

Monetary policy, institutional quality, and bank profitability in ASEAN: A pre-pandemic structural analysis

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Abstract

Purpose – This study aims to measure the influence of monetary policy and institutional quality on bank profitability in ASEAN.

Methods – This study uses data from 98 banks spread across 9 ASEAN countries during the 2011-2019. This period includes an important phase in the history of modern banking and monetary policy. The analysis method used is the System Generalized Method of Moments (GMM) two-step model.

Findings – The results of the study show that quantity-based monetary policy has a positive impact on bank profitability. In contrast, price-based monetary policy has a negative but not significant impact. Another interesting finding is that institutional quality has a significant negative effect on bank profitability. This indicates an institutional efficiency trade-off in ASEAN countries. The control variable from the bank's internal conditions showed that NIM and bank size of the bank had a significant positive effect, whereas BOPO had a significant negative effect on profitability. On the other hand, macroeconomic variables show that inflation has a negative effect, but GDP growth has not contributed significantly to profitability in ASEAN banks.

Implications – This research has implications for two aspects: strengthening the transmission of monetary policy through liquidity channels and the importance of maintaining institutional quality reforms in ASEAN countries.

Originality – This study provides an empirical contribution by revealing that monetary policy and institutional quality contribute to determining bank profitability.

Abstrak

Tujuan – Studi ini bertujuan untuk mengukur pengaruh kebijakan moneter dan kualitas institusional terhadap profitabilitas bank di ASEAN.

Metode – Studi ini menggunakan data dari 98 bank yang tersebar di 9 negara ASEAN selama periode 2011-2019. Periode ini mencakup fase penting dalam sejarah perbankan modern dan kebijakan moneter. Metode analisis yang digunakan adalah model dua langkah Generalized Method of Moments (GMM).

Temuan – Hasil studi menunjukkan bahwa kebijakan moneter berbasis kuantitas berdampak positif terhadap profitabilitas bank. Sebaliknya, kebijakan moneter berbasis harga memiliki dampak negatif tetapi tidak signifikan. Temuan menarik lainnya adalah bahwa kualitas institusional memiliki pengaruh negatif yang signifikan terhadap profitabilitas bank. Hal ini menunjukkan adanya trade-off efisiensi institusional di negara-negara ASEAN. Variabel kontrol dari kondisi internal bank menunjukkan bahwa NIM dan ukuran bank memiliki pengaruh positif yang signifikan, sedangkan BOPO memiliki pengaruh negatif yang signifikan terhadap profitabilitas. Di sisi lain, variabel makroekonomi menunjukkan bahwa inflasi memiliki efek negatif, tetapi pertumbuhan PDB belum memberikan kontribusi signifikan terhadap profitabilitas bank-bank ASEAN.

Implikasi – Penelitian ini memiliki implikasi untuk dua aspek: memperkuat transmisi kebijakan moneter melalui saluran likuiditas dan pentingnya mempertahankan reformasi kualitas kelembagaan di negara-negara

Orisinalitas – Studi ini memberikan kontribusi empiris dengan mengungkapkan bahwa kebijakan moneter dan kualitas kelembagaan berkontribusi dalam menentukan profitabilitas bank.

Introduction

ASEAN is an increasingly strategic economic region in the global economy, with relatively high growth and a financial system still dominated by banks, the backbone of intermediation. However, the performance of ASEAN banks faces several structural challenges, such as high credit risk and dependence on interest income, as well as pressures from changing business cycles and various episodes of financial and non-economic crises in recent decades (de Leon, 2020; Lew & Lau, 2022; Siddique et al., 2022). Bank stability and profitability are key, as banks play a central role in credit distribution, financial deepening, and supporting the recovery and sustainable growth agenda in the region (Pham, 2020). Bank profitability plays a crucial role in maintaining financial stability and driving sustainable economic growth. Banks with a high level of profitability tend to be more resilient in the face of economic shocks, such as financial crises or market fluctuations. This resilience allows banks to maintain optimal operations, including effective risk management and the disbursement of credit to support real economic activities (Chand et al., 2024; Lamothe et al., 2024; Mirović et al., 2024; Yüksel et al., 2018). On the other hand, banks with low profitability face significant challenges that can increase the risk of default, capital decline, and systemic risk, which can disrupt the stability of the financial system as a whole (Joaqui-Barandica et al., 2022). Therefore, maintaining the level of banking profitability is very important to ensure the creation of a solid financial system and a sustainable economy.

The profitability of banks is influenced not only by internal factors but also by macroeconomic conditions. Factors such as institutional quality, effective regulation, and appropriate monetary policy are key determinants in driving the efficiency of financial intermediation. The quality of a country's governance and the implementation of sound monetary policy will create an operating environment conducive to banks generating sustainable profits and contributing positively to the economy as a whole. The quality of the institution will affect the quality of the bank's assets and risks through law enforcement and regulatory effectiveness. Good institutional qualities, such as low levels of corruption and contract uncertainty, will lower the cost of credit risk and litigation, which impacts higher and more stable bank profitability. Chand et al. (2024) dan Ozbek et al. (2025) Reveal that better law enforcement and strong regulations are able to reduce NPLs, increase capital, and encourage quality credit disbursement. Good institutional quality will reduce information asymmetry and transaction costs, enabling banks to allocate credit to high-quality projects (Canh et al., 2021). Good institutional quality also enhances the effectiveness of macroeconomic policies, which ultimately affect the profitability and performance of banks.

On the other hand, monetary policy affects the structure of interest rates, which is later reflected in the bank's net interest margin. Monetary policy, through various instruments, determines the availability of liquidity, which in turn affects the capacity of credit disbursement and banking revenues (Vinotha et al., 2017; Ghimire et al., 2024). Empirical evidence demonstrates that interest rate policy affects bank margins. In addition, monetary instruments implemented through restrictions and easing of credit disbursement capacity will affect the risk of default, which ultimately determines the bank's profitability (Firmansyah et al., 2024). In addition, Said & Bashir (2018) revealed that since the implementation of Basel II capital requirements, the sensitivity of loan risk to monetary policy has increased. To date, there are still differences in findings from previous research measuring the impact of monetary policy on bank profitability. Studies have found that loose monetary policies, such as low interest rates, do not reduce banks' profitability when balanced with improved credit quality and non-interest income (Raftis et al., 2024). Instead, Altavilla et al. (2018) dan Molyneux et al. (2019) found the negative impact of low interest rates in the form of decreased bank profitability. Various monetary policy instruments produce various

findings, either negative, positive, or not significant. Likewise, the quality of institutions has an inconsistent influence depending on each country's banking system of each country.

This is an important research gap to see how much monetary policy and institutional quality contribute to banking profitability, especially in ASEAN countries. Based on these considerations, this study aims to measure the impact of monetary policy and institutional quality on banking profitability in ASEAN countries during the period 2011 to 2019. This period includes an important phase in the history of modern banking and monetary policy. These phases include the post-global financial crisis phase, the gradual normalization of monetary policy, regulatory reform, and the major expansion of banking in developing countries. On the other hand, the period provides a clear baseline for distinguishing which new changes occurred post-2020, when COVID-19 emerged, and which old patterns are repeating (Sang, 2024). To comprehensively understand the behavior of the current financial system, a number of studies emphasize the importance of examining the dynamics of key periods in the past. This approach not only relies on cutting-edge data but also outlines historical patterns that provide in-depth insights. Studies in banking and central bank policy show that the relationship among monetary policy, banking risk, and financial stability is cyclical. Therefore, lessons learned from past economic phenomena remain relevant, especially when the global economy faces challenges such as inflationary pressures, interest rate tightening, and policy uncertainty (Bordo, 2017; Wang, 2024). This understanding helps design more effective policy responses in the face of evolving economic dynamics.

This study uses case studies in ASEAN countries for several reasons. First, the financial systems of ASEAN countries depend on banking (bank-based), so banks play a crucial role in the economy as a whole. If there is a change in monetary policy and the quality of the institution, it will have a major effect on the bank's stability and profitability (Pham, 2020). Second, ASEAN countries are very heterogeneous, consisting of developed countries with strong institutional quality and developing countries with institutional and governance quality that is still lagging behind (Stein, 2020). These differences create interesting study material by examining the influence of institutional quality and monetary policy on bank profitability across varying levels of economic development and governance. Third, the integration of finance and banking in ASEAN countries is an interesting area for identifying which factors can support improvements of bank performance, especially bank profitability. Fourth, ASEAN countries have diverse characteristics, ranging from differences in banking structures to unequal depth of financial systems, so studies in ASEAN countries are needed to determine whether the findings will differ from those in other regions. Fifth, ASEAN countries are dominated by developing countries, so this study shows that bank lending and interest rate channels through monetary policy in financial markets are less developed than in developed countries.

To comprehensively understand the combined influence of monetary policy and institutional quality on bank profitability, it is essential to analyze the macro-institutional linkages in depth. Monetary policy, as a representation of macroeconomic factors, has a crucial role in regulating economic dynamics. Through its influence on the benchmark interest rate, this policy can change the market interest structure, determine the level of liquidity, and affect credit demand in the banking sector. This condition directly affects the volume of loans disbursed and the net interest margin earned by banks, both of which are key determinants of profitability. On the other hand, the quality of the institution plays an important role in ensuring that credit is allocated wisely, whether to productive and healthy or speculative uses. Strong institutions create an environment conducive to quality credit growth, reduce the risk of bad credit, and support the overall stability of the financial system. The combination of effective monetary policy with good institutional quality not only promotes healthy credit growth but also ensures continued profitability for banks. A number of empirical studies show that bank profitability depends not on a single factor but is the result of the synergy between sound monetary policy and the quality of institutions. Therefore, a deep understanding of the interaction of these two factors is essential to design a banking strategy that is able to survive in the midst of changing global economic dynamics (Altavilla et al., 2021; Borio et al., 2017; Kasana et al., 2023; Ozbek et al., 2025).

Banking is an intermediary institution whose operational activities are to collect funds from the public in the form of deposits and distribute funds to those in need in the form of credit. In their

operations, banks benefit from the net interest margin, which is the difference between short-term deposit interest and long-term loan interest. Borio et al. (2017) revealed that high interest rates are positively correlated with bank ROA. Meanwhile, Altavilla et al. (2021) it found that monetary policy easing through interest rate cuts does not automatically reduce bank profits because it is offset by non-interest savings and improved credit loss provisions. Interest rate channel theory posits that changes in the direction of monetary policy, driven by changes in interest rates, affect short-term interest rates and the slope of the yield curve, thereby determining banks' profits. Nevertheless, Vinotha et al. (2017) and Kasana et al. (2023) emphasized that reserve deposit interest rates and lending rates are the main determinants of bank profitability, ROA, and ROE, rather than the interest rate policy itself. Thus, monetary policy, through changes in interest rates, can have different impacts on profitability depending on the bank's intermediation capabilities and business structure. Based on this argument, interest rates are expected to have a significant association with bank profitability.

Broad money growth is a monetary policy instrument that is directly related to the availability of liquidity in the banking system. In general, the increase in broad money will be followed by an increase in profitability for two reasons. The first reason is that when broad money increases, market liquidity becomes abundant. This condition lowers the cost of funds due to the availability of larger funds in the market. With lower cost of funds, banks have greater capacity to expand credit distribution across sectors of the economy. This widespread lending of credit not only boosts economic growth through increased business activity and consumption but also increases bank revenues. In addition, this condition positively affects the bank's net interest margin. With low funding costs and increased interest income from widespread credit disbursement, banks' interest margins will increase. Overall, the increase in broad money creates a cycle that supports revenue growth and profitability in the banking sector (Ghimire et al., 2024; Omankhanlen et al., 2021; Simbolon et al., 2024). The second reason is that financial deepening, which is reflected in a higher broad money ratio, plays an important role in strengthening banking capacity. This increase in the ratio reflects greater liquidity in the financial system, allowing banks to allocate more funds for financing. With greater capacity for financing disbursement, banks can support real-sector growth more effectively, especially when the economy is expanding. This encourages increased economic activity, creates new jobs, and expands the bank's customer base. As a result of this increase in productive financing, banks were able to increase both interest and non-interest income, ultimately benefiting their net income (Daulay et al., 2025; Shah et al., 2025). However, the effect is not always favorable and is highly dependent on the quality of the intermediation and macro stability. Krishna et al. (2021) Finding a broad money supply has a negative effect on profitability, which is interpreted as an indication that monetary expansion does not automatically translate into quality credit distribution or suppress margins to reduce profitability. Based on this argument, broad money growth is expected to have a significant association with bank profitability.

Institutional theory posits that institutional quality, such as regulation, corruption control, and the rule of law, shapes how financial institutions behave and perform, including in banking (Ozbek et al., 2025). The rule of law, control of corruption, regulatory quality, government effectiveness, and political stability are considered rules that can minimize information asymmetry, reduce transaction costs, and mitigate moral hazards. Ozbek et al. (2025) Studies across 28 countries show that institutional quality positively affects banking profitability, as measured by ROA. Their findings show that the rule of law variables have the strongest influence on increasing ROA because law enforcement can reduce credit risk. Meanwhile, according to Bermpei et al. (2018) and Kumar et al. (2023), good institutional quality positively impacts the bank's profitability by reducing transaction costs, increasing the efficiency of credit allocation, and reducing risk. Institutional quality will determine the bank's operating environment; a favorable environment will encourage efficiency, ultimately increasing profits (Malla, 2025; Yao et al., 2018). In the context of developing countries, improving institutional quality has been shown to reduce credit risk (Canh et al., 2021; Gani & Rasul, 2020). More specifically, in ASEAN countries, Ha & Nguyen (2023), Mortadza et al. (2024), Muizzuddin et al., (2021), Tran et al. (2023) dan Yen et al. (2023) empirical evidence shows that composite indicators of institutional quality can lower NPLs and improve bank stability. Based on this argument, institutional quality is expected to have a significant association with bank profitability.

Methods

Research Data and Variables

The data used in this study consisted of 98 banks in 9 ASEAN countries, namely Singapore, Vietnam, Thailand, China, Philippines, Malaysia, Cambodia, Brunei Darussalam, and Indonesia, during the period 2011 to 2019. The 2011–2019 research period was chosen because it represents an important phase of the dynamics of the banking sector in Asia, particularly in the context of monetary policy and institutional quality. After the 2008–2009 global financial crisis, many Asian countries adjusted their monetary policy frameworks, strengthened macroprudential regulations, and implemented institutional reforms that directly affected banking stability and profitability. The 2011–2019 period captures a period of post-crisis consolidation, normalization of global interest rates, and increasing international financial integration, making it relevant for assessing how monetary policy transmission interacts with institutional quality to influence bank performance. In addition, the 2019 data cuts allowed measurement of banking behavior under non-crisis conditions before the extraordinary shocks caused by the COVID-19 pandemic, so the estimated results better reflect medium-term structural relationships without being distorted by extreme exogenous factors. This study uses two profitability indicators, namely Return on Assets (ROA) and Return on Equity (ROE). ROA is a ratio that measures the bank's ability to generate profits from all assets under management and reflects the operational efficiency and quality of public fund intermediation (Florea & Cîșlaru, 2025; Nurjanah et al., 2025). Meanwhile, ROE measures the rate of return on equity invested by shareholders, reflecting the return and investment attractiveness for capital owners (Ramadhan et al., 2019). In profitability analysis and previous literature, it is stated that ROA is seen as the best indicator of performance in terms of asset efficiency, while ROE is a classic measure of profitability that takes into account the leverage and profits of investors (Kablay & Gumbo, 2021; Shamki et al., 2016). Using two profitability indicators, ROA and ROE, can produce a more comprehensive picture of a bank's performance (Ercegovac et al., 2020). A summary of the variables used in this study is presented in Table 1.

Table 1. Research Variables

Variable	Definition	Source
Dependent Variable		
Bank profitability		
Return on Assets (ROA)	Bank profitability is measured using ROA, namely (Net Profit/Total Assets)	The Bankers Bank
Return on Equity (ROE)	Bank profitability is measured using ROE, namely (Net Profit/Total Equity)	The Bankers Bank
Independent Variable		
Internal Bank-Specific Factors		
Net Interest Margin (NIM)	Net Interest Margin is the ratio of interest income / average interest-producing assets	The Bankers Bank
Bank size (SIZE)	Bank size is measured by the natural logarithm (Ln) of total assets	The Bankers Bank
Operating Expense to Operating Income Ratio (BOPO)	BOPO is the ratio of operating costs to the bank's operating income	The Bankers Bank
Monetary policy		
Broad money growth (BM)	Annual percentage growth in broad money, reflecting changes in the overall money supply.	WDI
Interest rate (IR)	The prevailing interest rate, representing the cost of funds and monetary financing conditions.	WDI
Macroeconomics		
Inflation (Inf)	Inflation (CPI) as measured by the consumer price index	WDI
Gross Domestic Product (GDP)	Annual GDP Growth	WDI
Institutional quality		
Political stability	Measures perceptions of the likelihood of political instability and politically motivated violence.	WGI
Government Effectiveness	Measures perceptions of the quality of public services, civil service, policy formulation, and government credibility.	WGI
Regulatory quality	Measures perceptions of the government's ability to formulate and implement sound policies and regulations.	WGI
Rule Law	Measures perceptions of the extent to which agents have confidence in and abide by the rules of society.	WGI
Control Corruption	Measures perceptions of the extent to which public power is exercised for private gain, including corruption and state capture.	WGI

Data Analysis Methods

This study uses institutional quality variables as one of the independent variables measured using a composite index. The formation of the institutional quality index (Gov) is calculated using Principal Component Analysis (PCA). This method is used to reduce the dimensionality of a set of variables to a smaller set that does not correlate with each other. The PCA technique is used to address multicollinearity and simplify the model, yielding a simpler, more stable index without eliminating information (Mallick et al., 2019; Nxumalo & Makoni, 2021). This study adopts techniques carried out by Hadipour et al. (2023), Nxumalo & Makoni (2021), and Toufique (2025) which combine institutional quality indicators into a single composite index using the PCA technique. The PCA procedure begins with measuring the Kaiser Meyer Olkin (KMO) on the condition that the value of the KMO must be more than 0.5. The test results showed a KMO value of 0.8, indicating that the PCA method was generally appropriate. The second procedure is to examine the values of the Eigenvectors (loadings) with conditions exceeding 1, which represent cumulative variation of more than 60 percent. In Table 4, one component has an eigenvalue greater than 1 and accounts for 83.27 percent of the cumulative variation, so the second condition is met. Furthermore, for each indicator, a weight is derived to form an index number used to measure the quality of the institution, as shown in equation 1.

Table 2. KMO and Bartlett's Test of Institutional Quality

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.830
Bartlett test of sphericity	
Chi-square	7202.794
df	10
p-value	0.000

Table 3. Result of Principal Component Analysis (PCA) Institutional Quality

Component	Eigenvalue	Difference	Proportion	Cumulative
Political stability	4.16356	3.48534	0.8327	0.8327
Govt Effectiveness	0.678218	0.605242	0.1356	0.9684
Regulatory quality	0.0729753	0.00838771	0.0146	0.983
Rule Law	0.0645876	0.0439303	0.0129	0.9959
Control Corruption	0.0206573		0.0041	1

Table 4. Principal component analysis: Eigenvectors (loadings) Institutional Quality

Variable	Comp1	Comp2	Comp3	Comp4	Comp5	Unexplained
Political stability	0.3181	0.9212	-0.0199	0.2195	0.0398	0
Govt Effectiveness	0.4787	-0.1947	-0.3073	-0.049	0.7976	0
Regulatory quality	0.4612	-0.3272	0.2044	0.765	-0.2309	0
Rule Law	0.4795	-0.0755	-0.59	-0.3309	-0.5539	0
Control Corruption	0.4765	-0.0268	0.7179	-0.5046	-0.047	0

To form an institutional quality index, it can be calculated using the following equations:

$$Gov = (0.3181 \times \text{Political stability}) + (0.4787 \times \text{Govt Effectiveness}) + (0.4612 \times \text{Regulatory quality}) + (0.4795 \times \text{Rule of law}) + (0.4765 \times \text{Control Corruption}) \quad (1)$$

The measurement of the influence of institutional quality and monetary policy on bank profitability in this study uses the Generalized method of moments (GMM) developed by Knowles & Owen (1995). The choice of the GMM method is based on two reasons. First, the bank's profitability is strongly influenced by the previous year's conditions, so it is necessary to include a lag for the dependent variables in the research model. Second, this study uses panel data consisting of the number of banks (N=98) and a short time period (t=9 years), so the appropriate method is Generalized Method of Moments (GMM) (Roodman, 2009). To limit instrument proliferation, the lag structure is restricted, and the instrument matrix is collapsed, a common strategy in dynamic panel GMM practice. Model specification validity and robustness are then evaluated using the Hansen test for overidentifying restrictions and the Arellano–Bond AR(2) test for second-order autocorrelation in the differenced residuals (Allison et al., 2017; Cheng & Bang, 2021; Roodman, 2009b; D. Wu et al., 2023). The research model formed is as follows:

$$ROA_{i,t} = \alpha_0 + \alpha_1 ROA_{i,t-1} + \alpha_2 BM_{it} + \alpha_3 IR_{it} + \alpha_4 Gov_{it} + \alpha_5 Inf_{it} + \alpha_6 GDP_{it} + \alpha_7 NIM_{it} + \alpha_8 BS_{it} + \alpha_9 BOPO_{it} + \varepsilon_{i,t} \quad (2)$$

$$ROE_{i,t} = \alpha_0 + \alpha_1 ROE_{i,t-1} + \alpha_2 BM_{it} + \alpha_3 IR_{it} + \alpha_4 Gov_{it} + \alpha_5 Inf_{it} + \alpha_6 GDP_{it} + \alpha_7 NIM_{it} + \alpha_8 BS_{it} + \alpha_9 BOPO_{it} + \varepsilon_{i,t} \quad (3)$$

From this equation, Gov shows the institutional quality index measured using PCA, BM is the growth of the money supply, IR shows interest rate policy, Inf is the inflation rate, GDP is GDP growth, and the bank's internal variables consist of NIM, which is net interest margin, BS is the size of the bank, and BOPO shows the ratio of operating costs divided by operating income.

Results and Discussion

Descriptive Statistics

The initial analysis examines the characteristics of the data by presenting the descriptive statistics in Table 5. Bank profitability, measured by ROA and ROE, is within a fairly wide range. ROA has a maximum value of 3.66% and a minimum of 7.71%. The same is true for ROE, which shows a wide disparity, with a maximum of 54.92% and a minimum of -106.6%. This shows that the profitability conditions of banks in ASEAN countries are highly diverse, ranging from highly profitable banks to those experiencing financial distress. Meanwhile, the average ROA and ROE were 1.17% and 10, respectively. 56%. The key variables of monetary policy and institutional quality also show mixed values. The average Government Effectiveness variable is 0.37, Regulatory Quality has a positive average of 0.15, and Political Stability and Control of Corruption are -0.14 and -0.19, respectively. The correlation test in Table 6 shows that the institutional quality variable has a strong correlation with Govt Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption, with values of 0.9. To address the correlation problem, a PCA-based index was created for institutional quality variables.

Table 5. Descriptive statistics

Variable	obs	Mean	Std. Dev.	Min	Max
ROA (1)	882	1.171893	0.848412	-7.71	3.66
ROE (2)	882	10.56381	8.331088	-106.6	54.92
bank_size (3)	882	8.998152	1.652482	4.730833	12.96886
BOPO (4)	882	50.09612	21.39949	4.399493	365.3771
NIM (5)	882	57.51627	295.6406	-86.2	3631.21
Inflation (6)	882	3.533781	3.059226	-1.260506	18.67773
GDP Growth (7)	882	5.496812	1.621004	-2.508353	9.550832
Broad money (8)	882	11.38792	6.3767	-1.759365	39.41027
Interest rate (9)	882	4.434333	2.758261	-12.21538	28.05388
Political stability (10)	882	-0.1443866	0.5410358	-1.311683	1.615338
Govt Effectiveness (11)	882	0.3721923	0.6112893	-0.9061814	2.236419
Regulatory quality (12)	882	0.1549831	0.5892111	-0.6687129	2.260543
Rule Law (13)	882	0.0169131	0.5507209	-1.114451	1.878559
Control Corruption (14)	882	-0.1887714	0.5690449	-1.325735	2.174833

Table 6. Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1.0000													
2	0.7573	1.0000												
3	0.1614	0.2712	1.0000											
4	-0.5359	-0.4907	-0.2520	1.0000										
5	0.2704	0.1215	0.1112	-0.0631	1.0000									
6	0.0530	0.0318	-0.2897	0.0243	0.0428	1.0000								
7	0.0033	0.0275	-0.1249	0.0100	-0.0163	0.1770	1.0000							
8	0.0399	0.0375	-0.2886	0.0058	-0.0106	0.2799	0.4814	1.0000						
10	-0.0581	-0.1331	-0.2644	0.1598	0.1433	-0.2444	-0.0072	0.0402	1.0000					
11	-0.0515	0.0279	0.1421	-0.0645	-0.0891	0.0317	0.4574	0.1942	-0.1553	1.0000				
12	-0.0700	0.0407	0.4993	-0.0503	-0.1084	-0.3983	-0.0127	-0.3720	-0.2901	0.5128	1.0000			
13	-0.0130	0.0630	0.4951	-0.0657	-0.0827	-0.4327	-0.0578	-0.3836	-0.2633	0.4167	0.9515	1.0000		
14	-0.0924	0.0382	0.5094	-0.0460	-0.1234	-0.3928	0.0658	-0.3355	-0.3119	0.5836	0.9708	0.9149	1.0000	
15	-0.0867	0.0188	0.4726	-0.0390	-0.0801	-0.2844	0.0748	-0.2494	-0.2042	0.6061	0.9380	0.9069	0.9331	1.0000

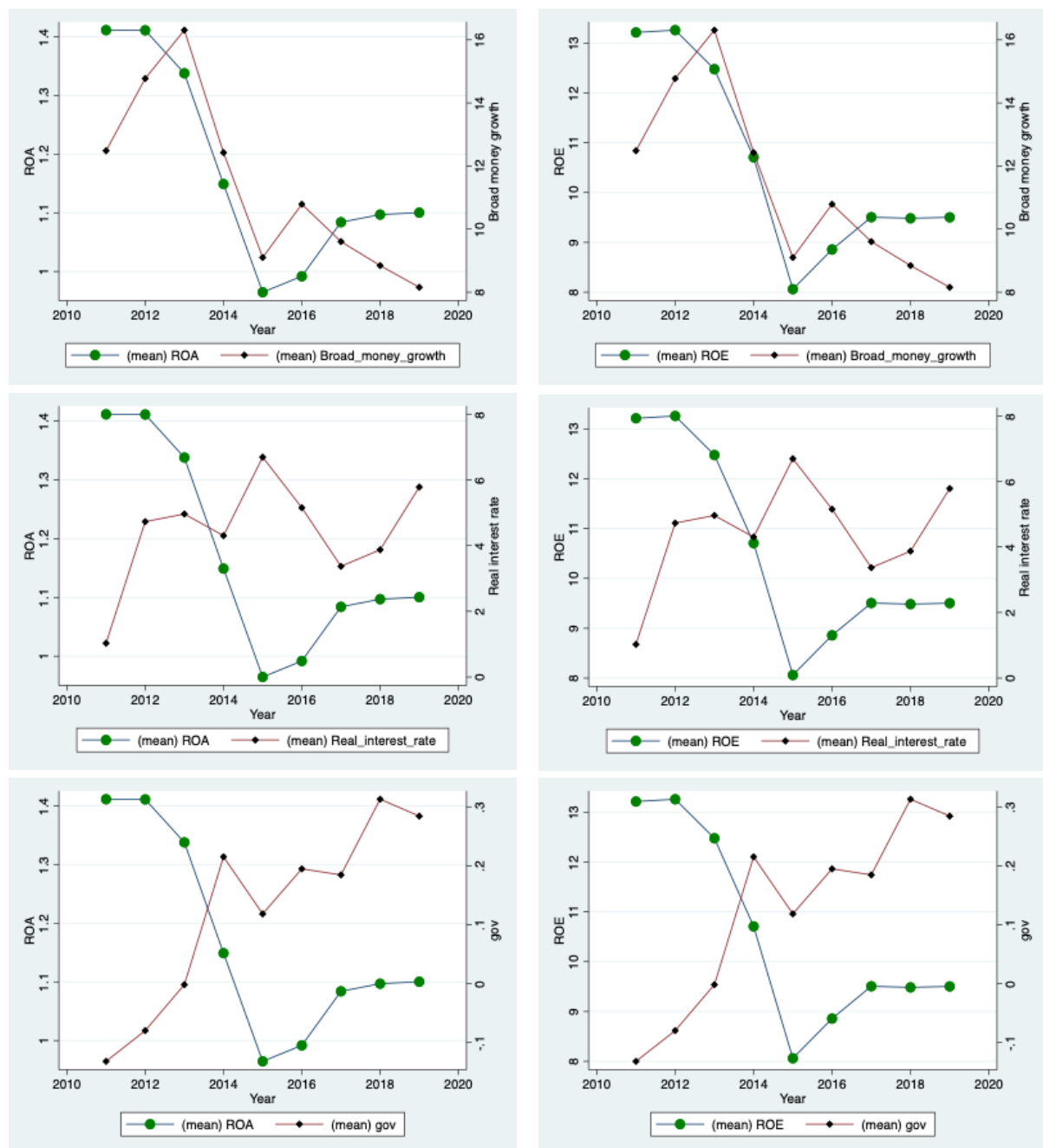


Figure 1. Trend between bank profitability and monetary policy, and institutional quality

Based on the results of the trend test results shown in Figure 1, broad money growth is positively correlated with bank profitability, as measured by the Return on Assets (ROA) and Return on Equity (ROE) indicators. These findings indicate that increased macroeconomic liquidity through an expansion of the money supply can encourage banks to disburse more credit, ultimately resulting in greater profits. On the other hand, the relationship between real interest rates and bank profitability is complex and often runs counter to expectations. Early indications of this correlation suggest that rising interest rates do not automatically increase bank profits. The graph shows a downward trend in bank profits, consistent with rising interest rates, suggesting that other factors affect profitability beyond the interest rate itself. In addition, institutional quality variables are negatively associated with bank profitability, as measured by ROA and ROE. This phenomenon is an interesting area of study because improving the quality of institutions that are supposed to support financial stability tends to erode banks' profitability. This may be due to increased regulation and stricter supervision, which, while aimed at improving efficiency and transparency, may limit the bank's leeway in achieving optimal profit margins.

Baseline Result

Testing of the influence of monetary policy and institutional quality in this study uses the Generalized Method of Moments (GMM). The results of the model specification test showed that the two-step GMM System (GMM sys) model did not exhibit autocorrelation in the residuals, indicating that the assumption of no serial correlation was met. In addition, instrument validity tests, such as the Hansen test, indicate that the instruments used are valid and relevant, so the model can be relied upon to draw conclusions about the relationship between monetary policy, institutional quality, and the dependent variables under study. This is shown by the probability value of AR2 in the two-step GMM sys model being greater than the 5 percent alpha level (0.252 and 0.446), so it can be concluded that there is no autocorrelation in the model. Furthermore, the Hansen test showed probability values greater than the 5 percent alpha level (0.071 and 0.197), indicating that the model was valid. Thus, the two-step GMM System model was chosen as the estimation model used in this study.

Table 7. Two-step GMM System Estimation Results

Variables	ROA	ROE
Lag ROA	0.490*** (0.016)	
Lag ROE		0.461*** (0.00802)
Broad Money Growth	0.000898 (0.00227)	0.0968*** (0.0235)
Real Interest Rate	-0.00336 (0.00536)	-0.00658 (0.0321)
Gov Index	-0.0547*** (0.0173)	-0.404** (0.175)
Bank Size	0.0265* (0.0149)	0.726*** (0.104)
BOPO	-0.0103*** (0.000583)	-0.0473*** (0.00298)
NIM	0.000270*** (0.000062)	0.000979*** (0.000349)
Inflation	-0.00666 (0.00589)	-0.128*** (0.0481)
GDP Growth	0.00985 (0.00954)	0.12 (0.102)
Constant	0.801*** (0.186)	-0.394 (1.284)
Number of Bank_ID	98	98
Hansen P-Value	0.071	0.197
AR2pval	0.252	0.446

Notes: *** p<0.01, ** p<0.05, * p<0.1, *, **, and *** represent statistical, significance levels of 10%, 5%, and 1%, respectively

This study included the lag of independent variables in the model because, theoretically, banking profits are also determined by the performance of banks in the previous period. This theory is supported by the results of the ROA variable lag test, and the ROE variable lag has a significant effect. In the literature, this is called profit persistence, which is simply interpreted as the fact that banks that performed well last year tend to perform well in the following year. Bernardelli & Carrasco-Gutierrez (2024) Given the evidence of profit persistence, the use of a dynamic panel model is appropriate to capture the influence of past profitability on current profits. The ROA and ROE variables indicate the bank's ability to manage assets efficiently and to generate profits from its own capital. When the previous year has performed fairly well due to effective management and low credit risk, efficiency and relative profit are maintained in the following year. Satisfactory performance in the previous period will increase market confidence, thereby decreasing the cost of funds and increasing business volume, ultimately pushing ROA and ROE back to high levels in the next period (Fromğan & Yildiz, 2023).

Test results shown in Table 7 indicate that quantity-based monetary policy, namely broad money growth, has a positive impact on profitability, as measured by ROE, but does not have a significant association with ROA. Every 1% increase in the money supply will increase the bank's profitability by 9.68%. An interesting finding from this study is that the money supply has a different impact on the two aspects of profitability of ROA and ROE. This can be explained because the two indicators have different meanings. Profitability, measured by ROA, indicates asset utilization efficiency, while ROE indicates shareholder returns and is sensitive to the bank's leverage structure. This is in line with the study conducted by Abbas et al. (2025) dan Jain et al. (2025), which reveals monetary policy has a different impact on ROA and ROE. An increase in the money supply positively affects ROE for two reasons. First, the growth of the money supply will affect leverage and capital costs. An increase in broad money growth loosens the liquidity of the financial system and reduces the cost of funds, so credit expansion and bank revenues increase. Abbas et al. (2025) provides empirical evidence that increased leverage is capable of driving increased ROE rather than ROA. Meanwhile, the second reason can be seen from market effects, namely, the valuation and risk-taking of banks. Banks tend to be aggressive in financing and take moderate risks when market liquidity is high. This affects shareholder returns, which are increasing alongside bank revenue. As expressed Liu et al (2024) in his research, there is a positive relationship between money supply and banking market performance.

This pattern is in line with the characteristics of the ASEAN financial system, which is experiencing financial deepening and intermediation expansion, where increased liquidity and credit growth have proven to be important drivers of bank profitability in Indonesia, Malaysia, Thailand, and the Philippines (Adnan et al., 2021; de León, 2020; Nadia et al., 2025). Money supply growth can be interpreted as the main channel of monetary policy transmission through the volume side, which drives the expansion of banks' productive assets and increased ROE, consistent with evidence that credit and financial depth are positively correlated with bank profitability in Asia and ASEAN (Saif-Alyousfi, 2022). On the other hand, growth in the money supply did not significantly affect ROA, as bank assets increased in line with the easing of monetary policy. Credit expansion, driven by an increase in the money supply, encouraged growth in total bank assets. Rahmatullah (2025) revealed that when the increase in profit is followed by an increase in the bank's total assets, the profit-to-asset ratio (ROA) becomes statistically insignificant because the value has not changed much. Jain et al. (2025) dan Malla (2025) revealed that the profitability of ROA is more influenced by internal factors, while monetary factors do not have a significant impact. In addition, the increase in the money supply, which has not been followed by an improvement in economic activity, has limited its impact on the profitability of asset-based banks.

Furthermore, monetary policy variables measured using interest rates do not have a significant impact on bank profitability. This is in line with the results of the study conducted, which show that interest rates have only a small effect compared to other policy instruments such as liquidity, mandatory reserves, and exchange rates. Interest rates can have two different effects depending on the country and the banking system. In this case, interest rates are able to increase interest margins and profits so that the bank's profitability increases, but on the other hand, the goodness of interest rates can also burden debtors so as to increase the risk of default and systemic risk (Bucher, 2024; Munir et al., 2025; Ozili, 2025). Interest rates can affect net interest margins, but banks need to adjust credit pricing, funding pricing, and maturity structure so that an increase in interest rates does not directly impact ROA and ROE (Borio et al., 2017; Cahyadi & Mardanugraha, 2024). Dang (2022) provides empirical evidence that Vietnam is one of the ASEAN countries that experiences a weak impact of rising interest rates, as non-interest income actually decreases when interest rates are high. In the context of ASEAN countries, interest rates have no association with bank profitability, reflecting a banking business structure that accumulates profits from non-interest income.

The insignificance of interest rate-based monetary policy in influencing bank profitability indicates that, in ASEAN countries, the monetary transmission mechanism does not operate effectively through interest rate changes. Conversely, the influence of monetary policy on bank profits is more predominantly determined by the dynamics of the amount of liquidity in the market

and fluctuations in credit demand. This confirms that factors such as the availability of liquid funds and the tendency of individuals and business actors to apply for loans are the main channels for determining the financial performance of banks in the region. Thus, understanding credit demand patterns and liquidity management is an important key in designing an effective monetary policy strategy in ASEAN. Cross-ASEAN studies⁵ show that macro variables such as interest rates and inflation only play a role when analyzed separately and are often overshadowed by the strength of bank-specific variables when included together in the model (Adnan et al., 2021). These findings place the results of the study within a body of evidence indicating that banking performance in the region is more sensitive to balance sheet structure, credit risk, and asset growth than to aggregate interest rates. Thus, the role of monetary policy in pre-COVID ASEAN appeared to be more dominant through systemic liquidity management than short-term price adjustments.

The main variable in the form of institutional quality has a negative influence on bank profitability, as measured by both ROA and ROE. This result is quite surprising because, in theory, the quality of institutions that are getting better, as measured through the rule of law, regulation, corruption control, and political stability, can increase bank profitability because it prevents inefficiencies and reduces credit risk (Ozbek et al., 2025; Trinugroho et al., 2025). The negative impact of institutional quality on bank profitability can be interpreted as a positive signal of a change in the banking business model in ASEAN countries from a high-profit, high-risk orientation to a moderate-profit, low-risk orientation. In general, the decline in ROA and ROE, along with the improvement in institutional quality, shows that banks are more cautious. Strong regulatory and governance demands drive higher standards of compliance, more complex supervisory and reporting, and more stringent credit processes. This increases compliance costs, loss reserves, and operational costs of banks, thereby reducing profitability. This finding is in line with Mortadza et al. (2024) the idea that institutional quality, such as government effectiveness and regulatory quality, has a negative and statistically significant impact on stability, as measured by return on assets (ROA).

In addition, the application of strict laws and regulations requires greater capital and loss reserves, but this does not indicate weakness but resilience in the long term (Q. K. Nguyen, 2022; Pham, 2020). Nadia et al. (2025) dan Wu et al. (2016) Revealing institutions improve, banks are forced to acknowledge NPLs and uncover hidden losses, causing profits to fall but reducing systemic risks. On the other hand, good institutional quality prevents banks from engaging in aggressive risk-taking that yields high profits, but banks remain fragile (Yen et al., 2023). Mongid & Tahir (2011) Conducted research in ASEAN countries and found that the high corruption index actually increases bank profits. When corruption is suppressed and regulations are strengthened, the opportunity for rent-seeking practices decreases and abnormal margins decrease (Nguyen, 2025). Thus, these findings show that good institutional quality forces banks in ASEAN countries to operate more transparently and cautiously. Banks may enjoy high profits due to weak government oversight, high corruption, and political connections, but these sources of profit are not healthy. Although there is a short-term trade-off in profit due to improved institutional quality, in the long term, the banking system is fairer and healthier, thereby increasing banks' resilience. In line with this argument, a study conducted across ASEAN countries (Karyani et al., 2020; Kristanti et al., 2024) found that strengthening governance improves banking performance and value in the long run but suppresses short-term profits due to increased compliance costs.

Within this framework, the period 2011–2019 served as an important baseline illustrating how ASEAN banks operated in a "normal" period of expansion and regulatory consolidation, prior to the widespread profit pressures during the pandemic (Pham, 2020; Saif-Alyousfi, 2022). The positive relationship of broad money growth to profitability (ROE) suggests that during the pre-COVID period, ASEAN banks were able to leverage liquidity expansion to increase profits through growth in credit and yielding assets, in line with evidence that credit growth drives the ROA and ROE of ASEAN banks (Nadia et al., 2025). The insignificance of policy interest rates confirms that in normal situations, the main channels to profitability are liquidity and credit volumes, not interest rates. Meanwhile, the negative influence of institutional quality on profitability can be read as a consequence of the regulatory consolidation phase through strengthening

supervision, prudence, and governance to reduce short-term ROE, but it became the foundation of resilience when the Covid19 crisis then lowered ROA/ROE in many post-2020 studies (Doran et al., 2022; Gunasekara et al., 2025; P. D. Nguyen, 2024).

Furthermore, the influence of the bank's internal control variables, as reflected in its size and net interest margin, has a positive association with profitability. Large banks can record high profits, which can be explained by 3 mechanisms. First, large banks can achieve economies of scale through technology investments that enable larger transactions and declining unit costs (Blatter & Fuster, 2022). Second, larger banks enjoy better access to funds and diversification. Banks can access cheap sources of funds thanks to the high level of public trust. This trust allows banks to raise funds at a lower cost than other financial institutions. In addition, banks can allocate these funds effectively by diversifying, both in terms of geography and product type. This diversification aims to reduce the concentration of risk in a single area or product, making the risks faced by banks more stable and relatively low (Đaković et al., 2023). Third, large banks can adapt to regulations and risks, enabling them to maintain higher efficiency and profitability than small banks (Gržeta et al., 2023). Meanwhile, net interest margin (NIM) can drive higher profits because it indicates how efficiently banks generate returns on productive assets. Erfandi et al. (2025), Silaban (2017) and Son (2024) provides empirical evidence that the higher the NIM, the greater the interest profit per unit asset. A high NIM indicates that banks have market power because they can set lending rates above their funding costs. Meanwhile, BOPO has a significant negative influence on the bank's profitability. Each 1% increase in BOPO reduces the bank's profit by 1.03% for ROA and by 4.73% for ROE. A higher BOPO indicates that banks use revenue to cover costs, thereby shrinking profits. If BOPO increases, operating costs will grow faster compared to revenue; consequently, profit before tax will decrease further (Witjaksono & Natakusumah, 2021). Putri et al. (2024) revealed that a high BOPO also indicates a signal of poor management because banks operate inefficiently due to the use of suboptimal technology and poor organizational structure. This certainly has a negative impact on bank profitability, as measured through ROA and ROE.

Macroeconomic variables indicate that inflation negatively affects ROE profitability but has no significant association with ROA profitability. Macro shocks due to inflation increase operating costs and credit risks, thereby lowering the real value of equities, thus depressing banking profits. When profits decrease slightly, but equity is depressed enough, ROE will plummet, whereas ROA remains relatively stable and has little effect (Rahman et al., 2015). Inflation weakens equities on two sides, namely a decline in shareholders' real profits and increased costs and risks. High inflation increases commodity prices, prompting customers to withdraw their savings for consumption, ultimately decreasing profits and equity and worsening ROE (Hidayatulloh et al., 2025). In addition, high inflation is followed by higher bank operating costs and NPLs, as debtors have difficulty meeting their obligations, forcing banks to form loss reserves that reduce profits (Harimurti et al., 2022). High inflation is also accompanied by higher interest rates and leads to capital losses as the value of securities portfolios decreases. On the other hand, the reserve of credit losses due to inflation results in a decrease in equity, thereby lowering ROE, while the decline in equity is not followed by an increase in profit (Jitmaneeroj & Ogwang, 2023).

Meanwhile, GDP growth does not have a significant association with bank profitability. Several studies have shown similar results: GDP growth does not automatically improve credit quality or increase bank profits. Gazi et al. (2024) revealed that during the expansion period, when economic growth was high, banks relaxed credit standards, but when the economic cycle reversed, excessive risk-taking by banks resulted in an increase in NPLs. In addition, economic growth is uneven across sectors, so when banks allocate credit to certain sectors, it does not automatically increase bank profits (Muliani et al., 2022). Overall, the findings in this study indicate that the business model and efficiency of banks in ASEAN countries are not adaptive to macro and institutional changes. This can be seen in the interest rate policy, whose impact is inconsistent, and in the quality of institutions that suppress bank profits. Banks in ASEAN countries have not been able to capture economic growth to accelerate profits, while price pressures are pushing banks to maintain shareholder profits rather than strengthen the intermediary function. This is in line with a study conducted by Adnan et al. (2021) which reveals that the integration of banking in ASEAN

countries into the macro ecosystem is immature. An interesting finding from this study is that institutional improvement is negatively associated with bank profits. These results indicate that institutional strengthening reduces banks' rent-seeking practices but has not affected efficiency. Banks make profits not because of efficiency and healthy intermediation functions, but because of governance weaknesses that can be exploited. The negative influence of institutional quality on bank profits in ASEAN can be read as a transition phase. When distortions are reduced by suppressing corruption, tightening regulations and supervision, and promoting healthier competition, there are no cartels and price monopolies, resulting in a fall in short-term profits. However, research in various countries shows that strengthening institutions ultimately promotes efficiency, stability, and more sustainable profitability in the long run (Bashiru et al., 2023; Chand et al., 2024; El Hokayem, 2024; Mendoza et al., 2024; Trinugroho et al., 2025).

Conclusion

This study aims to assess the influence of monetary policy and institutional quality on bank profitability, as measured by ROA and ROE. The data used in this study were from 98 banks from 8 ASEAN countries during the period 2011 to 2019. The research method used is the Generalized Method of Moments (GMM), as the bank's profitability is theoretically influenced by profits in the previous period; therefore, the dependent variable is lagged in the research model. Static panel testing was also conducted to assess the consistency of the results of estimates of the contribution of monetary policy and institutional quality to bank profitability. The results of this study show that quantity-based monetary policy, through money supply growth, positively affects profitability, as measured by the ROE indicator. On the other hand, price-based monetary policy, namely changes in interest rates, has a negative but insignificant impact. An interesting finding from this study is that institutional quality has a significant negative effect on bank profitability, as measured by both ROA and ROE. This study also included control variables derived from the bank's internal characteristics of the bank and found that NIM and bank size had significant positive effects, whereas the BOPO variable had a significant negative effect on profitability. From a macroeconomic perspective, inflation has a significant negative effect on ROE but not on ROA. Meanwhile, GDP growth has not contributed significantly to the profitability of banks in ASEAN countries.

This research has implications in two respects: strengthening the monetary transmission of liquidity channels and continuing institutional quality reform. Based on the findings, central banks in ASEAN countries need to optimize quantity-based monetary policies, especially when economic conditions are weakening. This is because ASEAN banks are more responsive to changes of liquidity (growth of the money supply) than to changes in interest rates. From the institutional side, the government must maintain high institutional quality, even though it puts pressure on banks' profits in the short term. Regulators need to ensure that the decline in profitability is offset by a healthier competitive climate and long-term banking stability. The government also needs to control inflation so as not to erode real equity yields, hinder credit expansion, and reduce banking profitability.

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