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THE EFFECTS OF SME'S ACCESS TO FINANCE ON NON-BANK FINANCIAL INSTITUTIONAL LOANS

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Abstract

This study aims to investigate the effect of access to finance on non-bank financial institutional (NBFI) loans. The tenet is that SMEs with less access to finance will pursue loans provided by the NBFI despite its higher interest rates. Using World Bank Enterprise Survey data, the findings show the positive relationship between SMEs' access to finance and NBFI loans. It affirms our hypothesis and aligns with Pecking Order Theory. This research contributes to the literature by revealing NBFI loans as alternative financing for SMEs due to their severe access to finance. Practically, the policymakers should consider giving more incentives on NBFI loans; hence, Indonesian SMEs have more room to finance their operation.
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Keywords: *Access to Finance; Non-Bank Financial Institutions; Loans; SMEs; Capital Structure.*

PENDAHULUAN

Small and medium-sized enterprises (SMEs) are fundamental assets to Indonesia's economy (Pramono et al., 2021). They contribute 61% to the country's GDP and employ 97% of its workforce (Suhaili & Sugiharsono, 2019). However, despite their economic significance, Indonesian SMEs have faced a persistent challenge in accessing funding since 2009 (Bell, 2015). Research shows that only 25% of Indonesian SMEs have full access to finance for their business operations (Bell, 2015).

Securing financing for small and medium-sized enterprises (SMEs) in Indonesia poses significant challenges due to their size and credit constraints (Widnyana et al., 2021). It forces SMEs to seek alternative financing, such as family or other traditional financing channels (Nguyen et al., 2022; Prijadi et al., 2020). This research proposes non-bank financial institutions, such as pawn shops, credit unions, venture capital, microfinancing, and peer-to-peer lending, as the alternative financing of SMEs due to their financial exclusion.

NBFI offers higher borrowing costs, yet SMEs still consider it alternative financing (Khowaja et al., 2021). One main reason is due to limited access to traditional funding sources. The logic is that when SMEs desperately need financing, they turn to NBFI because of its leniency. When external options are scarce, SME entrepreneurs often seek support from family or relatives, which is perceived as a more cost-effective financing option than other alternatives. However, the family and relatives have limited funds to assist the request from SMEs.

This research argues that severe financial access will lead to non-bank financial institutions rather than family or relatives for three reasons. First, non-traditional financing is a reasonable alternative to getting the necessary funding when traditional financing resources are unavailable (Nguyen et al., 2022). The NBFI has more lenient requirements despite higher costs. Further, NBFI offers greater flexibility regarding repayment schedules or collateral requirements, accommodating SMEs' unique needs and

circumstances. Second, NBFI typically provides larger funding than family and relatives due to their ability to pool resources from various investors or sources (Khowaja et al., 2021). This allows them to offer substantial loans that meet SMEs' financing needs, surpassing what individual families or relatives can provide, aligning with SMEs' expectations for adequate capital infusion. Third, NBFI is also regulated by the government, offering protection against fraudulent practices or exploitation. (Trapanese, 2021).

In short, this research aims to examine the relationship between obstacles in accessing financing and NBFI loans. The argument is that if the SMEs are hard to access the traditional banking, they would pursue NBFI loans despite its higher interest rate. This research frames the association using Pecking Order Theory to explain the theoretical relationship between those two dimensions. Through empirical analysis, the study seeks to provide evidence supporting the hypothesized relationship and offer insights into the financing behavior of SMEs in Indonesia.

2. Literature Review

2.1 Theoretical Arguments

Pecking Order Theory is a financial theory that provides insights into how firms, particularly small and medium-sized enterprises (SMEs), determine their capital structure and financing choices (Martinez et al., 2021). According to this theory, firms have a hierarchy of preferred financing sources and tend to prioritize internal financing over external financing (Martinez et al., 2021). If internal funds are insufficient, firms turn to less costly and risky external financing options, such as debt.

From the perspective of Pecking Order Theory, small and medium-sized enterprises (SMEs) may opt for alternative financing from non-bank financial institutions (NBFIs) despite higher interest rates due to several factors. Firstly, internal financing options may be limited or insufficient to meet the firm's funding requirements because many SMEs have limited cash holdings (Chaklader & Padmapriya, 2021). Secondly, traditional bank financing may be difficult to obtain for SMEs due to stringent collateral requirements, lack of credit history, or risk perceptions by lenders (Casey & O'Toole, 2014). In such situations, SMEs resort to alternative financing sources like NBFIs, which may offer more accessible and flexible funding options, albeit at higher costs (Khowaja et al., 2021; Nguyen et al., 2022). Additionally, the asymmetric information between SMEs and traditional lenders may lead to adverse selection costs, making alternative financing more attractive despite the higher interest rates (Brahmana et al., 2022). Furthermore, NBFIs may provide faster approval processes and fewer bureaucratic hurdles than banks, making them a preferred choice for SMEs needing quick capital injection (Khowaja et al., 2021). Overall, the decision to opt for alternative financing from NBFIs despite higher interest rates reflects SMEs' prioritization of maintaining financial flexibility and avoiding adverse selection costs, as proposed by the Pecking Order Theory.

2.2 Hypothesis Development

Theoretically, firms favor financing activities using relatively cheaper bank debt (Casey & O'Toole, 2014). However, if the firms meet bank lending constraints, they are more inclined to borrow from more expensive non-institutional sources, provided that investment returns exceed the cost of funding from alternative credit providers (Casey & O'Toole, 2014). Consequently, the obstacle in accessing financing leads firms to pursue alternative financing, such as non-bank financial institutions (NBFI).

It is affirmed by the seminal work of Petersen and Rajan (1997), who find that firms tend to pursue NBFI, like trade credit, when traditional financing is constricted. Similar

findings are presented in Nilsen (2002), where small firms are shown to substitute trade credit for bank credit in the face of bank lending shocks. In East Asia, Love et al. (2007) have the same conclusion, where firms pursue NBFI due to lending shocks during the financial crisis. In a more recent study, Casey and O'Toole (2014) found that European SMEs pursue alternative financing due to the financing constraints in accessing traditional bank loans. There is also Nguyen et al. (2020), who found that Vietnamese SMEs pursue alternative financing due to the obstacles in accessing traditional banking loans.
Therefore, this research hypothesizes:
H_1: *Higher obstacles in accessing financing have a positive relationship with the SME's behavior in pursuing Non-bank financial institutional loans.*

METODE PENELITIAN

This research follows Calabrese et al. (2021) and Khowaja et al. (2021), as the baseline model. The variables such as Sales, Size, Age, and Legal status are the main functions of the loans. The Collateral Size and Province are introduced to the baseline for robustness reasons. Those factors are the control variables to isolate the main effect on the dependent variable. Meanwhile, the main effect is the obstacle to accessing finance (ACCESS_OBS). It is a categorical variable, where 0 denotes no obstacle, and 4 denotes extreme obstacle. This categorization is made by the World Bank.
Therefore, the estimation model is as follows.

$$NBFI_i = \beta_0 + \beta_1 ACCESS_OBS_i + \beta_2 Collateral_i + \beta_3 Sales_i + \beta_4 Size_i + \beta_5 Age_i + \beta_6 Legal_i + \beta_7 Province_i + \varepsilon_i \ldots\ldots\ldots\ldots (1)$$

Where NBFI is a loan taken from the non-bank financial institution. ACCESS_OBS is the obstacle to access financing. Meanwhile, Collateral, Sales, Size, Age, Legal, and Province are the control variables in the model estimation. The details of the measurement are in the next section.

The variable definition in this research follows the metadata guideline the World Bank provided, and it matches previous research. The NBFI is a dummy variable for whether or not the SMEs took loans from non-banking financial institutions. Examples of NBFI are pawn shops, multifinance, credit unions, venture capital, microfinancing, and peer-to-peer lending. Meanwhile, for the alternative measurement, this research uses NBFI loans, the ratio of total NBFI borrowing to total debt.

For the independent variables, ACCESS_OBS is the obstacle for SMEs in accessing financing. The SMEs were asked by the World Bank how difficult it is to access financing for their operation. There are five answers: "No Obstacles," "Minor Obstacles," "Moderate Obstacles," "Major Obstacles," and "Very Severe Obstacles." Each answer is coded using a Likert-rating approach from 0 (No Obstacles) to 4 (Very Severe Obstacles).

Meanwhile, the control variables are also defined in the WES. COLLATERAL is the total assets that are used as collateral by the SMEs. This research takes the lognormal form of it as the measure. Sales is the lognormal of total sales made in the financial year. Size is the lognormal of total employees. Age is the lognormal of the establishment year of the SMEs. Legal is the legal status of the SMEs. Province is categorical of SME's location.

This study utilizes data from the World Bank Enterprise Survey (WES), which compiles cross-sectional data from their field survey. The sampling frame was 1,320 Indonesian SMEs, although only 424 SMEs have complete data for hypothesis testing. It is important to note that the WES is conducted every four years, with the latest available

surveys from 2015, 2019, and subsequent years. Consequently, panel data is not employed in this research due to the absence of certain years.

HASIL DAN PEMBAHASAN

Results

4.1 Descriptive Statistics

Table 1 presents summary statistics for all variables in the estimation models. The findings indicate that the mean value of access to finance (ACCESS_OBS) is 1.48. This suggests that Indonesian SMEs encounter moderate obstacles in accessing finance, hindering their funding. Data from the World Bank's WES survey reveals that 24% of Indonesian SMEs encounter severe obstacles in accessing financing, with 4% facing extreme challenges. However, 21% of Indonesian SMEs face moderate obstacles, affirming the descriptive statistics.

Regarding Non-Bank Financial Institutions (NBFI), the average value is 0.17 or 17%. This indicates that 17% of Indonesian SMEs obtained loans from NBFI. The average loan amount from NBFI is 4.28%, suggesting that, on average, Indonesian SMEs have a gearing portion of 4.28% from NBFI, with a maximum of 40%.

Regarding the control variables, the collateral size of Indonesian SME assets averages 9.78 in lognormal form, equivalent to IDR 4.4 billion in nominal value. Sales average 22.92 in lognormal form, and the average number of hired employees is 3.45, or 30 employees in nominal terms. The average Age is 3.22 in lognormal form or 25 years old in nominal terms. Lastly, the data has an average value of 2.43 for LEGAL, suggesting a dominance of either Sole Proprietorship or Partnership (Commanditaire Vennootschap / CV).

Table 1 Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
ACCESS_OBS	1.48	1.29	0.00	4.00
NBFI (DUMMY)	0.17	0.37	0.00	1.00
NBFI_LOAN (%)	4.28	7.91	0.00	40.00
COLLATERAL (LN)	9.78	6.28	0.00	28.04
SALES (LN)	22.92	2.91	16.52	31.64
SIZE (LN)	3.45	1.55	0.00	8.52
AGE (LN)	3.22	0.41	1.95	4.51
LEGAL (CATEGORICAL)	2.43	0.65	1.00	4.00
N	424			

Table 2 displays the correlation matrix, illustrating the individual relationships among the variables. The findings are consistent with expectations, as all signs are negative for NBFI and NBFI Loans. This suggests that lower access to financing, smaller collateral sizes, decreased sales, smaller size, and younger SMEs are associated with higher loans from NBFI. Simply put, Indonesian SMEs with limited financing access, smaller collateral sizes, reduced sales, smaller sizes, and younger ages are more inclined to seek NBFI loans compared to their counterparts.

Table 2 Correlation Matrix

	ACCESS_OBS	NBFI	NBFI_LOAN	COLLATERAL	SALES	SIZE	AGE	LEGAL

ACCESS_OBS	1							
NBFI	0.382	1						
NBFI_LOAN	0.159	0.441	1					
COLLATERAL	-0.064	-0.265	-0.129	1				
SALES	-0.041	-0.168	-0.063	-0.054	1			
SIZE	-0.052	-0.189	-0.054	-0.016	0.706	1		
AGE	-0.078	-0.145	-0.108	-0.005	0.321	0.328	1	
LEGAL	0.140	0.207	0.128	0.050	-0.285	-0.374	-0.228	1

4.2 Classical Linear Regression Assumption Tests

This study utilizes cross-sectional data, where each observation is independent of the others, so autocorrelation tests are not typically conducted (Gujarati, 2021). However, other diagnostic tests are performed using STATA software. For instance, the multicollinearity test is conducted using the Variance Inflation Factor (VIF). Table 3 indicates that both NBFI and NBFI loan models have VIF values below 10, suggesting the absence of multicollinearity.

In addressing heteroscedasticity, which occurs when the variance of errors in a regression model varies across observations, this research employs the Breusch-Pagan test. The results indicate that all probability values exceed 5%, implying no heteroscedasticity issues.

Although a normality test is not essential for the distribution of this research data, as it follows a Gaussian distribution, a normality Z test is conducted in this study. The results further affirm the robustness of the data, with all probability values exceeding 5%.

Table 3 Classical Linear Regression Model Assumption Tests

	VIF	Breusch-Pagan test for heteroskedasticity	Normality Z-Test
NBFI	1.45	0.53	0.07
NBFI_LOAN	1.42	0.44	0.10

4.3 Regression Results

Table 4 displays the results of hypothesis testing using robust OLS logistic regression. In this study, the standard errors were clustered using the White-test approach to enhance maximum likelihood estimation. The findings support the hypothesis (H1), revealing a positive relationship between obstacles in accessing finance and NBFI (β=0.996 p-value<1%). Because the higher ACCESS_OBS implies severe financial accessibility, the results indicate Indonesian SMEs with higher obstacles in financing traditional bank loans will have a higher probability of pursuing NBFI as the alternative financing. In practical terms, each unit increase in financial access obstacles for SMEs corresponds to a 0.996% increase in the probability of seeking NBFI loans.

The findings align with the Pecking Order Theory, positing when SMEs require additional funds beyond what they can generate internally, they turn to external financing options. However, because SMEs face obstacles or constraints in accessing traditional bank loans, such as stringent collateral requirements, lengthy approval processes, or limited credit availability, they may turn to NBFI loans as an alternative source of financing. NBFI loans may offer more flexible terms, quicker approval times, or less stringent requirements than traditional bank loans.

Another rationale for this finding lies in the comparative advantages provided by NBFI. Despite potentially higher interest rates, NBFI's relaxed credit scoring criteria

positions them as viable financing alternatives for SMEs. It matches the pragmatic approach of Indonesian SMEs in exploring alternative financing avenues. Consequently, this may lead to a debt burden for Indonesian SMEs, increasing their default risk from low to high.

Table 4 Regression Results

	β-COEFFICIENT	STANDARD ERROR
ACCESS_OBS	0.996***	0.151
COLLATERAL	-0.178***	0.034
SALES	-0.128	0.089
SIZE	-0.105	0.166
AGE	-0.282*	0.154
LEGAL	0.781***	0.287
PROVINCE	0.009	0.026
CONSTANT	1.597*	0.812
PSEUDO R^2	0.154	
F-VALUE	10.84	

*Note: *, **, and *** denote significance level at 10%, 5%, and 1% respectively.*

4.3 Robustness Check: Alternative Measurement

This research employs a robustness check to ensure the robustness of the hypothesis testing. The earlier result uses a dummy variable of NBFI as the measure. Yet, another measurement to define NBFI is the percentage of NBFI loans to the total loans. This research calculates the ratio and re-estimates the model under robust OLS regression. Table 5 presents the results.

The results show consistency across all independent variables. For instance, all control variables have the same inference. Collateral size, Age, and legal status have significant effects on NBFI loans. Meanwhile, other control variables such as Sales, Size, and Province remain with trivial effects. Collateral and Age have a negative relationship with NBFI loans, the same as the earlier finding in Table 4. Meanwhile, Legal status has positive effects.

Turning to the main effect of obstacles in accessing financing (ACCESS_OBS), Table 5 shows a significant positive relationship with NBFI loans ($\beta=0.805$, p-value<1%). This indicates that as obstacles to traditional bank loans increase, there is a corresponding rise in the proportion of NBFI loans in SMEs' debt structure. In practical terms, a one-unit increase in the obstacle level (ACCESS_OBS) results in a 0.805% increase in NBFI loans. Therefore, the conclusion remains intact.

Table 5 Robustness Check: Alternative Measurements

	β-COEFFICIENT	STANDARD ERROR
ACCESS_OBS	0.805***	0.296
COLLATERAL	-0.164***	0.061
SALES	0.003	0.031
SIZE	-0.244	0.361
AGE	-0.128**	0.064
LEGAL	1.246*	0.636
PROVINCE	0.003	0.028
CONSTANT	1.609*	0.86

ADJ. R^2	0.144
F-VALUE	2.74

Note: *, **, and *** denote significance level at 10%, 5%, and 1% respectively.

KESIMPULAN

This study proposes a positive relationship between access to finance and reliance on non-bank financial institution (NBFI) loans. It suggests that small and medium-sized enterprises (SMEs) turn to alternative financing options like NBFI due to difficulties obtaining loans from traditional banks. Using data from Indonesian SMEs, the results confirm this hypothesis, indicating that the greater the obstacles in accessing financing, the more likely SMEs are to opt for NBFI loans despite their higher interest rates. This finding aligns with the Pecking Order Theory, which posits that SMEs seek alternative financing avenues when faced with funding challenges. The rationale is straightforward: SMEs require funding for their operations, prompting them to choose NBFI loans despite their higher financing costs as long as they align with their capital budgeting calculations.

This study makes a notable contribution to the body of knowledge in two key aspects. Firstly, it empirically validates the applicability of Pecking Order Theory in the context of small and medium-sized enterprises (SMEs) in Indonesia. By demonstrating a positive relationship between obstacles in accessing traditional bank loans and SMEs' uptake of non-bank financial institution (NBFI) loans, the research provides empirical evidence supporting the theory's relevance in understanding SMEs' financing behavior. Secondly, the study sheds light on the role of NBFI loans as an alternative financing source for SMEs facing challenges in accessing traditional bank financing. By uncovering the pattern where higher obstacles in traditional bank lending lead to increased reliance on NBFI loans, the research enhances our understanding of SMEs' financing decisions and offers insights into the factors driving their choice of financing sources.

Practically, this research offers several implications for policymakers. First, to mitigate SMEs' reliance on higher-cost NBFI loans, policymakers could implement incentives aimed at both SMEs and NBFIs. For SMEs, incentives might include providing tax breaks or subsidies for accessing traditional bank financing or offering preferential loan terms for qualifying SMEs. Simultaneously, policymakers could introduce measures to incentivize NBFIs to offer more competitive rates and terms, such as providing tax incentives or regulatory support for offering loans to SMEs at lower interest rates. Additionally, policymakers may consider measures to promote a competitive environment in the NBFI sector, ensuring that SMEs can access diverse and affordable financing options beyond traditional banks.

Three notable limitations of this study require attention for future research. Firstly, the use of cross-sectional data limits the establishment of causality and the consideration of temporal effects. Utilizing panel data would facilitate a more comprehensive analysis of changes over time and provide better insight into dynamic relationships. Secondly, the study overlooks governance factors, such as agency issues or risk-shifting, which may influence SMEs' financing decisions. Future research could explore these factors to enhance understanding of the barriers faced by SMEs in accessing traditional bank financing. Lastly, the study does not differentiate between various types of NBFIs, such as credit unions, pawn shops, peer-to-peer lending platforms, or microfinance institutions. Investigating SMEs' preferences and experiences with different NBFI sources could yield valuable insights into their financing behaviors and preferences. Addressing these limitations would enrich our understanding of SME financing dynamics and inform more targeted policy interventions to support SMEs in accessing affordable financing options.

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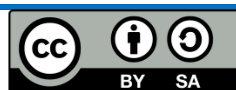

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