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Impact of Monetary Policy on Financial Risks in Nigerian Banking Industry

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Abstract:

The study examines how monetary policy affects financial risks in the Nigerian banking sector. The study's goal is to demonstrate the monetary policy's major influence and significance on credit risk, market risk, and operational risk. The study was conducted as a result of the issue that monetary policy would just raise market volatility and undermine its own credibility. The market would not contribute in any way to the successful implementation of monetary policy or the pursuit of price stability. The outlook for the economy and cost extensive have drawbacks. Hence, the direction of financial stability and price stability actions normally go in the same direction and contention between both branches is rather questionable. The study adopted a quantitative method research design only since the variables can be measured and quantified. The population of the study consisted of 24 deposit money banks in Nigeria. Secondary data were obtained from annual reports and statements of accounts of six banks. The sampled banks were selected using judgemental sampling techniques. The financial statement was analysed through Ordinary Least Square (OLS) regression analysis facilitated by applying Econometric views (Eviews). The reports were made based on the results of the tables. The finding revealed that monetary policy significantly impacts non-performing loans, equity prices and the number of employees. The study recommends that further research should be carried out using other banking sectors, such as microfinance and companies.

Keywords: Risk management, non-performing loan, financial risks, monetary policy, price stability

1. Background to the Study

Monetary policy is one of the macroeconomic instruments with which nations do manage their economies (Nenbe, 2014). Monetary policy deals with the flexible control of money supplies by monetary authorities to achieve the desired economic goal. It could be seen that the cash approach includes those administration activities which are outlined in endeavour to change the impact of the conduct of money-related segments of an economy.

Monetary policy uses central bank tools, such as open-market operations, discount rates, and reserve requirements, to influence a nation's money supply and interest rates. It is primarily used to achieve particular economic goals, such as price stability, full employment, a low inflation rate and economic growth (Akeem, Taiwo, Augustine, Edinaeval, & Olawumi, 2022). By controlling the money supply and interest rates, monetary policymakers can maintain stability in the general price level and economic activity or stimulate the economy when necessary. In addition, monetary policy can also be used to reduce the risk of economic crises, such as bank runs and currency devaluations.

Low-interest rates make it less profitable for savers to save and for lenders to lend. This has an impact on borrowers' creditworthiness and makes it harder for businesses to acquire credit in a competitive credit market. Low-interest rates also make it less desirable for businesses to invest, which lowers the demand for borrowing and could increase credit risk.

Low-interest rates can increase asset prices and spark price bubbles, which raises the risk of default for borrowers who could be enticed to put up inflated assets as security. Additionally, by providing higher rates on investments or loans to raise profits, loose monetary policy may encourage banks and other financial institutions to assume bigger risks in their lending and investment activities. The likelihood that the assets or debts may default may rise as a result of this.

Easy monetary policies can boost debt accumulation, and as a result, credit risk may rise when borrowers find it harder to pay off their debts in the long run. In the case of specific non-standard monetary policy activities during a financial crisis, the distinction between operational risk and some monetary policy instruments can become less clear. The direction of financial stability and price stability measures typically go in the same direction, and a disagreement between both branches is fairly dubious in such a situation since the prognosis for the economy and cost extensive has drawback risks.

1.1. Objectives of the Study

This study basically aims to:

- Examine the impact of monetary policy on financial risk in the Nigerian banking sector,
- Evaluate the relationship between monetary policies and market risk in the Nigerian banking industry,

- Determine the impact of monetary policies on credit risk management of Nigerian banks,
- Identify the importance of monetary policy on operational risk in Nigerian banks.

2. Literature Review

Monetary policy has long been associated with the management of financial risks. In recent years, the increased interconnectedness of global financial markets and systemically important financial institutions has given rise to macroprudential policies aimed at preventing or mitigating systemic risks associated with large-scale monetary and financial imbalances. When the economy enters a bad economic cycle or a time of instability, the effectiveness of monetary policy and financial risk management becomes very apparent. In order to calm financial markets and encourage expenditure in the early phases of an economic crisis, central banks often intervene by decreasing interest rates and injecting liquidity. Lowering the cost of funding and borrowing aids in supplying the financial markets with much-needed liquidity, either directly or indirectly. Additionally, to lessen financial market volatility and manage systemic risk, central banks employ a wide range of tools (such as asset purchases, balance sheet regulations, and special deposit facilities).

On the contrary, monetary policy may also be detrimental to the control of financial risk. The cost of borrowing can rise due to monetary policy, which also reduces the amount that enterprises can borrow (Desalegn, Fekete-Farkas, & Tangl, 2022). This may result in less spending and investment by businesses, which would make it harder for corporate executives to manage risks. In addition to making it harder for firms to access working capital and manage their cash flow, higher borrowing prices can also make it riskier for them to conduct business. Additionally, higher interest rates can cause the currency to appreciate, which might make it harder for domestic companies to compete internationally and raise business risks.

The literature on the effects of monetary policy on financial risks has been extensive. Monetary policy has been used as a tool to reduce the risk of financial instability (Bhar & Malliaris, 2021), promote macroeconomic stability (Chugunov, Pasichnyi, Koroviy, Kaneva & Nikitishin, 2021; Akinyede, 2018), and mitigate systemic risk (Kou, Chao, Peng, Alsaadi, & Herrera-Viedma, 2019). Many studies have found that changes in monetary policy can affect financial risk-taking behavior, asset prices, and financial stability (Bauer, Bernanke, & Milstein, 2023; Grimm, Jordà, Schularick, & Taylor, 2023).

The impacts of unconventional policies, such as extensive asset purchase programs, on financial risk-taking behaviour were also investigated by Kannan & Kapur in 2019. They found that unconventional policies might promote more risk-taking, which might be bad for financial stability. Overall, there is ample proof that modifications to monetary policy can affect asset values, financial stability, and risk-taking behaviour. However, depending on the state of the economy and the chosen policy, the precise effects may vary. Overall, there is strong evidence that monetary policy changes can have an impact on asset prices, financial stability, and risk-taking behaviour. The specific impacts, however, can change based on the economic climate and the sort of policy implemented.

Burgansky et al. (2019) investigated how monetary policy, known as quantitative easing (QE), affected financial stability. They came to the conclusion that QE can foster financial stability and reduce volatility. In particular, research has shown that tight monetary policy can help reduce financial system risk by reducing borrowing costs and increasing the borrowing constraints of potential borrowers. Tight monetary policy has also been found to affect asset prices, with increases in interest rates potentially reducing the value of risky assets and increasing the value of safe assets. Such changes can have an effect on financial stability, as they can prevent excessive risk-taking behaviours that can lead to financial crashes (Ajello, Boyarchenko, Gourio & Tambalotti, 2022).

Ayodele, Akinyede, Afolabi, Ojede, & Adeyanju (2021) evaluated the efficiency of monetary and fiscal strategies in reducing inflation in Nigeria. Used were secondary data extracted from the Central Bank of Nigeria's (CBN) statistical bulletins for a period of 38 years (1981-2018). The DF-Fisher unit root test and the Johansen co-integration test were two of the econometric tests that were run on the data. A vector was used to specify the relationship between the independent variables (Interest rate, Money supply, and Liquidity ratio) and the dependent variable (Inflation rate). The study's result can offer Nigerian policymakers helpful direction and counsel. It implies that monetary policy may be a useful instrument for controlling inflation. It also implies that the Central Bank ought to have the freedom to carry out monetary policy without intervention from outside parties. Last but not least, it underscores the significance of upholding the prudential standards established by the Central Bank of Nigeria. Policymakers can successfully attain their inflation goals by adhering to such advice.

The findings of the study by Ekpung, Udude & Uwalaka (2015) offer important new information about how monetary policy affects the banking industry in emerging economies. The banking industry may be impacted by various monetary policies in various sorts of economies, and this should be considered by policymakers. In order to better understand how the influence of monetary policy on the performance of the banking sector evolves over time, further study should be conducted to explore additional elements that may have an impact on the banking industry, such as political, social, and economic factors.

2.1. Gap in Literature

Nearly every study that is studied aims to determine how monetary policy affects financial risk in the Nigerian banking sector. Other studies also looked into the Nigerian banking sector's risk management. To the researcher's knowledge, no research has been done to look into how monetary policy affects financial risks in the Nigerian banking sector. In order to achieve this, the study fills a vacuum in the literature by looking at how monetary policy affects financial risks in the Nigerian banking sector.

3. Research Methodology

This research adopted the quantitative method only because the research variables can be measured and quantified with figures. The study focuses on secondary data only. Secondary data were obtained from annual reports and statements of accounts of Guaranty Trust Bank Plc, United Bank of Africa, Zenith Bank, First Bank of Nigeria, Union Bank of Nigeria and Eco Bank. The study made use of panel data in the analysis of data.

3.1. Population

The population of the study consists of all deposit money banks in Nigeria that are supervised by the Central Bank of Nigeria and regulated by Banks and Other Financial Institutions Act (BOFIA). The population of the study consists of 24 commercial banks as listed according to the Central Bank of Nigeria as of 4th January, 2023.

Seven banks were selected using judgemental sampling techniques in order to have a representation of the population. The judgemental sampling technique involves using the best judgement in selecting the sample from the population. The factors considered for the selection of sampled banks are Banks that included their expenditures on financial risks in their financial statements within the period and the financial statements of selected banks are published within the period reviewed.

3.2. Data Source

For the purpose of this study, data were obtained from annual reports and financial statements of the 6 money deposit banks between 2017 and 2021. Since the data contains information on interest rate, equity price and total number of employees observed over time, a panel data estimation technique is adopted.

3.3. Model Specification

The specific objectives of the study are to examine the impact of non-performing loans, equity prices and the total number of employees of the bank during the year on financial risks of the selected banks. The data are analysed using multiple linear regression analysis techniques consisting of periodic data to estimate the regression equation.

The conceptual model for the research can be expressed as:

Model 1: Impact of Monetary Policy on Market Risk

$$MKT = \alpha + \beta_1 MPR + \mu$$

Model 2: Impact of Monetary Policy on Credit Risk

$$CRE = \alpha + \beta_2 MPR + \mu$$

Model 3: Impact of Monetary Policy on Operational Risk

$$OPE = \alpha + \beta_3 MPR + \mu$$

4. Data Analysis, Results and Discussion of Findings

The relationship that exists between the variables is examined in the study as stated in the research objectives, research questions and the hypothesis. The model formulated earlier is tested using the simple linear regression with the E view 9.0. Note that the chosen alpha (α) at 5% significant level is 0.05.

- Research Objective 1: To evaluate the relationship between monetary policies and market risk in the Nigerian banking industry.

4.1. Hypothesis One

- H₀: There is no significant relationship between monetary policies and market risk in the Nigerian banking industry.

Research Model 1: $MKR = \alpha_0 + \alpha_1 MPR + e$ -----equ 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MPR	1284125.	5113782.	0.251111	0.0036
C	21024740	62505392	0.336367	0.7391
R-squared	0.462247	Mean dependent var		36691061
Adjusted R-squared	0.433387	S.D. dependent var		20618891
F-statistic	8.063057	Durbin-Watson stat		2.055586
Prob(F-statistic)	0.003562			

Table 1: Regression Analysis for Hypothesis
Source: Author Computation Using Eviews 9.0

4.1.1. Interpretation

From the results obtained in table 2 above, it is observed that the constant parameter (β_0) has a negative relationship with market risk (MKT) while β_1 (MPR) has a Positive coefficient value showing a positive relationship with the dependent variable market risk (MKR). This means that an increase in the monetary policy rate (MPR) will cause an increase in market risk (MKR).

A critical examination of the results, as reported above, shows that about 46.2% of the total variation in the regress and or dependent variable market risk (MKR) can be explained by the repressors or independent variable monetary policy rate (MPR). This is indicated by the coefficient of determination (R^2) value of 0.462247. This implies that

market risk (MKR) accounts for 42.2% of changes in monetary policy rate (MPR) - an examination of the F-statistic value of 12.73094. Testing for overall significance shows that the overall model is significant at a 5% level of significance. This is because the observed value of 8.063057 is greater than the critical F-value of $F_{0.05} = 4.31$. (Following the results above).

Since the p-value (0.003562) is less than the significance value (5% or 0.05), we thereby fail to accept the null hypothesis and conclude that there is a significant relationship between monetary policies and market risk in the Nigerian banking industry. The regression is written as $MKR = 21024740 + 1284125.MPR + e_i$

This indicates a positive relationship between the dependent variable (market risk) and the independent variable (monetary policy rate). Thus, the b coefficient of 1284125. indicates that for every one-unit change in the independent variable (MPR), the dependent variable (MKR) is predicted to increase by 1284125.

4.1.2. Test of Hypothesis Two (H_{02})

- Research Objective 2: To determine the impact of monetary policies on credit risk management of Nigerian banks.

4.2. Hypothesis Two

- H_0 : Monetary policy does not significantly impact credit risk management in Nigerian banks.

Research Model 2: $CDR = \alpha_0 + \alpha_1 MPR + e_i$ -----equ 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MPR	-1189428.	36237999	-0.032823	0.0040
C	1.08E+08	4.43E+08	0.242888	0.8099
R-squared	0.409638	Mean dependent var		93072459
Adjusted R-squared	0.385674	S.D. dependent var		1.46E+08
F-statistic	11.01077	Durbin-Watson stat		1.906486
Prob(F-statistic)	0.004049			

Table 2: Regression Analysis for Hypothesis 2

Source: Eviews 9.0

4.2.1. Interpretation

From the results obtained in table 2 above, it is observed that the constant parameter (β_0) has a negative relationship with credit risk (CDR) while β_1 (MPR) has a positive coefficient value showing a positive relationship with the dependent variable credit risk (CDR). This means that an increase in the monetary policy rate (MPR) will cause an increase in credit risk (CDR).

A critical examination of the results, as reported above, shows that about 40.9% of the total variation in the regress and or dependent variable credit risk (CDR) can be explained by the repressors or independent variable monetary policy rate (MPR). This is indicated by the coefficient of determination (R^2) value of 0.409638. This implies that credit risk (CDR) accounts for 40.9% of changes in monetary policy rate (MPR) - an examination of the F-statistic value of 11.01077. Testing for overall significance shows that the overall model is significant at a 5% level of significance. This is because the observed value of 11.01077 is greater than the critical F-value of $F_{0.05} = 4.31$. (Following the results above).

Since the p-value (0.004049) is less than the significance value (5% or 0.05), we thereby fail to accept the null hypothesis and conclude that monetary policy significantly impacts credit risk management in Nigerian banks. The regression is written as $CDR = 1.08E+08 + -1189428MPR + e_i$

This indicates a positive relationship between the dependent variable (credit risk) and the independent variable (monetary policy rate). Thus, the b coefficient of 1189428 indicates that for every one-unit change in the independent variable (MPR), the dependent variable (CDR) is predicted to decrease by 1189428.

4.2.2. Test of Hypothesis Three (H_{03})

- Research Objective 3: To identify the importance of monetary policy on operational risk in Nigerian banks.

4.3. Hypothesis Three

- H_0 : Monetary policy has no significance on operational risk in Nigerian banks.

Research Model 3: $OPR = \alpha_0 + \alpha_1 MPR + e_i$ -----equ 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MPR	136.5952	861.0796	0.158633	0.8751
C	4792.071	10524.91	0.455307	0.6524
R-squared	0.422598	Mean dependent var		6458.533
Adjusted R-squared	0.404784	S.D. dependent var		3469.549
F-statistic	7.025164	Durbin-Watson stat		2.127517
Prob(F-statistic)	0.020097			

Table 3: Regression Analysis for Hypothesis 3

Source: Author Computation Using Eviews 9.0

4.3.1. Interpretation

From the results obtained in table 3 above, it is observed that the constant parameter (β_0) has a positive relationship with operational risk (OPR) while β_1 (MPR) has a positive coefficient value showing a positive relationship with the dependent variable operational risk (OPR). This means that an increase in the monetary policy rate (MPR) will cause an increase in operational risk (OPR).

A critical examination of the results, as reported above, shows that about 42.2% of the total variation in the regress and or dependent variable operational risk (OPR) can be explained by the repressors or independent variable monetary policy rate (MPR). This is indicated by the coefficient of determination (R^2) value of 0.422598. This implies that operational risk (OPR) accounts for 42.2% of changes in monetary policy rate (MPR). An examination of the F-statistic value of 12.05520. Testing for overall significance shows that the overall model is significant at a 5% level of significance. This is because the observed value of 7.025164 is greater than the critical F-value of $F_{0.05} = 4.31$. (Following the results above.)

Since the p-value (0.020097) is less than the significance value (5% or 0.05), we thereby fail to accept the null hypothesis and conclude that monetary policy has significance on operational risk in Nigerian banks. The regression is written as $OPR = 4792.071 + 136.5952MPR + e$

This indicates a positive relationship between the dependent variable (operational risk) and the independent variable (monetary policy rate). Thus, the b coefficient of 136.5952 indicates that for every one-unit change in the independent variable (MPR), the dependent variable (OPR) is predicted to increase by 136.5952.

4.4. Summary of Findings

The correlation and regression analysis were employed in testing the research hypotheses. The result of hypothesis 1 revealed that there is a significant relationship between monetary policies and market risk in the Nigerian banking industry. The implication of this finding is that increase in monetary policy proxied by the monetary policy rate (MPR) will cause an increase in market risk in the Nigerian banking industry. The correlation coefficient revealed that there exists a strong positive correlation between monetary policy rate (MPR) and market risk (MKR). (-0.68). This implies that an increase in the monetary policy rate (MPR) will have a positive effect on market risk (MKR). This means that an inverse relationship exists between monetary policy rate (MPR) and market risk (MKR).

The result of hypothesis two revealed that monetary policy significantly impacts credit risk management in Nigerian banks. The correlation coefficient revealed that a positive, strong relationship exists between non-performing loans and the monetary policy rate (MPR) (0.64). This implies that an increase in the monetary policy rate (MPR) will propel an increase in non-performing loans (NPLs).

Finally, the result of hypothesis three revealed that monetary policy has significance on operational risk in Nigerian banks. The correlation coefficient revealed that a strong relationship exists between the number of employees and the monetary policy rate (MPR). Also, a positive, strong relationship exists between the number of employees and the monetary policy rate (MPR) (0.65). This implies that an increase in the monetary policy rate (MPR) will propel an increase in the number of employees.

5. Summary of the Study

This research work examines the impact of monetary policy on financial risks in Nigerian banking industry. There is always a regulatory policy in every country to regulate the value, cost and supply of money. The CBN derives its mandatory monetary policy from CBN Act 1958 and the amendments that have followed over the years. Financial risk is the various types of risks associated with financing, including financial transactions that include company loans at risk of default. It examines the work to know if monetary policy significantly impacts market risk, credit risk and operational risk. Chapter two focuses on the literature review of monetary policy and financial risk. Monetary policy consists of actions of a Central Bank, currency board or other regulatory committee that determine the size and growth of the money supply, which affects the interest rates. Bank risks consist of credit risk, market risk and operational risk. Risks are complex since one single activity can involve several risks. Chapter three contains the methodology of the study. The study adopted the use of the quantitative method of research design and the targeted population was the twenty-one (21) deposit money banks in Nigeria as of 4th November 2017. Data were collected from sampled banks (Guaranty Trust Bank, United Bank of Africa, Union Bank, Eco Bank, First Bank and Zenith Bank) using secondary data from 2012 to 2016. Chapter four focuses on the data analysis. An event study methodology was employed to examine the impact of monetary policy on equity price, non-performing and number of employees in Nigerian banks. Based on the analysis, regression and correlation of the six banks (Guaranty Trust Bank, United Bank of Africa, Union Bank, Eco Bank, First Bank and Zenith Bank) were analysed. The financial statement was analysed using descriptive analysis, correlation analysis and the ordinary least square method. The study concluded that monetary policy has a significant impact and relationship with equity price, non-performing loans and the number of employees. The researcher recommends that further studies should be done on the impact of the individual variables (market risk, credit risk and operational risk) on bank profitability and should not focus on deposit money banks only. Therefore, further research should be done using other banking sectors and companies.

5.1. Summary of Findings

The summary of findings is summarized below:

- It was found that there is a significant relationship between monetary policies and market risk in the Nigerian banking industry. This is because the p-value was less than 0.05

- It was discovered that monetary policy significantly impacts credit risk management in Nigerian banks. This is because the p-value was less than 0.05.
- The finding further revealed that monetary policy significantly impacts credit risk management in Nigerian banks. This is because the p-value was less than 0.05.

5.2. Conclusion

The study investigated the effect of monetary policy on financial risk for the period covering 2012-2016. The relevant data were extracted from the annual report of the six selected deposit money banks. The finding revealed that monetary policy is an influencing factor in financial risk.

It can be concluded that there is a significant relationship between monetary policies and market risk in the Nigerian banking industry. The implication of this finding is that increase in monetary policy proxied by the monetary policy rate (MPR) will cause an increase in market risk in the Nigerian banking industry. The correlation coefficient revealed that there exists a strong positive correlation between monetary policy rate (MPR) and market risk (MKR). (-0.68). The implication of this is that an increase in the monetary policy rate (MPR) will have a positive effect on market risk (MKR). This means that an inverse relationship exists between the monetary policy rate (MPR) and market risk (MKR).

Monetary policy significantly impacts credit risk management in Nigerian banks. The correlation coefficient revealed that a positive, strong relationship exists between non-performing loans and the monetary policy rate (MPR) (0.64). This implies that an increase in the monetary policy rate (MPR) will propel an increase in non-performing loans (NPLs).

Finally, monetary policy has significance on operational risk in Nigerian banks. The correlation coefficient revealed that a strong relationship exists between the number of employees and the monetary policy rate (MPR). Also, a positive, strong relationship exists between the number of employees and the monetary policy rate (MPR) (0.65). This implies that an increase in the monetary policy rate (MPR) will propel an increase in the number of employees.

5.3. Recommendations

Based on the findings above, the following recommendations were put forward by the researcher:

In order to find potential areas for improvement, reduce risk, and foster growth, the Central Bank of Nigeria should examine the Economic Development Reform Program in coordination with the banks. The banking industry should collaborate with other stakeholders, including regulators of financial institutions and the government, to foster better policy coordination and understanding. This will promote the banking industry's long-term growth and development.

The Central Bank of Nigeria (CBN) should set its monetary policy rate in a way that encourages the expansion of the banking industry in Nigeria. The structure of the lending activities must be decided upon by the policymakers, and rules for reviewing loan applications and outstanding loans must also be established. Further research on the effects of the various factors (market risk, credit risk, and operational risk) on bank profitability is recommended. The study focuses on deposit money banks only. Therefore, further research should be made using other banking sectors and companies.

6. References

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