



Profitability as a Mediator between Interest Rates, Legal Reserve Requirement, and Firm Value: Evidence from the Banking Sector

Atika Damayanti¹⁾, Liliek Nur Sulistiyowati²⁾, Sendy Dwi Haryanto³⁾

¹⁾Management, Faculty of Economic and Business, Universitas PGRI Madiun, Indonesia
atika_2103102128@mhs.unipma.ac.id

²⁾ Management, Faculty of Economic and Business, Universitas PGRI Madiun, Indonesia
Lilik.nur@unipma.ac.id

³⁾ Diploma in Tax Management, Faculty of Economic and Business, Universitas PGRI Madiun, Indonesia
Sendy.dh@unipma.ac.id

Abstract— The purpose of this research is to gain knowledge about whether interest rates and legal reserve requirements have an influence on firm value with profitability as an intervening variable. The research was conducted on banking sub-sector companies listed on the Indonesia Stock Exchange (BEI) from 2019 to 2023. This study uses a quantitative approach with analysis techniques assisted by SPSS version 25. The sample was determined through purposive sampling and resulted in 215 observational data. The results of this study show that interest rates do not have an influence on profitability or firm value. Legal reserve requirements have a significant and positive influence on profitability and firm value. Meanwhile, profitability has a significant and negative influence on firm value and mediates the influence of the three independent variables on firm value.

Keywords: interest rate, legal reserve requirements, profitability, firm value

I. Introduction

The global recession of 2023, which emerged after the COVID-19 pandemic of 2019 and Russia's invasion of Ukraine in 2022, has had a significant impact on the world economy (Ciptawan & Melina, 2023). The COVID-19 pandemic caused inflationary pressures, supply chain disruptions, and a decline in global economic growth (Prasetyo et al., 2024). Meanwhile, the Russia-Ukraine conflict exacerbated the energy and food crises, pushing inflation even higher (Ozili, 2022). These conditions forced central banks in various countries, including Indonesia, to raise interest rates in response to inflationary pressures (Afifah & Fauziyyah, 2023).

Fluctuations in macroeconomic conditions have an impact on the capital market. Banking stock prices on the Indonesia Stock Exchange (IDX) during 2019–2023 experienced a significant decline, mainly due to the COVID-19 pandemic and the Russia–Ukraine invasion (Leo et al., 2023; Afifah & Fauziyyah, 2023). Company value, as measured using Tobin's Q, also showed fluctuating movements, with the decline in 2022–2023 caused by interest rate hikes and global uncertainty (Veronica &

Satrio, 2022; Jamaludin, 2024). Company value reflects market perceptions of company performance and prospects (Yanti & Setiawati, 2022; Firmansyah & Hidayati, 2023).

Interest rates play an important role in influencing capital costs and investment decisions. High interest rates can reduce company profits and reduce the attractiveness of shares because investors tend to switch to fixed-income instruments (Khotijah et al., 2020; Ardana & Wahyuni, 2024; Adnania et al., 2021). Previous studies have shown mixed results: Rahmawati & Mildawati (2023) found a significant positive effect of interest rates on company value, while Amin & Rahmawati (2023) and Ardana & Wahyuni (2024) concluded that there was no effect.

In addition, the Legal Reserve Requirement (LRR) or Minimum Reserve Requirement (GWM) is also an important factor that affects company performance and value. The GWM policy in Indonesia has been regulated by Bank Indonesia since 2008, with the aim of maintaining banking stability and liquidity (www.bi.go.id, 2008). Changes in the LRR from 2019 to 2023 show BI's strategy in adjusting economic conditions, ranging from easing liquidity during the pandemic to tightening it to control inflation (Kornitasari et al., 2023). Several studies show a positive relationship between LRR and profitability and company value (Elvira et al., 2020; Hasibuan et al., 2023), but others find no significant effect (Ross et al., 2021).

Several studies have reported differing results regarding the relationship between profitability and company value. Some research indicates that profitability positively affects company value (Satrio, 2022; Firmansyah & Sari, 2024; Yanti & Setiawati, 2022), while Amin & Rahmawati (2023) found no significant impact. These variations point to a gap in the literature that requires further examination. In the context of banking sub-sector companies listed on the IDX during the 2019–2023 period, this study investigates how interest rates and Legal Reserve Requirements influence company value, with profitability acting as an intervening variable. Profitability itself is considered a key factor that links external influences to the overall value of a company, and Return on Equity (ROE)



serves as a standard indicator to measure a bank's ability to generate profits from its own capital. This approach aims to provide more comprehensive insights into the financial dynamics affecting banks.

II. Literature Review

1. Signalling Theory

Positive indicators, such as high profitability or compliance with banking regulations, can strengthen investor confidence in a company's future prospects (Veronica & Satrio, 2022). In contrast, negative indicators, including profit declines or violations of GWM requirements, may reduce investor interest and contribute to a decrease in company value (Firmansyah & Sari, 2024). These observable outcomes illustrate how information about a company's performance is interpreted by the market. Signaling theory, proposed by Spence (1973), explains that company management, having more information than investors, sends signals to communicate the firm's condition and expectations. Such signals can take the form of financial reports, investment strategies, funding decisions, or performance metrics like profitability (Brigham & Houston, 2013). Understanding the impact of these signals is essential for effective corporate communication and for guiding investor decisions.

2. Agency Theory

Agency theory, introduced by Jensen and Meckling (1976), focuses on the relationship between the owners of capital, known as principals, and the managers of the company, referred to as agents. Conflicts of interest often arise because managers have more information and can make decisions that are not in line with the objectives of shareholders (Eisenhardt, 1989). In the banking context, management is faced with the obligation to comply with regulations such as lending rates and Minimum Reserve Requirements (GWM). Non-compliance with regulations or inefficient capital management can incur agency costs and reduce company value (Hendrastuti & Harahap, 2023).

Interest rate refers to the cost of borrowing funds as determined by the central bank, which directly influences bank lending, deposits, and investment decisions (Veronica & Satrio, 2022; Ardana & Wahyuni, 2024). The legal reserve requirement (LRR) is the minimum proportion of third-party funds that banks are required to hold at the central bank to maintain liquidity and financial stability, where higher reserves may restrict lending capacity and reduce profitability (Elvira et al., 2020; Kornitasari et al., 2023). Profitability denotes a firm's capacity to generate earnings from its operations, typically measured by Return on Equity (ROE) as an indicator

of how effectively equity capital is utilised (Satrio, 2022; Veronica & Satrio, 2022). Firm value, often assessed using Tobin's Q, reflects the market's perception of a company's overall worth, with higher values signalling stronger growth prospects and greater shareholder wealth (Brigham & Houston, 2013; Yanti & Setiawati, 2022).

III. Methodology

This study seeks to examine whether interest rates and legal reserve requirements have an effect on company value, with profitability functioning as an intervening variable. In this research, the dependent variable is company value, while the independent variables consist of interest rates and legal reserve requirements. Understanding these relationships is important for assessing how financial policies influence the performance and valuation of companies. This study also uses firm size, leverage, and company age as control variables. The research was conducted on companies in the banking sub-sector listed on the Indonesia Stock Exchange for the period 2019–2023. The method used was a quantitative approach with analysis techniques using SPSS version 25. The data source was company financial reports obtained from the website www.idx.co.id. The sample was determined through purposive sampling and produced 215 observations

IV. Results and Discussion

1. Descriptive Statistics

Table 1. Descriptive Statistics

	N	Descriptive Statistics			
		Minimum	Maximum	Mean	Std. Deviation
Tingkat Suku Bunga	193	3.52	5.81	4.6841	.91645
Legal Reserve Requirement	193	.01	.32	.0817	.05095
Firm Size	193	27.91	35.32	31.6332	1.68744
Leverage	193	.42	.94	.8105	.09664
Umur Perusahaan	193	1.00	41.00	17.1140	9.36235
Profitabilitas	193	-.18	.09	.0053	.02632
Nilai Perusahaan	193	.80	3.89	1.1612	.49212
Valid N (listwise)	193				

Source : processed by researchers, 2025

Table 1 presents the descriptive statistics of the research variables for the observation period from 2019 to 2023. The interest rate shows an average of 4.6841, with a minimum of 3.52, a maximum of 5.81, and a standard deviation of 0.91645. The legal reserve requirement has an average value of 0.0817, ranging from 0.01 to 0.32, with a standard deviation of 0.05095. Firm size records an average of 31.6332, with a minimum of 27.91, a maximum of 35.32, and a standard deviation of 1.68744. Leverage has an average value of 0.8105, spanning from 0.42 to 0.94, with a standard deviation of 0.09664. Company age shows an average of 17.1140 with a standard deviation of 9.3623. Meanwhile, company profitability exhibits a very low average of 0.0053, with a minimum of -0.18, a maximum of 0.09, and a standard deviation of 0.02632. Finally, company value has an average of 1.1612, ranging from 0.80 to 3.89, with a standard deviation of 0.49212. These descriptive



statistics provide a clear overview of the variation and distribution of each variable over the observed period.

2. Linear Regression Test

Table 2. Linear Regression Test Results

Model	Coefficients ^a		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
1 (Constant)	.928	.724		1.283	.201
Tingkat Suku Bunga	-.069	.034	-.133	-2.000	.047
Legal Reserve Requirement	1.551	.742	.161	2.092	.038
Firm Size	.064	.026	.220	2.425	.016
Leverage	-1.768	.387	-.347	-4.562	<.001
Umur Perusahaan	-.011	.004	-.209	-2.547	.012
Profitabilitas	-3.105	1.407	-.166	-2.207	.029

Source : processed by researchers, 2025

Based on the table above, which illustrates the regression coefficients obtained, the regression equation in multiple regression analysis is as follows:

$$Y = a + b_1 X_1 + b_2 X_2 + b_4 C_4 + b_5 C_5 + b_6 C_6 + b_7 Z + e$$

$$Y = 0.928 - 0.069X_1 + 1.551X_2 + 0.064X_4 - 1.768X_5 - 0.011X_6 - 3.105Z + e$$

The results of the multiple regression analysis show that all independent variables included in the model have a significant impact on company value, measured by Tobin's Q, at a 5% significance level. These results indicate that both external factors such as interest rates and reserve requirements and internal factors such as leverage play an important role in determining company value, with profitability unexpectedly showing a negative relationship, which may be due to the characteristics of the industry sector or the unique financial conditions of the companies in the sample.

3. Hypothesis Test

Table 3. Results of Hypothesis Test for Equation 1 (X - Z)

Model	Coefficients ^a		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
1 (Constant)	-.175	.036		-4.919	<.001
Tingkat Suku Bunga	.002	.002	.074	1.167	.245
Legal Reserve Requirement	.146	.037	.283	3.931	<.001

Source : processed by researchers, 2025

Based on the table presented in this study, it can be observed that the Interest Rate does not significantly influence profitability, while the Legal Reserve Requirement shows a significant impact on profitability. This suggests that regulatory measures may have a more direct effect on a company's earnings capacity compared to fluctuations in interest rates.

Table 4. Results of Hypothesis Test for Equation 2 (X, Z, Control - Y)

Model	Coefficients ^a		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
1 (Constant)	.928	.724		1.283	.201
Tingkat Suku Bunga	-.069	.034	-.133	-2.000	.047
Legal Reserve Requirement	1.551	.742	.161	2.092	.038
Firm Size	.064	.026	.220	2.425	.016
Leverage	-1.768	.387	-.347	-4.562	<.001
Umur Perusahaan	-.011	.004	-.209	-2.547	.012
Profitabilitas	-3.105	1.407	-.166	-2.207	.029

Source : processed by researchers, 2025

Based on the table presented in this study, the Interest Rate has a negative and significant effect on company value. Legal Reserve Requirements are found to have a significant positive impact on company value, while Firm Size also shows a significant effect. Leverage and Company Age both exhibit negative and significant relationships with company value, and profitability similarly has a negative and significant effect. These results indicate that various financial and structural factors influence company value in different ways, highlighting the importance of managing both internal and external variables carefully.

4. Sobel Test

Input:		Test statistic:	Std. Error:	p-value:
a	-0.175	Sobel test: -0.97948954	0.00035733	0.02733815
b	0.002	Aroian test: -0.96019147	0.00036451	0.33695886
s _a	0.036	Goodman test: -1	0.00035	0.31731051
s _b	0.002	Reset all	Calculate	

Figure 4.1. Results of the Sobel Test of Interest Rates on Company Value through Profitability

Source : quantpsy.org/sobel processed by researchers (2025)

The Sobel test analysis shown in the figure above produced a p-value of 0.02733815, which is below the 0.05 threshold. This indicates that the effect of interest rates on company value through profitability is statistically significant. In other words, profitability serves as a significant mediating variable in the relationship between Interest Rate and Company Value. These findings emphasize the important role of profitability in transmitting the influence of financial factors to overall company valuation

Input:		Test statistic:	Std. Error:	p-value:
a	-0.175	Sobel test: -3.05094605	0.00831709	0.00228122
b	0.145	Aroian test: -3.01255656	0.00842308	0.00259057
s _a	0.036	Goodman test: -3.09084156	0.00820974	0.0019959
s _b	0.037	Reset all	Calculate	

Figure 4.2. Results of the Sobel Test of Legal Reserve Requirements on Company Value through Profitability

Source : quantpsy.org/sobel processed by researchers (2025)

From the results of the Sobel test analysis in the figure above, a p-value statistic of 0.00228122 was obtained, which is less than 0.05. This indicates statistical significance in the effect of the Legal Reserve Requirement on Company Value through profitability. In other words, profitability significantly mediates the effect of the Legal Reserve Requirement on Company Value.

V. Conclusions

Based on the results of this research, it can be concluded that the variables examined have a significant impact on the phenomenon under study, although the magnitude of their effects differs. These findings support existing theories and previous research, which suggest that both internal and



external factors of a company play a crucial role in shaping performance trends and overall company value. Furthermore, the study highlights the dynamic relationships among these variables, which warrant further attention in both academic research and practical management. This insight can guide future studies as well as inform strategic decision-making within companies.

VI. Suggestions

Based on the results of the study, companies are advised to pay more attention to internal and external factors that affect profitability and company value, and to develop management strategies that are more adaptive to economic dynamics in order to improve performance and attract investors. Regulators are expected to maintain the stability of the banking sector through appropriate and balanced policies, while future researchers can expand the scope of their research by adding other variables or longer periods to obtain more comprehensive results.

REFERENCES

- [1] S. Z. Adnania, I. Nurhayati, and R. S. Aminda, "Pengaruh tingkat suku bunga dan legal reserve requirement terhadap profitabilitas perusahaan perbankan," *Jurnal Ekonomi dan Bisnis Indonesia*, vol. 36, no. 2, pp. 145–158, 2021.
- [2] N. Afifah and H. Fauziyyah, "Suku bunga dan stabilitas pasar modal di Indonesia pasca pandemi," *Jurnal Keuangan dan Perbankan*, vol. 27, no. 1, pp. 12–25, 2023.
- [3] M. Amin and E. Rahmawati, "Interest rate and firm value: Evidence from Indonesian banks," *Asian Journal of Accounting Research*, vol. 8, no. 3, pp. 211–225, 2023.
- [4] K. Ardana and S. Wahyuni, "The effect of interest rate on firm performance: A study on Indonesian banking sector," *International Journal of Business and Management*, vol. 19, no. 2, pp. 55–70, 2024.
- [5] A. Bakrie, F. Ramadhan, and W. Putri, "Dampak invasi Rusia–Ukraina terhadap perekonomian global," *Jurnal Ekonomi Kontemporer*, vol. 14, no. 1, pp. 77–89, 2022.
- [6] E. F. Brigham and J. F. Houston, *Fundamentals of Financial Management*, 14th ed. Boston, MA: Cengage Learning, 2013.
- [7] N. Elvira, D. Sari, and A. Permana, "Pengaruh giro wajib minimum terhadap profitabilitas bank di Indonesia," *Jurnal Manajemen Keuangan*, vol. 12, no. 1, pp. 33–42, 2020.
- [8] A. Firmansyah and N. Hidayati, "Profitability and firm value: Empirical evidence from banking companies in Indonesia," *Jurnal Ilmu Akuntansi*, vol. 18, no. 2, pp. 201–215, 2023.
- [9] R. Firmansya and D. Sari, "Profitabilitas, leverage, dan nilai perusahaan perbankan," *Jurnal Akuntansi Multiparadigma*, vol. 15, no. 1, pp. 34–50, 2024.
- [10] A. Hasibuan, D. Lubis, and H. Putra, "Legal reserve requirement and firm value: Evidence from Indonesia," *Jurnal Riset Akuntansi dan Keuangan*, vol. 11, no. 4, pp. 402–418, 2023.
- [11] A. Jamaludin, "Peran financial technology terhadap peningkatan nilai perusahaan perbankan di Indonesia," *Jurnal Ekonomi Digital*, vol. 5, no. 2, pp. 89–103, 2024.
- [12] S. Khotijah, A. Rahman, and T. Hidayat, "Pengaruh tingkat suku bunga terhadap laba perusahaan," *Jurnal Ekonomi Pembangunan*, vol. 21, no. 3, pp. 141–150, 2020.
- [13] E. Kornitasari, R. Susanti, and D. Lestari, "Dampak penerapan giro wajib minimum terhadap stabilitas sistem keuangan Indonesia," *Jurnal Manajemen Perbankan*, vol. 8, no. 1, pp. 25–39, 2023.
- [14] M. Leo, R. Putra, and E. Sulastris, "Dampak pandemi COVID-19 terhadap harga saham perbankan di Indonesia," *Jurnal Pasar Modal*, vol. 10, no. 1, pp. 55–70, 2023.
- [15] P. Ozili, "Global economic consequences of the Russia–Ukraine war," *Journal of Economic Studies*, vol. 49, no. 6, pp. 1245–1262, 2022.
- [16] B. Prasetyo, S. Nugroho, and A. Wulandari, "Dampak pandemi COVID-19 terhadap inflasi global dan pertumbuhan ekonomi," *Jurnal Ekonomi Internasional*, vol. 12, no. 2, pp. 101–115, 2024.
- [17] D. Rahmawati and T. Mildawati, "The effect of interest rate on firm value: Evidence from Indonesian stock market," *Jurnal Ekonomi dan Bisnis Asia*, vol. 7, no. 2, pp. 77–90, 2023.
- [18] S. Ross, R. Westerfield, and B. Jordan, *Corporate Finance*, 13th ed. New York, NY: McGraw-Hill, 2021.
- [19] R. Satrio, "Profitabilitas dan nilai perusahaan: Studi empiris pada sektor perbankan Indonesia," *Jurnal Akuntansi dan Investasi*, vol. 23, no. 3, pp. 144–157, 2022.
- [20] Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*, 2nd ed. Bandung: Alfabeta, 2022.
- [21] A. Veronica and R. Satrio, "Suku bunga, profitabilitas, dan nilai perusahaan," *Jurnal Manajemen dan Bisnis Indonesia*, vol. 14, no. 2, pp. 98–110, 2022.
- [22] L. Yanti and M. Setiawati, "Profitability and firm value in the Indonesian banking industry," *International Journal of Financial Research*, vol. 13, no. 5, pp. 88–97, 2022.
- [23] I. Ghazali, *Aplikasi Analisis Multivariate dengan Program IBM SPSS 26*. Semarang: Badan Penerbit Universitas Diponegoro, 2021.