE, Babatunde
Sulaiman ADEYEMI**

¹. *Department of Banking & Finance, Lagos State University, Nigeria*

². *Department of Accounting, Lagos State University, Nigeria*

Citation: Soyebó Y.A. Abata M.A, Omoregbee G & Adeyemi B.S (2024). Risk Transfer Mechanisms and Bank's Performance in Nigeria: A Dynamic Panel Perspective. *Fuoye Journal of Accounting and Management* 6(2)14-24

ABSTRACT

This study examined the influence of risk transfer mechanisms on economic performance of selected Deposit Money Banks in Nigeria using measures such as insurance premium, portfolio investment and pledged asset while performance was captured using return on asset and investment. The study adopted an ex-post facto research design with a census of eight (8) commercial banks with international authorization license by the Central Bank of Nigeria based on their wide range of expertise and experience. The study gleaned the required data from the annual reports and account of these DMBs between 2012 and 2022. The obtained data were explored using the Fully Modified Ordinary Least Square regression technique after the stationarity test indicated a first difference stationarity. The panel FMOLS results showed that risk transfer mechanism such as portfolio investment and insurance premium have positive long run influence on the return on asset of DMBs while pledged asset has a negative influence on return on asset. Thus, the study recommended that risk transfer mechanism such as insurance and portfolio diversification should be explored.

Risk Transfer, Insurance Premium, Portfolio Investment, Pledged Asset, Financial Performance.

1.0 INTRODUCTION

Over the years, various financial and economic crisis have impacted the world economies, contributing to the economic failure of several nations and the dissolution of numerous well-known international organizations. The Nigeria economy is not insulated against these challenges as she shared from the opportunities and dangers include risk, arising from global activities which might have a resultant influence on the economy. The financial sector in Nigeria is dominated by the banking sector and they are in the business of

accepting risk in exchange for a fee since risk and commercial operations go hand in hand. The degree of a company's risk varies depending on how exposed it is, yet exposure inspires risk management in and of itself. As a result, it is essential to effectively manage risks associated with bank operations. Banks may successfully manage their risks by acquiring the required mechanism as a vehicle for transferring risks (Chukwunulu, Ezeabasili, and Igbodika, 2019).

These risk transfer mechanisms have the potential to improve financial performance by spreading out exposures, but there are worries that they might also result in risks being more concentrated and opaquer. Concern has been raised, in particular, about the fact that a small number of major firms currently control a large portion of the industry. Furthermore, market participants on the demand side may take excessive risks in industries where they lack experience in risk management and risk pricing. Companies can lessen the adverse monetary effects of an unpredictable occurrence or potential economic loss using insurance as a tool. Insurance lessens the effect of some financial loss on businesses, because it is a mechanism facilitate risk transfer to a certified company through periodic premium payment (Blunden and Thirlwell, 2010)

Insurance is a formal approach to managing the adverse prospects of risk possible financial loss aided by risk transfer created through the scientific approach of large number theorems. These exploits monetized instrument and economies of scale in creating a feasible risk management apparatus and compensation mechanism at minimum cost through contingent plans shared amid several participant (Jarvis, 2009). Basically, risk management involves a systematic identification, measurement, control, funding, and transfer of risks that endanger banks' viability. This involves transferring risks to another party, such as insurance company, and acceptance of some or all of the consequences of risk exposures are some of the risk management options accessible to banks in the Nigerian banking sector. Risk transfer mechanisms are strategies used by individuals, businesses, and organizations to shift or share the financial consequences of potential risks to another party. While these mechanisms can provide some benefits, they also come with their own set of problems and challenges (Younes, 2022).

Even if a risk is eventually transferred from one party to another, the party accepting the risk may not behave responsibly or with adequate caution since they are not fully responsible for the risk's effects. Due to moral hazard, the party taking on the risk may behave in riskier ways or neglect to use effective risk management techniques. Adverse selection may also happen in insurance and other risk transfer agreements when the party taking on the risk finds up owning a disproportionate amount of high-risk people or assets (Chukwunulu, et al. 2019). This may result in larger-than-anticipated losses for the risk-taker and higher premiums or the cancellation of insurance. Risk transfer strategies usually involve fees like transaction costs,

insurance premiums, or overhead expenses. These expenses can build up and, in certain instances; they can even be more than the advantages of the risk transfer. Which result in certain risk transfer methods being complicated and opaque, such financial derivatives, which may be quite complex and challenging to completely comprehend. This intricacy raises the total risk exposure by creating room for misconceptions and unforeseen outcomes (Younes, 2022).

Risk transfer systems occasionally might concentrate risk in certain industries or organizations, resulting in systemic risk. For instance, the 2008 global financial crisis was influenced by the extensive usage of certain financial derivatives. Additionally, some risks, such as catastrophic occurrences like wars, nuclear catastrophes, or specific categories of natural disasters, are intrinsically difficult to insure or impossible to do so. Finding appropriate risk transfer methods in such circumstances might be difficult or expensive. Over time, the original risk holder may lose direct control over risk management tactics when risks are transferred to third parties. This lack of control might raise questions regarding the suitability and efficacy of risk reduction measures (Younes, 2022). Risk transfer systems occasionally may also give rise to ethical questions, particularly when they include disadvantaged groups or potential environmental issues. It could be viewed as unjust or exploitative to transfer risks to others who are less equipped to endure the repercussions. While certain types of hazards can be effectively managed through risk transfer mechanisms, it is crucial to thoroughly consider the drawbacks and trade-offs of each strategy. A more effective risk management framework may be produced by varying risk management techniques and including risk transfer with risk retention and risk avoidance methods.

As a result, risk transfer is a managerial tactic employed to minimized operational hazards in the Nigerian banking sector. Wagner (2007) contends that improved bank asset liquidity brought on by credit risk transfer strategies makes banks safer. According to Allen and Carletti's (2006) model, the improvement in risk sharing is a direct result of the movement of credit risk from the banking to the insurance sectors. According to Shin (2009), securitization, is a popular tool for credit risk transfer, which allows a system-wide credit expansion that may cause financial instability by lowering lending requirements. The study by Van Oordt (2014), explored whether risk sharing across financial institutions via the exchange of tranches in securitizations improves financial performance. These findings support those of Shaffer (1994) and Wagner (2010), who found that the financial system's linear risk sharing raises the chance of joint failure.

Why empirical data usually yields conflicting outcomes in the Nigerian banking sector is still a mystery. These opposing results show that there is still disagreement on risk transfer mechanisms and bank performance, due to the contradictory findings, the issue of the performance in the banking

sector is open to further research. The difference in the time period and strategy has an impact on the findings as well. This study attempts to fill the vacuum created by the contradictory findings and conclusions of previous studies by incorporating more comprehensive and intelligible components, a risk transfer mechanism analysis, and an examination of bank performance. Given the aforementioned, this study is being conducted to determine whether it will provide a different result from previous research while critically analyzing the components of the risk transfer mechanism and their influence on bank performance in Nigeria.

2.0 LITERATURE REVIEW

The emergence of risk transfer mechanism has created a rapid alteration in the existing operation of modern business biosphere, while the outcomes various research efforts in this regard failed to yield a famous conclusion in terms of firm performance. Research by Yu (2000); Gieseche (2004); Rejda (2011); Kargi (2011); Epure and Lafuente (2012) to mention a few have statistically proven that there are various risks that have significant effect on the performance of the bank. They have supported the assertion that necessitated risk management in all institutions. Thus, the study of risk transfer mechanisms and the performance of financial institutions became imperative.

Li (2007) exploited the implication of profitability on risk management practices in United Kingdom between 1999 to 2006, the result revealed that risk management practices does not influence profitability. Similarly, Jafari, Aghaei Chadegani and Biglari, (2011) studied risk management and financial performance on the Tehran Stock Exchange between 2003 and 2008, the result of the various statistical analysis revealed that there is a constructive and relevant connection between risk management commitments and firm performance reported on the exchange. The study by Rehman, Baloch, Afeef and Saleem, (2015) also studied the interaction between risk management practices and information sharing vis-à-vis the attainment of desired performance. The result revealed that there is a direct and important linkage between risk management practices, information sharing and the attainment of desired performance. Also, Olusanmi, Umuigbe and Umuigbe (2015) studied the influence of risk management on bank's business performance concentrating on Deposit Money Banks activities, they reported that there is no meaningful interaction between risk management practice and bank performance. While, Olalere and Wan (2016) submit that poor risk management stunt profitability and further hinders organizational growth. This substantiates the claim of Vadora (2005) that inadequate risk management is the root cause of banking crisis.

However, it was discovered from the review of literature that most of these studies focused on risk management practices from the identification and assessment lens, leaving out risk transfer mechanism which is an integral

aspect of risk management and a vital means of treating identified risk. Although, some researchers such as (Nwakoby et al 2020; Brigham and Houston, 2017; Nguyen, 2015; Costa and Singh, 2013) have researched into risk transfer tool or technique in the management of specific risk but no holistic approach to this was discovered in the review. Oke, Kolapo and Ayeni, (2012) studied the use of insurance to reduce credit risk and observed that transferring credit risk to insurance company through securitization relieves the bank from monitoring the borrower and eliminates most hazardous effect on specific assets.

Also, Srivastava (2010) studied credit derivatives usage on credit risk management; he observed that derivatives are efficient means to guide against credit risk in order to cover risk of default or other credit- return relationship. Nova, Cerqueira and Brandão, (2015) also concluded that financial instruments such as forward and swap contracts can increase firm' s value, while Costa and Singh (2013) observed that such financial instruments does not influence firm' s value. Nguyen (2015) reported that risk management in form of hedging can increase company' s value but not statistically significant. Younes (2022) explored the prevalence and effectiveness of credit risk transfer on bank liquidity, risk and profitability using selected banks in the United States of America between 2001 and 2017. The results of the examination showed the complete position of banks' risk during the period investigated as it erodes their liquid assets and increase productivity, while the adoption of credit derivatives as a risk transfer mechanism does not inhibit stability and performance. Thus, this study is carried out to holistically examine the influence of risk transfer mechanisms which is an integral part of a successful risk management strategy on the financial performance of Deposit Money Banks with international authorization license in Nigeria.

3.0 METHODS AND MATERIALS

The study adopted ex-post facto research approach due to the quantitative exploration of existing economic data. It also used various preliminary, diagnostic, and inferential statistical analysis in assessing the relationship between risk transfer mechanism and bank performance in Nigeria. The preliminary and diagnostic results showed fact on the structures of the variables while the inferential statistics facilitates the computation of the nature of the relationship between the selected measures of risk transfer mechanism and bank performance in Nigeria.

The study population comprised all eight (8) Deposit Money Banks (DMBs) licensed with international authorization using their reported financial operations in Nigeria. Thus, a census of all the eight (8) Deposit Money Banks that operates between 2011 and 2022 were used while the data set will measure data such as the portfolio investment, Insurance premium, pledged asset, treasury investment and total equity of banks in Nigeria.

This study used secondary data which were obtained from the financial positions and operations of the selected DMBs between 2011 and 2022. The obtained data were decomposed to half-year activities to have adequate dataset crucial to facilitate required statistical analysis and explanation of connection concerning risk transfer mechanism and bank performance in Nigeria. The explanatory variables as suggested by the portfolio theory (Allen and Carletti, 2006) the portfolio investment, insurance premium, pledged asset, treasury investment and total equity. The dependent variables return asset and investment. The underlining model for this study is given as:

$$Y_{it} = \lambda_0 + \lambda_1 X_{i1} + \lambda_2 X_{i2} + \lambda_3 X_{i3} + \lambda_4 X_{i4} + \lambda_5 X_{i5} + \epsilon_i \text{ --- equation 1}$$

Where Y = Return on Asset, Return on Investment

λ_0 = Intercept

X_1 = Portfolio Investment

X_2 = Insurance Premium

X_3 = Pledged Asset

X_4 = Treasury Investment

X_5 = Total Equity

ϵ = Error term

λ_{1-5} = Coefficients

The study adopted Panel Fully Modified Ordinary Least Square (PFMOLS) approach to in assessing the relationship between risk transfer mechanism and bank performance base on the result of Unit Root and Panel Cointegration Tests. The Panel FMOLS regression model stipulates the mathematical interaction of the connection between variables. It comprises the Panel FMOLS regression factors, standard errors, t-statistics, multiple correlation coefficient as well as the coefficient of determination. All the obtained results are presented in the subsequent section.

4.0 RESULT AND DISCUSSION

1.1 Table 1: Levin, Lin and Chu t* (LLC) Unit Root Results

Variables	Level		First Difference		Stationarity
	Statistic	Prob.	Statistic	Prob.	
Portfolio investment	1.25668	0.8956	-22.7917	0.0000**	I(1)
Insurance premium	1.67693	0.9532	-15.1698	0.0000**	I(1)
Pledged asset	1.74255	0.9593	-6.60723	0.0000**	I(1)
Treasury investment	1.46424	0.9284	-10.9918	0.0000**	I(1)
Total equity	2.78588	0.9973	-11.2499	0.0000**	I(1)
Current ratio	-1.46001	0.0721	-12.2081	0.0000**	I(1)
Return on asset	-2.07096	0.0692	-11.7961	0.0000**	I(1)
Return on investment	-2.09679	0.0680	-11.3492	0.0000**	I(1)

1.3 Table 3: Kao Residual Cointegration Result

	t-Statistic	Prob.
ADF	-7.002769	0.0000
Residual variance	548119.3	
HAC variance	488942.5	

Source: Author's Computation Using E-views 10

Table 3 revealed a Kao ADF statistic of -7.003 with a likelihood of 0% which is less than 5%. Level of significance implies that there is a long run cointegration among the specified variables. This was strongly supported by the result of the Trace and Maximum Eigenvalue cointegration result shown in table 4 below:

1.4 Table 4: Trace and Max-Eigen Cointegration Result

Hypothesized No. of CE(s)	Trace test		Max-Eigen	
	Statistics	Prob.	Statistics	Prob.
None	459.1	0.0000	316.3	0.0000
At most 1	229.8	0.0000	112.9	0.0000
At most 2	152.5	0.0000	83.49	0.0000
At most 3	132.7	0.0000	81.70	0.0000
At most 4	46.04	0.0003	54.23	0.0025

Source: Author's Computation Using E-views 10

Table 4 revealed the Trace and Maxi-Eigen statistics of 459.1 and 316.3 which were significant at 95% confidence level respectively. This implies that is a long run cointegrating relationship among variables such as DMBs portfolio investment, insurance premium, pledged asset, treasury investment, etc. Based on the results presented in table 1 to 4 above, all the conditions required for using a dynamic panel statistical technique have been fulfilled, hence the study adopted a panel FMOLS, and the results are presented in table 5 below:

1.5 Table 5: Panel Fully Modified Least Squares (FMOLS) Result

Dependent Variable: Return on Asset

Method: Panel Fully Modified Least Squares (FMOLS)

Variable	Coefficie nt	Std. Error	t- Statistic	Prob.
Portfolio Investment	0.050630	0.006706	7.550436	0.0000
Insurance Premium	0.026621	0.003795	7.014572	0.0000
Pledged Assets	-0.084392	0.004406	-19.15199	0.0000
Treasury Investment	-0.009876	0.003365	-2.935428	0.0046
Total Equity	-0.049128	0.011638	-4.221404	0.0001

		Mean	dependent
R-squared	0.425630	var	0.037226
		S. D.	dependent
Adjusted R-squared	0.322758	var	0.067469
		Sum	squared
S. E. of regression	0.055524	resid	0.206552
Long-run variance	0.000110		

Source: Author's Computation Using E-views 10

**Significant at 5% level of significance*

Table 5 showed the computed Panel FMOLS statistical values and influence of specified independent variables such as portfolio investment, insurance premium, pledged asset and treasury investment on the return on asset of the DMBs. It revealed that an increase in the value of variables such as portfolio investment (0.0506, $p < 0.05$) and insurance premium (0.0266, $p < 0.05$), will result into a rise in the size of return on asset while such change in pledged asset (-0.0843, $p < 0.05$), and treasury investment (-0.0096, $p < 0.05$) will result into a decrease in the return on asset in the long run. Similarly, the value of coefficient of determination (R-square) indicated that 42.56% of fluctuations in return on asset were traceable to volatilities in portfolio investment, insurance premium, pledged asset and treasury investment while the remaining 57.46% arose from factors beyond the scope of this study.

1.6

1.7 Table 6: Panel Fully Modified Least Squares (FMOLS) Result

Dependent Variable: RETURN ON INVESTMENT

Method: Panel Fully Modified Least Squares (FMOLS)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PORT INVESTMENT	0.049540	0.006575	7.534228	0.0000
INSURANCE PREMIUM	0.026597	0.003721	7.147016	0.0000
PLEDGED ASSET	-0.084408	0.004321	-19.53498	0.0000
TREASURY INVESTMENT	-0.009159	0.003299	-2.776201	0.0071
TOTAL EQUITY	-0.048152	0.011412	-4.219455	0.0001

		Mean	dependent
R-squared	0.407343	var	0.038026
		S. D.	dependent
Adjusted R-squared	0.301196	var	0.067593
		Sum	squared
S. E. of regression	0.056504	resid	0.213911
Long-run variance	0.000106		

Source: Author's Computation Using E-views 10

**Significant at 5% level of significance*

Table 6 showed the computed Panel FMOLS statistical values and influence of specified independent variables such as portfolio investment, insurance premium, pledged asset and treasury investment on the return on investment of the DMBs. It revealed that an increase in the value of variables such as portfolio investment (0.0495, $p < 0.05$) and insurance premium (0.0265, $p < 0.05$), will result into an increase in the return on investment in the long run while a similar change in pledged asset (-0.0844, $p < 0.05$), and treasury investment (-0.00915, $p < 0.05$) will result into a decrease in the return on investment in the long run. Similarly, the coefficient of determination (R-square) value of 0.4256 indicates that 42.56% of variations in return on investment are attributable to changes in variables such as portfolio investment, insurance premium, pledged asset and treasury investment.

CONCLUSION AND RECOMMENDATIONS

This study concluded that risk transfer mechanism through portfolio investment, and insurance premium have a direct and significant influence on the operational outcome of selected financial institution in Nigeria on the long run. On the converse, measures such as pledged asset and treasury investment have negative and significant influence on performance. These implies that risk transfer mechanisms have both desirable and undesirable influence on bank performance. It has made a meaningful contribution to knowledge as there was a dearth in literature with respect to this study prior to this study. It showed that various risk transfer mechanism has long run effect on financial performance of DMBs with international authorization licensing in Nigeria. This study, after all observation has discovered that risk transfer mechanism is an essential part of risk management that has the prospect of influencing financial performance. This submission is in divergence with the studies of Umuigbe and Umuigbe (2015), Chukwunulu, et al (2019), Li (2007) who reported that risk management practices have no significant influence on firm financial performance.

Based on the submissions above, it is recommended that financial institutions in Nigeria should be proactive and conscious of long run effects of risk transfer mechanism on their firm so as to enjoy the tenet of the theory underlining this study which suggested that financial investments should be assessed based on the dynamics of each project expected returns and standard deviation and the decisions should be scientific justified. Similarly, DMBs should explore the combined influence of risk transfer mechanism and other conventional risk management tools in order to attain optimal results.

REFERENCES

- Allen, F., and Carletti, E. (2006). Credit risk transfer and contagion. *Journal of Monetary Economics*, 53(1): 89 - 111.
- Brigham, E. F., and Houston, J. F. (2017). Fundamentals of financial management: Concise, (Nineth). *Cengage Learning*.
- Chukwunulu, J. I., Ezeabasili, V. N., and Igbodika, M. N. (2019). Risk Management and the performance of commercial banks in Nigeria (1994-2016). *IIARD International Journal of Banking and Finance Research*, 5(1), 64-71.
- Epure, M., and Lafuente, I. 2012. *Monitoring performance in the presence of risk* (No. 613). Working Paper.
- Giesecke, K. (2004). Credit risk modeling and valuation: An introduction. *Available at SSRN 479323*.
- Harelimana, J. B. (2017). Effect of diversification on portfolio risk management at Rwanda social security board. *Journal of Corporate Governance Research*, 1(1), 16.
- Jafari, M., Aghaei Chadegani, A., and Biglari, V. (2011). Effective risk management and company's performance: Investment in innovations and intellectual capital using behavioral and practical approach. *Journal of economics and international finance*, 3(15), 780-786.

- Jarvis, P. (Ed.). (2009). *The Routledge international handbook of lifelong learning* (19–30). London: Routledge.
- Kargi, H. S. (2011). Credit risk and the performance of Nigerian banks. *Ahmadu Bello University, Zaria*.
- Knight, F. H. (1921). *Risk, uncertainty and profit* (31). Houghton Mifflin.
- Oke, M. O. Kolapo, T. F., and Ayeni, R. K. (2012). Credit risk and commercial banks' performance in Nigeria: A Panel Model Approach. *Australian journal of business and management research*, 2(2), 31
- Li, Y. (2007). Determinants of banks' profitability and its implication on risk management practices: Panel evidence from the UK in the period 1999–2006.
- Nguyen, P., and Nguyen, A. (2015). The effect of corporate social responsibility on firm risk. *Social Responsibility Journal*, 11(2), 324–339.
- Nova, M., Cerqueira, A., and Brandão, E. (2015). Hedging with derivatives and firm value: Evidence for the nonfinancial firms listed on the London Stock Exchange. *Research Work in Progress*, 1(12), 1–47.
- Nwakoby, N. P., Okoye, J. N., Ezejiofor, R. A., Anukwu, C. C., and Ihediwa, A. (2020). Electronic banking and profitability: Empirical evidence from selected banks in Nigeria. *Journal of Economics and Business*, 3(2).
- Rehman, A., Baloch, Q. B., Afeef, M., and Saleem, M. (2015). Relationship between information sharing and risk management practices with financial performance: Evidence from Pakistani banking sector. *Journal of Managerial Sciences Volume IX Number, 2*, 139.
- Rejda, G. E. (2011). Principles of risk management and insurance, Person Edition. *Inc., Prentice Hall, New Jersey*.
- Shaffer, S. (1994). A revenue-restricted cost study of 100 large banks. *Applied Financial Economics*, 4(3), 193–205.
- Shin, H. S. (2009). Securitisation and financial stability. *The Economic Journal*, 119(536), 309–332.
- Srivastava, S., and Srivastava, D. (2010). Interest rate derivatives in Indian banks. *Serbian Journal of Management*, 5(1), 111–125.
- Van Oordt, M. R. (2014). Securitization and the dark side of diversification. *Journal of Financial Intermediation*, 23(2), 214–231.
- Wagner, W. (2007). International risk sharing and government moral hazard. *Open Economies Review*, 18, 577–598.
- Wagner, W. (2010). Diversification at financial institutions and systemic crises. *Journal of financial intermediation*, 19(3), 373–386.
- Younes R. (2022). Investigation on the credit risk transfer effects on the banking stability and performance, *Cogent Economics and Finance*, 10(1)
- Yu, H. C. (2000). Banks' capital structure and the liquid asset - policy implication of Taiwan. *Pacific Economic Review*, 5(1), 109–114.

