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THE IMPACT OF DEMOGRAPHIC AND MACROECONOMY FACTORS THE NON-PERFORMING LOAN IN PROPERTY SECTOR

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ABSTRACT

There are various types of housing loans owned by Bank X, they have a risk of non-performing loans (NPL). For keeping the NPL ratio always good, bank have to do the process of analyzing the selection of good prospective borrowers. The aim of this study was to analyze the factors that affect the Non-performing loan of Bank X include demographics and macro-economy and to analyze the development of credit property at Bank X, period 2012 until 2016. The methods used are descriptive analysis and logistic regression, with secondary data from financial statements for five years from 2012 until 2016 in Bank X Indonesia branch Surabaya. The results showed that recent education of borrower has positive and significant effects on NPL with 0.031 for P value and 5.584 for odds ratio. Based on the results it is concluded that the recent education have a significant effect on the NPL because higher a person's education, the better the job will be obtained by the debtor, so that the impact on income will be higher and is expected to make the debtor can pay the loan smoothly.

KEY WORDS

Nonperforming loan, housing loans, macro-economy, demographics.

Surabaya as the Capital of East Java Province is the second largest city in Indonesia after Jakarta with total population until 2016 reaches a total of 3,016,653 people, which is 2.5% increase from 2015. The increasing population growth, causing the need for shelter, offices, shopping centers, amusement parks, and the need for the property sector also increased. Given the growth in the property sector, the mortgages (House Ownership Credit or the so called KPR) is one alternative that is used by the community in order to have a house or property desired by repaying to a certain period and with a predetermined interest rate, (Manurung and Raisa, 2016).

KPR can be classified into two kinds, namely subsidies and non-subsidies. Subsidized mortgage is a program of the Ministry of Public Housing run by designated banks aimed at lower middle income communities, while non-subsidized KPR is aimed at the wider community. Bank X is known as the pioneer and market leader of KPR that has a main program that is a million home program. The large number of Bank X lending makes Bank X has non-performing loan (NPL) risk. According to Jiménez et al., (2013) if a bank has a high NPL level, the bank will suffer losses and even become bankrupt and the public will move to a bank that has better performance and this will likely affect the economy of the country in general.

The amount of NPLs allowed by Bank Indonesia is currently at a maximum of 5% (Riyadi, 2006). In keeping the NPL ratio to always be below the 5% level, one of the efforts that can be done by the bank is by the process of analyzing the selection of good prospective

borrowers. Based on Decree of Bank Indonesia No. 31/147 / KEP / DIR dated November 12, 1998 regarding the quality of productive assets disbursed in the form of credit can be divided into five groups, namely smooth, in special attention (DPK), substandard, doubtful, and loss. In the Decree also states that there are three classes of problem loans, ie non-performing loans, doubtful loans, and bad loans. This classification is based on its collectability. Loans with a collectability of three to five are problem loans that are avoided by banks. The amount of NPLs allowed by Bank Indonesia is currently at a maximum of 5% (Riyadi 2006). In keeping the NPL ratio to always be below the 5% level, one of the efforts that can be done by the bank is by the process of analyzing the selection of good prospective borrowers.

In general, the valuation used by banks to gain confidence in crediting is called the 5C principle analysis which consists of analysis of character, capital, capacity, collateral, and condition of economy. In addition to the 5C principle, the influence of demographic factors such as gender, age, income, recent education, employment, and macroeconomics such as inflation and interest rates have also been widely studied. One of the demographic factors is gender. In Godquin (2004), female sex debtors do not prove to be better in credit repayment performance, but other demographic factors such as age and education have a positive effect on credit payment performance. The demographic factor about marriage in Moffat (2003), decreases the likelihood of default. Job factors, age, gender also become demographic factors that affect the possibility of default.

Education level has proven to have a positive impact on payment performance. Fatollahi (2015) found that higher-educated borrowers would be more aware of the detrimental effects that are at risk if they are late in paying their credits. Anjom (2016) in his research on NPL relationship marked by changes in ROA, ROE, LDR, and CAR with macroeconomic factors such as GDP, interest rate, and inflation in banks proves that there is a positive relationship between inflation and NPL. Based on some research, it can be seen that the inflation that occurred can give effect to the unemployment causing debtor cannot pay KPR smoothly causing NPL at Bank.

One of the main branch offices of Bank X which has NPL ratio is always below the ratio of NPL of Bank X throughout Indonesia is Surabaya branch. The following data shows that for the last 3 years in a row the ratio of NPL of Bank X Indonesia is higher than that of Bank X branch Surabaya. Whereas the city of Surabaya has a high population and property growth.

Table 1 – The Comparison between NPL of Bank X Indonesia and Bank X Surabaya

Year	NPL	
	Bank X Indonesia	Bank X Surabaya
2014	2.79	1.9
2015	2.11	0.79
2016	1.85	0.46

Source: Report of the Finacial Performance of Bank X Surabaya, website of Bank X.

Based on the picture above, it can be seen that there is a difference of NPL ratio caused by factors affecting NPL in each branch of Bank X in Indonesia is different, causing the total of NPL of the Bank is high and NPL in Surabaya branch is lower. Based on the above description, the researcher is interested to analyze the influence of demographic and macroeconomic factors, to NPL on KPR customers. NPLs at the Bank should be avoided, therefore the bank should have an effort to keep the NPL ratio not above 5%. One effort that can be done is to consider the demographic factors of customers as well as macroeconomic factors. Therefore, the purpose of this research is:

- To describe the development of KPR at Bank X period 2012 – 2016;
- To test the influence of demographic factors of customers and macroeconomic factors partially and simultaneously to NPL on KPR Bank X;
- To analyze and strategize Bank X to control NPLs in the future.

LITERATURE REVIEW

Home Ownership Loan (KPR). According to Bank Indonesia, Home Ownership Loan is a credit facility provided by banks to individual customers who will purchase or repair houses. A mortgage is defined as a loan granted by a bank to a debtor to be used to buy or pay for a residential building with its land to own or occupy. The principle of KPR is to finance in advance the cost of purchasing or building a house, and funds to pay back are made by installments or installments. Mortgages can not only be done for home purchases, but can also be used to build a house on the land owned by the customer, buy a flat house, buy an apartment, or renovate the house.

Based on this understanding, it can be concluded that the mortgage is a funding facility by the bank for the ownership of a property where the funding will be repaid by the debtor by repaying the bank. To obtain a mortgage loan in the form of mortgage from a bank, the debtor must meet the requirements filed by the bank and provide collateral to the bank. There are two types of KPR, namely:

- KPR Subsidized KPR Subsidies are mortgages intended for low-income middle-income households to own homes or repair homes. Forms of subsidy given in the form of credit waivers and subsidies additional funds for the construction or repair of houses. This subsidized credit is regulated separately by the Government, so not every community applying for credit can be granted this facility. In general the limit set by the government in subsidizing is the applicant's income and the maximum credit granted.
- Non Subsidized KPR Non Subsidized KPR is a KPR that is intended for the whole community. If the provision of Subsidized KPR is governed by the government, the provision of non-subsidized KPR shall be determined by the bank, so that the determination of the credit and interest rate shall be in accordance with the policy of the bank concerned. The advantage of using a mortgage is the customer does not have to provide funds in cash to buy a home. The customer simply provides an advance and because the mortgage has a long period of time, the paid installment can be accompanied by expectations of increased income.

Non-Performing Loan (NPL). Non Performing Loan is a financial term indicating the non-payment of a credit. NPL is the ratio used to measure the management of a bank's assets to measure how far the amount of credit allegedly stalled and unpaid. The high NPL is the result of customers who cannot afford the credit. NPLs reflect credit risk, the higher the NPL, the greater the credit risk borne by the bank, (Vazquez et al., 2012). According to the Dictionary of Bank Indonesia, NPLs are problem loans and are included in substandard, doubtful and loss credits. Generally, accounts are said to be Non Performing Loan when after the third month (ninety days) the payment is not current. Based on Decree of Bank Indonesia No. 31/147 / KEP / DIR dated November 12, 1998 regarding the quality of productive assets disbursed in the form of credit can be divided into five groups, namely:

- Current, if meet the payment criteria on time in accordance with the requirements of the time set.
- In Special Attention (DPK), in case of late payment of credit up to 90 days from the due date.
- Substandard, in case of late payment of credit up to 90 days up to 180 days from the due date.
- Doubtful, in case of late payment of credit up to 180 days up to 270 days from the due date.
- Loss, in case of late payment of credit more than 270 days or not paid at all.

The Decree also states that there are three classes of problem loans, ie non-performing loans, doubtful loans, and bad loans. This classification is based on its collectability. Loans with a collectability of three to five are problem loans that are avoided by banks. This may indicate that poor bank performance in managing credit. According to Bank Indonesia Regulation (PBI) no. 15/2 / PBI / 2013 dated May 20, 2003 regarding the status

and follow-up of supervision of conventional commercial banks, stipulates that banks are deemed to have potential difficulties that endanger their business continuity, ie banks under intensive supervision if they meet one or more of the criteria, net more than 5% of total credit. The higher the NPL ratio, the level of bank liquidity to third party funds (DPK) will be lower. This is because most of the funds disbursed by banks in the form of credit are deposits of DPK. There are many factors that cause NPL that can be classified into two groups according to Dendawijaya (2009).

Internal factors of banks that provide credit, such as intentional mark ups, feasibility studies are made so that the project is very feasible, the practice of corruption, less stringent credit monitoring and so forth. The existence of these factors at least affect the level of bank health ratios such as CAR and LDR and affect the total assets owned by banks that are reflected in the ratio of bank size. Internal factors of the company (bank customers), such as mismanagement in the customer's company, financial difficulties, errors in production, errors in marketing strategy, and so forth.

External factors such as macroeconomic conditions are reflected in the level of Gross Domestic Product as well as the inflation rate, the increase of the US dollar exchange rate against the rupiah that raise the cost of products / services, government policies, and so on. Bank Indonesia Regulation (PBI) no. 7/2 / PBI / 2005 dated January 20, 2005 concerning Asset Quality Rating for Commercial Banks Article 34 (2), the debtor that is considered defaulted is a debtor who has arrear in arrears or interest for 90 days before maturity, no principal or interest payment at when due, and does not meet other requirements which allows default.

Demography. Demography comes from Greek meaning "Demos" is "the people or the population" and "Grafein" is "writing". So, demography is the writings or articles about the people or the population. Demography is the Science of population or population study to know the number, structure and development, (Lutz et al., 2003). Demographics study the number, distribution, territory and composition of the population and its changes and causes of change, which usually arise from fertility, mortality, territorial movement (migration) and social mobilization (status change), (Castles et al., 2013).

Demography explain the characteristics of a population and are grouped into the same characteristics. This means that a group of people who have the same characteristics will be grouped into a particular group. The variables included in the demographics are age, sex, income, occupation and education level, (Azziz et al., 2004). Kotler and Armstrong (2010) argue demography is the science of the human population in terms of size, density, location, age, gender, race, livelihood, and other statistics. So based on the understanding of some experts, demography is the science of the population who studies the number, distribution, territorial and factors that cause changes in these things in which also have variables according to their characteristics such as age, gender, income, occupation and education level. States that marital status, occupation, age and gender have an influence on the possibility of default, (McDonald and Kennedy, 2004).

Level of education. In the Law of the Republic of Indonesia Article 1 Number 20 Year 2003 on National Education, the definition of education is a conscious and planned effort to create an atmosphere of learning and learning process so that learners are actively developing their potential to have spiritual power, self-control, personality, intelligence, noble character, and skills needed by himself, society, nation and state. Elrangga (2016) based on regression results found that the level of education has a significant and positive effect on the number of mortgages. The level of education is the stages of education defined based on the level of development of learners, the goals to be achieved and the willingness to be developed. According Suryadarma and Jones (2013) the level of education can be distinguished on the basis of certain levels such as: 1. Initial primary education for 9 years includes SD / equal, SLTP / equal. 2. Higher education which includes diploma, bachelor, master, doctor and specialist organized by universities.

Sex. Gender is the difference between women and men biologically since a person was born. This gender difference can be easily recognized from a person's physical appearance. Unlike animals and plants, humans only recognize two sexes, male and female.

Adusei & Appiah (2011) states that research results that the evidence presented in the study supports conclusions that contradict previous research that debtors female sex is no better than the male sexist.

Age. Age According to a large Indonesian dictionary, age is defined as the length of time of existence or existence (since birth or held). The following categories of age Childhood period: 0-5 years 2) Childhood: 5-11 years 3) Early adolescence: 12-16 years 4) Late adolescence: 17-25 years 5) Adolescence age: 26-35 years 6) Elderly age: 36-45 years 7) Early Elderly: 46-55 years 8) Late age of the elderly: 56-65 years 9) The elderly: > 65 years, (Cawthon et al., 2003). Iswantoro & Anastasia (2013) that age does not have relationship with the type of funding selected.

METHODS OF RESEARCH

In this study, the primary data were obtained by interviewing credit analysts. While the secondary data to complement the primary data in writing this research, comes from panel data consisting of time series. The time series data used is annual data for five years ie the 2012-2016 mortgage customers of Bank X Surabaya branch and credit officers.

The type of data and information used in this study consists of secondary data derived from the analysis of consumer credit reports Bank X Surabaya branch. Respondents were taken from mortgage loan customers in 2012 - 2016 with 9356 customers, with the criteria of KPR mortgage customers. Descriptive analysis used in this research is used to describe or describe customers of KPR Bank X Surabaya branch. To help the analysis, researchers use Microsoft Excel 2016.

Logistic Regression Analysis. Binary regression model is a model used to determine the relationship between explanatory variables (X) with the response variable (Y) is binary. The response variable Y follows the distribution of Bernoulli with the opportunity distribution:

$$f(Y = y) = \pi^y (1-\pi)^{1-y}$$

Where: y = NPL or non NPL, and π is the probability of occurrence of y = NPL. If the response variable event (Y) is n, the probability of each occurrence is the same, and each event is independent with the other, then Y will follow the Binomial distribution. The regression model with E (Y = 1 | x) as $\pi(x)$ is:

$$\frac{\exp g(x)}{1 + \exp g(x)}$$

In the logistic regression required the logit connective function, the logit transformation as a function of $\pi(x)$ is:

$$g(x) = \ln [\pi(x) / 1 - \pi(x)] = \beta_0 + \beta_1 X_1 + \dots + \beta_p X_p$$

So in general, the equation is:

$$g(x) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_6 X_6$$

Where:

g(x) = non-performing loan;

X₁ = Age;

X₂ = Occupation;

X₃ = Sex;

X₄ = Income;

X₅ = Marital Status;

X₆ = Education Background;

X₇ = Interest Rate;

X_8 = Inflation;
 β_0 = Intercept;
 $\beta_1, \beta_2, \dots, \beta_6$ = coefficients of each variable.

RESULTS AND DISCUSSION

Demographic Description of KPR Customers in 2012 – 2016. KPR is one of the credit products from Bank X to buy a new home or second with the calculation of payment fees that must be paid by the customer every month until the debt is paid off. Here is a description or description of mortgage distribution each year, as well as demographic and macroeconomic factors related to debtors who make mortgage loans at Bank X branch Surabaya from 2012 until 2016. The overall KPR distribution in this research took place for 5 years from 2012 until 2016. Total within 5 years Bank X branch Surabaya has 9,356 debtors.

Compared to all mortgage disbursements from 2012 to 2016, 2016 is the year with the least amount of credit, while 2012 is the year with the most credit channeling. This is due to Bank Indonesia's regulation on Loan to Value (LTV). The LTV Rules are the rules governing the financing of property and the down payment for credit. Bank Indonesia issues LTV as property values in Indonesia in recent years continue to rise and it is feared to cause a property bubble.

Figure 1 – Distribution of KPR in 2012 – 2016 (Source: Bank X, 2017, processed)

Based on Age. Age is part of the demographic factor that becomes a requirement in the submission of mortgages that are inserted into the debtor's personal data. The minimum age allowed to apply for a mortgage is 21 years and above or if married. When associated with the collectability of 3 - 5 in each age group, collectability 5 has the largest number of debtors with age ranging from 21 to 30 years. Based on the above descriptive analysis this is in line with research Iswantoro & Anastasia (2013) that age does not have relationship with the type of funding selected. This is because the age does not determine the work and income of the respondent so it also does not determine the income selected by the respondents.

Table 2 – The development of KPR based on Age and Collectability

Age	Debtor		Default			Total Default
	Subsidy	Non Subsidy	Col 3	Col 4	Col 5	
<21 Years	-	-	-	-	-	-
21 - 30 Years	0,588%	0,666%	0,108%	0,108%	0,431%	0,647%
30 - 40 Years	0,231%	0,497%	0,070%	0,117%	0,257%	0,444%
40 - 50 Years	-	0,577%	0,051%	0,154%	0,256%	0,462%
>51 Years	-	0,357%	-	-	0,296%	0,296%

Source: Bank X, 2017 (processed).

Gender is not related to the large number of debtors default due to data taken, more of the debt of male sex. Many results from previous studies have shown that debtors of female sex

are better than male-sex debtors, but according to Adusei and Appiah (2011) research results that the evidence presented in the study supports conclusions that contradict previous research that debtors' female sex is no better than the male sexist.

Table 3 – The development of KPR based on Sex and Collectability

Sex	Debtor		Default			Total Default
	Subsidy	Non Subsidy	Col 3	Col 4	Col 5	
Male	0,075%	0,619%	0,087%	0,189%	0,262%	0,538%
Female	0,439%	0,395%	0,040%	0,040%	0,322%	0,403%

Source: Bank X, 2017 (processed).

In filling the data of prospective borrowers, one of the required data is education. Education basically becomes a supporter of the debtor's work and related to his financial ability. The higher a person's education, the better the job will be obtained by the debtor, so that the impact on income will be higher and is expected to make the debtor can pay the loan smoothly. If associated with collectability 3 to collectability 5 in each educational group, collectability 5 has the number of debtors with the most junior high school education. According to Elrangga (2016) based on regression results found that the level of education has a significant and positive effect on the number of mortgages. The higher the education level of a person, the higher the level of quality of human resources that will affect the job or high position, and the income earned.

Table 4 – The development of KPR based on Education Level and Collectability

Education Level	Debtor		Default			Total Default
	Subsidy	Non Subsidy	Col 3	Col 4	Col 5	
Primary High School	-	-	-	-	-	-
Junior High School	2,778%	2,521%	-	0,645%	2,581%	3,226%
Senior High School	-	-	-	-	-	-
College	0,893%	0,748%	0,160%	0,320%	0,320%	0,640%
University	0,185%	0,531%	0,087%	0,112%	0,262%	0,461%

Source: Bank X, 2017 (processed).

Employment is one of the things that counts in the process of submission of KPR because the type of job is a means for debtors to earn income / income and serve as one source of funds to pay KPR. The majority of debtors have jobs as private employees. If associated with collectability 3 to collectability 5 in each work group, collectability 5 has the largest number of debtors. The largest number of debtors included in collectability 5 is in debtors who have employment as others.

Table 5 – The development of KPR based on Education Level and Collectability

Employment	Debtor		Default			Total Default
	Subsidy	Non Subsidy	Col 3	Col 4	Col 5	
BUMN and BUMD	0,431%	0,252%	0,098%	0,098%	0,098%	0,293%
Private Employees	0,239%	0,581%	0,085%	0,119%	0,305%	0,508%
Entrepreneurs	-	0,615%	0,130%	0,130%	0,260%	0,519%
Civil Servants	-	0,626%	0,242%	0,121%	0,121%	0,484%
Others	1,010%	0,635%	0,121%	0,242%	0,362%	0,725%

Source: Bank X, 2017 (processed).

Marital status can describe whether the debtor has a dependent or not. The number of dependents owned by the debtor causes the allocation of debtors' income to be used to support the dependent. Elrangga (2016), the number of dependents have an understanding of how many children and other family members whose cost of living is the responsibility of the customer. The more the number of family dependent customers, the more the amount of expenditure. So the more family members the number of family needs that must be met also

tend to encourage customers to work in order to meet the economic needs of their families and cause allocation of income that will be used to pay the credit will also be reduced.

Table 6 – Description of Marital Status of subsidy debtor

Marital Status	Debitur		Default			Total Default
	Subsidy	Non Subsidy	Col 3	Col 4	Col 5	
Marriage	0,300%	0,543%	0,063%	0,063%	0,063%	0,190%
Single	0,170%	0,622%	0,141%	0,141%	0,141%	0,423%
Divorce	1,429%	-	-	0,483%	-	0,483%

Source: Bank X, 2017 (processed).

If connected with collectability 3 to collectability 5 in each group of marital status, debtor having marital status divorce has the highest number of debtors, it can be matter because single parents usually have much lower incomes and much higher poverty rates than their married counterparts and two incomes, even if they are low, are always better than one.

One of the internal factors that influence the debtor when applying KPR is income. Factors of income can be a picture to determine whether the debtor is able to pay off the debt or not. Because in general when the debtor has a large income every month, the better the ability of debtors to pay off mortgages. When associated with collectability 3 to collectability 5 in each income group, collectability 5 has the largest number of debtors. The largest number of debtors who are included in collectability 5 are in debtors with income of IDR 1,000,001-5-5,000,000. Distribution having the least 3 - 5 collectability is the debtor with income > IDR 25.000.001.

Table 7 – The development of KPR based on Income and Collectability

Income	Debtor		Default			Total Default
	Subsidy	Non Subsidy	Col 3	Col 4	Col 5	
<=Rp 1.000.000	-	1,099%	1,087%	-	-	1,087%
Rp 1.000.001 - Rp 5.000.000	0,308%	0,520%	-	0,109%	0,299%	0,408%
Rp 5.000.001 - Rp 10.000.000	-	0,432%	0,095%	0,119%	0,213%	0,427%
Rp 10.000.001 - Rp 25.000.000	-	0,957%	0,147%	0,221%	0,589%	0,957%
Rp 25.000.001 - Rp 50.000.000	-	-	-	-	-	-
> Rp 50.000.000	-	-	-	-	-	-

Source: Bank X, 2017 (processed).

Loan Interest rate is a policy of Bank X based on the economic conditions as well as the maximum credit size, the higher the maximum credit given, the smaller the interest rate. There is a difference in interest rates on subsidized and non-subsidized mortgages, subsidized KPR has a fixed interest rate of 5%. Customers who default on the most non-subsidized KPR are customers with interest rate of 9.75%, which is 27 borrowers with credit ranges from IDR 30,000,001 to IDR 250,000,000 and from total customers 1,988 debtors with subsidized KPR facilities, there are 6 default debtor.

Inflation may affect the ability of the debtor to return the mortgage, the higher the inflation the higher the price of goods and services in the country. When associated with collectability 3 to collectability 5 in each of the inflation groups, collectability 5 has the highest number of debtors with inflation between 4.1% -6%.

Table 8 – The development of KPR based on Income and Collectability

Inflation	Debtor		Default			Total Default
	Subsidy	Non Subsidy	Col 3	Col 4	Col 5	
Inflation <4%	0,147%	0,446%	0,049%	0,247%	0,049%	0,346%
Inflation 4.1% - 6%	0,250%	0,783%	0,115%	0,172%	0,373%	0,661%
Inflation 6.1% - 7%	-	0,448%	0,080%	0,080%	0,239%	0,399%
Inflation > 7.1%	0,794%	0,406%	0,385%	0,039%	0,039%	0,462%

Source: Bank X, 2017 (processed).

Binary Logistic Regression Results. In this study variable is also called the variable, both independent and dependent. The independent variable is also called the explanatory variable, whereas the dependent variable is called the response variable. The model shows that the explanatory variables of debtor internal factors and macroeconomic factors that have no significant effect are age, sex, occupation, income, marital status and interest rates and inflation.

Based on the above output it can be concluded that when both age, sex, occupation, income, and marital status as well as interest rates and inflation have no effect on the smoothness or non-credit payment. The explanatory variables that have a real influence from internal factors are recent education. Debtor recent education is grouped into five categories. The results showed that the coefficient value of 0 and P value of 0.031 with an odds ratio of 5.584.

From these, it can be concluded that recent education have a significant effect on the NPL because the P value smaller than 0.05. Seen from the odds ratio of 5.584, has the understanding that debtors with higher education are more mindful with risk that they may get if they not pay their loan on time.

MANAGERIAL IMPLICATIONS

Based on descriptive analysis, the number of default customers from total 9356 mortgage distribution is 47 customers or only 0.5%. So, it can be concluded that the process of analysis of prospective borrowers and management of Bank X is well assessed from the number of NPL customers but it would be better if the variable that has an influence on the risk of default or NPL at the bank that recent education can be more in the review again when the process of selecting prospective borrowers because based on this study the higher recent education, the less risk of default will be faced by the bank which is feared to degrade the financial performance of Bank X Surabaya branch that has been good.

So, the vision of Bank X Surabaya branch can be adapted by other branch so that the number of NPL customers is also low. The vision of Bank X Surabaya branch is mapping business potential, ensuring business processes, designing and managing marketing programs, managing promotional budgets, managing and controlling risks, fostering good relationships with others, developing human resources, and creating work plans and budgets.

CONCLUSION AND RECOMMENDATIONS

Both subsidized and non-subsidized KPR at Bank X Surabaya branch appear fluctuative and tend to decrease the growth from 2012 until 2016. If viewed by age, mortgage debtors of Subsidies and Non Subsidies are more between 30 to 40 years. The customer's last education of both types of KPR is also dominated by graduates from the University. Based on the type of work, the clients of both types of mortgages are mostly employed as private employees who have salary or income between Rp 5.0000.000, - up to Rp 10,000,000, - for non-subsidized KPR customers and between Rp 1,000,000, - up to Rp 5.000.000, - for subsidized KPR customers.

Based on marital status data, both types of KPR concluded that the majority of customers have marital status. Overall, customers who experienced defaults were few in number when compared to the total number of mortgage customers, both subsidized and non-subsidized. This indicates that the selection process conducted by Bank X for prospective customers who will propose a KPR is good.

Based on the results of research using logistic regression analysis, there is only one variable approaching the number of positive effect that is recent education. This is in accordance with the results of previous research that when someone has higher education, the better the job will be obtained by the debtor, so that the impact on income will be higher and is expected to make the debtor can pay the loan smoothly. The interest rate of Bank X tends to increase and causes the number of customers to be reduced, so the concern is that

although statistically the higher the interest rate will lead to a decrease in the NPL as the number of customers will also be better filtered, it would be better if Bank X did not increase the interest rate, because it can result in the decrease in the number of KPR.

Based on the results of research and conclusions, some things can be suggested for further research in order to include other variables in order to obtain a more complete result. Some of the variables that can be used are macroeconomic variables that have the possibility of affecting NPLs or variables that are quantitative that can be associated with other sciences so that it can be used in addition to the credit score used to screen prospective customers. This study does not include these variables due to the lack of data and time.

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