International Journal of Undergraduates Studies, 2(3), 4-8, 2013
ISSN: 2289-4242

FACTORS AFFECTING BANKRUPTCY: THE CASE OF MALAYSIA

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ABSTRACT

This paper intends to determine the factors affecting bankruptcy cases in Malaysia. The data ranges from 1999 to 2012 on a yearly basis consist of the independent variables such as non-performing loans, unemployment, per capita income and bankruptcy cases as dependent variable. The result shows that non-performing loan and unemployment has statistical significant relationship towards bankruptcy case in Malaysia. However, per capita income has no statistical relationship towards bankruptcy case in Malaysia. The results suggest that Malaysians fails to repay loan due to inability to settle their debt and also loss of work or being unemployed. This research is done in the context of Malaysia as single entity instead of a pool of countries or states/counties and the variables are all statistically analyzed. Also, the current research gives perspective and insight from academic point of view to assist government in their decision making as far as bankruptcy is concern.

Keywords: Bankruptcy, non-performing loans, unemployment and per capita income

INTRODUCTION

According to Malaysia Department of Insolvency, a bankrupt person is someone who has officially being declared that he unable to pay what he owes. In Malaysia, the minimum outstanding debt amount to declare as bankruptcy person is RM30,000. Issues of bankruptcy case have gained increasing attention from many parties in the past few decades, as data shows an increasing form.

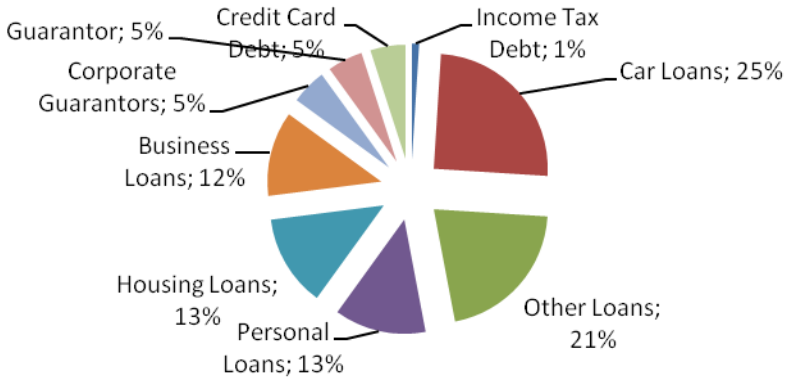

Figure 1: Causes of Bankruptcy from 2005 to 2012.
Source: Malaysia Department of Insolvency

From the article of New Straits Times dated 18 February 2013, the Finance Ministry discussed with the Department of Insolvency to resolve the problems of bankruptcy among youths aged 25 and below. The government views bankruptcy among youths as a serious problem not only it makes their life troubled, but also a loss to the country. Inability to pay car loans is the major contributor to the statistics followed by other loans and also personal loans and housing loans. This is due to fact that those youthswho just started working unable to commit for the large amount of monthly car installment. On the other hand, Malaysia Legal Resources reported that bankruptcy gives negative impacts to individuals because it involves the closing down of the business, deactivated of bank account, restriction on withdrawal of money and open up a new account or use existing account and also unable to obtain new loans. Bankruptcy also damages individual's standing in the community.

Bankruptcy is no longer a taboo to the society. Lately, it is not unusual to be declared bankrupt before 30 years old. The reckless spending and the "pressure" of having a luxurious lifestyle have been identified as among the factors that trigger this problem. On the other hand, the availability of the facilities provided by the financial institutions do not do any justice for this problem. For instance, it was announced that the incidence of bankruptcy from car loans alone was extremely high accounting for about 24% of the total 80,370 cases between 2005 and May 2010 (Malaysia Insolvency Department). Hence, this paper mainly intended to examine factors affecting bankruptcy in Malaysia namely; non-performing loans, unemployment and per capita income. The data is analysed on yearly basis throughout year 1999 to 2012. For years, many economists and researchers have serious debates on what actually lead to a rising personal bankruptcy rate. Earlier researchers used surveys and cited adverse events, such as loss of job, divorce, serious illness as the leading causes (Sullivan et al, 2000). While, by using the debt data from the banks, White (2007) found that recent studies on personal bankruptcy indicated that revolving debt, specifically credit card debt, as the primary culprit that causes rising bankruptcy rates among people in a country. He said that when the amount in the credit card was high, they faced difficulties to pay the debt due to increasing interest rates and the usage of credit card may lead people to file for bankruptcy. Meanwhile, earlier study by, Godwin (1999) concluded that the borrowers of the loan from the banking and financial institutions were having difficulties repaying their debt due to inability to pay the interest rates that increased from day to day. With the availability and loose requirement of such facilities, financial institutions should be lenient in the paying back terms. However, since this is not the case, it intrigued this research to select Non-Performing Loan (NPL) as a variable.Technically, NPL provisions were regarded as a controlling mechanism over expected loan losses and previous practices showed that provisions were triggered by default incidents on loans. Higher level of non-performing loans was associated with high rates of provisioning (Hasan and Wall, 2004). Brownbridge (1998) found that most of the bank failures were caused by non-performing loans (NPLs).

With reference to loan data from banks, Delgado and Saurina (2004) stated that a high growth of credit was associated with an increase in the non-performing loan ratio; hence this non-performing loan will lead to bankruptcy among individuals. Existing findings like Moorman (2006),pointed out that in certain countries like America, some consumers would go to the extent of abusing the country's bankruptcy protection due to financial problem. In addition, a distinction study by Gregoriou, Healy and Tsitsianis (2008) between high income with low income group in adapting to unemployment showed that low income is more prone due to the lack of social capital.In language, unemployment is the unavailability of job opportunities for able and desired people to work and it was the most serious problem that threatens the stability of nations and countries. On the other hand, Warren (2004) stated that the adverse events in the labour market, such as job loss or unemployment and pay cut will lead to the bankruptcy case in a country. He gave the opinion that the people will have insufficient income when the unemployment and pay cut occurred.Sullivan et al (2000) and Domowitz and Sartain (1999) reported that overwhelmingly large proportion of those filing for bankruptcy have recently experienced a job loss or unemployment.Previous studies by Gropp et al (1997) and White (1998) have pointed out that the bankruptcy case is affected by economic condition. Despite the fact that past studies concluded that revolving debt and loan are the culprit of personal bankruptcy (White,2007) found that adverse events do play a role in personal bankruptcy filings under the severe economic conditions. Earlier, Keeton and Morris (1987) managed to determine that local economic conditions along with the poor performance of certain sectors explain the variation in loan losses recorded by the banks.However, Garette and Ott (2005) suggested that both per capita income and unemployment have a negative relationship with personal bankruptcy filings. Their findings on Eighth District states of U.S also found that at a given point in time, lower-income individuals may be more likely to file for bankruptcy, given relatively less financial literacy and less diversification of fewer financial assets.

RESEARCH METHODOLOGY

The data were retrieved from Bank Negara Malaysia, Department of Statistics Malaysia and also Department of Insolvency Malaysia. The software used to analyze the data is Statistical Packaged for Social Science which also known as SPSS. The SPSS has the capability to perform analysis such as multiple linear regressions, coefficient of determination or R^2, F-test, T-test and also Spearman's Correlation.

Multiple Linear Regressions

Regression analysis is a powerful procedure for analyzing associative relationships between dependent variable and one or more independent variables.Multiple linear regressions are used to see whether a relationship exists and to determine whether the independent variables explain a significant variation towards the dependent variable.Besides that, it is also used in order to see the strength of the relationship and to determine the variation in the dependent variables that can be explained by the independent variables.The equation model for this research is:

$$Bnk = \alpha + B_1 NPL + B_2 UnEm + B_3 IncPC + e$$

Coefficient of Determination, R^2

R^2 is the measure of correlation and it indicates the proportion of the variance in the criterion variable which is accounted by the model. The general form for R^2 is:

Coefficient of determination = $\frac{RSS}{SST}$

Where, RSS = regression sum squares

SST = total sum of squares

The higher the coefficient of determination, the variance that the dependent variable is explained by the independent variable is better. The coefficient of determination shows the overall measure of the usefulness of a regression. The coefficient of determination represents that $0 \leq r^2 \geq 1$ and it determines the strength of the linear association between x and y.

F-Test

F-test is used for testing the significance of the regression model. By using F-test, the appropriateness of the multiple regression models as a whole can be tested. A significant F indicates a linear relationship between dependent variable and at least one of the independent variable.In F-test, the F-values are always all non-negative and the distribution is non - symmetric. The mean is approximately 1. According to the F-statistics distribution table is:

Degree of freedom for numerator = k – 1

Degree of freedom for denominator = n – k

Where,

k = number of independent variables

n = number of data

The general formula for F-test is:

$$F = \frac{(RSS_R - RSS_U) / r}{RSS_U / df_U}$$

T-Test

T-test shows whether the means of two groups are statistically different from each other. Generally, t-test is a test of significance procedures by which sample results are used to verify the truth or falsity of a null hypothesis. The main idea behind tests of significance is that from the test statistic (estimator) and the sampling distribution of statistic under the null hypothesis.The formula for t-distribution table is:

$$T = (n - k) - 1$$

The general formula for T-test is:

$$t = \frac{\beta_2 - \beta_2}{se(\beta_2)} = \frac{\text{estimator - parameter}}{\text{estimated standard error of estimator}}$$

$$= \frac{\beta_2 - \beta_2}{\delta \sqrt{\sum x_i^2}}$$

The null hypothesis, H_0 is expressed as no relationship between two variables. The alternate hypothesis, H_1 represents a statement expressing a relationship whether it is a positive or negative relationship between two variables. The decision to accept or reject H_0 is made on the basis of the value of the test statistic obtained from the data.When the value is less than 0.05, it shows significant, which means reject null hypothesis which is H_0 and accept alternative hypothesis which is H_1 and vice versa.

FINDINGS AND ANALYSIS

The results of the study are presented and discussed in this chapter. By conducting theabove-mentioned five tests, the decision to accept or reject the null hypothesis can be made. The results are tabulated in Table 1, Table 2and Table 3.

Based on the result the equation is as follows:

$$\text{Bankruptcy} = \alpha + B_1\text{NPL} + B_2\text{UnEm} + B_3\text{IncPC} + e$$

$$\text{Bankruptcy} = -2.935 - 0.368\ \text{NPL} + 1.192\ \text{UnEm} + 0.157\ \text{IncPC}$$
$$(4.013) \quad (0.146) \quad (0.386) \quad (0.141)$$

Based on the regression equation, the value of the Beta for non performing loan is -0.368. The negative sign indicates that non performing loan has a negative relationship towards bankruptcy. Whereby, another two variables indicates positive sign towards dependent variable. For the coefficient of determination (refer Table 1), the result for R^2 is 0.827. It means that 82.7% of dependent variable (bankruptcy) is explained by the independent variables (non performing loan, unemployment and per capita income). The remaining value, 17.30 % is explained by other factors that are not included in this research.

Table 1: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.931[a]	0.867	0.827	0.0916349

a. Predictors: (Constant), Income, NPL, Unemployment
b. Dependent Variable: bankruptcy

The result for F-test is significant as tabulated in Table 2 thus indicates that dependent variable (bankruptcy) is statistically affected by the independent variables (non performing loan, unemployment and per capita income).It means that null hypothesis which states that dependent variable (bankruptcy) is not affected by the independent variables is rejected. Therefore, this model can be said as significant and it can be used for forecasting method.

Table 2: Results of ANOVA[b]

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.546	3	0.182	21.677	0.000[a]
Residual	0.084	10	0.008		
Total	0.630	13			

a. Predictors: (Constant), Income, NPL, Unemployment
b. Dependent Variable: bankruptcy

For the t-distributed table (refer Table 3), the value is 2.228, therefore non performing loan and unemployment have significant relationship towards dependent variable (bankruptcy) as their computed t-statistics are higher compared to t-distributed table. For per capita income, the computed t-statis lower than t-distribution table. Therefore the result between a dependent variable and independent variable (per capita income) is not significant. Hence, null hypotheses for the first two variables are rejected while the other variableis accepted.

Table 3: Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	-2.935	4.013		-0.731	0.481		
NPL	-0.368	0.146	-0.363	-2.525	0.030	0.645	1.550
Unemployment	1.192	0.386	0.561	3.084	0.012	0.403	2.482
Income	0.157	0.141	0.234	1.118	0.290	0.304	3.291

a. Dependent Variable: bankruptcy

CONCLUSION

Bankruptcy case has become one of the major problems in Malaysia nowadays. This is because the statistics of bankruptcy is increasing from year to year. Therefore, this study is conducted in order to determine whether non-performing loan, unemployment and economic condition affect the bankruptcy cases in Malaysia.Based on the findings, both non-performing loan and unemployment have statistically significant relationship with bankruptcy. While, the unemploymentis not significant towards bankruptcy.The model for this study has a high explanatory power as it indicates that the combination of non-performing loans,unemployment and economic condition explain a high portion towards the variation of bankruptcy.Estimated results also show that there is a significant relationship between all independent variables and dependent variable. Hence this model is said to be significant and can be used for forecasting methods. The government can use this research in order to know the factors that affecting bankruptcy so that the government can take action to reduce the bankruptcy case in Malaysia. The financial institutions or banking sector must give the loans for those who only have potential to pay back the loan by enforce the financial institutions or bank law.While, for further research, it is recommended to use quarterly or monthly data and also lengthen the number of years study in the analysis.

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