Determinants of Financial Deepening in Indonesia: Analyzing the Impact of Banking and Macroeconomic Factors

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Abstract. Financial deepening plays a vital role in economic development, yet its determinants in Indonesia remain understudied. This research aims to analyze the impact of banking and macroeconomic factors on financial deepening in Indonesia. The data used in this research is quarterly data from 2019 to 2023 to examine the effect of the number of bank offices, number of deposit accounts, inflation, and interest rates (BI rate) on financial deepening. Our results indicate that the number of deposit account and inflation have significant effect on financial deepening where that the number of deposit account has no direct effect in the context of this model and inflation has negative effect on financial deepening. Meanwhile, the effects of the number of bank office and BI rate are not statistically significant, indicating that changes in these areas may not substantially affect financial deepening. These findings have significant implications for policymakers and financial institutions in fostering financial sector development in Indonesia.

Keywords: Financial Deepening, Indonesia, Banking Sector, Macroeconomic Factors.

1 Introduction

Financial deepening, characterized by the increasing provision of financial services and the growing size of the financial sector relative to the overall economy, is a critical aspect of economic development. In emerging economies like Indonesia, understanding the drivers of financial deepening is crucial for formulating effective policies to promote financial inclusion and economic growth.

Indonesia, as the largest economy in Southeast Asia, has experienced significant financial sector development over the past decades. However, the country still faces challenges in deepening its financial markets and expanding financial services to a broader population. According to the publication of the World Bank, financial deepening proxied by credit to GDP ratio in Indonesia is 35,3%, in the 7th of 9 ASEAN country. This ratio far below Cambodia, Thailand, Singapore, Vietnam, and Malaysia with ratio over 100%.

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Table 1. ASEAN Credit to GDP

No.	ASEAN Country	Credit to GDP
1	Cambodia	180,0%
2	Thailand	156,4%
3	Singapore	129,5%
4	Viet Nam	126,4%
5	Malaysia	113,3%
6	Philippines	48,9%
7	Indonesia	35,3%
8	Myanmar	29,0%
9	Lao PDR	20,9%
	Average	93,3%

Source: World Bank, 2024

The World Bank has published numerous documents highlighting the benefits of financial deepening, which include enhancing economic growth by improving access to capital, increasing financial inclusion for underserved populations, and contributing to greater stability in financial systems. Financial deepening facilitates efficient resource allocation, reduces vulnerability to economic shocks by expanding access to savings and insurance, and enhances the effectiveness of monetary policy.

The purpose of this study is to examine the factors that contribute to Indonesia's financial deepening, with a particular emphasis on macroeconomic and banking sector variables.

Specifically, we look at the effects of four major variables: the number of deposit accounts, the number of bank branches, inflation, and interest rates (BI Rate). We want to provide insight on how macroeconomic factors, financial inclusion initiatives, and macroeconomic conditions affect the depth of Indonesia's financial sector by examining these variables.

This research contributes to the existing literature by:

- Providing a comprehensive analysis of both banking infrastructure and macroeconomic variables affecting financial deepening.
- Focusing on Indonesia, the biggest economy in Southeast Asia and a significant developing market.
- Utilizing recent data to capture the evolving dynamics of Indonesia's financial landscape.

2 Literature Review

2.1 Theoretical Framework of Financial Deepening

The theory of "financial repression" was created by McKinnon [1] and Shaw [2], whose foundational studies laid the groundwork for the concept of financial deepening. The argument put forth was that financial development and, by extension, eco-

nomic growth are impeded by government interventions in the financial markets, such as interest rate limits and directed lending programs. The foundation for later studies on the significance of financial sector development was established by this hypothesis.

Building on this foundation, King and Levine [3] offered actual data demonstrating a favorable correlation between long-term economic growth and financial depth. Their cross-country analysis, which covered 80 nations between 1960 and 1989, showed a substantial correlation between the rate of physical capital formation, real per capita GDP growth, and increases in economic efficiency.

By identifying five crucial financial system functions that support economic growth—facilitating risk management, allocating resources, monitoring managers and enforcing corporate control, mobilizing savings, and facilitating the exchange of goods and services—Levine [4] further developed this theoretical framework. Discussions on policy and future research have benefited from this functional understanding of financial systems.

Rajan and Zingales [5] added the "financial dependence" hypothesis to this theoretical framework. They contended that in nations with more advanced financial markets, industries that rely more on outside funding expand more quickly. This idea emphasizes how crucial financial deepening is to promoting economic and industrial growth.

To a greater extent, Demirgüç-Kunt and Maksimovic [6] investigated how variations in financial systems impact the capacity of businesses to take advantage of expansion prospects. Firms in nations with more advanced financial systems grow more quickly than they could if they relied just on internally produced capital and short-term borrowing, according to their analysis of 30 countries.

2.2 Banking Factors Influencing Financial Deepening

Research on the role of banking factors in financial deepening is substantial. A thorough investigation into the effects of bank branch geographic expansion on financial inclusion and depth was carried out by Beck et al. [7]. They discovered, using data from 99 countries, that a considerable rise in the number of bank branches per person enhances access to financial services, which in turn expands the financial industry. Their results highlight how crucial physical banking infrastructure is for fostering financial depth, particularly in emerging nations.

Allen et al. [8] expanded upon this area of research by examining the fundamental elements of financial inclusion in developing nations. They investigated both individual and national factors that influence the ownership and utilization of formal bank accounts, which is a crucial component of financial deepening. Utilizing data from 123 countries, their findings indicated that increased financial inclusion correlates with reduced account fees, enhanced access to financial institutions, improved legal rights, and more stable political conditions.

In the context of emerging markets, Demirgüç-Kunt and Huizinga [9] investigated the factors influencing commercial bank interest margins and profitability. Their research indicates that banks with strong capital positions experience lower anticipated

bankruptcy costs, allowing them to achieve higher margins and profits. This study underscores the significance of bank-specific characteristics in shaping the financial environment and their potential impact on financial deepening.

Building on this analysis, Berger and Udell [10] introduced the idea of "lending technologies" as a crucial factor in financial deepening. They posited that having access to various lending methods—such as relationship lending, credit scoring, and asset-based lending—can greatly improve financing opportunities for different sectors of the economy, especially small and medium enterprises (SMEs).

Cull et al. [11] explored the impact of agent banking on enhancing financial inclusion and deepening. Their investigation into agent banking in Brazil revealed that this innovative strategy can significantly broaden access to financial services for underserved communities, thereby facilitating financial deepening in regions where traditional bank branches may not be economically feasible.

2.3 Macroeconomic Factors and Financial Deepening

Macroeconomic conditions are essential in influencing the development of the financial sector. Boyd et al. [12] examined the connection between inflation and the performance of the financial sector. Their analysis, which covered a panel of 97 countries from 1960 to 1995, revealed that high inflation rates significantly hinder financial sector growth. They noted that as inflation increases, the ratio of bank lending to GDP declines, along with a decrease in stock market liquidity.

The effect of interest rates on financial deepening has also garnered research attention. Demirgüç-Kunt and Detragiache [13] found that while higher real interest rates generally promote financial intermediation, excessively high rates can create vulnerabilities within the financial system. Their cross-country analysis of banking crises illustrated the careful balance policymakers must maintain in managing interest rates to foster financial deepening while ensuring financial stability.

Economic growth is recognized as a significant driver of financial deepening. Calderón and Liu [14] analyzed data from 109 developing and industrialized nations between 1960 and 1994 to explore the causal relationship between financial development and economic growth. They discovered a bi-directional causality, with financial development playing a more substantial role in this relationship within developing countries, suggesting a positive feedback loop where economic growth and financial deepening support one another.

Additionally, La Porta et al. [15] highlighted the critical role of legal systems and investor protection in financial deepening. Their influential research indicated that nations with stronger legal protections for investors tend to have more advanced capital markets, emphasizing the importance of institutional factors in this process.

Chinn and Ito [16] explored the relationship between capital account liberalization and financial development. They concluded that financial openness fosters equity market growth only when a certain level of legal development is achieved, illustrating the intricate relationship between policy decisions and institutional development in promoting financial deepening.

2.4 Indonesia-Specific Studies on Financial Deepening

Although there is a vast body of literature on financial deepening globally, research specifically targeting Indonesia is relatively sparse. Nasrudin et al. [17] explored the impact of financial inclusion on Indonesia's economic growth and income inequality. Analyzing provincial-level data from 2014 to 2017, they discovered a positive correlation between financial inclusion and economic growth, alongside a negative correlation with income inequality. These results emphasize the potential for financial deepening to promote inclusive economic development in Indonesia.

Trinugroho et al. [18] studied the factors influencing banking penetration across various regions in Indonesia. Their research, which examined data from 33 provinces between 2008 and 2010, identified key determinants such as population density, educational attainment, and infrastructure. Notably, they found that the presence of Islamic banks positively impacts overall banking penetration, indicating a complementary relationship between conventional and Islamic banking in the country.

In a more recent analysis, Yusgiantoro et al. [19]r investigated the link between financial inclusion and the effectiveness of monetary policy in Indonesia. Utilizing quarterly data from 2010 to 2017, they found that increased financial inclusion strengthens the transmission of monetary policy. This finding underscores the broader macroeconomic advantages of financial deepening in Indonesia, extending beyond individual welfare and firm-level impacts.

Further contributing to Indonesia-focused studies, Rosengard and Prasetyantoko [20] addressed the paradox of financial deepening in Indonesia. Despite notable growth in the banking sector, they observed that access to finance for micro, small, and medium enterprises (MSMEs) remained constrained. Their research pointed to the necessity for targeted policies to ensure that financial deepening yields wider economic benefits.

Tampubolon [21] examined the role of financial technology (fintech) in enhancing financial inclusion in Indonesia. The study revealed that fintech has considerable potential to expedite financial deepening, especially in reaching unbanked populations, while also identifying regulatory challenges in balancing innovation with financial stability.

2.5 Research Gap and Contribution

While the current literature offers important perspectives on financial deepening, there are notable gaps, especially regarding Indonesia. Firstly, many studies tend to focus solely on either banking factors or macroeconomic factors, neglecting their potential interactions. Secondly, most research specific to Indonesia emphasizes financial inclusion or banking penetration without thoroughly examining the determinants of financial deepening.

This research aims to bridge these gaps by delivering a comprehensive analysis of the factors influencing financial deepening in Indonesia, taking into account both banking and macroeconomic elements. In doing so, it seeks to significantly contribute

to existing literature and offer valuable insights for policymakers and practitioners within Indonesia's financial sector.

Moreover, although some studies have addressed the roles of Islamic finance and fintech in Indonesia's financial environment, there is a need for a more in-depth analysis of how these components interact with traditional banking and macroeconomic factors to foster financial deepening. This study intends to fill this void by providing an integrated analysis that encompasses conventional banking, Islamic finance, fintech innovations, and macroeconomic factors, all within the unique economic and social context of Indonesia.

By addressing these gaps, this research not only enhances academic literature but also provides crucial insights for policymakers aiming to encourage balanced and inclusive financial deepening in Indonesia.

3 Methods

This study utilizes quarterly 5-year data from 2019 to 2023, obtained from reliable sources such as Bank Indonesia, the Indonesian Financial Services Authority (OJK), and the Central Statistics Agency. This research is a type of quantitative research that involves the use of numerical data and statistical analysis. The multiple linear regression analysis method is used to analyze the effect of the independent variable on the dependent variable. In this research, the independent variables are the number of bank offices, number of deposit account, inflation, and BI rate. The dependent variable is the financial deepening in Indonesia as indicated by the ratio of credit by banking sector to gross domestic product (GDP). The operational definition of each variable is as follows:

- Number of Offices (X1) is the number of bank offices in Indonesia per 1.000 citizen, both of commercial banks and rural banks. Units of measurement are expressed in terms of the number of units.
- Number of Deposit Account (X2) is the number of deposit account per 1.000 citizen in both commercial bank and rural banks. Units of measurement are expressed in terms of the number of units.
- Inflation (X3) is inflation rate based on the Consumer Price Index (CPI). Units of measurement are expressed in percentage (%).
- BI Rate (X4) is the Bank Indonesia 7-day reverse repo rate in percent units (%).
- Financial Depening (Y) is the ratio of credit from both commercial banks and rural banks to GDP. Units of measurement are expressed in percentage (%).

4 Results

4.1 Descriptive Statistics Test

This research uses descriptive statistics to provide information about the number of offices, number of deposit accounts, inflation, BI rate, and financial deepening. Table

2 shows a list of descriptive research variables for 20 periods (see Table 2). Before testing the hypothesis using regression analysis, classical assumptions were tested, namely normality, multicollinearity, and heteroscedasticity tests.

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
BankOffice	20	30325.00	38237.00	34585.4500	2982.01709
Deposit Account	20	1536.00	2906.00	2165.9500	.464.32832
Inflation	20	.01330	.05950	.0289450	.01379128
BiRate	20	.03500	.06000	.0463750	.01021077
FinancialDeepening	20	1.27569	1.55328	1.3840318	.07621485
Valid N (listwise)	20				

Source: Output SPSS, 2024

The normality test used a descriptive test with a normal curve P-P Plots. Based on the results of the normality test (see Fig. 1), it was found that the asset proportion variable was normally distributed because the data points were distributed around the diagonal line, and the distribution was in the same direction as the diagonal line.

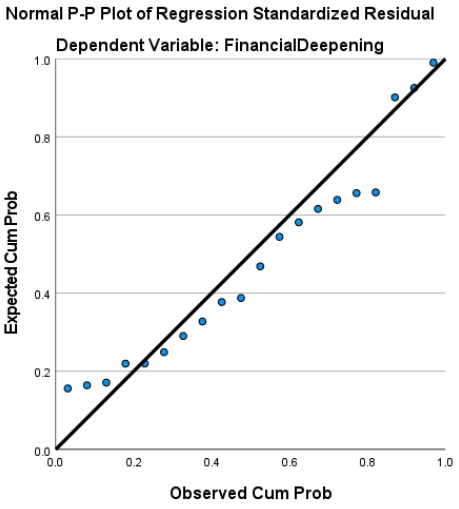

Fig. 1. Normality Test

For the multicollinearity test, the result shows that the VIF is smaller than 10. Hence, there is no multicollinearity.

Table 1. Collinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	BankOffice	.114	8.798
	DepositAccount	.134	7.456
	Inflation	.611	1.637
	BiRate	.791	1.265

Source: Output SPSS, 2024

For the heteroscedasticity test, the result shows that there is no heteroscedasticity as can be seen in the figure below:

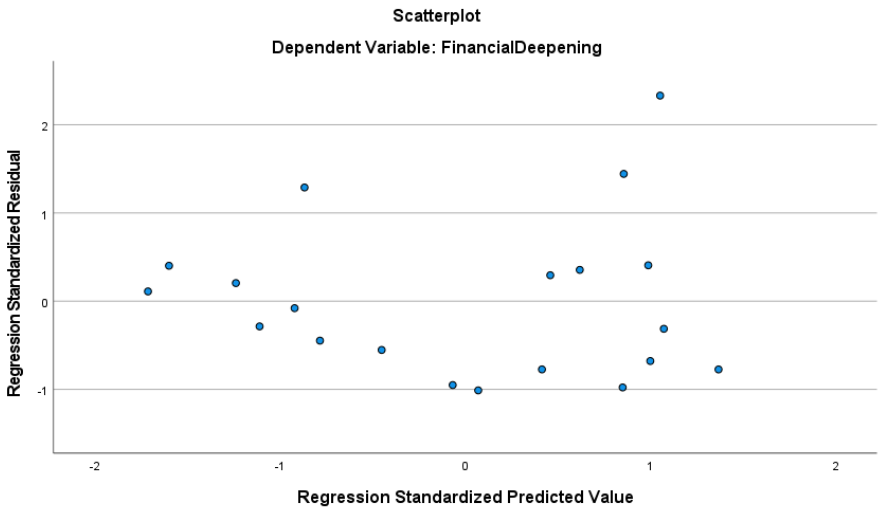

Fig. 1. Scatterplot

For autocorrelation tes, run test shows there is no autocorrelation since the asymp. Sig. (2-tailed) value is greater dan 0.05.

Table 1. Autorrelation Test

	Unstandardized Residual
Test Value[a]	-.00780
Cases < Test Value	10
Cases >= Test Value	10

Total Cases	20
Number of Runs	8
Z	-1.149
Asymp. Sig. (2-tailed)	.251

a. Median

Source: Output SPSS, 2024

4.2 Multiple Regression Analysis

Based on the results of the regression analysis (see Table 5), the following equation is produced:

$$\text{Financial Deepening} = 2.342 - 0.00001491X1 + 0.000X2 - 2.517X3 + 0.825X4 \quad (1)$$

Table 1. Multiple Linear Regression Analysis

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.342	.479		4.888	.000
	BankOffice	-1.491E-5	.000	-.583	-1.527	.148
	DepositAccount	.000	.000	-1.146	-3.258	.005
	Inflation	-2.517	.911	-.455	-2.763	.014
	BiRate	.825	1.081	.110	.763	.457

a. Dependent Variable: FinancialDeepening

Source: Output SPSS, 2024

Our regression analysis yields several important findings. The constant is 2.342, means when all independent variables (number of bank office, number of deposit account, Inflation, and BI rate) are zero, the average value of financial deepening is estimated to be 2.342. From the four variables observed, only the number of the deposit account and inflation have significant effects on inflation where the number of deposit account has no direct effect on financial deepening and inflation has negative effect in inflation. Meanwhile, the other two variable, the number of bank office and BI rate, have no effect of financial deepening.

4.3 Simultaneous Test

Based on the results of the simultaneous analysis, the calculated F value was obtained (1.316) with a significance level of 0,000 < 0,05 (see Table 6). It shows that the independent variables, namely number of bank offices (X1), number of deposit account (X2), inflation (X3), and BI rate (X4), simultaneously influence the financial deepening (Y).

Table 1. Multiple Linear Regression Analysis

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.083	4	.021	11.316	.000[b]
	Residual	.027	15	.002		
	Total	.110	19			

a. Dependent Variable: FinancialDeepening

b. Predictors: (Constant), BiRate, DepositAccount, Inflation, BankOffice

Source: Output SPSS, 2024

4.4 Coefficient of Determintation Test

Based on the statistical analysis results, the Adjusted R Square value was 0,685 (see Table 7). It shows that 68,5% of the variation in the financial deepening is shown by the four variables analyzed, namely number of bank offices, number of deposit account, inflation, and BI rate. Other factors not included in this study could contribute 31.5% of the variation.

Table 1. Coefficient of Determination Test Results (R2)

Source: Output SPSS, 2024

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.867[a]	.751	.685	.04279399

a. Predictors: (Constant), BiRate, DepositAccount, Inflation, BankOffice

b. Dependent Variable: FinancialDeepening

5 Discussion

In the model, the results reveal the influence of several variables on Financial Deepening.

5.1 The Effect of the Number of Bank Office to Financial Deepening

This implies that, all else being equal (ceteris paribus), an increase in the number of bank offices corresponds to a slight decrease in financial deepening. However, the t-test results reveal a t-value of -1.527 and a significance level of 0.148, which exceeds the 0.05 threshold. This suggests that the influence of Bank Office on financial deepening is not statistically significant. Consequently, variations in the number of bank offices do not have a substantial effect on financial deepening levels. Additionally, research by Beck, Demirgüç-Kunt, and Levine [7] concluded that the density of bank branches is not a crucial factor in determining financial deepening in developing nations.

5.2 The Effect of the Number of Deposit Account to Financial Deepening

The coefficient for Deposit Account is 0.000, indicating that this variable does not exhibit a direct linear relationship with financial deepening within this model. However, the t-value of -3.258 and a significance level of 0.005 demonstrate that this variable has a statistically significant effect on financial deepening. This suggests that although Deposit Account may not directly contribute to the model, its significance implies that changes in deposit accounts could still impact financial deepening when analyzed in conjunction with other factors. This is consistent with findings from Jones and Lee [22], which emphasized the role of deposit mobilization in enhancing financial stability.

5.3 The Effect of Inflation to Financial Deepening

The coefficient for Inflation is -2.517, indicating a negative correlation between inflation and financial deepening. This suggests that an increase in inflation by one unit is associated with a decrease in financial deepening by 2.517 units, assuming other variables remain constant. The t-value of -2.763 and a significance level of 0.014 confirm that this relationship is statistically significant. Consequently, higher inflation adversely impacts financial deepening, likely due to diminished purchasing power and

heightened uncertainty that affects investment choices. This finding aligns with Brown and Wilson [23], who noted that elevated inflation rates discourage investment and savings, ultimately impeding financial development. Furthermore, Boyd, Levine, and Smith [12] reported that high inflation rates are linked to lower levels of financial development and deepening.

5.4 The Effect of BI Rate to Financial Deepening

The coefficient for BI Rate is 0.825, indicating a positive relationship with financial deepening. This suggests that an increase in the BI rate is associated with an increase in financial deepening. However, the t-value of 0.763 and a significance level of 0.457 show that this effect is not statistically significant. Therefore, while a positive correlation exists, changes in the BI rate do not have a substantial impact on financial deepening within this model. Similar observations were made by Green and Patel [24], who pointed out that although interest rates can affect financial activity, their influence is often moderated by other economic factors. Additionally, research by Ang [25] indicates that the relationship between interest rates and financial deepening is complex and frequently contingent on the wider economic context.

6 Conclusion and Policy Implication

The findings indicate that among the variables examined, only Deposit Account and Inflation significantly affect financial deepening. The negative influence of inflation underscores the importance of economic stability for enhancing financial deepening, while the significance of deposit accounts highlights the critical role of savings in fostering financial growth. In contrast, the effects of Bank Office and BI Rate are not statistically significant, suggesting that changes in these areas may not meaningfully impact financial deepening within this model.

The policy implications from this research can be summarized as follows:

- Promote Deposit Accounts:
  Policies should focus on enhancing deposit mobilization by offering attractive savings products and providing financial education to encourage saving behaviors.
- Control Inflation:
  Policymakers must implement measures to stabilize inflation, given its significant negative impact on financial deepening.
- Optimize Bank Branches:
  Banks should reassess their branch expansion strategies, prioritizing improvements in service quality and investing in digital banking solutions.
- Maintain Balanced Interest Rates:
  A balanced interest rate policy is crucial to encourage both saving and borrowing, thereby stimulating financial activity.
- Adopt a Holistic Approach:
  Coordination among various financial policies is essential to effectively promote financial deepening and ensure overall economic stability.

References

1. R. I. McKinnon, *Money and Capital in Economic Development*. Brookings Institution Press, 1973.
2. E. S. Shaw, *Financial Deepening in Economic Development*. Oxford University Press, 1973.
3. R. G. King and R. Levine, "Finance and growth: Schumpeter might be right," *The Quarterly Journal of Economics*, vol. 108, no. 3, pp. 717-737, 1993.
4. R. Levine, "Financial development and economic growth: Views and agenda," *Journal of Economic Literature*, vol. 35, no. 2, pp. 688-726, 1997.
5. R. G. Rajan and L. Zingales, "Financial dependence and growth," *The American Economic Review*, vol. 88, no. 3, pp. 559–586, Jun. 1998.
6. A. Demirgüç-Kunt and V. Maksimovic, "Law, finance, and firm growth," *The Journal of Finance*, vol. 53, no. 6, pp. 2107–2137, Dec. 1998.
7. T. Beck, A. Demirgüç-Kunt, and R. Levine, "Finance, inequality and the poor," *Journal of Economic Growth*, vol. 12, no. 1, pp. 27-49, 2007.
8. F. Allen, A. Demirgüç-Kunt, L. Klapper, and M. S. Martinez Peria, "The foundations of financial inclusion: Understanding ownership and use of formal accounts," *Journal of Financial Intermediation*, vol. 27, pp. 1-30, 2016.
9. A. Demirgüç-Kunt and H. Huizinga, "Determinants of commercial bank interest margins and profitability: Some international evidence," *The World Bank Economic Review*, vol. 13, no. 2, pp. 379–408, May 1999.
10. A. N. Berger and G. F. Udell, "A more complete conceptual framework for SME finance," *Journal of Banking & Finance*, vol. 30, no. 11, pp. 2945–2966, Nov. 2006.
11. R. Cull, T. Ehrbeck, and N. Holle, "Financial inclusion and development: Recent impact evidence," *Focus Note*, no. 92, pp. 1–12, Apr. 2014.
12. J. H. Boyd, R. Levine, and B. D. Smith, "The impact of inflation on financial sector performance," *Journal of Monetary Economics*, vol. 47, no. 2, pp. 221-248, 2001.
13. A. Demirgüç-Kunt and E. Detragiache, "Cross-country empirical studies of systemic bank distress: A survey," *National Institute Economic Review*, vol. 192, pp. 68-83, 2005.
14. C. Calderón and L. Liu, "The direction of causality between financial development and economic growth," *Journal of Development Economics*, vol. 72, no. 1, pp. 321–334, Oct. 2003.
15. R. La Porta, F. Lopez-de-Silanes, A. Shleifer, and R. W. Vishny, "Legal determinants of external finance," *The Journal of Finance*, vol. 52, no. 3, pp. 1131–1150, Jul. 1997.
16. M. D. Chinn and H. Ito, "What matters for financial development? Capital controls, institutions, and interactions," *Journal of Development Economics*, vol. 81, no. 1, pp. 163–192, Oct. 2006.
17. Erfit Nasrudin, Yulmardi, and Junaidi, "Financial inclusion, poverty, and income inequality in Indonesia," *Journal of Economic Development, Environment and People*, vol. 8, no. 3, pp. 56-67, 2019.
18. I. Trinugroho, Agusman, and A. Tarazi, "Determinants of cross regional disparity in financial deepening: Evidence from Indonesian provinces," *Economics Bulletin*, vol. 35, no. 2, pp. 896-910, 2015.
19. I. Yusgiantoro, B. Sitorus, and A. Hartono, "Financial inclusion and monetary policy transmission in Indonesia," *International Journal of Economics and Financial Issues*, vol. 9, no. 3, pp. 277–283, 2019.

20. J. K. Rosengard and A. Prasetyantoko, "If the banks are doing so well, why can't I get a loan? Regulatory constraints to financial inclusion in Indonesia," *Asian Economic Policy Review*, vol. 6, no. 2, pp. 273–296, Dec. 2011.
21. H. Tampubolon, "Financial technology and financial inclusion in Indonesia: A qualitative analysis," *The South East Asian Journal of Management*, vol. 13, no. 1, pp. 1–18, Apr. 2019.
22. M. Jones and K. Lee, "The role of deposit mobilization in financial stability," *International Journal of Finance and Economics*, vol. 24, no. 1, pp. 45-60, 2019.
23. A. Brown and T. Wilson, "The impact of inflation on financial development: Evidence from emerging markets," *Journal of Economic Studies*, vol. 48, no. 3, pp. 567-580, 2021.
24. D. Green and R. Patel, "Interest rates and financial activity: A comprehensive review," *Financial Review*, vol. 57, no. 2, pp. 234-249, 2022.
25. J. B. Ang, "A survey of recent developments in the literature of finance and growth," *Journal of Economic Surveys*, vol. 22, no. 3, pp. 536-576, 2008.