

The Impact of Indonesian Banks' Mergers and Acquisitions on Performance and Market Power

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Abstract

This study aims to analyze the impact of mergers and acquisitions (M&A) carried out by banks in Indonesia on market performance and strength. The wave of banking consolidation that occurred in Indonesia was driven by encouragement from regulators to strengthen the resilience of the banking sector in Indonesia, as well as the strategic goals of banks to increase their competitiveness. This study uses the staggered Difference-in-Differences (DiD) method developed by Callaway and Sant'Anna (2021), which allows comparisons between banks that have merged (treated) and banks that have not merged (control) in various time periods. Using panel data taken from the Financial Services Authority (OJK) report for the 2017–2022 period, this study uses the variables Net Interest Margin (NIM) and Return on Equity (ROE) as indicators of profitability, BOPO as an indicator of efficiency, and the Lerner Index to measure market strength. Empirical results show that the impact of M&A on bank profitability and efficiency is heterogeneous between banks. Some banks have proven to be more efficient and more profitable after M&A, while others have experienced a decline in short-term profitability due to high integration costs and operational challenges. Nevertheless, the regression results show a consistent positive effect on market strength across the observed banks. These findings indicate that banks gain greater ability to price above marginal costs after M&A, in line with market power theory.

Keywords: Mergers and Acquisitions; Bank Performance; Efficiency; Market Forces; Indonesia; Banking

Introduction

Understanding the landscape of Indonesia's banking sector is crucial for several reasons. First, according to Vinayak et al. (2016), Indonesian banks have shown strong financial performance on a regional scale with a Return on Equity (ROE) of 20.3% in 2014, making Indonesia one of the main contributors to Asian banking. Second, the banking sector remains the dominant component of Indonesia's financial system, playing a major role in supporting national economic growth (Hadad et al., 2013). Third, Indonesian banks also have relatively high Net Interest Margins (NIM) and high Lerner indexes among ASEAN-5 countries, indicating relatively low competition (Soedarmono et al., 2017; Trinugroho et al., 2014).

Given the critical role banks play in the Indonesian economy, Indonesian regulators continue to step up efforts to improve the resilience and efficiency of the banking sector (Hidayat, 2023; Primasoni, 2022). This has become even more important, especially after the financial crisis. One such effort is banking consolidation through mergers and acquisitions (M&A), which has been widely adopted around the world as one of the policy instruments to strengthen the stability of the country's financial system, especially in emerging markets (Soedarmono et al., 2013). Research by Hadad et al. (2013) and Montgomery et al. (2014) shows that the banking sector experienced an increase in consolidation after the 2008 Global Financial Crisis. A similar pattern was also observed after the 1997 Asian Financial Crisis.

In 2004, the Indonesian Banking Architecture (API) was launched by Bank Indonesia, designed as a comprehensive framework to guide the development of a strong

and resilient banking system in Indonesia after the 1997 financial crisis (Sari & Ginting, 2020). The main objectives of the API are primarily to consolidate the fragmented banking system, prevent future crises, and support sustainable economic growth (Dewi & Wijaya, 2019). To achieve these goals, API is driving consolidation in the banking sector through mergers and acquisitions (Setiawan et al., 2022). Furthermore, in 2006, Bank Indonesia launched a regulatory framework known as the Single Presence Policy (SPP) through PBI No. 8/16/PBI/2006, which requires that a party can only become a controlling shareholder in one Indonesian commercial bank (Yuliana & Suryadi, 2021).

On the other hand, to ensure that Indonesian banks have sufficient capital to absorb losses during a downturn, improve their operations, and maintain prudent risk management, in 2020 the OJK issued POJK No. 12/POJK.03/2020. The main objective of this regulation is to increase the resilience and competitiveness of commercial banks by encouraging consolidation. The main provision of the regulation is the minimum core capital requirement, which requires all commercial banks to have a core capital of at least IDR 3 trillion by the end of 2022.

In addition, the COVID-19 pandemic has also had a significant impact on Indonesia's banking sector, making banking consolidation more relevant. As banks' Non-Performing Loans (NPLs) increase because many borrowers struggle to meet their obligations, the banks' profitability and asset quality are also affected, putting pressure on capital adequacy ratios (CARs), especially for small banks with limited buffers.

Despite hopes of synergy, the wave of M&A in Indonesia's banking sector raises some doubts about the real impact on the banks' profitability and efficiency post-merger. Some banks may experience short-term disruption due to integration challenges, cultural differences, and restructuring costs, while others may see revenue growth and cost synergies materialize over time. As M&A trends continue to reshape the landscape of the banking industry in Indonesia, this research will have significant value for key stakeholders.

Previous research by Yusgiantoro et al. (2020) examined the impact of M&A on bank performance in Indonesia during 2004–2019, finding that regulation-driven M&A had a positive impact on profitability, while voluntary M&A showed negative results. In contrast, Jacoub et al. (2020) found no significant changes in ROE performance following acquisitions in Indonesian banks. Meanwhile, Montgomery et al. (2014) demonstrated that banking consolidation in Japan typically has a positive impact on profits due to increased market power. These mixed findings highlight the need for further investigation using more robust methodologies to assess the causal impact of M&A in the Indonesian banking context.

Based on this background, the formulation of this research problem is: (1) Have mergers and acquisitions of banks in Indonesia resulted in an improvement in the financial performance of banks, especially their impact on profitability? (2) Can mergers and acquisitions improve the efficiency of post-merger banks? (3) What is the impact of bank mergers and acquisitions on the market strength of Indonesian banks? The purpose of this study was to measure the impact of M&A on bank profitability, determine whether M&A

improves the bank's overall efficiency, and analyze the impact of bank M&A on the bank's market strength. This research is expected to provide practical benefits for banking regulators in evaluating consolidation policies, assist bank management in planning post-M&A strategies, and provide academic contributions in the form of empirical evidence on the effectiveness of M&A in the context of Indonesian banking by using a more robust Difference-in-Differences method.

Conceptual Framework and Hypothesis

Based on the literature review, the following hypotheses are proposed:

H_{0,1}: Bank Indonesia's M&A does not have a significant impact on the bank's profitability (ROE, NIM) compared to banks that are not involved in M&A.

H_{1,1}: Bank Indonesia's M&A has a significant positive impact on the bank's profitability (ROE, NIM) compared to banks that are not involved in M&A.

H_{0,2}: Bank Indonesia's M&A has no significant impact on bank efficiency (BOPO) compared to banks that are not involved in M&A.

H_{1,2}: Bank Indonesia's M&A has a significant negative impact on bank efficiency (BOPO) compared to banks that are not involved in M&A.

H_{0,3}: Bank Indonesia's M&A does not have a significant impact on the market strength of banks (lerner index) compared to banks that are not involved in M&A.

H_{1,3}: Bank Indonesia's M&A has a significant positive impact on the market strength of banks (lerner index) compared to banks that are not involved in M&A.

Research Method

This study adopts a quantitative explanatory research design, focusing on determining the causal relationship between bank Indonesia's M&A activities and bank profitability indicators and efficiency ratios. To further contribute to the study, researchers will also assess the impact of M&A on the market strength of banks, which will provide a more holistic view of the actual impact of M&A on the banking industry.

The selected dependent variables consisted of: (1) profitability metrics measured through Return on Equity (ROE) and Net Interest Margin (NIM); (2) efficiency metrics assessed using the Operational Efficiency Ratio (BOPO); and (3) market forces, calculated using the Lerner Index. On the other hand, independent variables include dummy variables that distinguish between companies that conducted and did not conduct M&A during the study period. Macroeconomic indicators such as Gross Domestic Product (GDP) growth, BI rate, and inflation will be added to function as control variables.

Variable Measurement

1. Bank Profitability

Return on Equity (ROE) = (Net Profit / Average Shareholder Equity) × 100%

Net Interest Margin (NIM) = (Net Interest Income / Average Generating Assets) × 100%

2. Bank Efficiency

BOPO = (Operating Expenses / Operating Income) × 100%

3. Bank Market Strength

Lerner Index = (Pricing - MC) / Pricing

Where:

- Pricing = ratio of gross income to total assets
- MC = estimated bank marginal cost

Data Collection

This study uses nominal quantitative data, where figures are extracted directly from the company's annual report/financial statements that are publicly available on the OJK website/company website. For the control group, the researcher will select a bank with an asset size similar to the treatment group. In line with the research conducted by Yusgiantoro et al. (2022), Gross Domestic Product (GDP) will be used as a control variable. In addition, the researchers added the BI rate and inflation as control variables in the regression model to account for macroeconomic conditions that can affect a company's performance in all companies, regardless of their M&A status.

The treatment group will consist of 6 Indonesian commercial banks that have conducted M&A during the 2017-2022 period. Panel data was used in this study to evaluate the impact of M&A as it allowed researchers to track changes over time within the same entity (bank) to better identify post-M&A causal effects. The control group consisted of 8 Indonesian commercial banks that were not involved in M&A activities during the observation.

Data Analysis Methods

First, descriptive statistics will be run for the key variables used in the regression analysis. Furthermore, DiD-specific diagnostic tests will be run to ensure the reliability of the data, including multicollinearity, autocorrelation, and heteroscedasticity tests.

This study will use panel data and adopt Heterogeneous Difference-in-differences (DiD) regression using the Callaway & Sant'Anna model in line with previous studies by Baker et al. (2021). This model allows for the effects of treatment to vary across cohorts (units treated in different periods) and across time (before/after treatment).

The regression model used is:

$$Y_{i,t} = \beta_0 + \beta_1 M\&A_i + \beta_2 Post_t + \beta_3 (M\&A_i \times Post_t) + \beta_4 Control_{i,t} + \varepsilon_{i,t}$$

Where:

- $Y_{i,t}$ represents the performance of banks proxied by profitability metrics (ROE and NIM), efficiency metrics (BOPO), and market strength (Lerner Index)
- $M\&A_i$ is a dummy variable that is treated the same as one (1) for a bank that has done an M&A and zero (0) if it does not
- $Post_t$ is the same dummy variable as one (1) after the bank implements the merger and acquisition
- $Control_{i,t}$ is a macroeconomic variable consisting of GDP growth, BI rate, and inflation rate

However, since the regression analysis of the performance of Indonesian banks is likely to suffer from autocorrelation and heteroscedasticity due to the nature of bank profitability and measures of efficiency and structural differences across banks, this study acknowledges the existence of this problem and uses a bootstrap wild cluster procedure as suggested by Cameron & Miller (2013) to ensure more reliable p-values and confidence intervals.

Robustness Test

To ensure that the results of the study are not driven by certain variables/models, robustness checks will be carried out after the main regression model is run. The researcher will substitute for several variables aimed at measuring similar metrics (i.e., profitability, efficiency, and market strength). For profitability and efficiency metrics, the

ROA (Return on Asset) variable will be used instead of ROE (Return on Equity) and BOPO.

Results and Discussion

Research Sample

There are 14 companies from the Indonesian banking industry that have been selected as an analysis sample, of which 6 were involved in M&A actions from 2017 to 2022. The remaining banks are categorized as the control group.

Table 1. Treatment Groups

No	Bank Name	Related Banks/Institutions	M&A Period	Cohort
1	PT Bank SMBC Indonesia Tbk	Acquiring PT Bank Tabungan Pensiunan Nasional	Q1 2019	G9
2	PT Bank Neo Commerce Tbk	Acquired by PT Akulaku Finance Indonesia	Q3 2021	G19
3	PT Bank Permata Tbk	Acquired by Bangkok Bank Public Company Limited	Q2 2020	G14
4	PT Bank Danamon Tbk	Acquired by Mitsubishi UFJ Financial Group	Q3 2019	G11
5	PT Bank Hibank Indonesia	Acquired by PT Bank Negara Indonesia Tbk	Q2 2021	G18
6	PT Bank DBS Indonesia	Acquisition of PT Bank ANZ Indonesia	Q3 2017	G3

Source: Processed from the annual reports of the respective banks, 2017-2022

Table 2. Control Group

No	Bank Name
1	PT CIMB Niaga Tbk
2	PT Bank OCBC NISP Tbk
3	PT Bank Panin Tbk
4	PT Bank Mega Tbk
5	PT Bank Maybank Indonesia Tbk
6	PT Bank KEB Hana Indonesia
7	PT Bank UOB Indonesia
8	PT Bank HSBC Indonesia

Source: Processed from the annual reports of the respective banks, 2017-2022

Calculation of the Lerner Index

The results of the Lerner Index calculation show that Indonesian banks showed moderate market strength during the analysis period. The average index is 0.506, indicating that banks, on average, can set prices around 51% above their marginal costs. The median value of 0.513, which is close to the average, indicates that the distribution is relatively balanced.

Table 3. Lerner Index Results

Statistics	Value
N	336
Mean	0,5059

Std. Dev	0,2013
Min	-0,9995
Max	2,2089

Source: Processed from OJK reports and author's calculations, 2017-2022

Descriptive Statistics

Based on the results of descriptive statistics, the 336 observations collected showed substantial heterogeneity and variation. NIM averaged 4.77% with a standard deviation of 1.44% across banks and quarters. The ROE is more varied, showing an average of 6.99% and a standard deviation of 9.8%. BOPO readings also showed similar results, with an average of 84.6% and a moderate standard deviation of 15.2%. The Indonesian banks included in the study had strong market strength with an average of 0.5, significantly above their marginal costs.

Table 4. Descriptive Statistical Results

Variable	N	Mean	Min	Max	Std. Dev
NIM	336	0,0477	0,0135	0,1383	0,0144
ROE	336	0,0699	-0,8461	0,2349	0,0982
BOPO	336	0,8461	0,5606	2,2401	0,1523
LERNER IND	336	0,5059	-0,9995	2,2089	0,2013
LN TA	336	18,2746	15,2013	19,5432	1,1425
GDP_Q_GROWTH	336	0,0203	-0,0593	0,0864	0,0310
BI RATE	336	0,0453	0,0350	0,0600	0,0087
INF	336	0,0301	0,0133	0,0595	0,0121

Source: Processed from the financial statements of the sample banks, 2017-2022

Correlation Matrix and Multicollinearity Test

Based on the correlation table, it can be concluded that 4 relationships are very significant: (1) ROE and BOPO have a strong negative correlation, indicating that the more efficient the bank, the higher the return; and (2) the natural logarithm of total assets has a strong positive correlation with ROE and the Lerner Index, but has a strong negative correlation with BOPO, suggesting that larger banks tend to be more efficient, profitable, and have higher power to price their products in the market.

The Variance Inflation Factor (VIF) resulting from the multicollinearity test had an overall score of 1.12, with the highest score of 1.20 (below the generally accepted threshold of 10), indicating that there was no multicollinearity.

Regression Results

1. The impact of M&A on NIM

The regression results of the impact of M&A on the profitability of banks in Indonesia are heterogeneous. Among the sampled banks, only DBS Bank (G3) had a significant positive impact on revenue generation capabilities (NIM) after M&A actions (coefficient = 0.0052; $p < 0.001$). One of the main reasons is because of the strong strategic integration. ANZ's sizable additional credit card business created new business lines for the bank.

In contrast, banks such as SMBC (G9) and Permata (G14) experienced significant declines in profitability (coefficients = -0.0612 and -0.0023 respectively; $p < 0.001$). These cases illustrate the burden of integration and post-integration regulatory costs. Meanwhile, the decline in HiBank's NIM (G18) (coefficient = -0.0090; $p < 0.001$) implies a narrowing lending spread. Finally, Danamon's insignificant results suggest that some

banks may not be aware of significant changes in profitability, as costs and benefits are interbalanced.

Table 5. NIM Regression Results

Bank	Coefficient	Std. Error	z	P> z	95% CI
G Average	-0,0138	0,0007	-21,05	0,000	[-0,0150; -0,0125]
DBS (G3)	0,0052	0,0013	3,86	0,000	[0,0025; 0,0078]
SMBC (G9)	-0,0612	0,0009	-67,14	0,000	[-0,0630; -0,0594]
Danamon (G11)	-0,0015	0,0011	-1,29	0,197	[-0,0037; 0,0008]
Gems (G14)	-0,0023	0,0006	-3,70	0,000	[-0,0036; -0,0011]
Hibank (G18)	-0,0090	0,0001	-141,46	0,000	[-0,0091; -0,0089]

Source: Regression results using the Callaway & Sant'Anna (2021) DiD method

2. The impact of M&A on BOPO

The impact of mergers and acquisitions on bank efficiency (as measured by the BOPO ratio) also showed a pattern that varied across banks and quarters. DBS (G3), SMBC (G9) and Danamon (G11) showed significant positive results post-M&A, indicating a deteriorating trend in efficiency post-M&A. These banks experienced higher operating costs relative to revenue, indicating that the integration process and restructuring costs reduced the bank's efficiency to operate.

In contrast, BOPO Bank Permata (G14) and Hibank (G18) were statistically significant with negative coefficients, reflecting an improvement in the bank's efficiency post-M&A (coefficients = -0.0955 and -0.1119 respectively; $p < 0.001$). These findings are coherent with the efficiency hypothesis which highlights that the main efficiency strategy behind M&A is to achieve operational and managerial synergies.

Table 6. BOPO Regression Results

Bank	Coefficient	Std. Error	z	P> z	95% CI
G Average	0,0075	0,0098	0,76	0,448	[-0,0118; 0,0267]
DBS (G3)	0,0944	0,0180	5,25	0,000	[0,0592; 0,1296]
SMBC (G9)	0,0931	0,0204	4,56	0,000	[0,0530; 0,1331]
Danamon (G11)	0,0573	0,0110	5,22	0,000	[0,0357; 0,0788]
Gems (G14)	-0,0955	0,0230	-4,15	0,000	[-0,1406; -0,0504]
Hibank (G18)	-0,1119	0,0023	-49,62	0,000	[-0,1163; -0,1075]

Source: Regression results using the Callaway & Sant'Anna (2021) DiD method

3. The impact of M&A on ROE

In line with the above hypothesis, both DBS (G3) and SMBC (G9) recorded negative and significant coefficients (-2.8% and -3.8%, respectively; $p < 0.05$). This suggests that their ROE declined after the M&A, highlighting the challenges in translating consolidation into net profitability gains. These findings resonate with M&A's theory of the short-term cost effect, where initial costs and restructuring efforts can depress profitability before long-term benefits can emerge.

On the other hand, Permata (G14) and Hibank (G18) showed a positive significant increase in ROE (coefficients = 0.0573 and 0.0711 respectively; $p < 0.001$). These results show that their M&A transactions have managed to increase shareholder returns. Finally, Danamon's ROE results (G11) showed an insignificant effect, meaning that ROE performance did not change materially post-M&A.

Table 7. ROE Regression Results

Bank	Coefficient	Std. Error	z	P> z	95% CI
G Average	0,0127	0,0050	2,51	0,012	[0,0028; 0,0225]
DBS (G3)	-0,0281	0,0111	-2,54	0,011	[-0,0498; -0,0064]
SMBC (G9)	-0,0379	0,0116	-3,26	0,001	[-0,0607; -0,0151]
Danamon (G11)	0,0008	0,0056	0,14	0,886	[-0,0102; 0,0118]
Gems (G14)	0,0573	0,0044	13,09	0,000	[0,0487; 0,0659]
Hibank (G18)	0,0711	0,0012	61,72	0,000	[0,0689; 0,0734]

Source: Regression results using the Callaway & Sant'Anna (2021) DiD method.

4. The Impact of M&A on the Lerner Index

All banks showed a positive and very significant impact of the lerner index coefficient, showing that post-M&A, banks in Indonesia were able to substantially increase their market strength and successfully reduce competitive pressures.

Hibank (G18) had the highest significant effect (+0.57; $p < 0.001$), indicating a dramatic increase in market strength post-M&A. These results suggest that consolidation significantly reduces competitive pressures in Hibank's operating segments, allowing it to gain a stronger dominance compared to its peers. DBS (G3) also gained more market strength (+0.23; $p < 0.001$) after acquiring ANZ Bank's retail, wealth management and credit card portfolios in 2017.

Table 8. Lerner Index Regression Results

Bank	Coefficient	Std. Error	z	P> z	95% CI
G Average	0,2109	0,0219	9,62	0,000	[0,1679; 0,2539]
DBS (G3)	0,2345	0,0244	9,60	0,000	[0,1866; 0,2824]
SMBC (G9)	0,0461	0,0183	2,52	0,012	[0,0102; 0,0819]
Danamon (G11)	0,0922	0,0432	2,15	0,031	[0,0083; 0,1775]
Gems (G14)	0,1125	0,0420	2,68	0,007	[0,0301; 0,1949]
Hibank (G18)	0,5686	0,0201	28,35	0,000	[0,5293; 0,6079]

Source: Regression results using the Callaway & Sant'Anna (2021) DiD method

Robustness Test

As mentioned in the methodology, robustness checks are performed to ensure the consistency of the main regression results. ROA is used to revalidate previous results from the impact of M&A on ROE. Overall, the impact of M&A on the ROA of the Indonesian bank sample showed a negative impact after M&A. Only Bank Permata (G14) showed a positive coefficient, but with a non-significant p-value (0.127). These results imply that in the short term, Indonesian banks are likely to face integration challenges and potentially increase operational costs after their acquisitions despite having a strong capital base.

Conclusion

This study examines the impact of Bank Indonesia mergers and acquisitions (M&A) on market performance and strength using NIM, ROE, BOPO, and the Lerner Index. Results indicate that efficiency improvements take time to materialize, while market power gains appear more quickly, giving merged banks strategic advantages. The findings on profitability and efficiency are mixed, with success depending heavily on the acquiring bank's ability to generate synergies. For example, Hibank (G18) and Permata (G14) showed strong consolidation results, whereas DBS and SMBC struggled to translate

market strength into improved efficiency or profit. Danamon's impact was minimal. Consistent increases in the Lerner Index suggest M&A enhances banks' pricing power, supporting the hypothesis that consolidation reduces competition to increase market power. This study underscores the importance of careful post-merger integration for banks, prudent regulatory assessment of M&A permits, and advises investors to adopt a medium-to-long-term view when evaluating post-M&A performance. Future research should expand the sample size and incorporate additional financial indicators to deepen understanding of M&A effects in Indonesian banking.

Reference

- Primasoni, N. (2022). Hubungan antara Indeks Massa Tubuh (IMT) dengan fleksibilitas otot hamstring atlet sepak bola junior Daerah Istimewa Yogyakarta. *JORPRES (Jurnal Olahraga Prestasi)*, 18(2), 66–72. <https://journal.uny.ac.id/index.php/jorpres>
- Baker, A. C., Larcker, D. F., & Wang, C. C. Y. (2021). How much should we trust staggered difference-in-differences estimates? *Journal of Financial Economics*, 144(2), 370–395.
- Callaway, B., & Sant'Anna, P. H. C. (2021). Difference-in-differences with multiple time periods. *Journal of Econometrics*, 225(2), 200–230.
- Cameron, A. C., & Miller, D. L. (2013). A practitioner's guide to cluster-robust inference. *Journal of Human Resources*, 50(2), 317–372.
- Dewi, I. N., & Wijaya, R. (2019). The Indonesian Banking Architecture (API) and its role in the consolidation of the banking system post-crisis. *Indonesian Journal of Economic Policy*, 18(3), 45–59. <https://doi.org/10.1016/ijep.2019.0045>
- Hadad, M. D., Hall, M. J. B., Santoso, W., & Simper, R. (2013). Economies of scale and a process for identifying hypothetical merger potential in Indonesian commercial banks. *Journal of Asian Economics*, 26, 42–51.
- Hidayat, F. (2023). The Impact Of Bureaucratic Reform On Indonesian Governance: A Perspective Review Of Academic Literature. *Jurnal Politik Pemerintahan Dharma Praja*, 16(2), 169–196.
- Jacoub, Y., Hakim, D. B., Hartoyo, S., & Santosa, P. W. (2020). Does acquisition improve Indonesian bank financial performance? *International Journal of Business and Applied Social Science*, 6(3), 51–62.
- Montgomery, H., Harimaya, K., & Takahashi, Y. (2014). Too big to succeed? Banking sector consolidation and efficiency. *Journal of International Financial Markets, Institutions and Money*, 32(1), 86–106.
- Sari, D., & Ginting, S. (2020). The role of regulatory frameworks in the stabilization of Indonesia's banking sector: A post-crisis analysis. *Asian Financial Review*, 35(4), 451–463. <https://doi.org/10.1108/afr.2020.0026>
- Setiawan, F., Prasetyo, R., & Nugroho, D. (2022). The impact of the Indonesian Banking Architecture on banking mergers and acquisitions. *Journal of Banking and Finance*, 30(1), 123–135. <https://doi.org/10.1016/j.jbf.2022.02.003>
- Soedarmono, W., Machrouh, F., & Tarazi, A. (2013). Bank competition, crisis and risk taking: Evidence from emerging markets in Asia. *Journal of International Financial Markets, Institutions and Money*, 23(1), 196–221.
- Trinugroho, I., Agusman, A., & Tarazi, A. (2014). Why have bank interest margins been so high in Indonesia since the 1997/1998 financial crisis? *Research in International Business and Finance*, 32, 139–158.

- Vinayak, H. V., Thompson, F., & Tonby, O. (2016). *Weathering the storm: Asia-Pacific banking review 2016*. McKinsey & Company.
- Yuliana, R., & Suryadi, A. (2021). Single Presence Policy and its implications for the banking industry in Indonesia. *Journal of Financial Regulations and Compliance*, 29(2), 204–218. <https://doi.org/10.1108/jfrc.2021.0010>
- Yusgiantoro, I., Soedarmono, W., & Tarazi, A. (2019). Bank consolidation and financial stability in Indonesia. *International Economics*, 159, 94–104.
- Yusgiantoro, I., Wirdiyanti, R., & Harjanti, A. D. (2020). How do banks fare after merger and acquisition? Evidence from Indonesia. *Bank Indonesia Working Paper*, WP/2/2020.
- Zainal, M., & Rahman, H. (2021). Post-crisis banking regulations and Indonesia's financial system stability. *Financial Policy Review*, 28(2), 83–99. <https://doi.org/10.1007/fpr.2021.0277>