

Article

Does Sharia Banking have the Capability to Increase Micro, Small and Medium Enterprises Financing?

Shaleh Yudiansyah¹, Srinita Srinita¹, Suriani Suriani^{1,*} and Gunawan Eddy¹

¹ Department of Economics, Faculty of Economics and Business, Universitas Syiah Kuala, Banda Aceh, Indonesia; yudiansyahshaleh2@gmail.com (S.Y), srinita@unsyiah.ac.id (S.R), egunawan@unsyiah.ac.id (G.E)

* Correspondence: suriani@unsyiah.ac.id (S.S)

Citations: Yudiansyah, S., Srinita, S., Suriani, S. & Eddy, G. (2022). Does Sharia Banking have the Capability to Increase Micro, Small and Medium Enterprises Financing? *International Journal of Finance, Economics and Business*, 1(4), 250-264.

Academic Editor: Farah Roslan.

Received: 12 August 2022

Accepted: 28 November 2022

Published: 31 December 2022

Abstract: The contribution of Micro, Small, and Medium Enterprises (MSMEs) has played an important role in GDP and employment growth in Indonesia in the last decades, but still, MSMEs have difficulties accessing bank loans. This study examines the effect of internal factors of Islamic banking performance ratio, financing to deposit ratio, capital adequacy ratio, non-performing financing of total financing, and non-performing financing for MSMEs on the development of MSMEs financing in Islamic Banking in Indonesia. It consists of three Islamic Financial Institutions; Islamic Commercial Banking, Islamic Business Unit Bank, and Islamic Rural Banking from January 2015 until December 2021 (monthly base), using secondary data with 252 observations. The regression model used in this research is Generalised Least Squares (GLS), using Panel Data and the random effect model approach. The results of this study showed that all independent variables, financing to deposit ratio, capital adequacy ratio, non-performing financing of total financing, and non-performing loans for MSMEs, have a significant effect on MSMEs' financing growth. This study indicates that the contribution of the capital adequacy ratio has a significant positive effect on the growth of MSMEs financing. Also, the financing to deposit ratio and non-performing financing from total financing negatively affect MSMEs financing growth. Besides that, the non-performing financing for MSMEs relatively had no strong negative effect on MSMEs financing growth in sharia banking in Indonesia.

Keywords: financing; micro, small, and medium enterprises; financial system; Sharia banking.



Copyright: © 2022 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

The primary function of banking is to act as an intermediary financial institution between those who have funds and those who need funds. It is stated in Indonesia Act, i.e. the function of banking is to collect funds from the public, distribute funds to the public and provide banking services (Undang-Undang 1998). It aimed to support the implementation of national development and realising equitable development and social welfare to realise equitable economic growth and national stability, besides gaining banking profit.

On the other hand, the Bank of Indonesia as a holder of banking authorisation in Indonesia, has released banking regulations to promote MSMEs in Indonesia (Puspitasari et al., 2019). All banks are obliged to disburse at least 20 percent of financing for MSMEs started in 2018.

Islamic banks operate with the principles and provisions of Islamic sharia, especially those concerning procedures for dealing with Islam (Smith, 2019). Sharia banking practices sharia principles where agreement rules are based on Islamic law between banks and other parties. Those sharia practices are agreed upon in banking funds deposits, bank financing in business activities, or other activities under sharia (Yanis & Priyadi, 2015). The financing principles that apply by Islamic banks are profit sharing (*Mudharabah*), capital participation or joint financing (*Musharakah*), buying and selling goods at a profit (*Murabaha*), renting (*ijarah*), lease with a transfer of ownership of the leased object (*Ijarah wa istiqna*) (Fuadi et al., 2022; Valdez & Molyneux, 2017). Agustina et al. (2022) found that sharia financing supports economic growth and net income. Sharia Banking in Indonesia which is under the Government Financial Services Authority (OJK), consists of Sharia Commercial Banks (SCB), Sharia Business Units (SBU), and Sharia Rural Banking (SRB).

The role of the bank as a development agent is materialised by financing. In banking, there are several types of financing; (1) consumption, (2) multipurpose loan, (3) corporate, and (4) MSMEs. MSME financing is very important because the role of MSMEs in Indonesia has proven to be very large in contributing to economic growth, creating jobs, reducing unemployment, and modal of the economy for poverty alleviation. Followed by Usanti & Setiawati (2022) concerning Amendments to Macprudential Inclusive Financing Ratios for Conventional Commercial Banks, Sharia Commercial Banks (Patandung & Indrawati, 2022). Aziz & Amanda (2021) stated that MSMEs have a high contribution to the economy and absorb a large workforce, so they need to be encouraged to develop, one of which is through increasing access to bank financing.

Table 1. Indonesia GDP at Current Market Price by MSME Sector in 2015-2021.

Indicator	2015	2016	2017	2018	2019	2020	2021
GDP	10.141,3	11.712,5	12.840,9	14.002,6	15.832,5	15.438,02	16.970,79
MSMEs shares to GDP	6.228,3	7.009,3	7.704,6	8.537,9	9.580,8	5.758,38	10.516,80
MSMEs shares to GDP (%)	61,41	59,84	60,00	62,11	61,72	37,30	61,97

Source: Ministry of Cooperation and Small & Medium Enterprises and BPS, Statistics Indonesia, (2021)

Table 2. Indonesia Labour Workforce by MSMEs Sector in 2015-2021.

Indicator	2015	2016	2017	2018	2019	2020	2021
Total Labour Workforce	127.423,5	116.273,4	120.260,2	120.598,1	123.368,7	128.454,2	131.050,5
Labour Workforce, MSME share	123.229,4	112.828,6	116.431,2	116.978,6	119.562,8	124.600,6	127.119,0
Labour Workforce, MSME share (%)	96,71	97,04	96,82	97,00	96,92	97,00	97,00

Source: Ministry of Cooperation and Small & Medium Enterprises and BPS, Statistics Indonesia, (2021).

Table 1 and Table 2 show the data on MSMEs' contribution to GDP and employment from 2015 to 2021. MSME's share of Indonesia's GDP is more than 60 percent but not in 2020 because of the COVID-19 pandemic. Its contribution to GDP has declined to 37,30 percent. At the same time, MSME's share of employment will be approximately 97 percent from 2015 to 2021. From a macroeconomic viewpoint, the contribution of MSMEs to national economic development has three paths: first, the involvement of MSMEs in forming per capita income. Second, the involvement of MSMEs in the formation of Gross Domestic Product (GDP), and third, the involvement of MSMEs in the formation of regional economic growth (Majid & NASIR, 2018). It shows that MSMEs play an important role in eradicating poverty by promoting welfare to the community.

Several external and internal factors affect MSME financing. External factors are not directly attached to bank performance, such as interest rates, inflation, economic growth, market share prices, currency exchange rates, BI 7-Day Rate (Ginting et al., 2022) and government policies (Boďa & Zimková, 2021; He et al., 2021; Tran & Houston, 2021), climate change (Javadi & Masum, 2021), green credit policy (Xing et

al., 2021). Meanwhile, the internal factors are directly attached to bank performance, such as capital, liquidity, and quality of the financing portfolio (Dahir et al., 2019), loan interest rate (Casanova et al., 2017) and bank size, capital, share ownership, capital adequacy requirement ratio, provision for loan losses, liquidity, and asset quality (Destiana, 2016).

Researchers agree that banks are recognised as having a large share in the development of MSMEs. Still, in developing countries, many MSMEs have not been financed by banks due to limited collateral, no credit track record at banks, high transaction costs, and slow development of business assets. Despite the interest on MSME loans tending to be higher, MSMEs are severely suffering and so difficult to develop more rapidly. MSME actors are often faced with obstacles to accessing loans from banks. It is because banks consider some MSMEs shortcomings such as; small business capital information asymmetry (Bachas et al., 2021; Berger & Udell, 2002; Nguyen et al., 2022; Yu & Fu, 2021), high costs compared to corporate and consumer loans, high credit risk, limited collateral and moral hazards (Eid & Karim, 2014; Yu & Fu, 2021). Those shortcomings cause banking financial institutions to be less fully prepared in channelling MSME financing, so banks tend to do a credit rationing instead of Yu & Fu (2021) and adverse selection for more selective financing requirements as a reason for information asymmetry and moral hazards (Castillo et al., 2018; Eid & Karim, 2014; Yu & Fu, 2021). Therefore, the banking sector is more prepared to provide loans to corporate and consumer businesses with adequate payment and collateral coverage credit sources rather than providing venture capital to MSMEs.

Covin et al. (2020), Hock-Doepgen et al. (2021) and Brown & Brabyn (2012) said that MSMEs have financial constraints for long-term financing, which causes a large gap between MSME financing and non-MSMEs financing due to insufficient sources of financial capital offered to MSMEs or *Macmillan gap*. This gap arises because of information *asymmetry* between lenders (banks) and borrowers. MSMEs have weak guarantees, low-quality collateral, a small number of transactions, and complicated loan procedures, making them less profitable when working with MSMEs. Hence, banks adopt credit rationing policies to limit this financing (Yu & Fu, 2021). In theory, high financing will result in high profits, but according to research of (Bhowmik & Sarker, 2021) in South Asian countries; In India, Sri Lanka, Bangladesh, Nepal, Maldives, Pakistan, Afghanistan, and Bhutan, the higher the disbursement of financing, the higher the banking risk due to the poor banking performance in South Asian countries so that the role of the policy maker is needed to overcome this problem.

According to Eid & Karim (2014) Islamic banking, there is a lack of theory that explains the existence of Islamic banks in the banking industry. Most theorists use contemporary conventional banking systems to explain the Islamic banking model. The Islamic Bank model, according to Aggarwal & Yousef (2000), is a perspective of profit sharing, and it can be concluded that this model is not widely used due to financial mediation problems. They concluded that this model would not work well when moral hazards are very bad. MFIs also face the same problems as non-MFI (banks) in general. Therefore, MSME financial institutions must improve performance efficiency and reduce high transaction costs. Under these conditions, a digital finance approach is needed to cut high costs and make it easier for MSMEs to access capital from financial institutions. So they emerge financial *technology* or so-called "*fintech*", which can provide services and convenience for MSMEs to access venture capital. Besides, it can also provide better deposit services (Casanova et al., 2017). With the enactment of the Bank Indonesia Regulation (Puspitasari et al., 2019), starting in 2018, commercial banks in Indonesia are obliged to channel their funds into financing to MSMEs at least 20 percent of the total financing distribution. This Bank Indonesia Regulation also stipulates the forms and recipients of technical assistance from Bank Indonesia, as well as the imposition of sanctions if commercial banks do not achieve the stipulated MSMEs financing ratio.

Figure 1 shows an overview of the development trend of the total disbursement of MSME loans and loans. It includes Conventional Commercial Banks (CCB), Islamic Commercial Banks (ICB), Sharia Business Units (SBU), and Conventional/Islamic Rural Banking in Indonesia (C/IRB) from 2015 to 2021 where MSME financing has not shown an increase until in 2021 showed a slight increase of 21.25 percent. This data indicates that the channelling of banking MSME financing is only limited to complying with the Bank Indonesia Regulation of a minimum of 20 percent (Puspitasari et al., 2019). It makes the author want to study the effect of internal bank factors, or ratio of bank performance, on MSME financing as an indicator for bank performance. Those internal factors are the Financing to Deposit Ratio related to bank liquidity. Capital Adequacy Ratio is related to bank capital; Non-performing Financing is related to the quality of financing. Finally, the MSME Non-performing Financing, directly related to the quality of MSME financing, is the independent variable of this research, while the dependent variable is MSME financing.

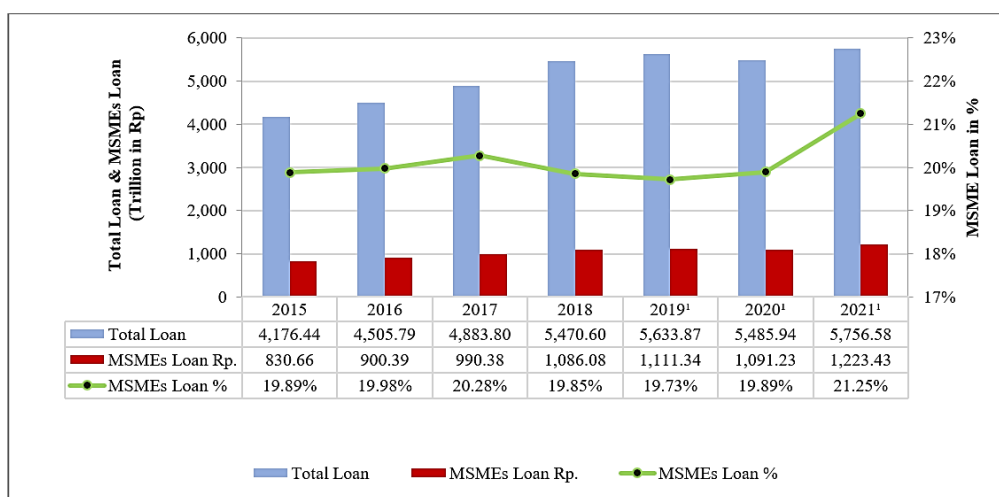


Figure 1. Total Credit and MSME Banking Credit in Indonesia in 2015-2021.

Source: Bank Indonesia and Indonesian Economic and Financial Statistics, (2021).

Several previous studies examine the internal factors that influence MSME financing. Still, we have not found any previous research that examines the effect of MSME Non-performing Financing on the development of MSME financing. By principle causal effect analysis, MSME Non-performing Financing must strongly influence MSME financing, and this variable is our novelty for this research.

2. Literature Review

The CAMELS approach is considered by the IMF and the World Bank (Ocampo, 2005), grouping as a relevant framework for assessing the financial soundness of a bank. CAMELS is an acronym for categories of financial variables encountered in the financial literature, referring to capital adequacy (C), asset quality (A), management efficiency (M), earnings (E), liquidity (L), and sensitivity to market risk (S) (Shaddady & Moore, 2019). CAMELS indicators appear to have a significant capacity to assess banks' soundness with their combination of indicators (Shaddady & Moore, 2019), as cited in (Wanke et al., 2016). Keffala (2021) research is based on the "CAMELS approach" as a measure of bank performance by using dynamic panel data econometrics with the GMM system on 32 Islamic banks during the period from 2007 to 2017 (Keffala, 2021). CAMELS approach is also recommended by many papers as a measure of banks' soundness (Keffala, 2021), as cited in Koetter et al. (2007) and Rodica-Oana (2014)

According to Keffala (2021), capital adequacy is the first CAMELS variable which is measured as the ratio of total equity to total assets (Keffala, 2021), as cited in Chiaramonte et al. (2015), Rodica-Oana (2014), Roman & Şargu (2013) and Schaeck & Cihák (2010). Asset quality is computed as the ratio of non-performing loans to gross loans (Keffala, 2021), as cited in Schaeck & Cihák (2010). Management quality of the bank is approximated by the cost-to-income ratio (Keffala, 2021), as cited in Chiaramonte et al. (2015) and Wanke et al. (2016). Earnings ability is measured by the profitability measure ROE which is also indicator of financial performance (Keffala, 2021), as cited in Roman & Şargu (2013), Schaeck & Cihák (2010) and Wanke et al. (2016). Liquidity is proxied by liquid assets over total assets (Keffala, 2021), as cited in Roman & Şargu (2013) and Schaeck & Cihák (2010). Sensitivity to market risk is defined by the ratio of non-interest income to net operating revenue (Keffala, 2021), as cited in Chiaramonte et al. (2015).

We also have considered that "Capital" closely related Capital Adequacy Ratio (CAR), "Asset" is closely related to the quality of the asset portfolio (financing quality) measured by Non performing Financing (NPF), "Management" is closely related to Operational Costs to Operational Income, "Earning" is closely related to bank profit, "Liquidity" closely related Financing to Deposit Ratio (FDR) or distribution of financing to Third-party Funds, and finally "Sensitivity to market risk" is more related to the macro level of domestic and global economy, and other banking external factors likewise.

Thus, the current study aims to examine the effect of the most important internal banking indicator, Financing to Deposit Ratio (FDR), Capital Adequacy Ratio (CAR), Non-performing Financing (NPF) and MSME Non-performing Financing (NPF UMKM), on sharia banking MSME financing which are considered to have a strong relationship to MSME financing. The role of Third-party Funds is very large in banking for financing growth. Still, we do not take Third-party Funds as one of the independent variables because in the Correlation and Variance Inflation Factor (VIF) test there is multicollinearity between the

independent variables of Third-party Funds and Financing to Deposit Ratio (FDR) so that we take Financing to Deposit Ratio (FDR) as an independent variable that will be analysed. By taking FDR, we can find out the development and shares of Third-party Funds and total financing on bank liquidity.

2.1. Financing to Deposit Ratio (FDR)

The financing to Deposit Ratio (FDR) is the financial ratio of banking companies that shows bank liquidity. The financing to Deposit Ratio (FDR) is a traditional measurement that shows time deposits, current accounts, savings, and other sources of funds used to fulfil customer loan applications (loan requests). The bigger percentage of the Financing to Deposit Ratio (FDR), the larger portion of Third-party Funds used for financing activities, so banks must focus their business on increasing funding from the community (Third-party Funds). With a high Loan to Deposit Ratio (LDR), the company's profit will increase (assuming the bank can extend loans effectively so that the number of bad loans is small). (Amelia et al., 2019).

Dahir et al. (2019) found that fund liquidity significantly negatively impacted a bank loan. Increased fund liquidity reduced bank loan growth in the economies of BRICS countries (Brazil, Russia, India, China, and South Africa). A decrease or increase in the Financing to Deposit Ratio (FDR) will be linked to liquidity risk in the banking sector. So, high or low Financing to Deposit Ratio (FDR) refers to the policy of banking financial stability, whether from the internal banking industry condition itself or the perspective of bank prudence at the macro level so it is necessary to design Financial Intermediation Measurement (FIM) to measure the soundness of banking liquidity (Bod'a & Zimková, 2021).

2.2. Capital Adequacy Ratio (CAR)

The Bank of International Settlements (BIS) first introduced the Minimum Capital Adequacy (BKMM) or Capital Adequacy Ratio (CAR) in 1996, aimed to ensure that the bank has prudence in maintaining sufficient deposits as a shield to protect banks and depositors. The idea of is Capital Adequacy Ratio (CAR) is to ensure that banks have other capital from their own pockets (core capital and buffer capital) for every investment they make (Eid & Karim, 2014). Dahir et al. (2019) found that capital positively impacts financing growth in BRICS countries (Brazil, Russia, India, China, and South Africa). (Kick et al., 2020) also said that the relationship between bank capital and financing offered to borrowers is very important as it can affect the banking sector in the macroeconomy. The results of the study (Khaddafi et al., 2022) using the Multiple Linear Regression Model also showed that partial Capital Adequacy Ratio (CAR) has a positive and significant effect on MSME Financing in Islamic Commercial Banks in Indonesia, while Non-performing Financing (NPF) negative and significant effect. In this research Capital Adequacy Ratio (CAR) Sharia Business Unit (UUS) must use data Capital Adequacy Ratio (CAR) Conventional Commercial Banks because Sharia Business Units is still a business unit of Conventional Commercial Banks.

2.3. Non-Performing Financing (NPF)

Non-performing Loan (NPF) is poor financing quality, termed in Islamic banks or Non-performing Loan (NPL) in conventional banks. It is the ratio of bad loans/financing to total banks loans/financing (Amelia et al., 2019). Other research found that Non-performing Financing (NPF) negatively and significantly affects MSME Financing at Islamic Commercial Banks in Indonesia (Khaddafi et al., 2022). Research of (Chavan & Gambacorta, 2019) also found a one percent increase in financing in India followed by an increase in the Non-performing Financing (NPL) ratio of 4.1 percent for the long term as a high response in a period of policy easing, expansionary phases. In addition, the bank's NPL ratio was found to be sensitive to bank loan interest at that time and overall economic growth.

The discussion above concludes that Non-performing Financing (NPF) or Non-performing loans (NPL) is a ratio that shows the ability of bank management to manage loans/financing and the quality of financing that banks have channelled to borrowers. The higher rate of this ratio, the worse the bank loan/financing quality, and the greater probability that the bank is in a problematic condition. Ratio Non-performing Financing (NPF) or Non-performing Loan (NPL) can also affect banking soundness and Capital Adequacy Ratio. Problems caused by Non-performing Financing (NPF), such as; liquidity, profitability, and solvency, can erode bank profits. Vice versa, the lower Non-performing Financing (NPF), the greater the profit earned by the bank, so the lower Non-performing Financing (NPF) will encourage banks to increase loan/financing.

2.4. MSME Non-performing Financing (MSME NPF)

MSME Non-performing Financing, according to Dunil (2004), is debtors poor-performing loans that fall into a group of collectability; three (substandard), four (doubtful), and five (bad) out of five financing categories (Dunil, 2004). According to Aysan & Disli (2019), there is no Granger Causality between SME financing and NPF in the short term. The increase in NPF does not affect MSME financing, or there is no bidirectional relationship between MSME financing and MSME NPF in the banking sector in the short term. It is because banks have diversified sources of funds and this condition is in line with the moral instructions of the existence of Islamic banks in Turkey. Impact of MSME Non-performing Financing occurs in banks that experience low financing growth due to poor financing performance. They suggest that banking with high conditions of declining Non-performing Loan (NPL) tends to provide more financing to the real sector of the economy (Sánchez Serrano, 2021).

Afrifa et al. (2019) also stated in their research that the quality of the financing portfolio shows a positive relationship with buffer capital owned by Microfinance Institutions (MFIs). An important lesson from their research for managers and policymakers of Microfinance Institutions is to improve the quality of financing because the level of capital owned by Microfinance Institutions depends on the quality of the financing portfolio (Afrifa et al., 2019). Non-performing Loan (NPL) has a significant negative effect on the distribution of MSME Credit in Rural Banks. The results of this study indicate that the higher the NPL level, the greater the risk of credit extended (Khotimah & Atiningsih, 2018). Non-performing Financing (NPF) shows the quality of banking asset management. The higher the Non-performing Financing (NPF), the higher the credit risk, which can decrease bank profits. Vice versa, the lower the Non-performing Financing (NPF), the greater profit earned by the bank. So that with, low Non-performing MSMEs Financing (NPF UMKM) will encourage banks to increase MSME financing and vice versa.

2.5. MSMEs Financing

Productive financing is disbursed for working capital and investment financing, which is channelled to large businesses (corporations) and MSMEs. A corporate business is a business in the real and financial sectors with a net worth/business capital of more than Rp. 10 billion and an annual turnover above Rp. 50 billion (Sabrie et al., 2022). Micro, Small, and Medium Enterprises are productive economic enterprises carried out by individuals or business entities. MSMEs are stipulated in the provisions of the Laws and Regulations concerning the facilitation, protection and empowerment of cooperatives and micro, small and medium enterprises, namely having a maximum net worth/capital of 10 billion with a maximum annual sales turnover of 50 billion Bank Indonesia Regulation.

Puspitasari et al. (2019) concerned amendments to BI regulation, Patandung & Indrawati (2022) concerned the Macprudential Inclusive Financing Ratios for Conventional Commercial Banks, Islamic Commercial Banks, and Sharia Business Units (Aziz & Amanda, 2021). Banking financial institutions have an important and moral role in alleviating poverty through MSME financing channelled to the lower middle class. Therefore, the government and policymakers must not only focus on the development and growth of the capital market but must also find a good strategy to overcome the problems inherent in MSMEs to facilitate financing for active MSMEs through the capital market (Indonesia, 2014).

2.6. Research Framework

This research framework examines the effect of Financing to Deposit Ratio (FDR), Capital Adequacy Ratio (CAR), Non-performing Financing (NPF), and MSME Non-performing Financing on the development of MSME financing in Islamic banks in Indonesia from 2015 to 2021. The research framework can be seen in Figure 2. as follow:

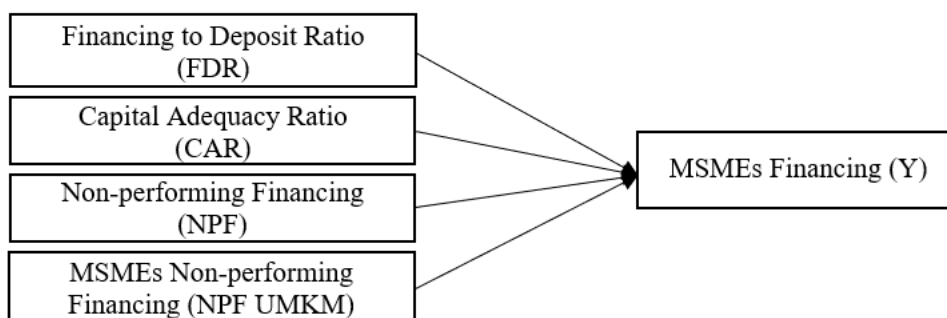


Figure 2. Research Framework

2.7. Hypothesis

2.7.1. The Effect of Financing to Deposit Ratio (FDR) on MSME Financing

Financing to Deposit Ratio (FDR) is the ratio between disbursed financing to Third-party Funds collected by banks from the public. The greater the distribution of MSME financing, the more it will increase the Financing to Deposit Ratio (FDR). According to the research by Hariyanto & Nafi'ah (2022), Financing to Deposit Ratio (FDR) has a significant negative effect on MSME sector financing in Sharia Rural Banking in Indonesia because the higher the FDR ratio, the better the bank is in carrying out its intermediary function. Bod'a & Zimková (2021) supported the finding that the higher value of the Financing to Deposit Ratio (FDR) will cause high liquidity risk. So, the Financial Intermediation Measurement (FIM) is urgently designed to measure the ideal Financing to Deposit Ratio (FDR) to avoid liquidity risk in the banking sector. In this case, banks need to lower FDR at a safe level.

On the other hand, Ginting et al. (2022) found that the Financing to Deposit Ratio (FDR) has a significant positive effect on the Allocation of MSME Sector Financing in Islamic banks in Indonesia. Likewise, research by Khotimah & Atiningsih (2018) found that Loan Deposit Ratio (LDR) has a positive effect on MSME financing at Rural Banks in Semarang from 2013 to 2016, and it is the same as research by Rizki Dwi Haryanti et al., (2022). Wenni & Canggih (2021) also found that Third-party Funds and Financing to Deposit Ratio (FDR) have a significant positive effect on total Sharia Rural Banking financing in East Java Province and Non-performing Financing (NPF) has a significantly negative effect (Wenni & Canggih, 2021).

Empirical evidence from research Castillo et al. (2018) in Colombia showed that low banking performance and lack of banking investment (financing) is related to problems of moral hazards. These are important variables to explain the failure of several MSME studies in Colombia, even requiring loan guarantees for MSME debtors. Therefore, to maintain a safe level of bank liquidity, an increase in financing should be followed by an increase in Third-party Funds to maintain stability and a soundness level of bank liquidity according to the Government Financial Services Authority (OJK) policy. In that case, with the greater disbursement of financing, especially MSME financing, followed by an increase of Third-party Funds, the Financing to Deposit Ratio (FDR) will be safe for bank liquidity.

Hypothesis 1 (H1): Financing to Deposit Ratio at a safe agreed level might have no significant effect on MSME financing in Islamic banks in Indonesia.

2.7.2. The Effect of Capital Adequacy Ratio (CAR) on MSME Financing

A study by Eid & Karim (2014) found that the adequacy of capital requirements influenced bank behaviour toward savings and financing from a sample of 186 conventional banks and 52 Islamic banks in Malaysia. There is a strong relationship between bank capital and savings and financing growth in both Islamic and conventional banks. According to Suhardjono (2002), capital is important in developing a business and accommodating the risk of loss. The higher Capital Adequacy Ratio (CAR) the stronger the bank's ability to bear the risk of credit as a productive asset. If the level of Capital Adequacy Ratio (CAR) is high, the bank can finance bank operations, and this condition is favourable for banks to create more profit (Amelia et al., 2019).

On the other hand, the research of Hariyanto & Nafi'ah (2022) found that the Capital Adequacy ratio (CAR) has a significant negative effect on the financing of the MSMEs sector. It is due to the company's

capital being used not only for supporting banking operations of Islamic rural banks but also for protecting depositors by bearing company losses like provision of loan losses. This study concludes that the higher the Capital Adequacy Ratio (CAR) of the bank, the higher ability and confidence of the bank to deal with financing problems, so it has an impact on increasing financing, especially MSME financing.

Hypothesis 2 (H2): Capital Adequacy Ratio (CAR) has a positive and significant effect on MSME financing in Islamic banks in Indonesia.

2.7.3. The Effect of *Non-performing Financing (NPF)* on MSME Financing

Banks with high levels of non-performing loans can hamper the circulation of money in banks, so they will find some difficulties channelling their funds to other borrowers; giving more loans will increase risks for the banks (Barus & Lu, 2013). Another study conducted by Kuswanto (2019) found that *Non-performing Financing (NPF)* has no effect on financing for the MSME sector in Sharia Commercial Banking in Indonesia because the amount of financing disbursed by Sharia Commercial Banking to the MSME sector is very small compared to the non-UMKM sector those are consumptive and corporate loans (Kuswanto, 2019). It can be concluded that the higher total ratio of *Non-performing Financing (NPF)* financing reflects the increasing number of bad loans (MSMEs and non-MSME loans) in banks, so it can affect the level of banks' soundness and can ultimately reduce the amount of MSME and non-MSMEs financing disbursement of banks, especially MSME financing which has a higher risk.

Hypothesis 3 (H3): Non-performing financing has a negative and significant effect on MSME financing in Islamic banks in Indonesia.

2.7.4. The Effect of MSMEs *Non-performing Financing* on MSME Financing

MSME Non-performing Financing has a direct impact on the development of MSME financing that is reducing MSME financing. Impact MSME Non-performing Financing found in banks experienced low financing growth due to poor financing performance. These banks suggested that banking with high conditions of declining Non-performing Loans (NPL) tends to provide more financing to the real sector of the economy (Sánchez Serrano, 2021). Research by Sánchez Serrano (2021) on the impact of capital and fluctuation of Non-performing Loans (NPL) for financing activities with 75 sample banks in Europe from 2014 to 2018. He found that generally high Non-performing Loan (NPL) goes along with several other factors such as the low growth rate of financing performance. Can be concluded with causal effect analysis (causation) that a high level of Non-performing MSMEs Financing (NPF UMKM) should have a strong direct influence on the decline of MSME financing.

Hypothesis 4 (H4): MSMEs Non-performing Financing, based on causal effect analysis, has a negative and significant effect on MSME financing in Islamic banks in Indonesia.

3. Materials and Methods

This study uses descriptive and inferential analyses. Descriptive analysis aims to provide an overview of both bivariate and univariate by using tables, graphs, and thematic maps. Inferential analysis in this study used panel data regression analysis. Panel data regression analysis is used to analyse the intermediate effect Financing to Deposit Ratio (FDR), Capital Adequacy Ratio (CAR), Non-performing Financing (NPF), and MSME Non-Performing Financing on MSME financing in Islamic banking in Indonesia. The data collection in this study is in the form of secondary data from the population of Islamic banking in Indonesia with 3 types of individual cross sections of Islamic banking in Indonesia; (1) Sharia Commercial Banks, (2) Sharia Business Units, (3) Sharia Rural Banks with a time frame based on month from January 2015 to December 2021 with 252 observations. As additional information, there 12 Islamic Commercial Banks, 20 Sharia Business Units and 164 Sharia Rural Banks in Indonesia spread across all provinces in Indonesia. This research model is panel data regression with an equation as follows:

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \dots + \beta_n X_{nit} + u_{it} \tag{1}$$

Where t is period of year t, i is individual, n is the number of independent variables, Y_t is the value of the dependent variable in the t-the period which is assumed to be random/stochastic, X_t is the value of the t-the independent variable which is assumed to be fixed/non-stochastic. β_0 is slope or intercept, β_n is model parameters are also called regression coefficients, β_0 is an intercept. $\beta_{1t}, \dots, \beta_{nt}$ is the slope (line gradient) which states the change in the value of Y for each increase of one unit of X and u is the error component that is random (contains the influence of other independent variables besides variable X)

3.1. Definition of Operational Variables

The definition of independent variables in this study is; firstly, the Financing to Deposit Ratio is the ratio of financing to deposits from funds Third-party Funds multiplied by 100 in percentage units. Secondly, Capital Adequacy Ratio is the ratio of core capital to Risk-Weighted Assets (RWA) multiplied by 100 in percentage units. Thirdly, Non-Performing Financing is the ratio of substandard financing plus doubtful financing plus unpayable financing to the total bank financing for multipurpose, productive, and consumptive financing channelled by Islamic banking multiplied by 100 in percentage units. Finally, MSME Non-Performing Financing is the ratio of substandard MSME financing plus doubtful financing plus non-performing financing to the total MSME financing (productive financing only) multiplied by 100 in percentage units. While the definition of the dependent variable, MSME Financing, is Islamic banking productive loans, loans for working capital, or business investments, which are given to MSME businesses in the IDR currency.

4. Results and Discussion

The following is the ratio data of Islamic banking financial performance in Indonesia from 2015 to 2021:

Table 3. Ratios and Financial Performance of Islamic Banks in Indonesia 2015 – 2021.

Year	1	2	3	4	5	6	7	8	9
2015	50.291,43	15,02	21,39	92,14	231.175,39	4,34	6,78	212.996,47	23,61
2016	54.530,91	16,63	22,93	88,78	279.334,83	4,16	7,09	248.007,23	21,99
2017	58.979,35	17,91	23,18	85,31	334.887,63	3,87	5,66	285.694,59	20,64
2018	62.228,81	20,39	22,97	86,11	371.828,00	2,85	4,95	320.192,86	19,43
2019	66.336,01	20,59	23,40	85,27	416.557,93	3,11	5,83	355.181,99	18,68
2020	69.535,04	21,64	23,89	82,40	465.976,70	3,08	5,98	383.944,44	18,11
2021	76.009,27	25,71	25,66	76,33	536.992,64	2,57	5,15	409.877,97	18,54

Note: 1. MSME Financing in IDR, 2. CAR of ICB in percent, 3. CAR of SBU /CCB in percent, 4. FDR in percent, 5. 3rd party Funds in IDR, 6. NPF in percent, 7. NPF of MSME in percent, 8. Total Financing, and 9 MSMEs financing rate in percent.

Source: Otorisasi Jasa Keuangan RI & IDAP (2022)

Table 3 shows the trend of increasing Third-party Funds at Islamic banks more rapidly, followed by an increase in total financing. Ironically, this increase is not followed by an increase in MSME financing shares but showed a decline of MSME financing shares out of total financing from 2015 to 2020. Even though the trend of total financing has increased, the Financing to Deposit Ratio (FDR) decreased. The Financing to Deposit Ratio (FDR) in 2015 was 92.14 percent and in December 2021 was 76.33 percent. This condition shows that sharia banking is more about maintaining liquidity than maximising the distribution of MSMEs financing, especially during the Covid-19 pandemic.

The share of MSME financing in Islamic banks continues to decline; from 2015 it was 23.61 percent and decreased in December 2021 by 18.54 percent, meaning that Islamic banks cannot maximise Third-party Funds for channelling MSME financing. Besides the gap between the distribution of Islamic bank financing and Islamic bank, MSME financing is widening. It means that the increase in Third-party Funds of Islamic banks is greater than the increase in Islamic banking financing, which results in a decrease in the Financing to Deposit Ratio (FDR). Islamic banking MSMEs financing is still far below Islamic banking financing with a decreasing percentage. However, the distribution of Islamic banking MSME financing

increased slightly due to increased Third-party Funds. This condition indicates that Islamic banking MSME financing is not so attractive compared to non-MSME financing, which is assumed more feasible and has lower risks compared to MSME financing despite MSME financing constraints such as; small business scale, inadequate collateral/financing guarantees, asymmetry information, adverse selection, moral hazards, credit rationing, high risks, and high costs.

4.1. Panel Data Regression Analysis

Panel data regression analysis aims to examine the influence exerted by the independent variables, namely the MSMEs NPF, overall NPF, FDR, and CAR, on the dependent variable, namely the realisation of MSMEs financing in Indonesia. The first step that must be taken to be able to perform panel data regression analysis is to select the best model to be used. The model selection is one of the following: common effect model (CEM) or fixed effect model (FEM), or random effect model (REM).

Table 4. Model Selection

	Chow Test	Hausman Test	Lagrange Test	The Best Model
Cross-section F - Prob.	0.0000			
Cross-section random - Prob.		0.7353		REM
Breusch-Pagan - Both			(0.0000)	REM

Table 4 displays the chow test that the probability cross-section F value of 0.0000 is below the alpha value of 0.05 so it can be concluded that the fixed effect model is better used than with common effect model. Also, the Hausman test found that the probability cross-section random value of 0.7353 is smaller than the alpha value of 0.05, then the best model used in this study is the random effect model. The last test is the Lagrange test, showing the value results Breusch-Pagan (BP) equal to (0.0000), and if Prob. Breusch-Pagan (BP) ((0.0000)) < 0.05, then H0 is rejected, in other words, the best model is Random Effect Model (REM) with the regression results as follows:

Table 5. The Best Model of Hypothesis Testing

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDR	-134.5598	37.24775	-3.612561	0.0004
CAR	589.1724	88.69586	6.642614	0.0000
NPF	-1116.373	277.5951	-4.021586	0.0001
MSMEs_NPF	-176.2498	99.41483	-1.772872	0.0775
C	29920.42	15102.43	1.981165	0.0487
Effects Specification			S.D.	Rho
Cross-section random			24626.80	0.9867
Idiosyncratic random			2856.875	0.0133
Weighted Statistics				
R-squared	0.437011	Mean dependent var		273.8115
Adjusted R-squared	0.427894	S.D. dependent var		4490.284
S.E. of regression	3396.347	Sum squared resid		2.85E+09
F-statistic	47.93250	Durbin-Watson stat		0.210128
Prob(F-statistic)	0.000000			

Note: Dependent Variable: MSMEs_FIN

Table 5 captures the best model formed in this study. The independent variables are Non performing Financing (NPF), Financing to Deposit Ratio (FDR), and Capital Adequacy Ratio (CAR) used in the model partially has a significant relationship to MSMEs financing while the independent variables MSMEs Non-performing Financing partially and relatively has insignificant negative effect on MSME financing. The total coefficient of Non-performing Financing (FDR) is bigger. It has a more significant effect on MSMEs financing than the coefficient of MSMEs NPF, meaning that the effect of Non-performing Financing (NPF) financing is stronger than MSMEs Non-performing Financing on Islamic bank MSMEs financing in

Indonesia. The independent variable can explain the dependent variable for MSME financing of 43.70 percent. This value certainly indicates that the selection of independent variables in this study is still weak to describe the condition of the dependent variable, besides there are other independent variables called “unexplained variables” which can give a stronger influence that can explain its influence on MSME financing of Islamic banks in Indonesia. Also, the value of Probability F-Statistic less than 0.05 indicates that all independent variables used in this study simultaneously have a significant effect on the MSME financing of Islamic banks in Indonesia.

On the other hand, the study of (Akossou & Palm, 2013) found that in unfavourable situations such as a small R-squared value and a small sample of independent variables, the biased result would be more significant in a model. In this study, the authors used a sample of 252 observations, so it can be concluded that with a large sample of observations, the possibility of bias can be reduced even though the R squares are small. According to Gujarati (2022), *R squares* small does not mean that the model used is not proper. In this case, researchers should pay more attention to the logical or theoretical relevance of the independent variables to the dependent variable and the statistical significance of the relationship. If in the research process obtained *R squares* high, meaning that the relationship between variables is good and proper but on the other hand when *R squared* is low, this does not mean that the research model is bad. *R squares* low often occur in cross-section data with many observations exceeding 100 observations. So the research results can be said to be good even though there are values *R square* which is low (Gujarati, 2022). Then the equations obtained in this study are as followed:

$$MSMEs_FIN_{it} = \beta_0 - \beta_1 FDR_{it} + \beta_2 CAR_{it} - \beta_3 NPF_{it} - \beta_4 MSME_NPF_{it} + u_{it} \quad (2)$$

$$MSMEs_FIN_{it} = 29929.42 - 134.5598 FDR_{it} + 589.1742 CAR_{it} - 1116.373 NPF_{it} - 176.2498 MSME_NPF_{it} + u_{it} \quad (3)$$

4.2. Testing of Classical Assumption

We have considered the following classical assumptions:

Table 6. Classic Assumption Test

Test	Description	Value	Conclusion
Normality	252 obs.	> 100 obs.	Normal
Multicollinearity	Independent variables	below 0.8	No multicollinearity
Heteroscedasticity	GLS random effect model approach with 252 obs.	> 100 obs.	BLUE requirement is fulfilled
Autocorrelation	Durbin Watson stat	0.210128	- 2 or + 2 is no autocorrelation

Table 6 describes a summary of the classic test. (Gujarati, 2022) says, in the normality test, if our research deals with infinite or small sample sizes, for example, the data is less than 100 observations, then the normality assumption is important to apply and if the research sample size is above 100 then the normality test can be relaxed to be done. As in our study, the sample size was quite large, so we relax the normality assumption test. The multicollinearity test found that the variable relationship values for all independent variables were below 0.8 meaning that there was no multicollinearity between the independent variables. Meanwhile, the heteroscedasticity test is not needed because this research approach uses the generalised least squares (GLS) random effect model approach with 252 observations so that the BLUE requirements have been met (Gujarati, 2022). Finally, autocorrelation test can be seen from the value of the Durbin Watson stat of 0.210128 which is between -2 to 2, which means that there is no autocorrelation.

5. Conclusions, Limitations and Future Directions

5.1. Conclusions

This study analyses the effect of ratios and financial performance on MSMEs financing in Islamic banks in Indonesia in 2015-2021. In this study the independent variables used to analyse the level of MSME financing in Islamic banks in Indonesia are Financing to Deposit Ratio (FDR), Capital Adequacy Ratio

(CAR), Non-performing Financing (NPF), and MSMEs Non-performing Financing and the former variable is a novelty variable of this research. Based on the findings in this study, several conclusions were drawn: Financing to Deposit Ratio (FDR) has a negative and significant effect on MSME financing in Islamic banks in Indonesia in 2015-2021, Capital Adequacy Ratio (CAR) has a positive and significant effect on MSME financing in Islamic banks in Indonesia in 2015-2021, Non-performing Financing (NPF) has a negative and significant effect on MSME financing in Islamic banks in Indonesia in 2015-2021, and finally, MSME Non-performing Financing (MSME NPF) has a less significant and negative effect on MSME financing at Islamic banks in Indonesia in 2015-2021, Financing to Deposit Ratio (FDR), Capital Adequacy Ratio (CAR), Non-performing Financing (NPF), MSME Non-performing Financing simultaneously has a significant effect on MSME financing in Islamic banking in Indonesia in 2015-2021.

5.1. Limitations and Future Directions

Several policies are suggested to policy maker from internal Islamic banking and the government as follows; on behalf of Financing to Deposit Ratio, it is recommended that banks should increase Third Party Funds to maintain a safe level of bank liquidity and the Financing to Deposit Ratio must be at a safe level according to policy provisions that have been regulated by banking policy maker from banking internal factors and external factors that can have an impact on liquidity risk and non-performing loans. Banking policy authority should make policies or programs to encourage the acceleration of the distribution of MSME financing such as Teras BRI provided by Bank BRI for MSMEs, increase the MSME financing shares in sharia banking, enforcement and supervision in the implementation of programs such as People's Business Credit so-called "Kredit Usaha Rakyat or KUR" and National Economic Recovery so-called "Pemulihan Ekonomi Nasional or PEN" in accordance with firm regulations. Islamic banking should also design a variety of contract-based MSME financing products; Murabahah, Musyarakah, Mudharabah, and ijarah in full implementation (kaffah) and evenly distributed and there is no need to always take conventional bank rates as reference or benchmark to set margins and profit-sharing ratios in channelling MSME financing,

On Capital Adequacy Ratio Islamic banking must be able to improve and maintain Capital Adequacy Ratio at a safe level by increasing bank capital such as increasing core capital, buffer capital, and company profits, as well as managing the quality of assets with great prudence on Non-performing Financing Islamic banking should be able to lower the rate of Nonperforming Financing by reducing the level of poor financing by financing restructuring, increasing the quality and competence of financing human resources who are reliable in their fields according to the classification of each type of business, coverage sufficient collateral, binding covenant strict collateral in accordance with applicable law, especially for non-MSMEs financing (corporate and consumer), and accelerating the increase in MSMEs and non-MSMEs financing prudently.

On MSME Non-performing Financing Islamic banking should be able to lower the rate of Non-performing MSME financing, then Islamic banks are advised to empower human resources for MSME financing who are experts in a specific type of business with training, comparative studies with Micro Finance Institutions, bank, and non-Banks, such as Savings and Loans Cooperatives, forming MSME financing human resource specialisation according to the type/classification of MSME business. For Banking management is recommended to make a special division for retail/MSMEs financing, collecting data and collaborating with supply companies and buyers of MSME production, MSME cluster, MSME Business Cooperatives and non-Bank Microfinance Institutions, and MSME empowerment through training from banks and the government. Sharia banking policy maker should generate policies that facilitate MSME financing collateral without neglecting its function, such as collateral in form of warehouse receipts, personal or institutional guarantee, group guarantee, cooperative guarantee, business partner guarantee/supplier and guarantees by pledging the assets or means of production of the MSME business with a simple binding covenant of MSME collateral in accordance with applicable law.

Banking policy makers are also advised to enforce the existing policies implementation for MSMEs financing such as implementing Community's Business Credit (KUR) and restructuring the settlement of poor MSME financing (NPF) and guarantees from insurance parties. Another policy for Sharia Business Units (SBU) is recommended for the government as banking policies maker to loosen and speed up banking spin-off. This research is only looking at internal banking indicators effect on MSME financing and there are still other external factors that can influence the development of MSME financing such as internal banking policies and government policies which need to be investigated on the development of MSME financing.

Author Contributions: Conceptualisation, S.Y., S.R., S.S. and G.E.; methodology, S.S.; software, S.Y.; validation, S.Y., S.R., S.S. and G.E.; formal analysis, S.Y. and S.S.; investigation, S.Y.; resources, S.Y.; data curation, S.S.; writing—original draft preparation, S.Y., S.R. and S.S.; writing—review and editing, S.Y., S.R., S.S. and G.E.; visualisation, S.R.; supervision, S.S.; project administration, S.S.; funding acquisition, S.Y. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Not applicable.

Acknowledgments: The author would like to thank Universitas Syiah Kuala, Aceh, Indonesia for supporting this research and publication. We would also like to thank the reviewers for their constructive comments and suggestions.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Afrifa, G. A., Gyapong, E., & Zalata, A. M. (2019). Buffer capital, loan portfolio quality and the performance of microfinance institutions: A global analysis. *Journal of Financial Stability*, 44(October 2019), 1–16. <https://doi.org/10.1016/j.jfs.2019.100691>
- Aggarwal, R. K., & Yousef, T. (2000). Islamic Banks and Investment Financing. *Journal of Money, Credit and Banking*, 32(1), 93–120. <https://doi.org/10.2307/2601094>
- Agustina, M., Abd. Majid, M. S., Musnadi, S., Faisal, F., Hafasnuddin, H., & Suriani, S. (2022). Islamic Banking, Economic Growth, and Poverty Reduction in Indonesia. *2022 International Conference on Decision Aid Sciences and Applications (DASA)*, 1249–1253. <https://doi.org/10.1109/DASA54658.2022.9765089>
- Akossou, A. Y. J., & Palm, R. (2013). Impact of data structure on the estimators R-square and adjusted R-square in linear regression. *Int. J. Math. Comput*, 20(3), 84–93.
- Amelia, R., Lestari, I., & Nasib. (2019). *Keuangan dan Perbankan* (1st ed.).
- Aysan, A. F., & Disli, M. (2019). Small business lending and credit risk: Granger causality evidence. *Economic Modelling*, 83, 245–255. <https://doi.org/10.1016/j.econmod.2019.02.014>
- Aziz, R. M., & Amanda, D. N. (2021). Analysis the level of Efficiency of Sharia Commercial Bank and Sharia Business Unit in Indonesia with Data Envelopment Analysis Method. *Jurnal Organisasi Dan Manajemen*, 17(1), 89–98. <https://doi.org/10.33830/jom.v17i1.834.2021>
- Bachas, N., Kim, O. S., & Yannelis, C. (2021). Loan guarantees and credit supply. *Journal of Financial Economics*, 139(3), 872–894. <https://doi.org/10.1016/j.jfineco.2020.08.008>
- Barus, A. C., & Lu, M. (2013). Pengaruh Spread Tingkat Suku Bunga dan Rasio Keuangan Terhadap Penyaluran Kredit UMKM pada Bank Umum di Indonesia. *Jurnal Wira Ekonomi Mikroskil*, 3(1), 11–20. <https://doi.org/10.55601/jwem.v3i1.197>
- Berger, A. N., & Udell, G. F. (2002). Small Business Credit Availability and Relationship Lending: The Importance of Bank Organisational Structure. *The Economic Journal*, 112(477), F32–F53. <https://doi.org/10.1111/1468-0297.00682>
- Bhowmik, P. K., & Sarker, N. (2021). Loan growth and bank risk: empirical evidence from SAARC countries. *Heliyon*, 7(5), e07036. <https://doi.org/10.1016/j.heliyon.2021.e07036>
- Bod'a, M., & Zimková, E. (2021). Overcoming the loan-to-deposit ratio by a financial intermediation measure — A perspective instrument of financial stability policy. *Journal of Policy Modeling*, 43(5), 1051–1069. <https://doi.org/10.1016/j.jpolmod.2021.03.012>
- Brown, G., & Brabyn, L. (2012). An analysis of the relationships between multiple values and physical landscapes at a regional scale using public participation GIS and landscape character classification. *Landscape and Urban Planning*, 107(3), 317–331. <https://doi.org/10.1016/j.landurbplan.2012.06.007>
- Casanova, L., Cornelius, P., & Dutta, S. (2017). *Financing entrepreneurship and innovation in emerging markets*. Academic Press.
- Castillo, J. A., Mora-Valencia, A., & Perote, J. (2018). Moral hazard and default risk of SMEs with collateralised loans. *Finance Research Letters*, 26, 95–99. <https://doi.org/10.1016/j.frl.2017.12.010>

- Chavan, P., & Gambacorta, L. (2019). Bank lending and loan quality: an emerging economy perspective. *Empirical Economics*, 57(1), 1–29. <https://doi.org/10.1007/s00181-018-1436-5>
- Chiaramonte, L., Poli, F., & Oriani, M. E. (2015). Are Cooperative Banks a Lever for Promoting Bank Stability? Evidence from the Recent Financial Crisis in OECD Countries. *European Financial Management*, 21(3), 491–523. <https://doi.org/10.1111/j.1468-036X.2013.12026.x>
- Covin, J. G., Rigtering, J. P. C., Hughes, M., Kraus, S., Cheng, C.-F., & Bouncken, R. B. (2020). Individual and team entrepreneurial orientation: Scale development and configurations for success. *Journal of Business Research*, 112, 1–12. <https://doi.org/10.1016/j.jbusres.2020.02.023>
- Dahir, A. M., Mahat, F., Razak, N. H. A., & Bany-Arifin, A. N. (2019). Capital, funding liquidity, and bank lending in emerging economies: An application of the LSDVC approach. *Borsa Istanbul Review*, 19(2), 139–148. <https://doi.org/10.1016/j.bir.2018.08.002>
- Destiana, R. (2016). Analisis Faktor-Faktor Internal Yang Mempengaruhi Pembiayaan Usaha Mikro Kecil Dan Menengah (UMKM) Pada Bank Syariah Di Indonesia. *Jurnal Riset Keuangan Dan Akuntansi*, 2(1). <https://doi.org/10.25134/jrka.v2i1.444>
- Dunil, Z. (2004). *Kamus Istilah Perbankan Indonesia*. Gramedia Pustaka Utama.
- Eid, M., & Karim, K. (2014). *Re-imagining the Other: Culture, media, and Western-Muslim intersections*. Springer.
- Fuadi, M., Suriani, S., & Zulham, T. (2022). Can Sharia Finance Affect Indonesia's Economic Growth? *International Journal of Finance, Economics and Business*, 1(3), 166–176. <https://doi.org/10.56225/ijfeb.v1i3.32>
- Ginting, R., Suhendar, S., Sahusilawane, W., Amalia, M. M., & Jatnika, R. (2022). Analysis of the influence of internal control and competence of village apparatuses on village fund management fraud. *Enrichment: Journal of Management*, 12(5), 4470–4477.
- Gujarati, D. N. (2022). *Basic econometrics*. Prentice Hall.
- Hariyanto, H., & Nafi'ah, B. (2022). Analysis of Factors Affecting on Saving Intention in Islamic Bank: The Case in Indonesia. *Jurnal Ilmiah Ekonomi Islam*, 8(1), 28–38. <https://doi.org/10.29040/jiei.v8i1.4308>
- He, Z., Qiao, G., Zhang, L., & Zhang, W. (2021). Regulator supervisory power and bank loan contracting. *Journal of Banking & Finance*, 126, 106062. <https://doi.org/10.1016/j.jbankfin.2021.106062>
- Hock-Doepgen, M., Clauss, T., Kraus, S., & Cheng, C.-F. (2021). Knowledge management capabilities and organisational risk-taking for business model innovation in SMEs. *Journal of Business Research*, 130, 683–697. <https://doi.org/10.1016/j.jbusres.2019.12.001>
- Indonesia, B. (2014). *Financing SMEs: Sharing Ideas for Effective Policies*. Jakarta.
- Javadi, S., & Masum, A.-A. (2021). The impact of climate change on the cost of bank loans. *Journal of Corporate Finance*, 69, 102019. <https://doi.org/10.1016/j.jcorpfin.2021.102019>
- Keffala, M. R. (2021). “How using derivative instruments and purposes affects performance of Islamic banks? Evidence from CAMELS approach.” *Global Finance Journal*, 50(March), 100520. <https://doi.org/10.1016/j.gfj.2020.100520>
- Khaddafi, M., Chalirafi, C., Muchsin, M., & Khairani, E. (2022). *Analysis of Factors Influencing MSME Financing Disbursement (Study on Islamic Commercial Banks in Indonesia for the 2015-2019 Period)*. *E-Mabis: Journal of Management and Business Economics*, 23 (1), 40–48.
- Khotimah, F. Q., & Atiningsih, S. (2018). Pengaruh DPK, NPL, LDR dan suku bunga kredit terhadap penyaluran kredit UMKM (Studi pada BPR di kota Semarang tahun 2013-2016). *Jurnal STIE Semarang (Edisi Elektronik)*, 10(2), 42–57.
- Kick, T., Malinkovich, S., & Merkl, C. (2020). Loan supply and bank capital: A micro-macro linkage. *Journal of International Money and Finance*, 104, 102166. <https://doi.org/10.1016/j.jimonfin.2020.102166>
- Koetter, M., Bos, J. W. B., Heid, F., Kolari, J. W., Kool, C. J. M., & Porath, D. (2007). Accounting for distress in bank mergers. *Journal of Banking & Finance*, 31(10), 3200–3217. <https://doi.org/10.1016/j.jbankfin.2006.12.009>
- Kuswantoro, M. K. (2019). *Faktor-Faktor Yang Mempengaruhi Alokasi Pembiayaan Perbankan Syariah Untuk Usaha Mikro Kecil Dan Menengah (UMKM) Di Indonesia*. STIE Indonesia Banking School.
- Majid, M. S. A., & NASIR, M. (2018). SMEs' Credit Demand and Economic Growth in Indonesia. *Regional Science Inquiry*, 10(2), 121–133.
- Nguyen, D. N., Mishra, A. V., & Daly, K. (2022). Bank market power and discouraged SMEs: International evidence. *Borsa Istanbul Review*, 22(6), 1045–1061. <https://doi.org/10.1016/j.bir.2022.07.010>

- Ocampo, J. A. (2005). *Reforming the Governance of the IMF and the World Bank* (Vol. 1). Anthem Press.
- Otorisasi Jasa Keuangan RI, D. P. dan I. P., & (IDAP), D. D. P. dan A. (2022). *Statistik Perbankan Syariah*. Otoritas Jasa Keuangan RI.
- Patandung, N., & Indrawati, A. A. S. (2022). Kebijakan Penyaluran Kredit Terhadap UMKM Di Masa Pandemi COVID-19 Oleh OJK dan BI. *Kertha Wicara: Journal Ilmu Hukum*, 11(1), 187–198.
- Puspitasari, S. M., Rusdarti, R., & Murwatiningsih, M. (2019). The Efficiency of Commercial Banks in Financing MSME in Indonesia. *Journal of Economic Education*, 8(1), 39–47.
- Rizki Dwi Haryanti, Titin Agustin Nengsih, & Bambang Kurniawan. (2022). Analisis Faktor-Faktor yang Mempengaruhi Pembiayaan Bagi Hasil Pada Bank Umum Syariah Indonesia. *AKUA: Jurnal Akuntansi Dan Keuangan*, 1(3), 370–382. <https://doi.org/10.54259/akua.v1i3.1034>
- Rodica-Oana, I. (2014). The Evolution of Romania's Financial and Banking System. *Procedia Economics and Finance*, 15, 760–768. [https://doi.org/10.1016/S2212-5671\(14\)00467-5](https://doi.org/10.1016/S2212-5671(14)00467-5)
- Roman, A., & Şargu, A. C. (2013). Analysing the Financial Soundness of the Commercial Banks in Romania: An Approach based on the Camels Framework. *Procedia Economics and Finance*, 6, 703–712. [https://doi.org/10.1016/S2212-5671\(13\)00192-5](https://doi.org/10.1016/S2212-5671(13)00192-5)
- Sabrie, H. Y., Tasya, A. A., Taufik, H. F., Tanusaputri, A. M., & Utomo, Y. A. (2022). Implementation of Syndicated Credit Agreements by Conventional Commercial Banks during the COVID-19 Pandemic. *Journal of Economics and Business*, 5(3), 16–31. <https://doi.org/10.31014/aior.1992.05.03.432>
- Sánchez Serrano, A. (2021). The impact of non-performing loans on bank lending in Europe: An empirical analysis. *The North American Journal of Economics and Finance*, 55, 101312. <https://doi.org/10.1016/j.najef.2020.101312>
- Schaeck, K., & Cihák, M. (2010). Competition, Efficiency, and Soundness in Banking: An Industrial Organization Perspective. *SSRN Electronic Journal*, 2010-20S. <https://doi.org/10.2139/ssrn.1635245>
- Shaddady, A., & Moore, T. (2019). Investigation of the effects of financial regulation and supervision on bank stability: The application of CAMELS-DEA to quantile regressions. *Journal of International Financial Markets, Institutions and Money*, 58, 96–116. <https://doi.org/10.1016/j.intfin.2018.09.006>
- Smith, S. S. (2019). *Blockchain, artificial intelligence and financial services: Implications and applications for finance and accounting professionals*. Springer.
- Suhardjono, M. K. (2002). Manajemen perbankan teori dan aplikasi. Penerbit BPFE. Jakarta.
- Tran, D. V., & Houston, R. (2021). The effects of policy uncertainty on bank loan loss provisions. *Economic Modelling*, 102, 105575. <https://doi.org/10.1016/j.econmod.2021.105575>
- Undang-Undang, R. I. (1998). Nomor 10 tahun 1998 Tentang Perubahan Atas Undang-Undang Nomor 7 tahun 1992 Tentang Perbankan. *Lembaran Negara Republik Indonesia*.
- Usanti, T. P., & Setiawati, A. P. (2022). The Cooperation Between Conventional Commercial Banks and Rural Banks for Financial Inclusiveness Improvement of Small, Medium And Micro Enterprises. *IUS POSITUM: Journal Of Law Theory And Law Enforcement*, 1(2), 18–30.
- Valdez, S., & Molyneux, P. (2017). *An introduction to global financial markets*. Bloomsbury Publishing.
- Wanke, P., Azad, M. A. K., Barros, C. P., & Hassan, M. K. (2016). Predicting efficiency in Islamic banks: An integrated multicriteria decision making (MCDM) approach. *Journal of International Financial Markets, Institutions and Money*, 45, 126–141. <https://doi.org/10.1016/j.intfin.2016.07.004>
- Wenni, A. N., & Canggih, C. (2021). Faktor-faktor Yang Mempengaruhi Perkembangan Produk Pembiayaan Pada Bank Pembiayaan Rakyat Syariah di Jawa Timur. *Al-Mashrafiyah: Jurnal Ekonomi, Keuangan, Dan Perbankan Syariah*, 5(1), 15–33. <https://doi.org/10.24252/al-mashrafiyah.v5i1.14503>
- Xing, C., Zhang, Y., & Tripe, D. (2021). Green credit policy and corporate access to bank loans in China: The role of environmental disclosure and green innovation. *International Review of Financial Analysis*, 77, 101838. <https://doi.org/10.1016/j.irfa.2021.101838>
- Yanis, A. S., & Priyadi, M. P. (2015). Faktor-faktor yang mempengaruhi pembiayaan murabahah pada perbankan syariah di Indonesia. *Jurnal Ilmu Dan Riset Akuntansi*, 4(8), 1–17.
- Yu, J., & Fu, J. (2021). Credit rationing, innovation, and productivity: Evidence from small- and medium-sized enterprises in China. *Economic Modelling*, 97, 220–230. <https://doi.org/10.1016/j.econmod.2021.02.002>