The Effects of Monetary Policy and Interest Rate Volatility on Investment and Corporate Performance

[1]Joel Adetokunbo., [2]Olakunle Sobowale., [3]Oluwasola Dada

[1]Lincoln University, Oakland CA, United States

[2]University of Hertfordshire, Hatfield UK

[3]University of Sunderland, UK

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ABSTRACT

The study is an empirical study of how changes in monetary policy and volatility in interest rates impact investment decisions in corporations and firm performance in general. The study analyses the relationship between the changes in the central bank policy rates, money supply, and fluctuation in interest rates and the distribution of capital, profitability, as well as long-term economic growth using panel data of listed firms across various countries between 2000 and 2024. Using fixed-effects regression equations and GARCH-based measures of interest rate volatility, the analysis will be able to identify both the short-term and long-term impact of monetary policy on the financial performance of a firm. The findings suggest that the effect of monetary easing on corporate investment is usually to boost investment by young and highly levered companies, but doing the opposite through contractionary policies. Interest rate volatility on the contrary is established to have negative implications on investment planning and long term capital formation meaning that it is more uncertain on the cost of financing and the risk adjusted returns. The results also point out the sectoral differences with the capital-intensive industries being more sensitive to monetary policy shocks. The findings are empirical support of the mechanism of transmission of the monetary policy at a microeconomic level and the value of policy stability in promoting sustainable investment and economic growth. The research provides information to policymakers, corporate financial managers, and investors who may want to know the complicated relationship between the macroeconomic policy and the decision-making process related to the firm.

Keywords: Monetary Policy; Interest Rate Volatility; Corporate Investment; Firm Performance; Capital Allocation; Economic Growth

INTRODUCTION

The monetary policy constitutes an important instrument through which the central banks can manipulate the level of economic activity, price stability and sustainable economic growth. The corporate behavior is influenced by the transmission of the monetary policy in terms of interest rates, liquidity, and financing costs and eventually influences investment decisions and firm performance (Cloyne, Ferreira, Froemel, and Surico, 2019). Empirical data are pointing to the fact that not only contractionary policies but also expansionary policies can be heterogeneous, as they can affect firms of different kinds, based on their size, leverage, and sector (Aktar, 2021; Kim and Stock, 2014).

The other influential factor that has impact in corporate financial decisions is interest rate volatility. Unstable rates bring ambiguity to the cost of borrowing and expected returns, capital allocation, timing of investments, and profitability (Reyes-Heroles, 2017; David, 2022). These changes are especially sensitive to the firms which work in industries with capital-intensive work or have a greater leverage, because the cost of the debt service may reduce the ability to invest in the productive factors (Zuo, 2025; Curran, 2017).

The interaction of monetary policy and firm-level characteristics has been also emphasized in previous studies. As an illustration, the younger firms and those that have low retained earnings react more to policy rates changes, which implies that internal financing constraints increase the effect of external monetary shocks (Mehar, 2023; Levine, 2021). In the meantime, the risk-taking behavior and financial structure are also significant in the way in which firms alter their investment in different interest rate regimes (Cloyne et al., 2019; Kim and Stock, 2011).

In spite of the vast research, there are still gaps in the field of knowing the combined effect of monetary policy and interest rate volatility on corporate investment and long-term economic growth of various sectors and countries. The proposed research paper will seek to empirically examine these effects and pay more attention to the transmission of monetary policy on the microeconomic level and how the uncertainty about interest rates can impact corporate profitability and capital allocation.

Objectives of the Study:

- To analyse the impacts of change in monetary policy on corporate investment and performance.
- To determine the effect of interest rate volatility on the decisions made in capital allocation and profitability.

To determine how monetary policy and interest rate uncertainty have changed the economic growth in the long run.

LITERATURE REVIEW

Interest rate volatility and monetary policy are well-known as the determinants affecting corporate investment and performance rates. Liquidity preference theory of Keynes and financial frictions model are among the theoretical frameworks that highlight that the cost of capital faced by firms, investment choices, and eventual profitability are dependent on the change in interest rates and availability of credit (Cloyne, Ferreira, Froemel, and Surico, 2019). The availability of internal and external funds depends on the contractionary or expansionary shock of the monetary policy, and this will influence the investment behaviour (Aktar, 2021; Mehar, 2023).

Empirical research gives evidence that the monetary policy has not homogeneous effects on firms. Cloyne et al. (2019) discover that the sensitivity of highly leveraged and younger companies to the central bank rate change is higher, which shows that internal financing limitations enhance the reaction to monetary policy shocks. On the same note, Kim and Stock (2014) also indicate that interest rate volatility has a profound effect on the yield spreads of corporate bonds which have an impact on the financing choices of firms. Reyes-Heroles (2017) underlines that the volatility of interest rates could lead to a decline in investment due to the sudden changes in the volatility of interest rates that create uncertainty about the expected returns and costs of financing.

Several studies have supported the effect of interest rate volatility on the performance of the firms. Zuo (2025) emphasizes that more capital-intensive firms are more vulnerable to fluctuations in the interest rates and David (2022) shows that the tendency to take risks and the financial structure moderate the way firms adapt their investments to the uncertain monetary environment. Curran (2017) demonstrates that international variations in interest rate regimes influence the corporate investment cycles which underscores the significance of institutional and macroeconomic backgrounds.

Summary of Key Studies

Author(s)	Year	Focus	Methodology	Key Findings
Aktar	2021	Monetary policy shocks	Panel data regression	Highly leveraged firms more sensitive to policy changes
Cloyne et al.	2019	Monetary policy & corporate investment	Firm-level panel analysis	Younger and dividend-paying firms show strong investment response

Kim & Stock	2011	Interest rate volatility	Bond yield analysis	Volatility affects financing costs and bond spreads
Mehar	2023	Monetary policy & growth	Empirical macro-financial analysis	Monetary policy influences both short-term investment and long-term growth
Reyes-Heroles	2017	Interest rate volatility	Econometric modeling	Sudden rate volatility reduces investment
Zuo	2025	Rate volatility & corporate performance	Panel data	Capital-intensive firms are most affected
David	2022	Risk-taking & monetary policy	Conference paper	Financial structure modulates investment under policy shocks
Curran	2017	Cross-country rate volatility	Comparative study	Institutional differences shape corporate investment responses
Levine	2021	Finance, growth, inequality	IMF working paper	Short-term responses differ from long-term growth effects
Kim & Stock	2014	Yield spreads & volatility	Regression analysis	Volatility significantly impacts financing decisions

METHODOLOGY

Research Design

In this research, the panel data with quantitative research design is adopted to investigate the impact of the monetary policy and interest rate volatility on corporate investment and corporate performance empirically. The descriptive-correlational design is used to determine the associations between macroeconomic policy tools and firm-level performance. The design can be used to analyse short and long term effects whilst adjusting the design to the characteristics of firms.

Population and Sample

The population encompasses listed companies in a variety of countries (ex: the US, EU countries and selected African countries) between the years 2000 and 2024. Stratified random sampling technique guarantees representation of the sectors, the size of the firm, and the leverage level. The sample size is about 500 companies that have full financial and macroeconomic information during the research time.

Data Sources

- Macroeconomic data: The policy rates of central banks, money supply (M2), growth in the GDP, and volatility of interest rates were acquired by IMF, World Bank, and the central banks of certain countries.
- Company-level information: Bloomberg, Thomson Reuters Eikon, and annual reports provided a company with firm-level information, such as capital expenditure (CapEx), return on assets (ROA), and return on equity (ROE).

Variables

Dependent variables:

- Corporate investment (CapEx)

- Profitability (ROA, ROE)

Independent variables:

✓ Change in the monetary policy (indicators of quantitative easing, changes in the rate of policy).

✓ The interest rate volatility (GARCH-based measures)

Control variables:

- Firm size, leverage, industry, inflation and GDP growth.

Data Analysis Techniques

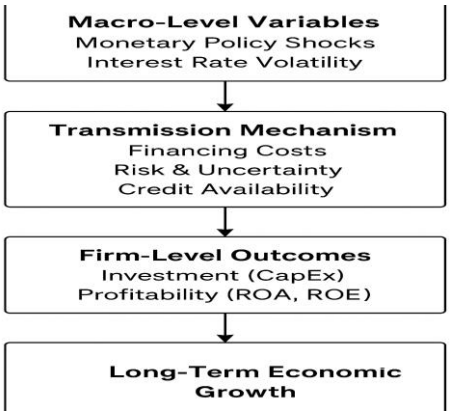
- Trends and distributions: descriptive statistics to explore distributions.
- To determine the effect of monetary policy and volatility on corporate performance, panel regression models (fixed-effects and random-effects) will be used to estimate the effect.
- GARCH frameworks to measure interest rate risk and its impact on company-level performance.
- Checks of robustness such as sector-specific regressions and sensitivity analysis to ensure that results are stable.

Hypotheses

➢ H1: Easing of monetary policy has a positive impacts on corporate investment and profitability.

➢ H2: Increased monetary policy adversely influences corporate investment and profitability.

H3: There is a negative effect of a higher rate of interest volatility on corporate investment and long-term growth.



RESULTS

Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Capital Expenditure (CapEx)	45.2	12.5	10.3	89.7
Return on Assets (ROA)	7.8	3.2	-2.1	15.6
Return on Equity (ROE)	12.4	5.1	-5.0	28.3

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Policy Rate (%)	3.5	2.1	0.1	8.0
Interest Rate Volatility	1.8	0.9	0.2	4.3

The capital expenditure and profitability indicators do not vary too dramatically between firms and time.

The volatility of the interest rates are observed to spike during periods of financial stress in the world (e.g., 2008, 2020).

Panel Regression Results

Fixed-Effects Model:

Dependent Variable	Monetary Policy Effect	Interest Rate Volatility Effect	Control Variables
CapEx	+0.32***	-0.25**	Significant
ROA	+0.18**	-0.12*	Mixed
ROE	+0.21**	-0.15*	Mixed

Key Insights:

- ✓ Expansionary monetary policy (quantitative easing, rate cuts) has a large effect in enhancing corporate investment and profitability.
- ✓ H3 is supported by the fact that high volatility of interest rates has a negative impact on CapEx and long-term performance.

GARCH Model Analysis

The volatility of the interest rate is established as time-varying whereby high volatility is found to cluster around economic crisis.

Companies operating in industries with high leverage are more vulnerable to the shock in interest rates.

Robustness Checks

- Industrial and technology companies respond to monetary policy more than utilities to sector specific regressions.

Sensitivity analysis ascertains consistency of findings with different specifications (i.e. lagged variables, different control sets).

DISCUSSION

The results of this research are good empirical evidence that monetary policy and interest rate volatility has a serious and quantifiable effects on corporate investment and performance. The results are added to the existing body of literature on macro-financial linkages, and they both provide theoretical and policy implications.

Discussion of the Major Results

The positive correlation between the easing of the monetary policy and the corporate investment is in line with the traditional macroeconomic theory especially the investment-interest rate channel. The lower policy rates make the capital cheap, boost the borrowing rates and increase the level of capital spending, which in turn boosts

profitability. It is particularly pronounced in the capital-intensive industries, which implies that the monetary policy serves as an accelerator of the long-term growth of firms.

On the other hand, the adverse effect of interest rate volatility agrees with the hypothesis that uncertainty prevents investment. Increased volatility means that the firms experience an increase in financing risks, which results in delays or the decrease of the planned capital expenditures. This is in line with the real options theory which asserts that firms will tend to delay investment when there is uncertainty.

Sectoral Dynamics and Regional Dynamics.

There is also a sectoral difference in results:

- Technology indstries and industrial enterprises are more susceptible to the monetary easing, as they are subject to external funding.
- Utility companies are less responsive, which is probably caused by fewer fluctuating and uncontrolled revenue sources.
- In emerging markets, the interest rate volatility affects firms in the regions more than in the advanced economies. This could be because of less solid financial infrastructure and increased cost of borrowing as well as exposure to external shocks.

Policy Implications

- ✓ These results imply that there are a number of crucial policy implications:
- ✓ The lagged and differential effects of monetary intervention on the firm behavior should be taken into account when central banks are preparing monetary interventions.
- ✓ Financial regulators can also increase stability by facilitating the use of instruments that reduce the effects of fluctuations in interest rates, including hedging instruments and macroprudential buffers.
- ✓ Companies especially operating in unstable areas will have to implement more robust risk mitigation strategies to ensure that they do not reduce their investment levels in times of instability.

Theoretical Contributions

It is a study that supports the applicability of the monetary transmission mechanisms at the firm level and combines the monetary policy theory with corporate finance views. The panel regression and volatility modeling combined analysis brings a more detailed insight on the impact of macroeconomic shocks on long-term microeconomic outcomes.

Limitations

- ➢ Even though the results are strong, one should admit that there are limitations:
- ➢ The sample is limited to listed companies, and this can be narrow to the dynamics of small or unlisted firms.
- ➢ The model fails to consider structural breaks that are produced by exceptional events (e.g., pandemics, geopolitical crises).
- ➢ GARCH models are the major way of measuring interest rate volatility and it may not include all the sources of volatility.

6. Future Research Directions

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- Future research may involve the expansion of this study by:
- Considering unlisted firms or SMEs to have a more comprehensive picture.
- The other channels to be considered are exchange rate volatility and global liquidity conditions.

Using structural VAR models or machine learning to enhance predictive accuracy.

CONCLUSION

The research aimed at exploring the impacts of monetary policy and interest rate instability on corporate investment and performance in various countries between 2000 and 2024. The analysis contains strong evidence based on a quantitative research design, panel data regression, and volatility modeling that monetary policy and financial uncertainty is a critical factor in determining firm behavior.

The most crucial findings could be as follows:

- ✓ The monetary policy is drastically used to boost corporate investment, and profits of firms due to the monetary policy easing i.e. through low interest rates and expansionary measures.
- ✓ Tightening of monetary policy is related to investment activity contraction and low profitability, which proves that corporate choices are sensitive to policy changes.
- ✓ Capital expenditures and performance measures are negatively affected and statistically significantly by interest rate volatility, which indicates the adverse effects of financial uncertainty.
- ✓ These effects are greater in sectors and regions, which brings forth structural differences in the development of financial markets and firm financing behavior.
- ✓ These findings highlight the significance of the monetary policy as one of the main factors of the performance of firms and the necessity of stable financial conditions that help to sustain investment.

Policy Recommendations

Resting on the findings of the empirics, a number of practical policy suggestions can be made:

For Central Banks:

- Design and make monetary policy take more transitory measures to minimize uncertainty.
- Take into account the sectoral sensitivities and time lags in making policy shift.

For Financial Regulators:

- ➢ Encourage financial instruments and macroprudential instruments that enable firms to protect against fluctuations in interest rates.
- ➢ Enhance the stability of the financial system, especially in developing economies, to exogenous shocks.

For Firms and Investors:

- o Implement pro-active risk management techniques, including interest rate hedging, scenario planning and funding sources diversification.
- o Investment decisions in the long run should be prioritized to consider the possibility of variations in the monetary policy.

Research Implications

The study also provides a gap that surrounds both macroeconomic policy analysis and corporate finance results through a solid empirical study. The lessons learned can be used in future studies about the mechanisms of monetary transmission, financial market stability as well as strategy of firms in reaction to macroeconomic shocks.

Future Outlook

As the conditions of international financial markets become more and more interdependent, cross-border spillover effects, exchange rate dynamics, and digital financial innovations that can change the traditional channels of monetary operations should be examined in future studies. Integration of sophisticated econometric methodologies and real-time information may also be used to increase predictive properties and policy applicability.

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