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Research Article

Monetary Policy and Financial Structure in the Indonesian Banking Industry

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Abstract: *This research investigates how monetary policy, financial market development, macroprudential regulation, macroeconomic factors, and bank-specific characteristics influence bank capital structure in Indonesia, using Debt-to-Equity Ratio (DER) data from 2012Q1 to 2023Q4. It employs a dynamic panel data model with System GMM estimation. The study shows that higher central bank interest rates (BI Rate) decrease the DER while supporting both balance sheet and financial accelerator theories. Financial development produces conflicting outcomes because capital markets with deeper development lower DER, yet credit-based development increases leverage. The implementation of macroprudential policies demonstrates a strong negative effect on DER, which validates their ability to control excessive borrowing. The positive relationship between economic growth and DER suggests that banks tend to increase their borrowing during periods of economic expansion. The size of banks and their Return On Assets (ROA) influence their capital structure because larger banks have higher DER, while ROA produces conflicting effects across different model specifications. The findings demonstrate that well-capitalized banks choose equity financing because they maintain stronger Capital Adequacy Ratios (CAR).*

Keywords: *Capital Structure, Debt-To-Equity Ratio, Monetary Policy, Banking Sector in Indonesia, System GMM.*

I. INTRODUCTION

Monetary policy stands as the fundamental tool that central banks use to control inflation, support economic expansion, and maintain market stability in their pursuit of macroeconomic stability (Anwar et al., 2024; Cheng & Wu, 2024; Suhendra & Anwar, 2021). The monetary policy transmission process in Indonesia's emerging economy is complex because its financial system adapts to external disturbances while dealing with domestic structural limitations (Handayani & Setiastuti, 2025; Anwar et al., 2023). The real economy responds to monetary policy through financial intermediation channels, which depend heavily on the configuration of banks' capital structures, especially their debt-to-equity ratio (Buchak et al., 2024; Ichwanudin et al., 2023). The relationship between monetary policy instruments, financial development, macroprudential regulation, and internal bank characteristics in shaping capital structure dynamics remains poorly understood. Research on monetary policy effects on credit growth and lending behavior exists extensively (Bernanke & Gertler, 1989; Galí & Gertler, 2007; Anwar et al., 2022), yet few studies have explicitly modeled how monetary policy transmission through interest rate channels, macroprudential frameworks, and financial development affects bank capital structure decisions. The alignment of monetary and financial stability objectives requires understanding how CAR, firm size, and ROA influence these dynamics.

The research investigates a fundamental policy matter, examining how banks adjust their financing operations in response to central bank signals. The financial system's growing exposure to global volatility requires banks to optimize their capital structures according to policy objectives because this capability ensures both bank stability and overall financial system stability (Obadire et al., 2023; Abaidoo et al., 2023; Anwar, 2021). Financial risks increase, credit flows decrease, and monetary transmission weakens when policy signals do not align with capital structuring decisions, especially in countries with underdeveloped financial markets (Naifar, 2025; Chari, 2023; Suhendra & Anwar, 2022). The IMF (2015) recognises integrated macro-financial frameworks as important; however, there is insufficient empirical research on how monetary policy instruments, macroprudential measures, financial development, and bank-specific fundamentals affect capital structure outcomes in emerging banking systems (Ichwanudin et al., 2025; Haile et al., 2025). The majority of existing research either studies individual factors independently or concentrates on developed economies, which reduces their applicability for policy-making in Indonesia (Anwar et al., 2025).

The study develops an empirical model which combines the BI Rate (central bank interest rate) with financial development index and macroprudential policy stance, and bank-specific variables including CAR, ROA, firm size and economic growth to explain DER variations across Indonesian banks. The comprehensive framework enables researchers to analyze both policy-driven influences from above and financial market obstacles that shape banking capital structure choices (Li et al., 2025; Shao et

al., 2024). This study contributes to the existing literature on financial accelerator and balance sheet channel theories through an empirical analysis of their applicability in developing countries, using panel data from 2012 to 2023. The main contribution of this research study consists of three parts. This research develops an original framework that links monetary policy, macroprudential regulation, and financial development to understand the evolution of banking sector capital structure. This research presents new empirical findings on DER determinants through the analysis of extensive Indonesian commercial bank panel data. The research provides practical policy recommendations to improve monetary policy effectiveness and enhance macro-financial connections, which support current discussions about central bank responsibilities, regulatory partnerships, and financial system stability.

This research presents multiple essential findings about monetary policy and bank capital structure, adding value to the existing literature. The research presents an advanced empirical framework because it combines multiple macroeconomic variables, including interest rates and financial development, with central bank policy rates and bank-specific characteristics to analyse the Debt to Equity Ratio of Indonesian banks. The research evaluates multiple variables to determine how macroeconomic indicators and internal bank operations jointly affect capital structure decisions. The research studies commercial banks in Indonesia from 2012 to 2023 by analyzing both short-term market events and long-term financial adjustments.

The study employs Generalized Method of Moments (GMM) with dynamic panel techniques to handle endogeneity problems when assessing profitability effects on capital structure results. The research draws on empirical evidence that aligns with emerging market features to provide fresh insights that extend beyond typical capital structure models designed for developed markets. The GMM estimation results validate multiple theoretical predictions through robust empirical data. Banks use their past profitability performance to obtain more equity funding instead of debt financing because high profitability enables them to fund operations through equity. The BI Rate demonstrates a substantial positive effect on DER, indicating that banks decrease their leverage when monetary policy tightens through higher policy rates due to increased debt servicing expenses.

The Financial Development Index enhances DER levels by helping banks discover new funding options while strengthening their capital reserves. The implementation of macroprudential policy creates distinct impacts on banks during different regulatory periods. The capital structure of larger banks remains balanced, while banks with higher CAR levels use less leverage. The research demonstrates that banking systems operating in dynamic financial environments require coordinated monetary and regulatory policies to make optimal capital structure decisions, as seen in Indonesia’s financial system.

II. LITERATURE REVIEW

The analysis of bank capital structure under macroeconomic policies needs a strong theoretical base that combines monetary transmission systems with capital structure models. The research applies the monetary transmission theory (Bernanke & Gertler, 1995) together with the trade-off theory of capital structure (Myers, 1984; Frank & Goyal, 2009). The monetary transmission theory illustrates how the central Bank's Interest rate adjustments (BI Rate) impact capital costs and bank lending activities, which subsequently influence financial intermediation processes. Higher interest rates increase borrowing expenses for banks, which forces them to decrease their leverage to protect both profitability and liquidity reserves. Banks determine their capital structure through the trade-off theory by weighing the tax benefits of debt against the expenses of financial distress.

Capital structure decisions emerge from organizations' strategic responses to both internal performance indicators and external macroeconomic signals. The academic literature continues to examine how monetary policy tools, such as interest rates and reserve requirements, influence bank financial decision-making processes. Banks must decrease their leverage ratios, according to Islam & Nishiyama (2022) and Al-Harbi (2019), due to higher policy rates, rising funding costs, and decreasing lending margins. Banks establish safer capital structures and enhance their risk management capabilities because of strict regulations and rising interest rates. Research by Idomo and Lubis (2023) and Pratami et al. (2021) indicates that the BI Rate has a direct influence on the capital selection choices of Indonesian commercial banks. The macroeconomic factors of inflation, exchange rate volatility, and GDP growth determine how monetary policy affects commercial banks. The research investigates monetary influences but lacks financial development and macroprudential instruments, resulting in an incomplete empirical assessment.

Financial sector development has two distinct effects on capital structure. Financial systems that are well-developed through deepened access and efficient operations enable lower borrowing expenses, additional funding choices, and enhanced capital protection (Levine, 2005). Financial deepening at a fast pace without sufficient institutional development leads to increased risk-taking behavior that damages balance sheet quality (Fang & Peng, 2025). The Financial Development Index indicates that Indonesia maintains a modest position compared to its regional competitors, which influences how banks make capital structure decisions in the context of limited financial intermediation and underdeveloped capital markets. The current financial development conditions require researchers to study how monetary signals affect bank behavior.

The relationship between macroeconomic stability indicators, particularly GDP growth and capital structure dynamics, has been extensively documented in research. The theory suggests that high levels of economic growth reduce default risks, leading banks to take on more debt while increasing their lending activities (Batten & Vo, 2019; Kiganda, 2014). The expansion of credit through economic growth creates higher risks for banks, which might lead to reduced profitability and more cautious capital management (Rolle et al., 2020). Research findings from emerging markets reveal both positive and negative effects, depending on the existing regulatory and institutional frameworks. The long-term effects of macroeconomic fluctuations on DER in Indonesia remain unclear due to the structural changes in the banking system that occurred after 2010.

Emerging economies are experiencing an increased adoption of macroprudential policies as a fundamental element in their financial management systems. The macroprudential instruments, which include countercyclical capital buffers and sectoral credit restrictions, function to reduce systemic risk while enhancing financial resilience (Claessens et al., 2013; Lim et al., 2011). The tools used by these instruments adjust banking capital decisions through measures that promote higher equity reserves and restrict sector-specific leverage increases. Few researchers have conducted empirical studies on the effects of macroprudential policy on DER in emerging economies, while the Indonesian context remains underrepresented in existing research. The current study aims to bridge this essential empirical gap by directly addressing it.

Bank-specific elements, including capital adequacy (CAR) and profitability (ROA), as well as firm size, maintain a consistent relationship with capital structure decisions. Banks with higher CAR demonstrate better solvency capabilities and shock resistance, which leads them to reduce their debt usage (Mohanty & Krishnankutty, 2018). Profitable banks prefer retained earnings as a funding source because this strategy helps them maintain lower DER levels in accordance with the pecking order theory (Hossain, 2012; Batten & Vo, 2019). The size of a bank provides both scale benefits and multiple funding channels, yet it creates internal operational inefficiencies that affect its capital structure decisions. Bank-specific internal forces interact with external macroeconomic signals to produce different capital allocation choices across banking institutions.

The current body of research explains multiple factors influencing bank capital structure, but it fails to elucidate how these elements interact dynamically in Indonesian emerging markets. Most existing research examines monetary policy variables, regulatory instruments, and institutional factors independently, without considering their interactive relationships. The research seeks to solve this knowledge gap by developing an integrated framework that links BI Rate monetary policy to macroprudential regulations and financial development with internal banking indicators to explain DER variations at the bank level. The research contributes to theoretical advancement through its findings, which provide regulators with valuable insights into how coordinated macro-financial strategies can aid central banks in developing capital resilience policies.

III. RESULTS AND DISCUSSION

A) Data

The research examines the determinants of capital structure in Indonesian banking, considering the effects of monetary policy, financial development, and macroprudential policy. The Debt-to-Equity Ratio (DER) serves as the dependent variable to measure capital structure. The study examines the effects of monetary policy through the BI Rate (BIR). It incorporates the Financial Development Index (FDI), Macroprudential Policy Index (MAPP), Economic Growth (EG), Firm Size (FS), Capital Adequacy Ratio (CAR), and Return on Assets (ROA) as independent variables.

The research draws from a balanced panel dataset containing 88 conventional commercial banks across Indonesia throughout the annual period from 2012 to 2023. The data originated from secondary sources, including Bank Indonesia (BI), Statistics Indonesia (BPS), and official audited annual reports of the banks.

Table 1. Descriptive Statistic

Variable	Abbreviation	Mean	Std Dev.	Min.	Max.
Debt to Equity Ratio	DER	9.1351	42.8794	-448.67	898.40
BI Rate	BI Rate	5.6041	1.3830	3.5000	7.7500
Financial Development	FDI	0.3604	0.0172	0.3261	0.3923
Macroprudential Policy	MAPP	0.3113	0.0742	0.1660	0.4130
Economic Growth	EG	4.5058	2.0466	-2.0700	6.0300
Firm Size	SIZE	16.900	1.5311	12.995	21.330
Capital Adequacy Ratio	CAR	29.188	33.009	3.2100	820.90
Return on Assets	ROA	1.7775	1.8575	-15.890	14.750

B) Econometrics Methodology

The research investigates the relationships between monetary-financial variables and capital structure through panel data regression models, which include Pooled Ordinary Least Squares (POLS), Fixed Effects Model (FEM), and Dynamic Panel GMM estimators. The baseline model uses the following general specification:

Four model variations are tested:

$$DER_{it} = \alpha_0 + \alpha_1 DER_{it-1} + \alpha_2 BIR_{it} + \alpha_3 PE_{it} + \alpha_4 SIZE_{it} + \alpha_5 CAR_{it} + \alpha_6 ROA_{it} + \varepsilon_t \quad (1)$$

$$DER_{it} = \alpha_0 + \alpha_1 DER_{it-1} + \alpha_2 FD_{it} + \alpha_3 PE_{it} + \alpha_4 SIZE_{it} + \alpha_5 CAR_{it} + \alpha_6 ROA_{it} + \varepsilon_t \quad (2)$$

$$DER_{it} = \alpha_0 + \alpha_1 DER_{it-1} + \alpha_2 MAPP_{it} + \alpha_3 PE_{it} + \alpha_4 SIZE_{it} + \alpha_5 CAR_{it} + \alpha_6 ROA_{it} + \varepsilon_t \quad (3)$$

$$DER_{it} = \alpha_0 + \alpha_1 DER_{it-1} + \alpha_2 BIR_{it} + \alpha_3 FD_{it} + \alpha_4 MAPP_{it} + \alpha_5 PE_{it} + \alpha_6 SIZE_{it} + \alpha_7 CAR_{it} + \alpha_8 ROA_{it} + \varepsilon_t \quad (4)$$

The Durbin-Wu-Hausman test serves as the first step to detect endogeneity between lagged dependent variables and explanatory variables. The presence of correlation between error terms and regressors makes OLS estimators both biased and inconsistent. The study requires a more robust estimation method. The research implements the Generalized Method of Moments (GMM), which includes System GMM as developed by Arellano and Bover (1995) and Blundell and Bond (1998). The estimator handles endogeneity, omitted variable bias and unobserved heterogeneity through the utilization of internal instruments that include lagged levels and first differences.

The System GMM estimation received diagnostic procedures to validate its robustness and validity. The Sargan Test evaluated instrument reliability through its assessment of over-identifying restrictions validity. A non-significant result in the Sargan Test indicates that the instruments used in the model are valid and not correlated with the error term. The Arellano-Bond tests for first-order (AR(1)) and second-order (AR(2)) serial correlation were conducted to confirm that differenced error terms do not exhibit autocorrelation, which is essential for dynamic panel models to be consistent. The results show no second-order autocorrelation, which supports the model's specification. System GMM outperforms First-Difference GMM both theoretically and methodologically. System GMM uses moment conditions from both levels and first differences to produce an estimator that achieves higher efficiency, especially when first-difference GMM instruments are weak. The method enables the model to extract more reliable and efficient parameter estimates because it addresses the estimation challenges that dynamic panel settings present, including endogeneity, heteroskedasticity, and autocorrelation. System GMM offers an enhanced approach to examining the dynamic factors influencing Indonesian bank capital structure.

C) POLS Estimation

Table 2. POLS estimation results

Variable	Dependent Variable: *Debt to Equity Ratio* (DER)			
	Model 1	**Model 2**	**Model 3**	**Model 4**
DER (-1)	0.0898*** (0.0311)	.0891*** (.03112)	.0895*** (.03113)	.0891*** (.03114)
BI Rate	-0.1623 (1.0976)			-.1140 (1.6591)
FDI		-96.7420 (102.4093)		-195.2071 (212.6191)
MAPP			-10.0734 (23.7892)	26.2471 (61.3731)
EG	0.3305 (0.7455)	.3005 (.6742)	.2635 (.6759)	.4030 (.7814)
Size	.6711 (.9692)	.9573 (.9941)	.8148 (.9957)	.8959 (.9990)
CAR	-.0075 (.0418)	.0017 (.0425)	-.0037 (.0422)	.0017 (.0426)
ROA	-.9627 (.7584)	-1.0873 (.7630)	-1.0344 (.7669)	-1.0381 (.7674)
R^2	0.0106	0.0115	0.0108	0.0120
No. of Cross-section	88	88	88	88
No. of Observation	968	968	968	968

Note: Symbols * is Prob. < 10%, ** is Prob. < 5%, and *** is Prob. < 1%.

The POLS estimation results in Table 2 show that bank capital structure decisions persist strongly because DER(-1) maintains consistent and statistically significant coefficients across all model specifications. The results indicate that previous leverage levels play a major role in shaping present-day decisions, which aligns with the dynamic capital structure adjustment theory. The POLS framework fails to show statistical significance for most explanatory variables, including BI Rate, FDI, MAPP, EG, Size, CAR, and ROA, despite their expected theoretical connections. The BI Rate shows an insignificant negative

relationship with DER, indicating that higher interest rates should reduce borrowing through higher debt costs; however, this relationship fails to achieve empirical validation in this model. The FDI variable shows negative relationships in both Model 2 and Model 4, indicating that financial development promotes equity financing over debt; however, the estimates remain imprecise. MAPP shows conflicting signs between different models, and the EG maintains a positive but non-significant relationship with DER, which supports the idea of procyclical borrowing during expansionary times. The Size variable maintains a positive relationship with DER according to the trade-off theory, while CAR and ROA show negative signs across multiple models, indicating that stronger capital and higher profitability may decrease debt usage. None of the relationships reaches statistical significance.

D) Fixed Effect Estimation

Table 3. Fixed Effect Estimation Results

Variable	Dependent Variable: *Debt to Equity Ratio* (*DER*)			
	Model 1	**Model 2**	**Model 3**	**Model 4**
DER (-1)	-.0507 (0.0333)	-.0507 (0.0333)	-.0506 (0.0333)	-.0508 (0.0333)
BI Rate	-.4162 (1.1773)			-.1168 (1.6339)
FDI		-112.6100 (132.5462)		-190.0012 (213.7038)
MAPP			-5.1961 (31.6856)	25.3216 (61.9777)
EG	.3648 (.7365)	.3322 (.6751)	.2575 (.6694)	.4085 (.7745)
Size	-1.5969 (3.2762)	1.1852 (4.0193)	-.6386 (4.1446)	.32176 (4.2495)
CAR	-.0223 (.0489)	-.0172 (.0492)	-.02165 (.0489)	-.01599 (.0493)
ROA	-1.5191 (.9494)	-1.6383 (.9528)	-1.5696 (.9592)	-1.5725 (.96009)
R^2	0.0061	0.0068	0.0060	0.0073
No. of Cross-section	88	88	88	88
No. of Observation	968	968	968	968

Note: Symbols * is Prob. < 10%, ** is Prob. < 5%, and *** is Prob. < 1%.

The Fixed Effects estimation results in Table 4 show that DER(-1) has a negative coefficient in all four models, but it is not statistically significant. This implies that after controlling for bank-specific fixed effects, past leverage does not affect current leverage decisions. The BI Rate continues to show a negative relationship with DER in Models 1 and 4, which aligns with the theoretical expectation that higher interest rates discourage debt usage. However, the effect remains statistically insignificant. FDI also shows a negative impact on DER in Models 2 and 4, indicating that improved financial market efficiency may reduce firms' reliance on debt. Nonetheless, the lack of significance and inconsistent coefficient sizes suggest that the influence of financial development on capital structure is context-dependent. MAPP exhibits a negative sign in Model 3 and a positive sign in Model 4, reinforcing the notion that the impact of regulatory interventions may vary depending on the timing, type of instruments, and institutional responses of banks. Other macroeconomic and bank-specific variables, such as EG, firm size, CAR, and ROA, also show insignificant effects on DER in all models. Although ROA and CAR consistently yield negative coefficients, their lack of statistical significance suggests that unobserved bank-level characteristics play a more significant role in shaping capital structure choices. Overall, the FE model results underscore the importance of accounting for cross-sectional heterogeneity, yet also highlight the limited explanatory power of these variables. These findings justify the use of more advanced econometric techniques such as the System GMM estimator, which can address endogeneity, dynamic effects, and structural complexity more robustly.

E) Endogeneity Test

Based on the assumption of exogeneity, this study conducted an endogeneity test as presented in Table 4. The Durbin-Wu-Hausman test was performed on models 1 to 4, where the results showed a probability of 0.000 for each group, and the null hypothesis was rejected. Therefore, it is concluded that the panel data has an endogeneity problem.

Table 4. Endogeneity Test

Variable	Model 1	Model 2	Model 3	Model 4
Prob. Durbin-Wu-HausmanTest	0.0000***	0.0000***	0.0000***	0.0000***
No of Cross-Section	88	88	88	88

No of Observation	968	968	968	968

Symbols ** is Prob. < 5%.

F) Dynamic Panel Data Estimation

Table 5. Panel GMM Estimation Results

Variable	Dependent Variable: *Debt to Equity Ratio* (DER)			
	Model 1	**Model 2**	**Model 3**	**Model 4**
DER (-1)	0.5760*** (0.0001)	0.5608*** (0.0001)	0.5608*** (0.0001)	0.5778*** (0.0051)
BI Rate	-0.1508*** (.0138)			-0.0813** (0.0385)
FDI		-26.0486*** (1.0349)		59.9468** (28.1862)
MAPP			-13.3785*** (.48384)	-43.1810*** (13.9945)
EG	-0.0162*** (.0060)	0.0676*** (.0042)	0.0916*** (.0040)	0.0900*** (0.0345)
Size	1.8138*** (.0913)	1.5259*** (.0131)	1.6890*** (.0185)	2.3121*** (0.4486)
CAR	-0.0206*** (.0005)	-0.0130*** (.0003)	-0.0122*** (.0003)	-0.0197*** (0.0027)
ROA	0.0967*** (.0097)	-.00232*** (.0092)	-0.0310*** (.0094)	0.0714* (0.0405)
AR (1) (p-value)	0.0211	0.1267	0.1100	0.0975
AR (2) (p-value)	0.4056	0.2670	0.2639	0.3384
Sargan Test (p-value)	0.0801	0.0537	0.0197	0.1766
No. of Cross-section	88	88	88	88
No. of Observation	968	968	968	968

Note: Symbols * is Prob. < 10%, ** is Prob. < 5%, and *** is Prob. < 1%.

The System GMM estimation results show that capital structure decisions in Indonesian banks follow a dynamic pattern. The lagged dependent variable DER(-1) exhibits statistical significance in all models, with its coefficients fluctuating between positive and negative values, indicating a strong pattern of adjustment in DER. DER(-1) maintains positive significance at a high level in every model, demonstrating that past capital structure decisions shape present financial structure choices. The switching signs of higher lag coefficients indicate that adjustments to previous leverage changes occur over time or that the model exhibits cyclical responses, thus proving that using a dynamic model is better than static POLS or Fixed Effects methods. The policy-related variables demonstrate valuable outcomes in the study. Model 1 and Model 4 demonstrate that higher borrowing costs, resulting from the BI Rate, negatively affect DER in accordance with the theory. MAPP demonstrates significant negative effects in both Model 3 and Model 4, which proves its ability to control excessive leverage through regulatory tools. The FDI has two opposing effects on DER because it decreases it in Model 2 but increases it in Model 4. Financial development affects leverage through two mechanisms: it reduces equity financing opportunities while providing easier access to credit, leading to increased leverage. The control variables exhibit positive and significant relationships with DER when EG and firm size are taken into account. The results demonstrate that larger banks operating within expanding economies tend to use debt financing. Banks with stronger capital buffers demonstrate reduced debt usage according to the negative effects of CAR. ROA produces conflicting results, showing positive effects in Models 1 and 4 and negative effects in Models 2 and 3, because different firms choose to either use their profits for leverage or maintain financial independence. The diagnostic tests (AR1, AR2, and Sargan) show that the instrument set is valid and free from second-order serial correlation, thus confirming the robustness of the GMM estimator used in this research.

G) Discussion

The research data from this study provides important insights about how macroeconomic and institutional factors affect bank capital structure decisions in Indonesia through the DER. The study demonstrates that central bank interest rates have a negative impact on DER, maintaining statistical significance. The balance sheet channel theory explains this finding because monetary tightening increases debt financing costs while weakening firm balance sheets, which reduces their need for external debt. The transmission process works by discouraging firms from using debt for expansion while encouraging them to rely on internal funding sources. The financial accelerator theory (Bernanke, Gertler, and Gilchrist, 1996) supports this finding because higher interest rates intensify financial constraints, especially among firms with poor balance sheet health. The banking sector exhibits reduced excessive leverage when monetary policy adopts a contractionary stance.

The relationship between FDI and DER demonstrates complex results. Financial development leads to reduced DER according to Model 2 because deep and efficient markets enable firms to obtain equity financing more easily. Financial development leads to increased DER according to Model 4 because market expansion through credit access enables firms to obtain loans more easily and at lower costs, resulting in higher leverage. The composition of financial market instruments plays a crucial role in determining a firm's capital structure due to their dual impact on firm decisions. The research by Yunus et al. (2022) suggests that the development of equity markets fosters financial prudence. In contrast, credit-dominated financial development leads growth-oriented firms in emerging economies to take on higher leverage.

The majority of macroeconomic models show that economic growth maintains a positive relationship with DER across different model specifications. The results indicate that corporate investment decisions exhibit a procyclical pattern, as economic growth stimulates higher credit demand, enabling businesses to borrow more funds for expansion. The external finance-based investment theory (Fazzari, Hubbard, & Petersen, 1988) supports this finding, as it demonstrates that firms with limited internal funds respond more strongly to macroeconomic conditions. The negative sign of economic growth in Model 1 shows how firms can use their increased profitability during boom times to replace external debt with retained earnings.

The implementation of MAPP proves essential for managing systemic risk at the system level. The results show that macroprudential policy tools effectively decrease DER, which demonstrates their ability to reduce excessive leverage in the corporate sector. The financial stability theory of Borio (2003) supports the use of instruments such as the Countercyclical Capital Buffer (CCB), Loan-to-Value (LTV) limits and the Macroprudential Intermediation Ratio (RIM) to achieve a more conservative capital structure. These tools protect the banking system while simultaneously affecting corporate borrowers through stricter credit terms.

The research demonstrates that firm-specific variables determine the results. The research shows that larger firms can take on debt because they have a better reputation and better access to financial markets, as well as lower bankruptcy risk. The results confirm the trade-off theory because firms evaluate debt tax benefits against bankruptcy expenses. The analysis shows inconsistent results for ROA. The positive relationship between DER and ROA exists in some models because profitable firms demonstrate confidence and the capacity to expand debt. The pecking order theory explains the negative coefficients in other models because profitable firms choose to use internal funds instead of debt to minimize agency costs and financial risk.

The CAR demonstrates a negative and significant relationship with DER throughout the analysis. The results indicate that firms with robust capital buffers require less debt to finance their operations. Firms maintain their financial resilience through retained earnings and equity capital because they adhere to prudent financial management practices. The results confirm that strong financial stability, as measured by regulatory capital, influences long-term capital structure decisions, particularly in banking sector operations. The research demonstrates how monetary policies, in conjunction with macroprudential and institutional policies, affect emerging market firms when making capital structure decisions. The research demonstrates the need for coordinated policy frameworks that manage credit expansion in accordance with financial prudence, particularly in dynamic financial environments such as Indonesia. The research findings provide policymakers, financial managers, and regulators with essential knowledge to control leverage while maintaining banking sector stability.

V. CONCLUSION

The study finds that tight monetary policy successfully controls excessive debt financing by forcing firms to use internal capital sources. Capital markets have different effects on DER because deepening capital markets leads firms to reduce their use of debt, but accessible credit leads to increased leverage. The capital structure selection process determines a firm's choice between internal and external sources of capital. The research indicates that macroprudential policies effectively decrease DER, which supports their purpose of reducing procyclical leverage and system-wide financial risk. The implementation of CCB together with LTV and RIM as macroprudential tools successfully limits excessive borrowing while creating stable financial conditions through debt-reduction strategies. Economic growth creates positive effects on DER because firms use positive macroeconomic conditions to finance their expansion activities. The relationship remains dependent on how firms operate, as well as their profitability levels and internal funding capabilities. The specific traits of individual companies explain why capital structure displays different patterns.

The research results present essential information to both financial regulators and policymakers. The implementation of monetary and macroprudential policies requires careful calibration between maintaining stability and effectively controlling firms' leverage. Financial development strategies should focus on achieving an equilibrium between credit and capital market expansion. Firms need to structure their capital while taking a strategic approach by balancing cost efficiency against resilience needs across different economic conditions. Future research could expand the analysis to include cross-country comparisons, sectoral heterogeneity, or nonlinear effects to better understand the dynamics of capital structure under diverse institutional frameworks.

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