THE IMPACT OF MONETARY POLICY ON CORPORATE FINANCIAL DECISIONS: A STUDY OF THE EUROPEAN MARKETS

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Abstract

In the modern global dynamics, monetary policy has become one of the most integral tools of world governments to tackle economic shocks. The interest rate policy is one of the most integral instruments available as a monetary policy to the governments (Jordà et al. 2024). A change in the interest rates can help to tackle the inflationary pressures by reducing the circulation of money in the nation. However, changes in interest also impact the borrowing cost in the economy (Kempa et al. 2021). This prevents investment and consumption activities in the nation. However, the same also impacts the corporate decision-making on loans for firms in an economy. The study uses data from 1586 listed companies across France and Germany. From the 4210 observations across Europe, a panel data regression model using fixed effects model (FEM) and random effects model (REM) is used to analyze the impact of monetary policy on debt levels. The results show that interest rates impact the total debt of companies in Europe significantly. Furthermore, economic growth and market capitalization also impact the total debt of firms in Europe significantly. Overall, the monetary policy has a significant impact on the corporate financial decisions in Europe.

Keywords: Interest Rate, Fixed-Effects Model, GDP Growth Rate, Debt-to-Equity Ratio, Market Capitalisation, Long-Term Debt

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1. INTRODUCTION

The monetary policy of a country is one of the most important tools that can be used to manipulate the money supply. According to the study of Cooperman et al. (2023), changes in the interest rate could alter the money supply available within an economy. This could be integral in tackling major inflationary shocks in the economy. The European economy has been heavily integrated into the global supply chain. This makes them vulnerable to global economic shocks. As a result, the monetary policy has been used extensively to manage inflationary pressures. A literature by Knicker et al. (2024) has revealed that the monetary policy helped Europe to reduce inflation, which occurred post the COVID-19 pandemic. This was done by increasing the interest rate in the region optimally. The rise in interest rates discouraged investment and consumption activities and thereby slowed down the circulation of money in the economy. As a result, this helped the European economy from overheating. However, the same change in monetary policy also leads to changes within the corporate decision-making for securing loans for various firms in the European region. As per the study by Halim (2024), every firm needs to balance the level of debt and equity to remain sustainable within the economy. However, an increase in interest rates could lead to a situation where the cost of borrowing would increase, and the firms would be discouraged from obtaining loans and advances. The monetary policy has a substantial influence on the corporate decision-making of firms.

The European economy has faced a substantial change in its interest rates in recent times. According to Adalid et al. (2023), the European Union (EU) offered an interest rate of 3.70% after the global economic shocks. The increase in the rate of interest in the EU to 3.70% increased the cost of borrowing in the economy as well. As a result, it became comparatively difficult for firms and other entities to borrow money from the markets due to the high interest rates. Failing to borrow and invest at the will of the firms shows that there is a relationship between corporate decision-making and monetary policy. The borrowing and investment process is integral for corporate decision-making, as it allows them to enhance operations and grow (Ren, 2022). As a result, the management of the firms must make their own autonomous decision on the corporate decisions of the firms.

Monetary policy is an important determinant for maintaining economic stability in an economy. However, changing the monetary policy can also lead to changes in the cost of borrowing as well as the financial decisions regarding undertaking loans for firms in an economy. Hence, it is important to understand its impact on corporate decisions. A very high policy rate in an economy can impede corporate growth (Prohorovs, 2022). This is because higher interest rates will slow down lending and reinvestment. As a result, corporate growth will also slow down. Overall, this research problem illustrates the importance of understanding the relationship between monetary policy under the corporate decision line.

The research question of this particular study is whether the long-term debt of a firm is negatively affected by higher EU interest rates. In this context, long-term costs are considered a proxy for corporate financial decisions.

The objective of the research is to determine whether changes in the national interest rate have a significant effect on corporate debt levels. Other research objectives also include examining the effect of firm size, economic growth, and debt-to-equity ratio on the total long-term debt levels of firms within the European region.

This particular study is divided into six sections. Section 1 presents the background of the study and the research question. Section 2 gives the theoretical framework and surveys the literature. Section 3 describes the empirical methodology. Section 4 contains the empirical analysis and the results. Section 5 discusses the findings, and Section 6 provides the conclusion.

2. LITERATURE REVIEW

2.1. Theoretical framework

2.1.1. Credit channel of monetary policy

The credit channel mechanism is an economic theory that explains how changes in central bank policy affect credit availability in the economy. According to Sharipova and Asadova (2021), the central banks of a country could alter the interest rates to manage the money circulation in an economy. This would also affect the credit supply in the nation, as the tightening of the monetary policy would increase the interest rate and reduce the supply of money. This rise in the rate of interest within a nation also increases the cost of borrowing. Therefore, savings increase within an economy during such periods, and the investment and consumption activities fall. Furthermore, increasing the rate of interest by central banks also impacts the decision of firms to avail loans. As per the study by Jiang et al. (2024), higher rates of interest also impact the cost of borrowing money in the economy positively. This leads to a decline in borrowing activities by firms because. The high interest rates make the loan servicing more expensive for firms. As a result, firms prefer not to avail themselves of advances during this period of high interest rates. Overall, the credit channel mechanism is integral in understanding the impact that monetary policy has on the borrowing levels in a country.

2.1.2. Options theory of investment

Investment choice theory is another prominent theoretical framework that explains the investment decisions made by organizations under uncertainty. According to the study of Sabirov et al. (2021), the economic environment of a country is an important factor in a firm's investment decision. Strong economic conditions will enhance investment opportunities. As a result, the firms in the economy would adhere to higher levels of investment and borrowing. However, on the other hand, economic instability will slow down economic activities. As a result, the financing activities would also slow down during such periods of instability.

2.1.3. Trade-off theory

Trade-off theory is another economic theory used in this study to explain how a firm uses debt and equity to finance its operations. According to the research of Ghardallou (2022), the objective of every firm is to operate within an optimal level of debt and equities. Therefore, the amount of debt and the amount of equity in the firm should be well-balanced. However, debt levels and transaction costs are also impacted by monetary policy. According to Kempa et al. (2021), changes in monetary policy will also affect borrowing costs in the country. This is because the credit market is highly dependent on interest rates in the market. Thus, changes in monetary policy will change the optimal cost of capital. Consequently, this will also change in terms of debt issuance and liquidity. Overall, trade deficit theory is an important economic metric that measures how changes in the budget can affect a company's debt and equity.

2.1.4. Pecking order theory

Peking order theory is another important theory of firm finance, which states that every firm prefers financial resources in the economy. According to the research of Wei and Chengshu (2024), firms aim to minimize their risks and maximize their returns period, making investment decisions. This leads firms to prioritize internal financing over external financing within the market. Consequently, this enables firms to make definite financial decisions. Another study by D'Mello and Gruskin (2021) also found that firms preferred to use reserves over debt

and equity. This is because there is little cost involved in using retained earnings, as such earnings are readily available to the firm. On the other hand, it comes at a cost because of the relationship of the debt or bill to the budget. Consequently, the willingness to use such types of currencies for investment purposes is low. Overall, the pecking order theory is fundamental to understanding the investment decisions made by the firms.

2.1.5. Market timing theory

The market timing theory is another important framework from corporate finance that helps in making decisions towards investment. As per Sokhanvar and Jenkins (2022), market conditions are key economic indicators behind investment. In a scenario where the interest rates are low, the firms may tend to increase their debt level. Low interest rates lead to a lower cost of capital, which makes debt financing comparatively cheaper for firms. As a result, this also alters the investment decisions made by firms. On the other hand, in a situation where the interest rates are high, the leverage could also be decreased (Jiang et al. 2024). This is because, at times of high rates of interest, the cost of financing investment decisions is also high. Therefore, the potential return of the company is minimized. As a result, companies would decrease leverage when rates are high. Overall, the market timing is key to the decision-making process for investing in corporate finance.

2.2. Review of the relevant literature

2.2.1. Impact of monetary policy on economic activities

The monetary policy is one of the most important tools presented to the world governments, which could be used to stabilise prices within an economy. As per the study by Jordà et al. (2024), the use of policy rates can alter the flow of money in a nation and protect it from economic shocks. This leads to an eventual change within the demand side as well as the supply of credit within an economy. The setting of a monetary policy expansion also leads to an improvement in the output of firms across the nation. As per the study by Liu et al. (2022), a fall in the policy rates to 4% leads to an increase in productivity growth by 1.1%. This is mainly because the money supply within the economy is improved using expansionary policies. As a result, this pushes firms towards greater operational investment, hence they adhere to loans. Thus, economic growth also leads to a growth in debts for firms, as these firms enhance their productivity levels to match the demand of the economy.

2.2.2. The credit channel of monetary policy

The change in the monetary policy is a major reason behind the changes in the debt levels of companies globally. As per the study by Li et al. (2021), the monetary policy is a major economic indicator that maintains the credit channel within the economy. A contractionary monetary policy would increase the interest rates in a country. This increase in the rates would also impact the loan servicing within the economy. As a result, it would lead to higher costs for debt and would discourage firms from taking up long-term debt. Another study by Jungherr et al. (2024) has also revealed that increasing the policy rates in an economy leads to a fall in debt levels by almost 0.5%. This is done for several firms listed on the stock exchange of the United States. A major reason for the fall in debt under such circumstances is the fall in sales value during a monetary policy shock. With the supply of money falling during a contractionary policy, the amount of money invested in consumption activities also falls. This signals a reduction in the production process. As a result, the investment in the firms also needs to be reduced, thereby leading to lower demand for long-term debts. Another paper by Deda et al. (2024) also reveals that institutional factors and monetary factors are both responsible for the credit channel towards the private sector. The research shows that under a fixed effects model (FEM), the lending interest rates have a negative impact of -1.486% age points on the credit to the corporates. This is because the increase in the lending rates makes the loan servicing costs higher, which eventually discourages the private sector from borrowing. Hence, this leads to a fall in the credit to the corporations. Apart from the lending interest rates, other institutional factors, such as the corruption index and the regulatory quality, also play an integral role in controlling the credit channels. The paper by Deda et al. (2024) reveals that corruption increases lead to a fall in the credit levels by 0.873% age. On the other hand, the improvement in regulatory quality also reduced credit by -5.470. Higher corruption could drive out funds from the investment sector and could be redirected to other uses. On the other hand, high regulatory factors would ensure that only viable firms receive credit. Therefore, it would reduce the credit flow to the private sector.

The presence of swap spreads also impacts the credit channel to the corporate sector substantially. As per the study by McAlley (2024), it is found that there is a positive relation between the swap volatility and the swap spreads. This means that volatility in the interest rate market leads to wider swap spreads. This ensures that investors demand greater compensation for risk. These higher swap rates, because of risk, increase the cost of issuing debt for corporates. Hence, the interest rate grows and there is a negative impact on the credit levels towards corporates. This result is concluded by using a difference-in-differences (DID) approach. Finally, Umoru et al. (2025), emphasize on the fact of the money demand function within the emerging markets. The research concludes that demand for narrow money (M1) and broad money (M2) change with the focus on renewable energy consumption and oil market shocks. This shows disruptions within the credit market, as the oil market shocks lead to an increase in oil prices, leading to a greater demand for credit. This impacts the corporation substantially, as higher demand for credit can also pull up the servicing cost of debt. Hence, this can impact the credit channel using the monetary policy.

2.2.3. Corporate response to monetary policy

The change in the monetary policy has also led to changes in the corporate response to investing and financing activities. A variety of studies used different empirical methodologies to understand the causal impact of corporate response to changes in monetary policy. A study by Vithessonthi et al. (2017) considered the ordinary least squares (OLS) model as well as the generalized linear model (GLM) model to conclude. On the other hand, the study by Yang et al. (2017) considered the FEM as well as the random effects model (REM) to conclude. The results show that the FEM obtained significantly better statistical results compared to the REM.

The firm size also plays an integral role in controlling the impact that monetary policy has on financial decision-making by firms. A study by Cloyne et al. (2018) found that small businesses in the United Kingdom have reduced borrowings because of higher interest rates. This is because small firms rely mainly on external financing. However, the added cost of borrowing at higher interest rates was financially unsustainable for such small businesses. Consequently, this reduced the overall borrowing by such companies. Overall, this suggests that firm size is an important parameter in determining the impact of monetary policy on corporate decision-making for firms.

Fiscal investment decisions in other sectors are also significantly affected by changes in foreign interest rates. Consequently, this also implies that changes in global market interest rates significantly influence firms' corporate decisions.

Changes in interest rates of other nations also impact the investment decisions of firms. As studied by Vithessonthi et al. (2017), markets such as Germany, Switzerland, and Thailand have shown a 1.298% age point reduction in firm debts with a rise in the federal rates in the United States by 1%. This is because an increase in federal interest rates makes borrowing more expensive in these economies. As a result, this also shows that the changes in interest rates for global markets have a substantial impact on the corporate decisions of firms.

The Chinese economy also found that a change in interest rate leads to substantial changes in corporate decisions. A study by Yang et al. (2017) found that an increase in the interest policy rate led to a fall in corporate investment by 0.389%. This was done by analyzing 13,766 firm observations between 2003 and 2013. The results are relevant because the higher interest rates make the cost of borrowing more expensive. Therefore, the investing activities by the firm are reduced under such circumstances.

Finally, it could be realized that the monetary policy also impacts the size of the debt taken based on the firm's size. As per a study by De Marco et al. (2021), the corporate requirement for debts increased by 7% with a 1% increase in monetary policy and firm size. This is because the older and bigger firms need a greater level of capital to maintain their operations. As a result, these firms demand a greater level of debt, irrespective of the interest rate. Hence, under such circumstances, the monetary policy does not impact the corporate decisions regarding long-term debt for firms.

2.2.4. Monetary policy during economic shocks

Monetary policies could also be used to stabilize the economy during a financial shock. Since the global financial crisis of 2008, monetary policy has been used consistently to target inflation. As per the study by Bean et al. (2010), monetary policy has been used to control the supply of money in the economy. A contraction in the policy rates is generally adhered to during such periods of economic shocks. A contractionary monetary policy increases the policy rate in the nation and reduces the supply of money in the markets. As a result, the investing and consumption activities reduce, leading to a stabilization of the inflation rate. On the contrary, an expansion in the policy rates is also used to enhance the growth of the nation. This is done by reducing the interest rate and increasing the supply of money in the markets. This increases investment and consumption activities, leading to greater economic growth levels.

In modern markets, policy rates are not the only instruments used for an alteration in monetary policy. During an economic shock, other tools like quantitative easing are crucial for keeping the economy stable. A study by Bernanke (2020) revealed that quantitative easing by 3% has similar results to that of reducing interest rates by 2% in an economy. This has a similar effect as under the quantitative easing policy, the central bank buys government bonds to increase the supply of money in the economy. This increases the circulation of money in the nation and helps to manage the inflationary pressure.

An interest rate change within 3% could help stabilize the economy. Similarly, around a 3% age point change in quantitative easing and forward guidance can also offset economic shocks (Bernanke, 2020). Quantitative easing involves the purchase of long-term securities from the open market to change the money supply. Whereas forward guidance is a guideline presented to investors regarding future monetary policy intentions. Overall, both kinds of operations lead to a change in the money supply within the nation, which eventually is useful in curbing inflationary pressures during an economic shock.

In the EU, the monetary policy set by the European Central Bank played a major role in stabilizing the economic shocks post the COVID-19 pandemic. A study by Reznikova et al. (2022) revealed that an increase in discount rates leads to an increase in commercial bank rates and asset prices in regions like Germany. This increase in commercial bank rates leads to a reduction in consumer credit, as the cost of servicing credit increases substantially during such periods. As a result, the amount of credit available to corporations was reduced during the period. On the other hand, the asset price of the firms increases with an increase in the discount rate. This is because the increase in discount rates would lead to investors anticipating higher interest rates. As a result, the same investors would also anticipate higher returns on assets. Therefore, this would lead to a change in asset prices during an economic shock. Overall, this segment shows that monetary policy is a key element to stabilize the economy after an economic shock. Umoru et al. (2025) also

mention that oil market shocks are vital parameters that impact the monetary policy. This is because the oil market shock leads to greater demand for M1 and M2 across developing nations. Hence, it can impact the credit interest rates within an economy.

Based on the literature, it could be understood that there is a substantial gap concerning understanding the direct impact of monetary policy on corporate decisions regarding borrowing for firms across Europe. Furthermore, there is no comprehensive study that analyzes the impact of the firm size, economic growth, and monetary policy on corporate decision-making regarding the debts of firms. As a result, the following research hypotheses have been drawn:

H_0: Monetary policy does not impact the debt level of firms significantly.

H1: Monetary policy impacts the debt level of firms significantly.

3. RESEARCH METHODOLOGY

3.1. Research design

This particular study aims to analyze the impact that the changes in the monetary policy have on corporate decision-making regarding borrowing for firms in Europe. To conduct the study, a quantitative research methodology has been adopted. According to the study of Dawadi et al. (2021), a quantitative research design helps conclude data-driven materials. Consequently, this study will investigate the impact of monetary policy changes on corporate decision-making using economic and corporate finance data. Panel data regression analysis has also been considered for this study. Both FEM and REM would be considered as empirical methodologies. As studied by Botosaru et al. (2023), FEMs would help control for invariants when they may be associated with explanatory variables. In addition, a Hausman test will also be presented to select the optimal results between FEM and REM.

3.2. Variables and proxies

The variables and proxies used in the paper are presented in this segment of the research. The sources are also mentioned accordingly for the respective variables, along with the frequency of data used.

The variables used in the study are presented and described in Table 1.

Table 1. Variables and proxies used in the research

Variables	*Proxies*	*Frequency*	*Source*
Corporate decision-making	*Total debt*	Annual	S&P Capital IQ
Corporate financial indicator	*Total equity*	Annual	S&P Capital IQ
Corporate financial indicator	*Debt-to-equity ratio*	Annual	S&P Capital IQ
Corporate financial indicator	*Market capitalization*	Annual	S&P Capital IQ
Monetary policy	*Interest rate*	Yearly	Federal Reserve Bank of St. Louis
Economic indicators	*GDP growth rate*	Yearly	World Bank
Economic indicators	*Inflation rate*	Yearly	World Bank

Note: GDP — gross domestic product.

Source: Author's elaboration based on the data from S&P Capital IQ (https://www.capitaliq.com/CIQDotNet/Login-okta.aspx), the World Bank's World Development Indicators (https://databank.worldbank.org/source/world-development-indicators), and Federal Reserve Bank of St. Louis (https://fred.stlouisfed.org).

3.3. Empirical model

The model examines how economic conditions and firm-specific factors affect corporate debt over time. This is done by considering total debt in logarithmic form. Moreover, macroeconomic variables like interest rates and GDP growth, with firm-level measures such as debt-to-equity ratio and market capitalization, are also considered in the research. The empirical model is as follows:

$$Log\ Total\ debt_{it} = \beta_0 + \beta_1(Interest\ rate)_{it} + \beta_2(GDP\ growth\ rate)_{it} + \beta_3(Inflation\ rate)_{it} + \beta_4(Log\ Debt - to - equity\ ratio)_{it} + \beta_5(Market\ capitalization)_{it} + \beta_6(Interest\ rate \times Market\ capitalization)_{it} + \beta_7(Time\ dummy)_{it} + \varepsilon_{it} \quad (1)$$

The research will use STATA 14 as the statistical software for the panel data regression analysis.

As an alternate methodology to the proposed panel data regression, an IV regression analysis could be considered. As per the study by Wolff and Reinthaler (2008), it has been understood that using an instrument under IV regression analysis helps to address potential endogeneity that occurs. For instance, given the characteristics of the interest rate setting, an IV approach could be considered. However, an efficient use of IV regression under a cross-country context is not always viable. Hence, the paper uses the panel data regression analysis using FEM and REM. Apart from an IV Regression analysis, a system generalized method of moments (GMM) could also be considered as an alternate methodology for this empirical analysis. As per the study by Ullah et al. (2018), the implementation of a system GMM helps control for endogeneity, autocorrelation, and unobserved heterogeneity. Given the characteristics of the dataset, endogeneity and autocorrelation could be substantial problems in the analysis. Furthermore, under such cross-country studies, unobserved heterogeneity could also be a hindrance. As a result, a system GMM is often considered to be a viable option to navigate these characteristics. However, in this particular case, the time structure and instrument proliferation do not support the system GMM specifications. As per Hayakawa (2015), the system GMM is mostly efficient under using a large N value. However,

the data specification covers 10 years for 1500 firms. This shows a large N, but the *T* is moderate. This could lead to problems of overfitting of the endogenous regressors. As per Bun and Windmeijer (2010), a GMM model needs to use strong instruments for viable outcomes. However, the panel characteristics using corporate finance and economic data are not always efficient, as the lagged variables of the corporate finance data have slow changes at times. This makes the GMM instruments weak, thereby making the use of the process inefficient.

4. RESULTS

The empirical analysis for this paper is divided into a descriptive analysis and a multivariate analysis. The descriptive analysis will show the summary statistics and the correlation matrix of the variables used in the paper. On the other hand, the multivariate analysis will show the panel data regression analysis with fixed effects as well as random effects.

4.1. Descriptive statistics

This section of the results will show the descriptive statistics. The descriptive statistics include a summary of the mean, standard deviation, minimum value, and maximum value.

The descriptive statistics of the data and variables are shown in Table 2.

Table 2. Descriptive statistics of the variables

Variable	*Observations*	*Mean*	*Standard deviation*	*Minimum*	*Maximum*
Total debt	4210	4232.12	16515.50	0.00	257321.80
Total equity	4210	4654.49	13772.41	0.12	209917.10
Debt-to-equity ratio	4210	71.41	195.12	0.01	10209.90
Market capitalization	4210	8401.69	25590.92	0.58	425079.20
Interest rate	4210	0.92	1.16	-0.51	2.99
GDP growth rate	4210	1.11	2.81	-7.44	6.88
Inflation rate	4210	2.16	1.93	0.04	6.87

Source: Author's elaboration.

Table 2 shows that there are a total of 4210 observations for firms across Europe that have been considered for the analysis. The mean *Total debt* for the firms is USD 4232.12 million. The standard deviation of the same is USD 16515.50. The minimum debt levels for firms start from USD 0 and range to USD 257321.8 million. The average *Total equity* for the firms across Europe is USD 4654.49 million. The standard deviation is USD 13772.41, where the minimum equity level for a company is USD 0.12 million and the maximum equity level is USD 209917.10 million. The *Debt-to-equity ratio* levels of the firms are 71.41% on average. The standard deviation of the same is 195.12%. The minimum *Debt-to-equity ratio* is 0.01% whereas the maximum is 10209.90%. The average *Market capitalization* is around USD 8401.69 million. The standard deviation of the same is USD 25590.92. The minimum *Market capitalization* level is USD 0.58 million, and the maximum is USD 425079.20 million. The *Interest rate* average is 0.92% across all the years for Germany and France. The standard deviation is 1.16%. The minimum return is -0.51%, while the maximum is 2.99%. Over the years, the average *GDP growth rate* in both Germany and France has been 1.10%. The standard deviation of the same would be 2.80%, while the minimum would be -7.44% and the maximum would be 6.88%. Finally, the average *Inflation rate* is 2.16%. The standard deviation for the *Inflation rate* is 1.92%. The minimum value for the *Inflation rate* is 0.03% and the maximum value for the *Inflation rate* is 6.87%.

The correlation results between the long-term debt and the economic variables used in the study are in Table 3.

Table 3. Correlation matrix between the variables

Variable	*Log Total debt*	*Log Total equity*	*Log Debt-to-equity ratio*	*Log Market capitalization*	*Interest rate*	*GDP growth rate*	*Inflation rate*
Log Total debt	1	-	-	-	-	-	-
Log Total equity	0.8981*	1	-	-	-	-	-
Log Debt-to-equity ratio	0.5016*	0.1385*	1	-	-	-	-
Log Market capitalization	0.8212*	0.9303*	0.1135*	1	-	-	-
Interest rate	0.0476*	0.0387*	0.0108	-0.0399*	1	-	-
GDP growth rate	-0.007	-0.0033	-0.0389*	0.0017	0.0905*	1	-
Inflation rate	0.0630*	0.0507*	0.0229	0.012	0.6448*	0.1790*	1

*Note: * p < 0.05; ** p < 0.01; *** p < 0.001 — significance levels for correlation coefficients.*
Source: Author's elaboration.

From Table 3, it can be understood that the *Interest rate* has a significant impact on the overall debt of firms in Europe. The p-value of the same is less than 0.05. However, the coefficient of the correlation matrix is 0.0476, showing a weak correlation between the two variables. The *GDP growth rate* also impacts the *Log Total debt* negatively. This is a weak and negative relation. Finally, the *Inflation rate* has a moderately positive impact on *Log Total debt* by 0.0630 points. The same relation is also statistically significant.

4.2. Multivariate analysis

The segment on multivariate analysis will analyze the panel data regression of the economic indicators on the corporate decision-making on debts using both fixed and random effects. Table 4 shows the results of the FEM and REM.

Table 4 shows that the rate of interest has a negative impact of -0.0852% age point change on the long-term debts of the company. This could be realized using the FEM, as the coefficient for the same is statistically significant. Concerning the REM, the coefficient is -0.0789, and the p-value is statistically significant at a 90% confidence interval. Other economic factors, such as the *GDP growth rate*, also have a positive impact in the long term. The coefficient for FEM is 0.0302% age points, whereas the same for REM is 0.0250. The inflationary pressure does not impact the long-term debts of European firms significantly. The *Debt-to-equity ratio* has a considerable impact on debt levels for firms in Europe. The coefficient using Model 1 is 0.5119, and the same using Model 2 is 0.5924. *Market capitalization* also has a significant impact on the total long-term debt across both Model 1 and Model 2. Finally, the interaction between *Interest rate* and *Market capitalization* has a positive and significant impact on long-term debts using the FEM. The coefficient of the same is 0.0082% age points, and the p-value is significant as well. The year dummies used in the study are also significant, as most of them have a p-value below 0.05. Certain years, like *Dummy for year 8,* are significant at a 90% confidence interval. Finally, other years, such as *Dummy for year 5,* do not impact the debt levels significantly.

Finally, a Hausman test was conducted using the estimates of the FEM and the REM. The results are provided in Table 5.

Table 4. Panel data regression using FEM and REM

Variables	*Coefficient (FEM): Model 1*	*P-value*	*Coefficient (REM): Model 2*	*P-value*
Interest rate	-0.0852	0.0500	-0.0789	0.0910
GDP growth rate	0.0302	0.0050	0.0250	0.0420
Inflation rate	0.0167	0.5820	0.0019	0.9550
Log Debt-to-equity ratio	0.5119	0.0000	0.5924	0.0000
Log Market capitalization	0.1374	0.0000	0.5362	0.0000
Interaction term	0.0082	0.0140	0.0028	0.4400
Year 2 impact	-0.0564	0.0800	-0.1406	0.0000
Year 3 impact	-0.0847	0.0910	-0.2839	0.0000
Year 4 impact	0.1583	0.0050	0.0840	0.1840
Year 5 impact	0.0160	0.7380	-0.1410	0.0060
Year 6 impact	0.4881	0.0000	0.1914	0.1100
Year 7 impact	0.2916	0.0010	0.0614	0.5520
Year 8 impact	0.3887	0.0710	0.3511	0.1530
Year 9 impact	0.5059	0.0130	0.5169	0.0240
Year 10 impact	0.5822	0.0000	0.5976	0.0000
Constant (_cons)	2.4994	0.0000	-0.2084	0.3210

Source: Author's elaboration.

Table 5. Hausman test estimates between FEM and REM

Variable	*Coeff. (b)*	*Coeff. (B)*	*Difference (b-B)*	*Std. err. (sqrt(diag(V_b-V_B)))*
Interest rate	-0.08517	-0.0789	-0.00627	
GDP growth rate	0.03022	0.025017	0.005203	
Inflation rate	0.01666	0.001937	0.014723	
Log Debt-to-equity ratio	0.511905	0.592417	-0.08051	
Log Market capitalization	0.137372	0.536207	-0.39883	0.011203
Interaction term	0.008222	0.002777	0.005445	
Dummy for year 2	-0.05637	-0.1406	0.084226	
Dummy for year 3	-0.08467	-0.28393	0.199261	
Dummy for year 4	0.158293	0.08402	0.074273	
Dummy for year 5	0.016016	-0.14103	0.157047	
Dummy for year 6	0.488093	0.19138	0.296713	
Dummy for year 7	0.291613	0.061367	0.230246	
Dummy for year 8	0.388731	0.351128	0.037603	
Dummy for year 9	0.505879	0.516908	-0.01103	
Dummy for year 10	0.582199	0.597645	-0.01545	
$chi^2(15)$	1218.57			
Prob > chi^2	0.0000			

Source: Author's elaboration.

The probability of the Hausman test shows that the value is statistically significant, as it is below 0.05. Based on these insights, it could be realized that the FEM is more significant in this situation compared to the REM. The FEM controls for unobserved heterogeneity for individual entities like companies and countries. As a result, the FEM is a more robust model in this situation.

The results of the analysis show that a total of 4210 observations across Europe were taken in the study. The timeline of the analysis is between 2015 and 2024, and 1586 companies listed under the German and French stock exchanges are considered. The results show that the average debt levels of the companies are USD 4232.117 million, whereas the average equity levels of the companies

are USD 4654.485 million. This is backed by a *Debt-to-equity ratio* of 71.41019 across the European markets. The companies in the region have 71.41019 units of debt for every 1 unit of equity. This is a substantially large value, suggesting that the companies are extremely leveraged. As a result, a majority of the companies in the study are backed by borrowed funds. The *Interest rate* in Europe has also been significantly low because of its macroeconomic position. The average *Interest rate* growth remained around 0.925081%. The *GDP growth rate* of Europe has also been substantially slow over the years of the study, at just 1.10%. Furthermore, the inflation in Europe remained moderate at a mean value of 2.15% during the timeline of the study. This indicates that the macroeconomic condition in Europe has been substantially weak throughout the study. The *GDP growth rate* and inflation remained low, which indicates that the economic activities in the nation slowed down.

The correlation matrix, which is displayed in Table 3, indicates that the *Debt-to-equity ratio* levels and *Total debt* have a positive relationship. The coefficient is 0.5016, which is moderately strong. This indicates that the companies tend to go for higher debt levels, leading to a higher *Debt-to-equity ratio*. The *Market capitalization* also has a strong positive relationship to the debt levels. The correlation coefficient is 0.8212, which shows that as the company's *Market capitalization* increases, its debt levels also increase. This is an important takeaway for the research, as it shows that a company with a greater size has substantial levels of borrowing from the market. Finally, the study shows that there is a positive relationship between the *Interest rate* and the debt levels. However, the relation is weak. This indicates that a higher interest rate often leads to higher costs of borrowing. However, companies still need to borrow funds for operational reasons despite the higher costs. As a result, there is a positive relation between both variables. Although the relation is weak.

Finally, the multivariate regression analysis shows that the policy rates negatively impact the long-term debt levels of a company. This could be understood as an increase in rates by 1% leads to a decrease in long-term debt by 8.52% in Table 1. This is because the rise in *Interest rate* makes debt servicing more costly. Consequently, the amount of debt decreases. Debt levels for firms are positively impacted by the rise in *GDP growth rate* among European nations. The increase in *GDP growth rate* by 1% age point leads to a 3.02% age point increase in debt levels. The increase in inflation does impact the debt levels of the firms statistically. The firms with a higher *Debt-to-equity ratio* also have higher debt levels. This could be understood from Table 4, where an increase in the *Debt-to-equity ratio* by 1% leads to a percentage point change in debt levels by 51.19%. Finally, the growth in the *Market capitalization* of companies in Europe also leads to higher debt levels. An improvement in *Market capitalization* by 1% age point change, leads to a spike in the debt levels by 13.74%. Both these parameters are log-transformed, hence a percentage point change is considered. Finally, the interaction terms show that an increase in the interaction by 1% leads to an increase of 0.82% in the debt levels of companies in Europe.

5. DISCUSSION

The correlation matrix in the study shows that there is a positive relationship between the interest rate and long-term debt levels. The same can be understood from the study of De Marco et al. (2021), which revealed that even if interest rates rise in the economy, large firms will control long-term debt. This is because the operations of large companies require additional capital, and this capital is usually raised through long-term debt. Furthermore, the correlation matrix also shows that there is a positive and strong relationship between market capitalization and the long-term debt of the firms. This is also because the size of the firms plays an integral role in the requirement of loans and advances for operations.

The multivariate regression analysis shows that interest rates have a negative effect on the long-term debt of firms in Europe. This is identical to the study of Lee et al. (2021), who revealed that higher interest rates increase the cost of debt in the economy. The increase in interest rates makes borrowing more expensive in the nation. As a result, corporates are discouraged from adhering to loans and long-term debts from the market. The monetary policy has a substantial influence on the corporate financial decisions of firms regarding borrowings.

Additionally, the GDP growth rate has a favorable impact on long-term debt for European companies. This is consistent with Jordà et al. (2024), who reveal that an increase in economic growth leads to an improvement in the financial institutions of the nation. This makes the availability of credit more efficient in the country. Furthermore, a firm in a rapidly growing economy will need to increase production. According to a study by Lee et al. (2021), the process of increasing productivity in the economy often requires capital investment. This excess capital investment is often recovered using borrowings from the markets. As a result, the total debt levels of the firms also increase with the growth in the GDP of a nation. Moreover, the interaction term between interest rates and market capitalization also shows a positive effect on the long-term debts of a country. This interaction term shows that larger firms have more long-term debt compared to smaller firms in the European economy. Larger firms require higher capital for operations. This large requirement for capital leads them to borrow from the debt market, irrespective of the interest rates. As a result, this leads to a situation where the larger firms with greater market capitalization are not impacted by the changes in the monetary policy of the nation.

6. CONCLUSION

In conclusion, it can be realized that the change in the interest rate within the European economy leads to an alteration of the corporate decision-making. The purpose of this specific study was to examine how monetary policy influences business decision-making. As a result, it was hypothesized that the interest rate, which is one of the proxies of monetary policy, impacts the corporate decision-making by firms on borrowings. The results support the hypothesis *H1* that there is a substantial impact of monetary policy on corporate decision-making.

To reach this conclusion, the particular study used data across 1586 companies listed under the German and French stock exchanges between 2015 and 2024. Furthermore, the study also used year dummies as there were annualized levels for interest rate, inflation rate, and economic growth rate considered for all the firms across time.

A correlation matrix was first analyzed to understand the relation between the variables. The correlation matrix showed that the interest rate of the nation has a significant impact on the debt levels of firms. Moreover, a panel data regression analysis was also conducted to understand the causal impacts of the independent variables on the dependent variable. From the 4210 data observations, it could be understood that the interest rate, economic growth, debt-to-equity ratio, and market capitalization had a significant impact on corporate decisions regarding long-term debts. The results show that the increase in the interest rate leads to a fall in the long-term debt levels. Moreover, the study also reveals that an increase in the economic growth levels leads to an increase in the long-term debt levels. Furthermore, it has also been found that an enhancement in the debt-to-equity ratio and the firm size also leads to an increase in the long-term debt levels of firms in Europe. The study followed an FEM regression to conclude, as highlighted by the Hausman test.

One of the major limitations of this particular research is that the empirical methodology uses data from the stock exchanges of France and Germany as a representation of Europe. This limits the power of the study substantially, as the consideration of other countries within the continent is also integral for the generalizability of results. Furthermore, the study also uses a panel data regression methodology using the FEM and REM. Given the usage of the annualized levels of economic indicators such as interest rate, inflation rate, and economic growth, the FEM may not always deal with endogeneity problems efficiently. The GMM methodology is a much more useful framework under the given circumstances. As per the study by Antoine and Sun (2022), the GMM framework can account for endogeneity within the model. Moreover, the model would also consider the time-varying factors of economic indicators. Therefore, this change in methodology could make the results more robust.

In the future, the research on the impact of monetary policy on corporate decision-making could take multiple directions. One of the most integral future research directions would be using a variety of monetary policy factors within the empirical methodology, such as quantitative easing. Furthermore, future research could also include a larger number of firms from different European countries to improve generalization. Thirdly, future studies could also relate to corporate decisions on investment motives. This would help the literature have a different perspective on investments, rather than borrowing. Finally, future research could use the GMM methodology to investigate the impact of monetary policy changes on the corporate decisions of firms.

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