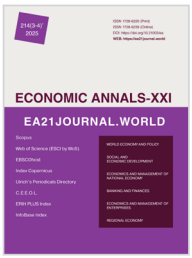

ECONOMIC ANNALS-XXI
ISSN 1728-6239 (Online)
ISSN 1728-6220 (Print)
https://doi.org/10.21003/ea
http://ea21journal.world

Volume 214 Issue (3-4)'2025

Citation information: Utomo, H., Safitri, M., Tongli, B., Muryani, & Haptari, V. D. (2025). Optimum financial management in small and medium-sized enterprises. Economic Annals-XXI, 214(3-4), 71-76. doi: https://doi.org/10.21003/ea.V214-10

Handayani Utomo
PhD (Economics),
Gunadarma University (Universitas Gunadarma)
100 Jl. Margonda Raya Str., Depok West Java,
Depok, West Java, 16424, Indonesia
nday.cools@gmail.com
handayani_nday@staff.gunadarma.ac.id
ORCID ID:
https://orcid.org/0009-0007-4576-0205

Maria Safitri
PhD (Financial Management),
Dian Nuswantoro University
(Universitas Dian Nuswantoro)
207 Jl. Imam Bonjol Str., Jawa Tengah, 50131,
Indonesia
mariasafitri@dsn.dinus.ac.id
ORCID ID:
https://orcid.org/0000-0003-2149-8939

Bernadeth Tongli
PhD (Management),
Atma Jaya Makassar University
(Universitas Atma Jaya Makassar)
23 Jl. Tanjung Alang Str., Kota Makassar,
Sulawesi Selatan, 90224, Indonesia
bernadeth_tongli@lecturer.uajm.ac.id
ORCID ID:
https://orcid.org/0000-0002-0907-8707

Muryani
PhD (Economics),
Airlangga University
3-4 Jl. Airlangga Str., Campus B, Gubeng, Surabaya, 60281, Indonesia
muryani2008@yahoo.co.id
ORCID ID: https://orcid.org/0000-0001-7832-9760

Vissia Dewi Haptari
PhD (Economics),
Polytechnic of State Finance STAN
(Politeknik Keuangan Negara STAN)
Jl. Bintaro Utama 5, Jurang Manggu Tim.,Banten 15222, Indonesia
vissiadewih@pknstan.ac.id
ORCID ID: https://orcid.org/0009-0001-3189-5981

Optimum financial management in small and medium-sized enterprises

Abstract. Small and medium-sized enterprises (SMEs) play a prominent role in promoting economic growth, reducing unemployment, advancing technology, and promoting exports of a country. Therefore, considering the importance of SMEs in the economy of any country, it is very necessary to provide a platform for the formation and, more importantly, the growth and sustainability of these enterprises. Lack of capital and lack of access to financial resources are among the problems that SMEs face. The aim of this article is to examine the factors affecting the access to financial resources of SMEs in Indonesian industrial estates, and this study seeks to answer this question by providing optimal financial resources and sensitivity analysis of these SMEs. This study examines the effect of different methods of financing, including short-term debt and long-term debt, on the growth of SMEs in Indonesian industries during the period of 2020-2023. This study was conducted using a panel data method. The results show that the variables of facility interest rate, firm size, firm age, loan amount, and time are among the most important factors affecting firms' access to loans. Furthermore, the sensitivity analysis of the research model shows that if only the financial dimension, such as changes in total costs, is considered, the company is more sensitive to environmental uncertainty and the possibility of liquidity and profitability crises is greater, while integrated attention to the financial and physical dimensions, such as changes in demand, has shown that the company operates more stably in terms of profitability and liquidity under conditions of uncertainty.

Keywords: Financing; Small and Medium-Sized Enterprises; Industrial Companies; Optimal Supply; Supply and Demand

JEL Classifications: E24; E41; E64; I18; J28; J31
Acknowledgements and Funding: The authors received no direct funding for this research.
Contribution: The authors contributed equally to this work.
Data Availability Statement: The dataset is available from the authors upon request.
DOI: https://doi.org/10.21003/ea.V214-10

1. Introduction and Brief Literature Review

Research on SMEs has grown significantly over the past decade, given the fundamental role of SMEs in the industrial sector and their impact on the overall performance of the economy. Currently, government policies in Indonesia are focused on SMEs (Zada et al., 2021; Ali et al., 2024). Therefore, it seems necessary to examine the provision and management of financial resources in these units. The main issue of this research is to examine the financing of the capital structure of SMEs in Indonesia. SMEs have a special importance and position in the economies of developed and developing countries and they are the pillars of the economy. According to the Zang et al. (2023) creating job opportunities in rural areas and small towns, small investments to create employment, using relatively simple production methods and utilizing local resources to produce small industries are achievable.

Today, the issue of financing has a special place among the countries of the world, both developing and developed countries. An efficient capital structure has the capacity and ability to respond to changes in the surrounding environment and, with good and appropriate performance, affects its surrounding environment. Mitton (2008) argues that leveraged companies with different debt ratios have different effects on foreign markets and react differently in these markets; therefore, the closer the capital structure is to the optimal level, the more likely the company is to survive than a company with a capital structure that is far from the optimal level. Although many entrepreneurs may have brilliant ideas in business, without adequate financing and support, it is not possible to achieve their goals; therefore, companies must use an appropriate amount of capital to utilize their capacity and achieve their goals (Iershova et al., 2024). This belief is supported by the finding that SMEs first use domestic financing to make investments and pay for new costs.

The position of financing among countries is of particular importance; this importance is not only due to the number and diversity of firms but also because of their important and influential position in the economies of countries. Based on the experiences in many countries, these businesses are the fundamental and fundamental foundation of economic development, which, by effectively utilizing the country's resources, increases income and creates employment at the national and regional levels (Otoo, 2024; Toshpulatov, 2024).

SMEs have a significant impact on poverty alleviation, wealth creation, and greater participation of segments of society, such as youth and women, in the economic development of countries. The development of these enterprises strengthens the spirit of democracy and civil society, and encourages entrepreneurs to participate more in the economic, political, and social activities of the country. In most countries, a large proportion of jobs are created through SMEs. For example, 30 high-income countries from the Organization for Economic Cooperation and Development account for two-thirds of formal employment (Liu, 2023). In low-income countries, this proportion is lower, but still significant. The results of a World Bank survey show that small companies have the lowest contribution to employment in countries. This is despite the fact that the total employment of SMEs is comparable to that of large companies. SMEs account for a large share of employment in developed countries. On average, SMEs account for 45% of employment, which is a significant amount of employment and nearly half of the employment level.

Based on previous studies and the importance of the issue of financing SMEs, this study attempts to identify the variables that affect domestic and foreign financing. The capital structure of each of SMEs is also examined separately for a period of four years, and market value is used as a criterion for determining SMEs in order to express the importance and position of SMEs in the Indonesian economy. Therefore, it is very important evaluate the main obstacles to their access to financial resources to promote and strengthen SMEs. This research aims to identify those factors that are effective in their success or failure in attracting financial resources and to propose an appropriate model for industrial estates by analyzing the sensitivity of supply and demand.

2. Method

The present study, considering the type and objectives of the study, has a developmental-applied approach and has a qualitative-quantitative approach in terms of implementation and data analysis method. In order to determine the type of company, the definition of the Central Bank of Indonesia, which considers businesses with less than one hundred workers as SMEs, was used as a basis. The sampling method in this study was purposeful and was studied in order to determine the sample size of industrial SMEs in Indonesia in the period 2020-2023.

In this study, using the model presented by Nguyen et al. (2020) and using the panel approach method, the impact of factors affecting SMEs' access to financial resources was evaluated according to Equation 1. The variables that, according to domestic and studies (Alamineh, 2020), affect their access to loans include: firm size, interest rate and loan amount, loan maturity, firm location, and firm age.

$$\mathrm{Re}\, c = \alpha_0 CON + \alpha_1 R + \alpha_2 S + \alpha_3 Q + \alpha_4 T + \alpha_5 L + \alpha_6 A, \quad (1)$$

where:

Rec: Access or lack of access to loans (enters the model as zero and one. If the firm has succeeded in obtaining a loan during the period under review, one is taken into account, otherwise zero is taken into account.

CON: Constant value in the administrative process of obtaining a loan; α is the weighting coefficient of each variable.

S: Firm size (a variable indicating the number of employees employed in SMEs in industrial estates during the period under study);

R: Interest rate on promotional facilities for enterprises.

Q: Loan amount;

T: Loan maturity date;

L: Location of the enterprise (based on the distance of the enterprise in the industrial park to the city center);

A: Age of the enterprise.

3. Results

The regression model is fitted with a panel data approach with fixed effects, the results of which are reported in Table 1.

Table 1:
The details of the presented model

Variable	Weighting coefficient	z-statistic	Probability
CON	0.833	5.01	0.000
R	0.166	2.88	0.011
S	0.131	2.76	0.035
Q	-0.101	3.98	0.014
T	-0.008	2.12	0.033
L	0.002	1.11	0.228
A	0.059	3.69	0.011

Note: R chi 2(8) = 430; Probability chi 2(8) = 0.001; Log Likelihood: -14.564.

Source: Authors' findings

According to the results of Table 1, all variables except the location of the enterprise are effective on access to loans for SME operating in industrial estates in Indonesia during the period studied in this article. The coefficient of the interest rate variable is 0.166, indicating that the higher the interest rate of the facilities received, because the return of the loan is the highest cost; therefore, fewer enterprises apply for loans and the possibility of accessing loans is greater. On the other hand, the bank is also more willing to provide facilities with higher interest rates. Therefore, this variable has a positive effect on the dependent variable. In the case of the variable S or enterprise size, (0.131), the larger the enterprise, the more banks are willing to lend to them, so their possibility of accessing loans is greater. Especially in the case of SMEs, which have increased their commercialization potential with the expansion of their activities and size, and banks are usually more willing to provide loans to them.

Q, or loan amount, has a negative effect of -0.0101 on access to loans, because the larger the loan amount, the more difficult it is for the bank to finance it and the less willing it is to pay it. T, or loan maturity, (-0.008) has a negative impact on access to loans. Because the longer the loan maturity, the bank usually faces more risk in terms of receiving its capital back. Therefore, it usually seeks to pay facilities with shorter repayment terms to reduce its risk. According to the results of this study on active industrial enterprises, the longer the loan maturity, the less likely the enterprises are to access loans. The location variable of the firm is the only variable that has a meaningless or minimal effect in the fit of the present study. Therefore, in the case of firms operating in the industrial estates under study, the location variable did not have a significant effect on the firm's access to loans compared to other variables, which could be due to the field of activity of the firms. Finally, the age variable of the firm, which indicates the age of the firm, also has a positive effect of 0.059 on the firm's access to loans. Since older firms have more history and experience, banks also agree to give them loans more easily, so they will have easier access to loans.

In the panel model, the Log Likelihood statistic is used to evaluate the goodness of fit results, and the larger its absolute value is, the more appropriate the model is. In this study, according to Table 1, its value is 14.564, which is greater than the limit of 7 (Miller, 2013) and indicates the accuracy and appropriateness of the fit.

3.1. Sensitivity Analysis

Cost Sensitivity Analysis: To evaluate the modeling performance, a sensitivity analysis was performed on the financial dimension parameters of the total cost. By applying the aforementioned changes to the total cost parameter (Figure 1), it was determined that the lower limit of profit was positive until the total cost increased by 1% and then became negative. The upper limit of profit remained positive until the total cost increased by 64%. In order to analyze the sensitivity on liquidity, the total amount of deviation of the lower limit of liquidity from the desired liquidity based on the increase in total cost was examined. As shown in Figure 2, the total lower limit of liquidity deviation from the desired liquidity increases by approximately USD 12,000 for every 20% increase in total costs. The result of the sensitivity analysis of the total cost in the financial dimension indicates that the model is extremely sensitive to the increase in total cost. Hence, if the product selling price does not change, the SME should be sensitive to the optimal management of its costs to avoid profitability and liquidity problems.

Demand sensitivity analysis: To evaluate the modeling performance, a sensitivity analysis was performed in the integrated dimension based on the financial and physical flows of the demand parameter, which is generally less controllable. By applying the aforementioned changes to the demand parameter (Figure 3), it was determined that the model was acceptable until the demand decreased by 79%. Also, by applying the aforementioned changes to the demand parameter, it was determined that the lower limit of profit was positive until the demand decreased by 15% and then became negative. The upper limit of profit remained positive until the demand decreased by 79%. It is noteworthy that the lower slope of the decrease in the lower limit of profit compared to

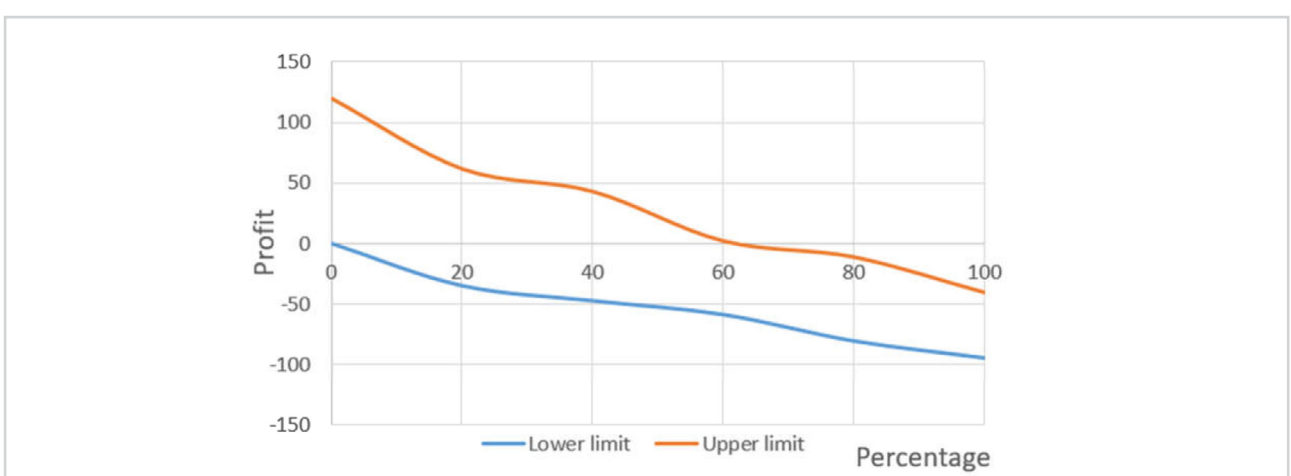

Figure 1:
Profit sensitivity analysis based on total cost
Source: Authors' findings

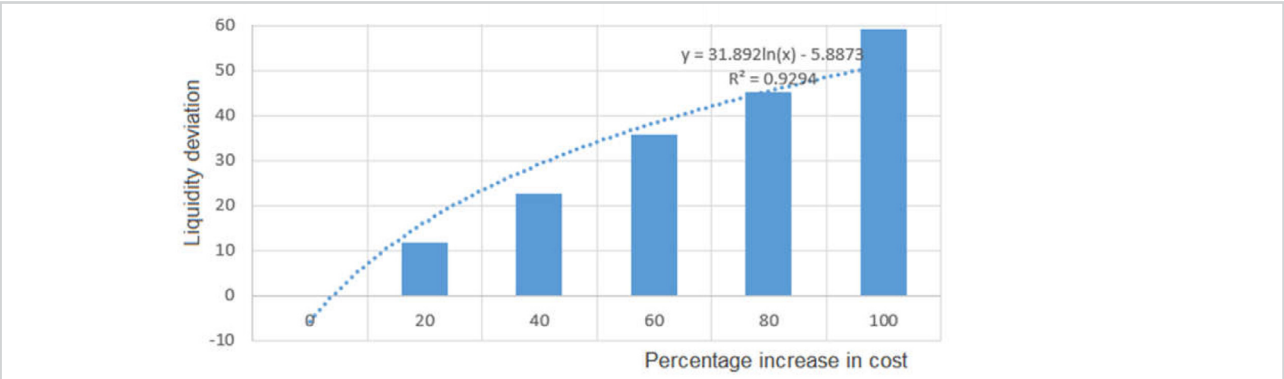

Figure 2:
Sensitivity of the deviation of the lower liquidity limit based on total cost
Source: Authors' findings

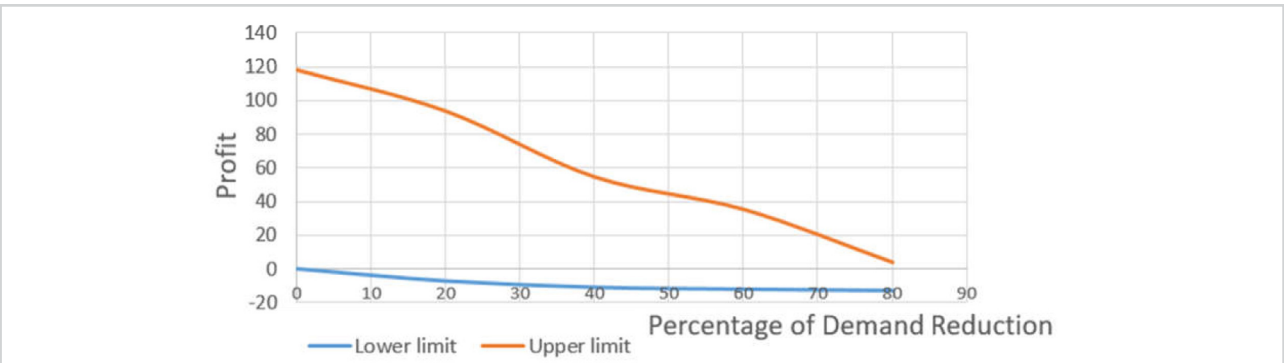

Figure 3:
Profit sensitivity analysis based on demand
Source: Authors' findings

the decrease in the upper limit of profit based on the decrease in demand, which indicates the tendency of the model to maintain positive profit. As shown in Figure 4, the total lower limit of liquidity deviation from optimal liquidity up to 25% of demand reduction is below USD 11.87 thousand, which is a good indication of the coherence and stability of the presented model in conditions of shocks caused by demand reduction. While the upper limit of liquidity up to this amount of demand reduction has no deviation from optimal liquidity. The good stability of the model in the event of shocks caused by demand reduction indicates an appropriate financing method by considering physical and financial flows in an integrated manner. Because in the event of demand reduction, the model manages the amount and cost of financing, warehousing, and product supply in such a way that the SME does not experience a liquidity and profitability crisis as much as possible.

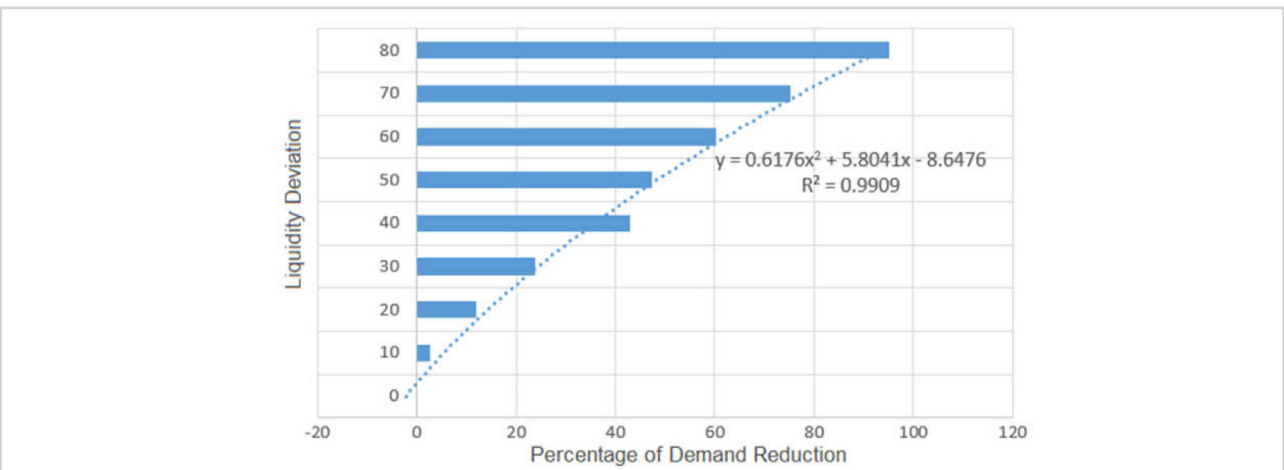

Figure 4:
Sensitivity analysis of the deviation of the lower liquidity limit to demand
Source: Authors' findings

4. Conclusion

Despite the awareness of the importance of industrial clusters and the role of SMEs in the economy of developing countries and their large share in economic growth, as one of the most fundamental factors, recent research shows that SMEs face more difficulties and obstacles than large enterprises in meeting their financial needs for survival and development of their activities. The aim of this article was to investigate and identify the factors affecting the variable of access to loans in SMEs operating in industrial estates. The results of the model fitting showed that all the variables studied except the location of the company had a direct effect on the financing of the company, and the variable of interest rate of granted facilities showed the greatest effect. The variables of loan amount and loan maturity also have a negative effect on the possibility of accessing loans, which is logical. Also, the results of the sensitivity in the two areas of demand and cost showed that in the conditions of the acute crisis of demand reduction that led to the crisis of profitability and liquidity, the results of solving the model have been such as to reduce the liquidity deviation, which is one of the factors of rapid bankruptcy of SMEs. This has shown the attention to the stability of the company in crises in the research model, the main reason for which is the attention to financing the company with an integrated perspective resulting from the attention and optimal management of the company's physical and financial flows with other components of the supply chain in crisis conditions.

According to the results of the research, it is recommended to the managers of SMEs to propose the financing method presented in the research, which is a flexible financing method considering the conditions of environmental uncertainty, to the banks so that, if they agree, they can create the necessary basis for financing these companies based on the proposed method. As a policy recommendation, it can be stated that, considering that the engine of economic growth and development of the country is in fact SMEs, therefore, the optimal financing of their required resources should be the main concern of the country's banking system. On the other hand, to protect the banking system from banking and financial crises (it is also necessary to mention that in any case, SMEs face more risk than large banks and giving loans to them may cause problems for the bank), the government should provide the necessary support and regulate the necessary laws in this regard.

References

1. Alamineh, H. (2020). Business challenges and opportunities for youth, micro, small and medium scale entrepreneurs in Ethiopia: an article review. American Journal of Economics, 10(6), 441-448. http://article.sapub.org/10.5923.j.economics.20201006.14.html
2. Ali, M. H., Breesam, H. M., Rashed, Y. A., Qusai, N., Flayyih, M. R., & Naser, S. J. (2024). Descriptive study on financial management practices, features and profitability of small and medium enterprises. Procedia Environmental Science, Engineering and Management, 11(2), 161-173. https://www.procedia-esem.eu/pdf/issues/2024/no2/16_Ali_24.pdf
3. Iershova, N. Y., Portna, O. V., Davydov, D., Krivokapič, R., & Delibasic, M. (2024). Financial stability of small and medium-sized businesses in a crisis economy: The determinants of management. Montenegrin Journal of Economics, 20(2), 155-168. https://doi.org/10.14254/1800-5845/2024.20-2.13
4. Liu, B. (2023). Integration of novel uncertainty model construction of green supply chain management for small and medium-sized enterprises using artificial intelligence. Optik, 273, 170411. https://doi.org/10.1016/j.ijleo.2022.170411
5. Miller, M. B. (2013). Mathematics and statistics for financial risk management. John Wiley & Sons.
6. Mitton, T. (2008). Why have debt ratios increased for firms in emerging markets? European Financial Management, 14(1), 127-151. https://doi.org/10.1111/j.1468-036X.2007.00430.x
7. Nguyen, Ph. A., Uong, Th. A. T., & Nguyen, Q. D. (2020). How small-and medium-sized enterprise innovation affects credit accessibility: The case of Vietnam. Sustainability, 12(22), 9559. https://doi.org/10.3390/su12229559
8. Toshpulatov, M. (2024). The impact of employee training and skills development on the growth of financial companies. Economic Annals-XXI, 212(11-12), 16-21. https://doi.org/10.21003/ea.V212-03
9. Zada, M., Yukun, C., & Zada, S. (2021). Effect of financial management practices on the development of small-to-medium size forest enterprises: insight from Pakistan. GeoJournal, 86(3), 1073-1088. https://doi.org/10.1007/s10708-019-10111-4
10. Zang, Y., Hu, Sh., Zhou, B.-B., Lv, L., & Sui, X. (2023). Entrepreneurship and the formation mechanism of Taobao Villages: Implications for sustainable development in rural areas. Journal of Rural Studies, 100, 103030. https://doi.org/10.1016/j.jrurstud.2023.103030

Received 3.02.2025
Received in revised form 19.02.2025
Accepted 24.02.2025
Available online 29.04.2025