The Impact Of BPRS Financing on The MSMEs Output Value: Panel Data Analysis Period 2017-2024

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Abstract

Introduction to The Problem: Micro, Small, and Medium Enterprises (MSMEs) are vital to the Indonesian economy, yet they face significant challenges, primarily constrained financing, with only about IDR 700 trillion of the IDR 1,700 trillion annual capital needs being met by existing financial institutions. Furthermore, a large percentage of MSMEs do not utilize bank loans or are unaware of the procedures, while those who do often perceive high interest rates as burdensome. Sharia Rural Banks (BPRS) have shown a favorable trend in finance growth, offering sharia-aligned inclusive financing. However, most prior research concentrates on financing from Islamic banks or is geographically confined, with deficiencies in correlating specific BPRS funding types with MSME output value across Indonesia.

Purpose/Objective Study: This study seeks to investigate the impact of BPRS financing, specifically categorized as working capital financing, investment financing, and financing for MSMEs, on the output value of MSMEs across province in Indonesia.

Design/Methodology/Approach: This explanatory research employed a quantitative approach using panel data from 22 provinces in Indonesia over the 2017-2024 period. The study utilized secondary data and the Resource-Based View Theory as a framework. The Fixed Effect Model (FEM) was selected as the most appropriate estimation method based on the Chow and Hausman tests.

Findings: The analysis indicates that BPRS financing simultaneously has a positive and significant effect on MSME output value. Thus, working capital financing and financing for MSMEs has an insignificant positive impact. Conversely, investment financing shows an insignificant negative effect. The insignificant results are attributed to factors such as low Islamic financial literacy and inclusion, behavioral biases, high NPF ratios in investment, and BPRS's inefficient intermediation due to a lack of non-financial support like training and mentoring.

Paper Type: Research Article

Keywords: BPRS; Investment financing; MSMEs Output Value; Working capital financing

Introduction

Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in the economy, significantly contributing to the nation's economic growth. The Indonesian Chamber of Commerce and Industry (Kadin) showed on fig. 1 reports that Indonesia has 59.51 million MSMEs, constituting 99% of all business units in 2024. This predominance indicates that MSMEs account for 61% or Rp9,580 trillion of the Gross Domestic Product (GDP) (Kadin Indonesia, 2024). Nonetheless, this supremacy is inversely related to the reality that Indonesian MSMEs significantly trail behind nations like China and Korea, which possess stronger financial backing and access to funding, whereas Indonesian MSMEs are comparable only to Malaysia (B. E. Putra et al., 2019).
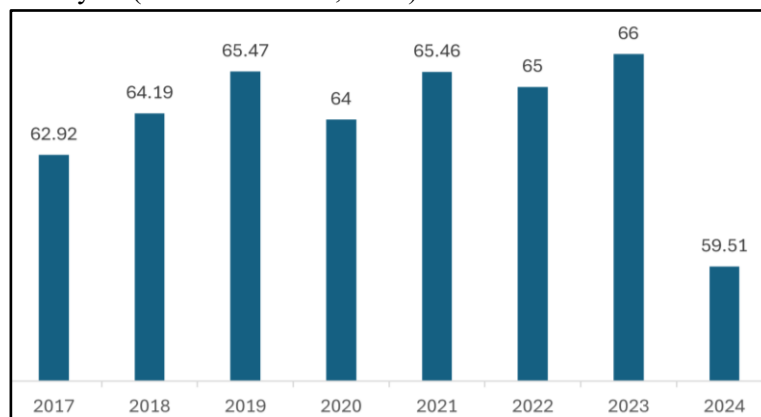

Figure 1. Number of Indonesian MSMEs from 2017 to 2024
Source: Processed by authors (2025)

The advancement of MSMEs continues to encounter several challenges, notably constrained financing. The Financial Services Authority (OJK) states that the annual capital needs for MSMEs in Indonesia amount to IDR 1,700 trillion, with existing financial institutions able to fulfill only approximately IDR 700 trillion, representing less than fifty percent of the overall demand. In 2023, capital has emerged as the primary impediment for Micro and Small Industries (IMK), affecting 1,802,227 business units, which constitutes around 40.4% of the total IKM units. The limited engagement of Micro, Small, and Medium Enterprises (MSMEs) in accessing financial services is attributable to many primary causes. Of the MSMEs, 84.16% do not utilize bank loans, 21.31% perceive high interest rates as burdensome, and 12.34% are unaware of the procedures for securing bank loans (Statistics Indonesia, 2024).

Consequently, enhancing access to financing is essential for augmenting the production of MSMEs (Manzilati, 2015). In this context, sharia finance may serve as a strategic alternative for enhancing the production value of MSMEs (Menne et al., 2022; Ulandari et al., 2024). finance by BPRS exhibits a favorable trend, with a growth of 20.6% in 2022 and an increase in outstanding finance of 17.8%, amounting to 17,025 billion rupiah in December 2023 (Otoritas Jasa Keuangan, 2024a). Fikrotus Salma et al., (2024) assert that BPRS significantly contributes to the economic resilience of MSMEs by offering inclusive financing solutions aligned with sharia principles. This enhances prospects for MSMEs in Indonesia by bolstering their business capability, with islamic micro financing significantly contributing to the provision of reliable and sustainable financial access (Parvej et al., 2020; Hossain et al., 2019).

Numerous studies have examined the influence of Islamic financing on MSMEs in Indonesia. Nonetheless, most research continue to concentrate on financing offered by Islamic banks (Alghifary et al., 2021; Setiawan et al., 2021; Imani, 2018; Trimulato et al., 2021; Aliyah & Auwalin, 2020). Currently, most studies examining the effects of BPRS financing are confined to certain locations (Farizqi, 2021; Pasaribu & Indra, 2024; Hadiani, 2020), while Purnama et al., (2024) conducted a qualitative-descriptive analysis of BPRS's impact on MSME growth.

This study seeks to address the deficiencies in prior research by categorizing BPRS funding into three variables: working capital financing, investment financing, and financing for MSMEs, and correlating these directly with the production value of MSMEs over the entirety of Indonesia. This study used the Resource-Based View Theory, established by Jay Barney, as a comprehensive framework to analyze the impact of BPRS financing on MSME performance. This study's findings can assist both BPRS and MSMEs in discerning the funding forms that are most efficacious in enhancing their performance to stimulate economic growth. This study elucidates the significant significance of BPRS in promoting MSME growth, thereby offering recommendations for the government to enhance and optimize the efficacy of BPRS for the national economy.

Methodology

This study investigates the impact of funding from Sharia Rural Banks (BPRS) on the output value of MSMEs in Indonesia. This research is explanatory, elucidating the researched factors and their interrelationships. This study employed a quantitative approach by measuring the model variables and examining the impact of one variable on another. The population comprises 34 provinces in Indonesia, as documented by the Central Statistics Agency and the Financial Services Authority, with 22 of these provinces chosen as research samples. The selection criteria were provinces that possessed BPRS and actively distributed money during the research period, specifically the past eight years. The research utilizes secondary data derived from MSME production reports and Islamic banking statistics for the period 2017-2024, sourced from the websites www.ojk.go.id and www.bps.go.id/id. Table 1 presents the operational definitions, units, and source of the variables.

Variable	Definition	Unit	Source
MSMEs Output Value (OUMKM)	The total value of all goods and services produced by MSMEs within a certain period of time.	Million Rupiah	Statistics Indonesia
Working Capital Financing (PMK)	Financial provisions to address the working capital requirements of entrepreneurs through consumables.	Million Rupiah	Financial Services Authority
Investment Financing (PI)	Financial provisions for the acquisition of non-depleting capital goods or fixed assets and for the expansion of a business unit.	Million Rupiah	Financial Services Authority
MSMEs Financing (PU)	Funding that only allocated to the MSME sector.	Million Rupiah	Financial Services Authority

Table 1. Variables Operational Definition

Data Processing

The data were processed and analyzed with Stata 17 to examine the significance of multiple linear regression analysis on panel data. (Sihombing et al., 2024) offered three methodologies for ascertaining the estimation approach for panel data models, as follows:

(i) Model *Common Effects* (CEM)

This approach disregards individual and temporal variables, instead supposing uniformity of data across periods. The estimation technique employed is Ordinary Least Squares (OLS).

(ii) Model *Fixed Effects* (FEM)

This approach presupposes that individual traits vary across temporal intervals. The discrepancies are elucidated by the intercept values in the estimate model, which vary for each individual.

(iii) Model *Random Effects* (REM)

This paradigm posits that the attributes of each individual vary over time periods. In the REM model, these discrepancies are manifested as errors inside the model.

Tests

(i) Chow Test

This test seeks to identify the optimal model between fixed-effect and common-effect based on the utilized data. The hypotheses for the test are as follows:

H_0: Common effect

H_a: Fixed effect

H_0 is rejected when the F value is less than 0.05, signifying that the fixed effect model is preferred. Conversely, H_0 is approved when $F > 0.05$, signifying that the common effect corresponds to the chosen model.

(ii) Hausman Test

This statistical test seeks to identify the superior model between random-effect and fixed-effect models. The hypotheses for the test are as follows:

H_0: Random effect
H_a: Fixed effect

If the probability value exceeds 0.05, H_0 is accepted, signifying that the random effect model is chosen. Conversely, H_a is accepted when the probability value is below 0.05, signifying that the fixed effect model is chosen.

(iii) Lagrange Multiplier (LM) Test

This statistical test is employed to determine the superior model between the common-effect and random-effect models. The hypothesis for this examination are as follows:

H_0: Common effect
H_a: Random effect

The common effect becomes the selected model when the probability value is greater than 0.05, indicating that H_0 is accepted. Conversely, the random effect is the best model when H_0 is rejected or the probability value is less than 0.05.

Results and Discussion
Descriptive Statistics

The descriptive statistics showed on tab.2 indicate that the mean production value of MSMEs from the analyzed data sample is IDR 22,98 trillion per province annually. In 2023, West Java province recorded the highest MSME output value at IDR 158,49 trillion. In 2024, North Maluku province achieved the lowest MSME output value at IDR 1,41 trillion. This statistic indicates a substantial disparity in output value. Java Island, namely West Java province, remains the epicenter of Indonesia's economy, with the majority of MSME operations concentrated there.

A descriptive analysis of the independent variables, namely working capital financing, investment financing, and financing for MSMEs, the average values obtained were IDR 252,28 billion, IDR 71,48 billion, and IDR 308,66 billion, respectively. These statistics illustrate that Islamic banks have been channeling more financing to MSMEs in the form of investment than working capital and financing for MSMEs. West Java is the province with the highest Islamic bank financing values, namely in 2024 with values of IDR 2,95 trillion and IDR 3,39 trillion for working capital financing and financing for MSMEs, respectively, and in 2023 for investment financing with a value of IDR 489,95 billion.

Table 2. Descriptive Statistic

	OUMKM	PMK	PI	PUMKM
Mean	22983611	252276.9	71481.02	308661.7
Maximum	158492759	2953398	489951.9	3391612
Minimum	1406260	265.2667	0	389
Std. Deviation	33725119	471449	107450.6	580092.7

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Chow Test

The Chow test results showed on tab. 3 found that the probability value was 0.0000. Since 0.0000 < 0.05, H_a is accepted, so the conclusion is that the fixed effect model is more appropriate to use in this study than the common effect model. To ensure that this model is the best, the researcher must then perform a Hausman test to select the best model between FEM and REM.

Table 3. Chow Test's Output

Effect Test	Statistic	d.f	Prob
Period F	9.17	(3,151)	0.0000
Period Chi-Square	27.51	3	0.0000

Source: Processed by authors

Hausman Test

Tab. 4, Hausman test results show that the probability value is 0.00. Since 0.00 < 0.05, H_a is accepted and the conclusion is that this study is more appropriate to use a fixed effect model than a random effect model. Therefore, it can be concluded that the fixed effect model (FEM) is most appropriate to use in this study.

Table 4. Hausman Test's Output

Test Summary	Chi-Sq. Statistic	d.f	Prob
Cross-section random	72.56000	3	0.0000

Source: Processed by authors

Fixed-Effect Model Panel Data Regression

Tab. 5 shows regression results using the fixed effect model produced the following mathematical equation:

$$OUMKM_{it} = 2,02 + 8,56\ PMK_{it} - 3,28\ PI_{it} + 2,93\ PUMKM_{it} + \varepsilon$$

Table 5. Fixed Effect Model Regression Output
Source: Processed by authors

Dependent Variable	: Output UMKM			
Method	: Panel Least Squares			
Period Included	: 8			
Cross-Sections Included	: 22			
Total Observtions	: 176			
Variable	Coefficient	Std. Error	t-statistic	Prob.
C	2.02e+07	1359146	14.83	0.000
PMK	8.564383	5.918371	-0.17	0.150
PI	-3.280997	19.86209	0.50	0.869
PUMKM	2.932689	5.842939	14.83	0.616
R-Squared	0.7141	F-Statistic		9.1700

The output generated from the regression results is then used as a reference in making decisions regarding the significance of independent variables on changes in dependent variables. The method for making decisions in significance testing is as follows:

1. H_1 is rejected and H_0 is accepted if the Prob. value is > 0.05, meaning that the MSME output value is not significantly influenced by independent variables.

2. H_1 is accepted and H_0 is rejected if the Prob. value is < 0.05, meaning that the MSME output value is significantly influenced by the independent variable.

Based on the output from the regression results using the Panel Least Square method, it is known that the probability value of the working capital financing variable is 0.150. Because $0.150 > 0.05$, H_0 is accepted and the conclusion is that working capital financing by Islamic banks does not have a significant effect on the output value of MSMEs. The coefficient value of the working capital financing variable is 8.56, which explains that every time Islamic banks increase working capital financing for MSMEs by IDR 1 million, the output value of MSMEs will increase by IDR 8.56 million. Meanwhile, the investment financing variable has a probability value of 0.869. Since $0.869 > 0.05$, H_0 is accepted and the conclusion is that investment financing by Islamic banks does not have a significant effect on the output value of MSMEs. The coefficient value of the investment financing variable is -3.28, which explains that every time Islamic banks increase investment financing for MSMEs by IDR 1 million, the output value of MSMEs will decrease by IDR 3.28 million. Meanwhile, the financing variable for MSMEs has a probability value of 0.000. Because $0.000 < 0.05$, H_1 is accepted and the conclusion is that financing for MSMEs by Islamic banks has a significant effect on the output value of MSMEs. The coefficient value of the investment financing variable of 2.93 explains that every time Islamic banks increase financing for MSMEs by IDR 1 million, the output value of MSMEs will increase by IDR 2.93 million.

Simultaneously, the significance of the combination of independent variables and control variables can be seen through the F test. The regression results show that the F probability value is 0.00. Because $0.00 < 0.05$, H_1 is accepted and the conclusion is that the independent variables consisting of working capital financing, investment, and financing for MSMEs by BPRS have a significant effect on MSME output values. The regression results also show a coefficient of determination (R-Squared) of 0.7141. This value reveals that 71.41% of the variation in the dependent variable, namely MSME output, can be explained by the independent variables. Meanwhile, other variables outside the model explain the remaining 28.59%.

Discussion

Financing is a critical factor in enhancing corporate performance. Numerous factors influence the efficacy of money allocation by formal financial institutions to enterprises. The regression model elucidates the negligible positive impact of working capital finance and MSME financing by BPRS on MSME production value. This contradicts the findings of Esubalew & Raghurama, (2020), (Supriani et al., 2024), Dela Cruz et al., (2023), (Lawhaishy & Othman, 2023), Umar & Darma, (2024), Alghifary et al., (2021), which elucidate the substantial positive influence of Islamic financing by banks on MSMEs. Numerous prior studies have identified the critical parameters influencing finance efficacy that align with the findings of this research. The research conducted by (Ayedun et al., 2024) indicates that 71% of MSMEs utilize informal credit, such as Trade Credit (TC) from suppliers, while 45.5% of participants believe that assistance from the formal financial sector does not influence their profitability due to obstacles in accessing formal finance, including inadequate collateral and onerous lending procedures.

Furthermore, from the perspective of fund providers, high business risks and the lack of collateral from MSMEs make banks reluctant to channel funds.

Financing in fund allocation were also disclosed in BPRS. A study conducted by (Wasiaturrahma et al., 2020) on microfinance institutions revealed inefficiencies in BPRS in fulfilling its intermediary role (effectiveness in allocating funds to MSMEs/similar targets) due to a trade-off with the efficiency of production functions in securing consistent and low-risk income. BPRS prioritizes "efficient profits" by restricting capital allocation to assured debtors, leading to inefficient intermediation in the equitable enhancement of SME productivity. (Suryaman et al., 2024) determined that the limited impact of BPRS financing on MSME business expansion is attributed to the absence of non-financial support mechanisms, including mentoring, training programs, and business networks. These limitations in support hinder MSMEs in optimizing the use of financing and indicate that BPRS does not yet fully meet the integral needs of MSMEs.

Based on the facilities provided, (Suryaman et al., 2024) assert that the cause of BPRS financing not having a significant impact on MSMEs in their optimal business expansion is due to the lack of support such as mentoring and training programs for MSMEs. This study identifies two primary issues that have not been adequately addressed: training programs and business networks. The absence of mentorship can impede MSMEs in maximizing the utilization of the offered capital. Conversely, these constraints in assistance suggest that BPRS has yet to adequately fulfill the requirements of MSMEs.

In addition, the insignificant impact of BPRS financing on MSME output may be due to low financial literacy and inclusion among business actors (Sanistasya et al., 2019) Purnomo, 2019). According to research by (Mujiatun et al., 2023), sharia financial inclusion positively and significantly influences the performance of MSMEs. Sharia financial literacy does not significantly influence MSME performance but positively affects sharia financial inclusion. Consequently, sharia financial inclusion, which substantially enhances business performance, is profoundly affected by sharia financial literacy. A study by (Trianto et al., 2021) corroborates this, demonstrating the substantial positive effect of sharia financial literacy and inclusion on MSME performance. This influence elucidates the minimal importance of BRPS finance in Indonesia, given that the rates of Islamic financial literacy and inclusion are at 43.42% and 13.41%, respectively (Otoritas Jasa Keuangan, 2025a)The Islamic banking market share of merely 7.33% further exacerbates the low levels of Islamic financial literacy and inclusion in Indonesia (Otoritas Jasa Keuangan, 2024b).

Another study conducted by Setiawan et al., (2025) states that BPRS financing has a significant positive effect on Gross Regional Domestic Product (GRDP). However, in the context of strengthening MSME output, the study shows statistically insignificant results. This condition indicates that BPRS financing beneficiaries are not predominantly focused on MSMEs, and that the GRDP is primarily influenced by major industries. Research by (Rizki et al., 2024) indicates that the mining, electricity, gas, hotel, and restaurant sectors are the predominant and promising sub-sectors for enhancing the GRDP in Central Java. A study by (A. S. Putra et al., 2020) states that provinces with above-average GRDP are provinces that are rich in natural resources, especially mining, tourism centers, and urbanized with high economic activity.

The regression model in this study shows an insignificant negative effect between investment funding from BPRS and the output value of MSMEs. This contradicts the findings of (Anthanasius Fomum & Opperman, 2023), (Endris & Kassegn, 2022), and (Trinh et al., 2020), which indicate a favorable correlation between investment funding from financial institutions and the productivity of

MSMEs in Indonesia. The adverse correlation observed in this study may stem from significant behavioral bias in finance, particularly for capital structure decisions (Mundi et al., 2022). Prior research has demonstrated that the availability of MSME finance exacerbates behavioral bias, adversely affecting MSME performance. This association is established by behavioral finance, which exerts a detrimental mediating effect on the connection between financing and MSMEs. An rise in finance availability leads managers to exhibit financial behavioral biases, including self-attribution, overconfidence, loss aversion, and anchoring, which adversely affect MSME performance (Esubalew & Raghurama, 2020;(Esubalew, 2024). Consequently, behavioral biases in investment decisions among MSME participants intensify with an increase in financing from financial institutions. This assertion is further corroborated by (Montoya et al., 2024), who contend that behavioral biases, including impatience among MSMEs, impact decisions about elevated debt levels. This is further substantiated by the elevated Non-Performing Financing (NPF) ratio for investment finance in relation to the overall financing provided. The NPF ratio for investment finance was 5.76% in 2022 and rose to 7.73% in 2023. The figure persisted in its ascent, attaining 7.88% of the overall investment funding disbursement of 1.81 trillion rupiah in 2024 (Otoritas Jasa Keuangan, 2025).

This study's results elucidate the limited efficacy of BPRS financing for MSMEs. Enhancing the efficacy of BPRS finance for MSMEs necessitates comprehensive bilateral solutions. BPRS must promptly realign its strategy by transitioning from a sole emphasis on profitability to enhancing intermediation and bolstering the capabilities of MSMEs, notably through supplementary non-financial assistance, including mentoring and training. Sharia financial literacy and inclusion are crucial for enhancing the ability of corporate entities to reduce behavioral biases and default risks, so ensuring optimal utilization of money. Consequently, financing from BPRS can enhance the production of MSMEs in Indonesia more effectively.

Conclusion

The analysis indicates that financing for MSMEs by BPRS positively and significantly impacts the output value of MSMEs in Indonesia. Simultaneously, investment demonstrates a negative albeit small impact on the output value of MSMEs. This signifies persistent inefficiency in BPRS financing for MSMEs in Indonesia. The empirical effectiveness of BPRS financing in enhancing MSME output is still affected by structural variables, including low literacy rates, the integration of Islamic finance, inefficiencies in BPRS intermediation roles, and inadequate non-financial support such as training and business help. The elevated Non-Performing Financing (NPF) ratio in investment financing signifies behavioral risks and inefficient allocation of resources by MSME participants. Therefore, while BPRS possesses substantial potential to bolster real sector growth, enhancing financial literacy, intermediation efficiency, and non-financial support are essential prerequisites for Islamic financing to assume a more prominent position in augmenting national economic production.

The author recommends that BPRS enhance its intermediary role by bolstering productive financing specifically targeted at the MSME sector in a form of working capital, supplemented by non-financial support including business management training, financial literacy, and sustainable business assistance. The government and the Financial Services Authority (OJK) are anticipated to enhance affirmative policies that would promote collaboration between BPRS and MSME stakeholders, while also optimizing Islamic financial education to elevate community literacy and inclusion. This study is confined to examining the effect solely based on the quantity of financing, disregarding other influencing

factors. Additional research is advised to incorporate variables such as intermediation efficiency, NPF ratio, and financial literacy as supplementary explanatory factors to enhance the understanding of the efficacy of BPRS financing in augmenting the competitiveness and productivity of MSMEs in Indonesia.

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