Eduvest – Journal of Universal Studies
Volume 4 Number 07, July, 2024
p- ISSN 2775-3735- e-ISSN 2775-3727

THE FACTORS OF DETERMINING REPAYMENT PERFORMANCE IN INDIVIDUAL LOAN FOR SMALL MEDIUM ENTERPRISES IN INDONESIA

Lailiya Rohmana[1], Permata Wulandari[2]
[1,2] Universitas Indonesia, Jawa Barat, Indonesia
Email: lailiya.rohmana@office.ui.ac.id, permata.w@ui.ac.id

ABSTRACT

This study aims to determine the affecting factors of repayment performance in Small Medium Enterprises (SMEs) in Indonesia for individual loan program. The data in this study is gathered by credit active during 2023 which contain of 300 samples from several region in Indonesia that came from one of Non-Banking Financial Institutions (NBFIs). The data is analyzed by logit regression model by Stata software version 18. The study indicates that the borrower's income and amount of loan disbursements have significantly affected the repayment of the borrower's outstanding loan for both principal and interest in time. Furthermore, the study shows that the higher amount of loan disbursement might affect the lower probability of defaulting due to high assessment of credit appraisal. Since the loan programs are delivered for individual for owner or management of Small Medium Enterprises (SMEs) in Indonesia. A prudent procedure is needed to establish for newer borrowers of the individual loan programs. The screening process consists of income cash flow analysis and how long the cash flow will be generated for repaying the programs. the novelty for this result enhances the current research for SMEs financing program in Indonesia for individual loan credit program. Specially credit loan program is delivered and sponsored by Indonesia government. Not much research focused on individual loan programs for SME's owner or management.

KEYWORDS *Individual Loan, Repayment Performance, Smes, Indonesia.*

INTRODUCTION

Since the impact of Small Medium Enterprise's business for Indonesia national development growth, in 2007 the Indonesia government already launched KUR ("Kredit Usaha Rakyat") that focus on supporting financial literacy for SME in Indonesia exponentially their production (Kementerian Koordinator Bidang

How to cite: Lailiya Rohmana. (2024). The Factors of Determining Repayment Performance in Individual Loan for Small Medium Enterprises in Indonesia. *Journal Eduvest. 4*(7): 5726-5733
E-ISSN: 2775-3727
Published by: https://greenpublisher.id/

Perekonomian, 2007). The credit program consists of individual credit loan and group credit loan programs. However, the programs cannot penetrate unbanked segment in Indonesia rapidly and regarding to the growth of unbanked SMEs in 2017, the Indonesia government launched another credit loan program for SMES which focus on 48% unbanked population in Indonesia (Bank Indonesia, 2023). This credit program is called Ultra Micro (UMi) credit program which is distributed by Non-Banking Financial Institutions (NBFIs) in Indonesia.

Even though, the contribution of SMEs is tremendously affecting the economy of the emerging countries. Unexpected external factors might disrupt the sustainability of SMEs themselves such as Covid-19. During period of Covid-19 and sightly after, the SME in many countries faced the weakening SMEs financial positions and exposing them to financial risk (Adam & Alarifi, 2021). Therefore, the Indonesia government in 2020 launched subsidizes interest credit program for both KUR and UMi up to 6% (Kementerian Koordinator Bidang Perekonomian, 2020) to maintain the sustainability of several affected SMEs from Covid-19.

The sustainability of the SMEs is monitored and evaluated periodically in every institution who disburses credit loan programs for both KUR and UMi then reports it to the government. Sustainability is measured by the number of outstanding loans for non-defaulters and defaulters. Furthermore, Indonesia Financial Service Authority (FSA) already set the regulation for set the maximum ratio for defaulting loan in unsecure loan around 5% in term of Non-Performing Loans (NPLs). According to (Nawai & Shariff, 2012), the critical process of the sustainability of SMEs in term of financial risk could be determined by ensuring the repayment performance. This study will focus on determining the repayment performance for bad and good credit in individual loan credit program. Previous research explain that the industry specialization of loan officers facilitates monitoring synergies and lowers credit default rates for SMEs (Goedde-Menke & Ingermann, 2024).

However, the monitoring process of SME's performance is one the hardest and most challenges for NBFIs. This is related to SMEs who could not provide the financial statement or another report. The credit analysis of the NBFIs mostly relay on the soft information such as opinion from interview session with the borrower (Goedde-Menke & Ingermann, 2024). This condition might lead to increased asymmetric information. Asymmetric information most likely happen in emerging country including Indonesia (Barboni, 2017). No wonder if the rate of required return in Indonesia relatively higher than developed countries in 2024 Indonesia have 8.20% and Singapore 5.10% in term of market risk premium (Fernandez et al., 2024). Therefore, the right method and identified the determining factors for repayment performance is critical to prevent the losing from bad credit loan which led might to the disruption of NBFIs performance as well. However, reducing the asymmetric information during credit disbursement might help to reduce the required return for NBFI's capital structure holders.

Previous research was developed to determine the factors affecting repayment performance. According to Nawai & Shariff (2012) explain that the gender, formal religious education, distance to the lender office, business formality, total sales per month, total loan received, loan monitoring and loan disbursement lag have the

significantly the affecting the repayment performance. Another research explains that gender especially female might the affect the credit loan status as non-default (Bilau & St-Pierre, 2018). In the research of (Endris, 2022; Nawai & Shariff, 2012) shows that the distance between the borrowers and the NBFIs might affect to the repayment performance. However, only the research of (Endris, 2022) provides the evidence of this variable significantly affecting the debt status in Ethiopia.

Therefore, this research will determine the repayment performance of the borrower credit status as non-defaulter or defaulter by developing the model that combination of the borrower's characteristics such as gender, age, income per month, amount of loan disbursements, and the distance between the borrower's business location and the office of NBFIs. The previous research was not focus on individual credit loan program and "unbanked" SMEs specially in Indonesia. However, this research will reveal that condition using logit regression model. In order to explain the research question and determining from previous research and framework, in this research is used the following hypothesis:

H1: the older borrowers might have better repayment performance as non-defaulter than younger borrowers.

H2: the female borrowers might have better repayment performance as non-defaulter than male borrowers.

H3: The higher income borrower might have better repayment performance as non-defaulter.

H4: The higher amount of loan disbursement might have better repayment performance as non-defaulter.

H5: The shortest distance of the borrower might have better repayment performance as non-defaulter.

RESEARCH METHOD

In this study logit regression using dummy variables or biner variable to represent the non-defaulter and defaulter of UMi credit loan program. This research will use one single model that consists of independent variables such as the borrower's gender, age, income per month, amount of loan disbursements, and the distance between the borrower's business location and the creditor. The samples were gathered 300 cross sections during credit active during 2023.

Table 1. Definitions of Repayment Performance Model Variables

Variables	Description	
Dependent variables: repayment performance of UMi individual credit loan program	Whether or not the borrowers repay their credit loan program.	1 if the borrowers are repaying in time and as non-defaulter, otherwise.
Independent variables:		
Age	The age of borrowers	The age of borrowers in years at loan application submitted.
Gender	Whether or not the borrowers were female	1 if the borrowers are male, otherwise.
Income	The amount of cash flow generated in every month	The amount in Rupiah per month

Loan size	The amount of loan disbursement	Total of disbursement the borrowers received in Rupiah
Distance	The distance between the borrowers and the creditors	In kilometers

Source: (Bilau & St-Pierre, 2018; Kiros, 2023; Nawai & Shariff, 2012)

The model was developed from the characteristics of the borrower in individual credit loan program and literate from previous research which focused on multi finance and unsecured loan program. Therefore, in this research use logit regression model as follows:

$\text{logit}(p) = \beta_0 + \beta_1 * age + \beta_2 * gen + \beta_3 * inc + \beta_4 * ls + \beta_5 * dist$ ..... (equation 1)

Description
Logit (p) : the probability value of borrower's status 1, 1 as non-defaulter, 0 as defaulter.
age : independent variable of the borrower's age
gen : independent variable of the borrower's gender
inc : independent variable of the borrower's income
ls : independent variable of the borrower's loan size
dist : independent variable of the borrower's distance

RESULT AND DISCUSSION

Using logit function in Stata software, the 300 samples was analyzed and the result in Table 2. The long likelihood is -86.51 is not having the meaning. However, it will be used for another analysis and calculation. LR chi2 or the value of chi-square likelihood ratio (LR) indicates the robustness of the overall model. In this research the value of LR chi2 is 229.12 which can be calculated from literation value number 0 – the latest literation value is 2 multiply by (-201.06 – -86.51)) and the result is 229.12. Then compare the value with the chi square tables using 95% of confidence level. However, the robustness of the model could be analysed from the probability test of chi square which indicate 0.000 or less than 5%. It means that the model has significantly could determine the repayment performance. Pseudo R2 in logistic regression using R2 MacFadden, this R2 is different from linear regression in general. However, it has the same function as R2 to explain the percentage of how the independent variables could explain the dependent variables. In this research, six independent variables could represent or predict around 56.9% repayment performance. Pseudo R2 itself comes from manual calculations of the log likelihood.

Table 2 The Logit Result of Individual Credit Loan Program

Logistic regression	Number of obs	: 300
	LR chi2	: 229.12
	Prob>chi2	: 0.00000
Log likelihood: -86.51	Pseudo R2	: 0.5698

debt	coefficient	standart error	z	P>|z|	[95^ conf.interval]	
age	-0.008	0.020	-0.400	0.693	-0.048	0.032
gender	-0.053	0.426	-0.120	0.902	-0.888	0.783
income	3.798	3.798	9.550	0.000***	3.018	4.578
loan_size	-2.101	0.600	-3.500	0.000***	-3.277	-0.925
distance	-0.010	0.046	-0.220	0.830	-0.100	0.080
_cons	-23.325	7.864	-2.970	0.003	-38.738	-38.738

Source: Research and Analysis (2024)

***p<0.01, **p<0.05, *p<0.1

Since the p-value for each independent variable is less than 0.1 only for income per month and the amount of loan disbursement. It indicated that these variables significantly affect repayment performance. Therefore, for hypothesis number 1,2 and 5 cannot be proven. Based on the result of above tables, the hypothesis number 4 and 5 is significant for affecting the repayment performance. The higher income leads to higher probability for the borrowers as the non-defaulter and the higher amount of disbursement will increase the probability of non-defaulter. The outcomes of the logit regression analysis for a sample size of three hundred are presented in Table 2 or can be expressed mathematically as follows:

logit (p)= -23.32-0.01*age-0.05*gen+3.79*inc-2.10*ls-0.01*dist ..... (equation 2)

Prior to doing the predictive analysis, the descriptive analysis is categorized into two types of variables: categorical independent variables and numerical independent variables. The numerical independent factors, including the borrower's age, income per month, amount of loan disbursements, and distance variables, are presented in Table 3. The data displays the sample sizes for defaulters and non-defaulters, as well as the mean, standard deviation, minimum, maximum, kurtosis, and skewness values. Based on the values of kurtosis and skewness, it can be concluded that the samples deviated from a normal distribution. Nevertheless, the logit regression did not necessitate it. Furthermore, the categorical independent variables are limited to gender variables exclusively. The analysis indicates that the chi-square probability is not statistically significant, and the value of Cramér's V is just 0.098. The statement indicates that there is a weak association between gender and repayment performance.

Table 3 Descriptive Statistic Analysis

Repayment Performance	Descriptions	Age	Income	Loan Size	Distance
(0) Defaulter	n (samples)	182	182	182	182
	mean	45	10,600,000	6,549,963	5.49
	SD	11	11,600,000	2,117,121	5.31
	Min	24	500,000	1,749,400	1.00
	Max	69	6,000,000	10,000,000	36.02
	Kurtosis	2.05	8.28	2.01	10.54
	Skewness	0.04	2.29	0.20	2.25
(1) Non-Defaulter	n (samples)	118	118	118	118
	mean	42	26,000,000	9,755,791	5.84

	SD	10	19,800,000	4,512,834	3.27
	Min	17	1,400,000	3,000,000	1.00
	Max	66	96,300,000	20,000,000	15.74
	Kurtosis	2.78	4.78	2.46	3.55
	Skewness	-0.09	1.31	0.59	0.95
	n (samples)	300	300	300	300
	mean	44	16,700,000	7,810,922	5.63
	SD	10	17,100,000	3,625,339	4.61
Total	Min	17	500,000	1,749,400	1.00
	Max	69	96,300,000	20,000,000	36.02
	Kurtosis	2.33	6.75	4.61	11.31
	Skewness	0.02	1.83	1.27	2.17

To ensure impartial outcomes, this study use the variance inflation factors (VIF) to conduct a multicollinearity test. The test results indicate that the independent variables do not exhibit multicollinearity, as they have a value below the threshold of 3, as stated by (Okpukpara et al., 2023).

Table 4 Variance Inflation Factors

Variable	VIF	1/VIF
loan_size	1.97	0.51
income	1.96	0.51
age	1.07	0.94
distance	1.03	0.97
gender	1.03	0.97
Mean VIF	**1.41**	

Source: Research and Analysis (2024)

CONCLUSION

The study examined the factors that influence the repayment performance of individual loans in Indonesia. The study demonstrates that repayment performance is influenced by two elements. These criteria comprise the borrower's monthly income and the amount of loan disbursements. The study found a direct relationship between monthly income and debt status, indicating that as income increases, debt status also tends to increase. The income coefficient is 3.79. The borrower's probability of success as a non-defaulter is influenced by the rise in income. Moreover, the extent to which loans are distributed has had a substantial impact on the ability to repay them.

This suggests that when the loan amount increases, the appraisal procedure becomes more intricate, which in turn impacts the viability of the credit lending program. Furthermore, the research findings indicate that it is necessary for each Non-Banking Financial Institution (NBFI) to offer specific suggestions for unique loan credit programs. We suggest implementing an additional policy aimed at augmenting the monthly revenue for every borrower. For example, offering an on-site companion to provide guidance and support to the borrower, aiding them in their

business operations and reporting. Nevertheless, this could impact the subsequent expenses related to operations. Hence, we suggest that future research should focus on investigating the consequences of digital apps and technologies on individual loans for small and medium-sized enterprises (SMEs) in Indonesia to reduce the operational expenses as well.

REFERENCES

Adam, N. A., & Alarifi, G. (2021). Innovation Practices For Survival Of Small And Medium Enterprises (Smes) In The Covid-19 Times: The Role Of External Support. Journal Of Innovation And Entrepreneurship, 10(1). Https://Doi.Org/10.1186/S13731-021-00156-6

Bank Indonesia. (2023, May 10). Talenta Digital Dan Inklusi Keuangan Kunci Peningkatan Daya Saing Ekd. Https://Www.Bi.Go.Id/Id/Publikasi/Ruang-Media/News-Release/Pages/Sp_2512323.Aspx

Barboni, G. (2017). Repayment Flexibility In Microfinance Contracts: Theory And Experimental Evidence On Take Up And Selection. Journal Of Economic Behavior And Organization, 142, 425–450. Https://Doi.Org/10.1016/J.Jebo.2017.07.020

Bilau, J., & St-Pierre, J. (2018). Microcredit Repayment In A European Context: Evidence From Portugal. In Quarterly Review Of Economics And Finance (Vol. 68, Pp. 85–96). Elsevier B.V. Https://Doi.Org/10.1016/J.Qref.2017.11.002

Endris, E. (2022). Loan Repayment Performance Of Micro And Small-Scale Enterprise: Evidence From North Wollo Zone, Ethiopia. Heliyon, 8(12). Https://Doi.Org/10.1016/J.Heliyon.2022.E12085

Fernandez, P., Garcia, D., & Acin, L. F. (2024). Survey: Market Risk Premium And Risk-Free Rate Used For 96 Countries In 2024. Iese Business School.

Goedde-Menke, M., & Ingermann, P. H. (2024). Loan Officer Specialization And Credit Defaults. Journal Of Banking And Finance, 161. Https://Doi.Org/10.1016/J.Jbankfin.2023.107077

Kementerian Koordinator Bidang Perekonomian. (2007). Maksud Dan Tujuan Kur. Https://Kur.Ekon.Go.Id/Maksud-Dan-Tujuan

Kementerian Koordinator Bidang Perekonomian. (2020). Pemerintah Beri Subsidi Bunga Kredit Usaha Terdampak Covid-19 Hingga 6% Selama Enam Bulan. Https://Www.Ekon.Go.Id/Unduh/Info_Sektoral/53/Berita-Pemerintah-Beri-Subsidi-Bunga-Kredit-Usaha-Terdampak-Covid-19-Hingga-6-Selama-Enam-Bulan

Kiros, Y. (2023). Loan Repayment Performance And Its Determinants: Evidence From Micro And Small Enterprises Operating In Dire-Dawa, Ethiopia. Journal Of Innovation And Entrepreneurship, 12(1). Https://Doi.Org/10.1186/S13731-023-00271-6

Nawai, N., & Shariff, M. N. M. (2012). Factors Affecting Repayment Performance In Microfinance Programs In Malaysia. Procedia - Social And Behavioral Sciences, 62, 806–811. Https://Doi.Org/10.1016/J.Sbspro.2012.09.136

Okpukpara, V., Okpukpara, B. C., Omeje, E. E., Ukwuaba, I. C., & Ogbuakanne,

M. (2023). Credit Risk Management In Small-Scale Farming By Formal Financial Institutions During The Covid-19 Era: Nigerian Perspective. Agricultural Finance Review, 83(3), 377–394. Https://Doi.Org/10.1108/Afr-07-2022-0089