

COMPARING MORAL HAZARD BEHAVIOUR OF MICRO AND SMALL ENTERPRISES ON PRODUCTIVE BUSINESS LOAN REPAYMENT

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Abstract

This research aims to measure and compare the moral hazard behaviour of micro and small enterprises' debtors within Purwokerto area on Productive Business Loan scheme. This scheme was chosen because of the highest Non Performing Loan (NPL) among others. The data were collected from 127 debtors by using simple random sampling technique. Rating scale method was used to measure the moral hazard behaviours of debtors through questionnaire and later comparing them to study how serious the noncompliance rate in repaying off their credits. This research finds that (1) Generally, the moral hazard behaviour tends to be medium-to-high, (2) The highest moral hazard should be attributed to debtors in Purbalingga followed by those in Banjarnegara, Purwokerto, and Cilacap. Then, it suggests that (1) all bank branches need to pay more attentions to their debtors because their moral hazard behaviours have been medium-to-high. (2) Each branch needs to apply specific treatments to the debtors to improve debtors' installments, i.e building lending relationship as one way of exploring soft information which emphasizes informal approaches, (3) It should be important to design integrated training and practices for bank officers in order to build up their sense of psychological skills in public relationship in order to handle, in turn, those risky debtors.

Keywords: moral hazard, debtors, non performing loan, productive business loan

Abstrak

Penelitian ini bertujuan untuk mengukur dan membandingkan perilaku moral hazard debitur usaha mikro dan kecil di wilayah Purwokerto pada skema kredit Usaha Produktif (KUP). Skema ini dipilih karena memiliki Non Performing Loan (NPL) tertinggi di antara skema lainnya. Data dikumpulkan dari 127 debitur yang dipilih menggunakan teknik simple random sampling. Metode rating scale digunakan untuk mengukur perilaku moral hazard debitur melalui kuesioner dan kemudian membandingkannya untuk dianalisis seberapa serius tingkat ketidakpatuhan dalam melunasi kredit di antara mereka. Penelitian ini menemukan bahwa (1) Secara umum, perilaku moral hazard debitur cenderung menengah ke tinggi, (2) moral hazard tertinggi dimiliki para debitur di Purbalingga diikuti oleh Banjarnegara, Purwokerto, dan Cilacap. Penelitian ini memberikan implikasi bahwa (1) Semua cabang bank perlu memberikan perhatian lebih kepada para debiturnya karena perilaku moral hazard mereka sudah cenderung menengah ke tinggi, (2) Setiap cabang bank perlu menerapkan perlakuan khusus kepada para debiturnya untuk meningkatkan angsuran debitur, seperti membangun lending relationship sebagai salah satu cara menggali soft information yang menekankan pendekatan informal, (3) Penting untuk merancang pelatihan

dan praktik terpadu bagi petugas bank untuk membangun keterampilan psikologis mereka dalam public relationship yang akan diterapkan untuk menghadapi para debitur yang bermasalah.

Kata Kunci: moral hazard, debitur, non performing loan, kredit usaha produktif.

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INTRODUCTION

Asymmetric information often happens in monetary field including funding-lending system in financial institutions, e.g. banks. The impact of this condition is most likely the presence of adverse selection and/or moral hazard by the bank or the debtor or both parties. It is so hard to confirm who the doer is. Some experiences found that financing micro and small enterprises (MSEs) has more difficulties rather than the largers because of the lack of information and historical data of their business hence the presence of asymmetric information is totally convinced. In this case, asymmetric information in financing MSEs induces the presence of moral hazard attributed to debtors (Holmstrom, 1979; Grossman & Hart, 1983).

First, the indication of asymmetric information presence could be appeared through non performing loan (NPL) measure. It values the debtors noncompliance of credit contract where the postponed installments was happened. Then, that indication must be observed what the causes are; some evidences showed that the causes might be come from debtors' moral hazard through their attempt not to obey some items in credit contract (Nicholson & Snyder, 2012).

Bank Indonesia (2016) has reported that Local Development Bank (LDB), in 2016, shows high NPL of productive credit scheme to MSEs. Less experiences, skills, and knowledges of bank officers for financing productive schemes, especially for MSEs, are the major causes of this case, where so far LDB has focused on consumptive credit—as much as 66 percents of total credits lended—so that the

officers faced some difficulties to manage the productive credit because of the different characters and procedures (Damayanti & Adam, 2015).

This case illustrates two interesting points relating to asymmetric information issues, namely adverse selection and moral hazard. In the case of adverse selection, the lack of bank officers/credit analyst ability in selecting potential debtors in turn can cause credit repayment problems, even default, resulting from their failures in operating their business. Meanwhile, in terms of moral hazard, after signing credit contract, the debtors appear the noncompliance behaviour impacting on postponed instalment (Nicholson & Snyder, 2012; Damayanti & Adam, 2015). This moral hazard might be caused by adverse selection happened before—innate cause. But it could be also appeared purely as long as credit contract, not preceded by adverse selection.

In accordance with high NPL and less ratio of LDB productive credit, this study takes Bank Jateng—one of LDB authorizing Central Java province—as representation of those conditions. Therefore, since early 2017 Bank Jateng has issued the policy that credit financing to productive sectors, particularly MSEs, should be more proportion (Bank Jateng, 2017). Then, productive credit scheme chosen for analysis object is Productive Business Loan (*Kredit Usaha Produktif/KUP*) because of its highest NPL, i.e. 7.01, compared with other schemes (KUMK, Kridakop, etc.). Thereby, the important issue that is interesting to investigate is debtors' moral hazard of KUP arised from asymmetric information presence that is signed by its

high NPL. Therefore, this study aims to analyze debtors' moral hazard of KUP to explain how high moral hazard attributed to debtors, is it risky enough? This analysis is applied to those debtors of four Bank Jateng branches within Purwokerto area then comparing each debtors' moral hazard to be consideration of setting proper strategies and treatments for each branch.

LITERATURE REVIEW

Asymmetric information indicates state of imbalance in accessing information among parties. It could cause any conditions such moral hazard and adverse selection. In credit market, asymmetric information leads inefficiency and credit risk where cash flows of funds do not work well (Greuning & Bratanovic, 2000; Nicholson & Snyder, 2012). Some researches found that many obstacles faced in financing to MSEs. Lack of information is a major problem in credit lending to them in Albania (Zeneli & Zaho, 2014). In Baltik States, there also has been many challenges involved in financing MSEs (Rupeika-Apoga, 2014). For handling those many difficulties, Uchida (2012) and de la Torre et al. (2010) suggested that obstacles in credit accessibility for MSEs could be reduced by producing soft information where bank officers build informal communication with potential, new, and old debtors based on mutually principles of partnership. Soft information is considerably needed to complete less hard information.

In related with moral hazard, Mirrlees (1999) analyzed the optimum contract in insurance with considering the trade-off between premium and incentives. That contract was ordered by insurance company to minimize the moral hazard probability attributed to its customers. Far before, Holmstrom (1979) and Grossman & Hart (1983) have developed the moral hazard analysis with principal-agent approach to construct optimal incentive scheme. One of optimum contract schemes requires collateral to minimize risk, i.e.

moral hazard. However, MSEs often face difficulty to provide collateral. Therefore, credit guarantee should be alternative solution to compensate the absence of collateral in order to ease credit accessibility to MSEs (Boschi et al., 2010).

RESEARCH METHOD

This study focuses in analyzing moral hazard attributed to KUP debtors of MSEs. Therefore samples taken are come from those debtors population counted by four branches of Bank Jateng within Purwokerto working area, i.e. Purwokerto, Purbalingga, Banjarnegara, and Cilacap. According to NPL, Branch of Purwokerto has the highest value, i.e. 14.35 (far from the upper limit, $NPL=5$), followed by Cilacap (7.96), Banjarnegara (7.34), later Purbalingga (5.63). However, the amount of debtors who have NPL, called as NPL-debtors, show different order where the most is come from Branch of Purwokerto with 85 NPL-debtors of 692 all debtors, followed by Branch of Purbalingga with 55 NPL-debtors of 322 all debtors, Branch of Banjarnegara with 28 NPL-debtors of 431 all debtors, and then Branch of Cilacap with 18 NPL-debtors of 224 all debtors. Totally, there are 186 NPL-debtors within Purwokerto working area (as population). By proportionate random sampling technique (Azwar, 2014), samples taken are 127 debtors with details as 58 from Purwokerto, 38 from Purbalingga, 19 from Banjarnegara, and 12 from Cilacap.

Debtor's moral hazard is then explored by a set of questions arranged in questionnaire and must be supported by interview to collect comprehensive information. There are 24 questions which have been selected through several carefully procedures, i.e. a set of tests to investigates each question provided as a part of inseparable questionnaire before serving to respondents in exploring moral hazard. These are validity and reliability tests.

The questions are constructed by 5 aspects about credit regulation by Bank

Indonesia, i.e. credit compliance, financial information precision, credit documents completeness, credit contract obedience, credit fund usage compatibility. Each question must be responded by choosing 1–10 degree of agreement, using rating scale method, which is the higher the degree the higher the moral hazard. All responses then must be calculated to get total scores which explain the high of moral hazard behaviour.

After having scores of each debtor then it continues to calculate then conclude the debtor's moral hazard behaviour of each branch. Those calculations then have to be compared. It is important to understand the characteristic and behaviour of debtors within each branch.

For comparing them, it uses basic statistic measurements, i.e. average, maximum, and minimum. From these values it could be classified the highest and the lowest debtor's moral hazard behaviour among branches. Then, compare them for judgments to make proper strategies and treatments to unique debtors with different behaviour of moral hazard, individually or each branch partially.

RESULT AND DISCUSSION

Before analyzing moral hazard, it must be examined the quality of questionnaire which is then judged as fit and ready to use in exploring debtor's moral hazard behaviour. Therefore the questionnaire must be tested by validity and reliability.

Validity test attempts to make sure that all questions are fit to measure what should be measured, called valid. Because it was predetermined 5 factors exploring moral hazard then the suitable validity measurement is Confirmatory Factor Analysis (CFA). Therefore, a set of tests must be passed, i.e. Kaiser-Meyer-Olkin (KMO) and Bartlett's test, Measures of Sampling Adequacy (MSA) test, Communalities test, and Total Variance Explained (TVE) test.

First, by Kaiser-Meyer-Olkin (KMO) and Bartlett's test, it can be found that KMO values at 0.878 (more than 0.7 criterion) and Bartlett significance shows at 0,0 (less than 0.05) which means that there is no intercorrelation matrix so fit to examine factor analysis. Second, by MSA test, it can be found that all of MSA show values which are more than 0.5 so then it means the samples taken has been adequate. Third, by communalities test, it can be found that the value of each question shows at more than 0.5 which means that each question is able to explain moral hazard behaviour, partially (each question as a part) or generally (all questions as a whole). Forth, by TVE test, it can be found that totally, all factors can explain moral hazard as much as 76.449%, and partially, the contribution of each factor is shown respectively as 28.173%, 18.122%, 11.698%, 9.814%, and 8.642% (see Table 1). These percentages are high enough to explain moral hazard.

Table 1. Total Variance Explained Test

Factor	Rotation Sums of Squared		
	Total	Variance (%)	Cumulative (%)
1	6.762	28.173	28.173
2	4.349	18.122	46.295
3	2.807	11.698	57.993
4	2.355	9.814	67.807
5	2.074	8.642	76.449

Hereafter, reliability test must be passed to convince the consistency of questionnaire though used in many times. Therefore, it is used Cronbach's Alpha method. The result shows that the Cronbach's Alpha values at 0.912 (more than 0.6 criterion). From this result, the questionnaire can be judged as reliable to measure moral hazard.

Furthermore, by rating scale method total scores of all respons can be obtained and ready to be analyzed into statistical measurement. The average of total scores is 87.56 then must be categorized into moral hazard degree, i.e very low, low,

medium, high, and very high (Azwar, 2014). It can be seen in Table 2.

Table 2. Moral Hazard Degree Calculation

Category	Calculation	Degree
I	$\mu \leq 41.80$	Very low
II	$41.80 < \mu \leq 69.66$	Low
III	$69.66 < \mu \leq 97.53$	Medium
IV	$97.53 < \mu \leq 125.39$	High
V	$125.39 < \mu$	Very high

Note: the categorization is based on μ and σ and the calculation of $\mu \leq -1.5\sigma$; $-1.5\sigma < \mu \leq -0.5\sigma$; $-0.5\sigma < \mu \leq +0.5\sigma$; $0.5\sigma < \mu \leq 1.5\sigma$; and $1.5\sigma < \mu$.

By calculation that the average score of moral hazard (μ) is 87.56 and standard deviation (σ) is 27.87. Therefore, it can be concluded that moral hazard degree is categorized in medium which is closed to high. This result should be as a warning to Bank Jateng for more appropriate treatments in handling NPL-debtors.

Finally, moral hazard scores have to be classified by branch categories. There are four branches of Bank Jateng, i.e. Purwokerto, Banjarnegara, Cilacap, and Purbalingga. Table 3 shows moral hazard score of each branch in statistical measurement, i.e. maximum, minimum, and average.

Table 3. Moral Hazard Degree by Branch

Statistic	Branch of Bank Jateng			
	Purwokerto	Banjarnegara	Cilacap	Purbalingga
Max.	116	122	127	144
Min.	37	53	33	69
Average	77.28	93.95	76.83	103.45
Relative Degree	0.322	0.391	0.320	0.431
Degree	Med.	Med.	Med.	High
Rank	III	II	IV	I

The interesting result of this comparison is that Branch Purbalingga always shows the highest score in each statistic, i.e. 103.45 in average score. It means that Branch Purbalingga has the highest moral hazard degree of debtors. It can also be seen at relative score, i.e. 0,43,

meaning that 43 percent of total unpaid installments might be taken by debtors as moral hazard behavior and the rest (57 percent) is caused by other acceptable reasons (i.e. inflation, negative growth, lost, etc.).

It is also important result that Branch Purbalingga has high level of moral hazard while three others have medium one. Therefore, it needs very specific treatments by Branch Purbalingga to set strategies and approaches to their debtors. Lending Relationship might be one way that would be recommended to be applied. As suggested by de la Torre et al. (2010), Zambaldi et al. (2011) that lending relationship should be needed to build better communication between bank and debtors by improving awareness that their relationship is mutually partnership. This suggestion is also come from Uchida (2012) about the importance of constructing soft information between them with emphasizing informal approaches. Therefore, it should be important to design integrated training and practices for bank officers in order to build up their sense of psychological skills in public relationship.

However, other branches, i.e. Purwokerto, Banjarnegara, and Cilacap, should also put serious priority to handle their debtors. The reason is that medium level of moral hazard is not exactly safe even early warning to be hold for reducing or at least not jumping to higher level.

CONCLUSION

This research aims to measure and compare the level of moral hazard of micro and small enterprises' debtors of four Bank Jateng Branches within Purwokerto area on Productive Business Loan scheme. This scheme was chosen as the highest Non Performing Loan (NPL) among others. The data were collected from 127 debtors who were selected using simple random sampling technique. Rating scale method was used to measure the level of

moral hazard of debtors showed by each branches then comparing them to study how serious the repayment rate among branches. This research find that (1) generally, the degree of debtor's moral hazard tends to be medium-to-high, (2) the highest moral hazard is attributed to debtors of Branch Purbalingga followed by Banjarnegara, Purwokerto, and Cilacap.

This research suggests that (1) all branches need to pay more attentions to their debtors because of their medium-high moral hazard, (2) each branch needs to apply specific treatments to its debtors to improve debtors' installments, i.e lending relationship as one way in building soft information which emphasizes informal approaches, (3) it should be important to design integrated training and practices for bank officers in order to build up their sense of psychological skills in public relationship.

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