



**THE DETERMINANTS OF LOAN LOSS PROVISION: STUDY IN LOCAL  
COMMERCIAL BANKS IN MALAYSIA**

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SARAWAK**

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**Submitted in Partial Fulfilment of the Requirement for the  
Bachelor of Business Administration with Honours (Finance)**

**FACULTY OF BUSINESS MANAGEMENT  
UNIERSITI TEKNOLOGI MARA  
SARAWAK**

## DECLARATION OF WORK



BACHELOR OF BUSINESS ADMINISTRATION (HONOUR) FINANCE  
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“DECLARATION OF ORIGINAL WORK”

I Siti Nadhirah Binti Zabidi, (911227-14-5990)

Hereby, declare that:

- This work has not previously been accepted in substance for any degree, locally or overseas, and is not being concurrently submitted for this degree or any other degrees.
- This project paper is the result of my independent work and investigation, except where otherwise stated.
- All verbatim extracts have been distinguished by quotation marks and sources of my information have been specifically acknowledged.

Signature: 

Date : 31/12/2016



Faculty of Business Management  
BBA (Hons) Finance  
Letter of Submission

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8 January 2015

Madam Norzaihan Hashim  
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Dear Madam

**Submission of Project Paper (Fin 668/672)**

The aforementioned matter is referred to.

Submitted herewith is a report entitled "The Determinants of Loan Loss Provision: Study in local commercial banks in Malaysia", in partial fulfillment of the requirement of the degree of BBA (Hons) Finance.

Also submitted is a soft copy of the report in fulfillment of the requirement of the Faculty of Business Management.

Thank you very much.

Yours Truly

Siti Nadhirah Binti Zabidi

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## ABSTRACT

This paper studies the determinants of loan loss provision on local commercial banks in Malaysia by using secondary panel data from Thomson one for 2005 until 2014. The sample of this study include of 8 commercial banks that listed in Bank Negara. The methodology used for this study is normality test, descriptive statistics, correlation test and multiple linear regression analysis. The variables that have been selected are total asset, total loan, earning before tax and equity ratio. The study is to investigate the factors of the determinants of loan loss provision and to determine the relationship between the determinants of loan loss provision. After running the data, it is found that total asset (TA), earning before tax (EBT) and equity ratio (ER) are significant on loan loss provision.

## **CHAPTER 1 : INTRODUCTION AND BACKGROUND OF STUDY**

### **1.1 INTRODUCTION**

Loan and advances are the biggest resources of banking institutions where lending is the principle action to create income. Foos, Norden, and Weber (2010) stated that loan represent to a necessary driver of the riskiness of banks and are the major source of credit risk. Credit risk is the potential monetary misfortune coming about because of the failure of the customer to pay back the loan and give good commitments to the bank. Thus, banking institutions and bank controller ought to manage conscientiously the lending action as poor observing in loan movement may cause bank failure.

A commercial banks use loan loss provision as a tool to manage bank's profit and capital by deduct from the bank's current profit. It is charged to the bank profit and loss statements that make reserve on statement of bank's financial position to avert losses. The loan loss provisions are the principle collection costs for banks (Rose and Hudgins, 2013). In this manner, banks have a tendency to control provision for loan loss as equipment for profit administration, capital administration, and flagging.

In addition, which those banks that are not productive in profit earning, will less their income in the event that they can increase their loan loss provisions. This will grow the probabilities that they will be examined by bank administrative regulatory and this can expand their insurance premiums also. Moreover, since an increment in loan loss provisions will lessen the reported income and result in lower administration remuneration, customers will lose their trust in those banks. As indicated by

Kanagaretnam, Yang and Lobo (2005), an increment in loan loss provision will lessen bank's reputation. In their research, banks are not willing to lose their reputation, so banks will set a high advance loan loss provision from the earliest to maintain a strategic distance from sudden increment of loan loss provision because of some reasons.

More or less, banks controlled loan loss provisions to meet their essential objective however with related expenses based on Anandarajan, Hasan and Lozano-Vivas (2005). For those banks that pointing on capital administration, they will increase loan loss provision, thereby expanding the loan loss reserve and increase the capital adequacy ratio. While for those banks that have earning administration as main objective, they are willing to set a lower loan loss provision. By setting it lower, those banks can credit out more funds to gain more profit.

The purpose of this study is to investigate the determinant of loan loss provision in commercial banks in Malaysia that owned by local. The first chapter in this research study covers the introduction of loan loss provision, then it will continued with the problem statement, research objectives, research questions, hypotheses of the study.

## 1.2 Problem statement

Loan loss provision plays an important role in determining a bank's success and failure. If a bank fails to handle loan loss provision properly it will lead to a significant loss to the bank. Based on previous research, there are rising numbers of studies that debated the manipulation of loan loss provisions for income smoothing, capital management, signaling and (Benston and Wall, 2005) and was study about loan loss provision on capital management and earnings management. Besides that, it also done outside the Malaysia. Only a few studies about loan loss provisions in Malaysian commercial banks have been done. Ismail and Lay (2002), Eng and Nabar (2007) and Angklomkiew, George and Packer (2009) studied the use of loan loss provisions in conventional banks in Malaysia. According to after review past journals, it is found that not many research about the determinants of loan loss provision in Malaysia that had been done. Thus, there is an urge to do this research in Malaysia due to fluctuation of all the bank's loan loss provisions and to determine the relationship of some factors such as the Total asset, Total loan, Earning before tax and Equity ratio with loan loss provision.

### 1.3 Significance of the study

This study adds to the existing researcher by examining the relationship between the variables and loan loss provisions in Malaysia. This study explores on how the total asset, total loan, earning before tax and equity ratio will influence the loan loss provision.

In addition, this study gives a better understanding on the particular variable that will give impacts to the bank's loan loss provision, so they can work with the particular variable to deal with the bank's loan loss provision more effectively to avoid losses. It will furnish the good financial position and pull in a great deal of financial specialists to invest or deposit their money to procure more profit. Last, this research paper gives the information to the readers of how the variables will influence banks' loan loss provision and what is the relationship between them.

### 1.4 Research Question

A research question is a statement that determines the phenomenon of the study. There have a few research questions occur in this study. The questions have been categorized into two, main research questions and four specific research questions.

- 1) What is the relationship between Total Asset and loan loss provision?
- 2) What is the relationship between equity ratio and loan loss provision?
- 3) What is the relationship between earning before tax and loan loss provision?
- 4) What is the relationship between Total Loan and loan loss provision?

## 1.5 Research Objectives

### 1.5.1 Main Objective

Commercial banks normally used loan loss provision while dealing the bank's risk exposure in their loan activities. If a bank fails to manage the risk, it will affect the bank. The main objective of this study is to investigate the determinant of loan loss provision in Malaysian commercial banks.

### 1.5.2 Specific Objectives

In this research, it is to investigate on how total asset, total loan, earning before tax and equity ratio will affect the bank's loan loss provision in Malaysia. Below is the list to show the specific objectives in this research.

- 1) To determine the relationship between Total Asset and loan loss provision.
- 2) To determine the relationship between Equity ratio and loan loss provision.
- 3) To determine the relationship between Earning before tax and loan loss provision.
- 4) To determine the relationship between Total Loan and loan loss provision.

#### 1.6 Scope of study

This research is to determine the determinants of bank loan loss provision in Malaysia for 10 years from 2005 until 2014. There have 27 commercial banks listed in Bank Negara Malaysia which is 8 commercial banks that owned by local and another 19 commercial banks that owned by foreign operated in Malaysia. 8 local commercial banks had been chosen in this research. This study will use secondary data with time series data analysis.

#### 1.7 Hypotheses of the study

A Hypothesis is an idea or statement that can be tested through study and experimentation. It explains the relationship between two or more variables. It can be proven either the hypothesis either right or wrong. This paper is to investigate the determinants of loan loss provision in Malaysia, thus the hypotheses is developed are stated below.

##### **I. Total Asset**

H0. There is no significant relationship between total asset and loan loss provision.

H1. There is a significant relationship between total asset and loan loss provision.

The total asset is another determinant that affect the loan loss provision. To determine whether the total asset has significant or not significant relationship with loan loss provision.

## **II. Total loan**

H0. There is no significant relationship between total loan and loan loss provision.

H1. There is a significant relationship between total loan and loan loss provision.

To measure whether the total loan will affect positively or negatively of the loan loss provision.

## **III. Earnings before tax**

H0. There is no significant relationship between earning before tax and loan loss provision.

H1. There is a significant relationship between earning before tax and loan loss provision.

To measure whether the earning before tax has significant or not significant relationship with the loan loss provision

## **IV. Equity ratio**

H0. There is no significant relationship between equity ratio and loan loss provision.

H1. There is a significant relationship between equity ratio and loan loss provision.

To measure whether the equity ratio has positively or negatively relationship with loan loss provision.



## CHAPTER 2 : LITERATURE REVIEW

Loan loss provisions have been generally employed by bank managers in overseeing the risk on capital and earnings. Managers can figure out about future positions and hence to control this information to manage the banks' performance later on. In banking operations, risk is accumulated during good economic times. Along these lines, a manager have to develop loan loss reserves in 'boom times' and this reserve will be drawn on in bad times to reduce credit crisis (Bushman & Williams 2007). Generally, loan loss provisions can be used by banks to overcome and oversee issues regarding losses from loan activities.

### 2.1 Loan Loss Provision in Asian Banks

After the financial crisis in the year 1997 to 1998, some of Asian banks has tightened their supervision to ensure banks has their reserve to overcome any risk and losses and some of Asian country implement International Accounting Standard ( IAS 39) at that time, Parker and Zhu ( 2012). In China, the banks set general reserve at least 1% of loans outstanding, China Banking Regulatory Commission adequate reserve levels to encourage bank to increase their ratios of total reserve. In addition, India has increase their provision level for standard loans and the reserve is for collateral for the banks. The reserve of bank India (RBI ) approach general provision based on riskiness of the certain sector and public policy. The RBI stated a higher requirement is a response to the high credit growth and high default rate. Besides that, in Malaysia, after the crisis, the Central Bank of Malaysia increases the reserve requirement. Malaysia implemented the International Accounting Standard ( IAS 39) by 2010.

Thus, there is an action to Asian Banks after the financial crisis to ensure that the banks can remain and maintain higher level of loan loss reserve.

## 2.2 Total Asset

According to Kanagaretnama, Lobo, and Yang (2005) in their research on determinants of loan loss provision signaling by banks through loan loss provisions who figured out that the propensity to signal varies negatively with the total asset and is factually significant. Thus, the hypothesis that larger banks have weaker incentives to signal than smaller banks is factually supported by the sample data.

Eng and Nabar (2007) have observed that bank size which equals to log of total assets impacts the loan loss provision and there is a significant negative relationship between total asset and loan loss provision, suggesting that high total asset make relatively small provision. Other than that, according to Anandarajan, Hasan and McCarthy (2007) larger banks with high total asset may have high level of business and it expected to have higher loan loss provision to increase activity and risk. It stated also that there has positive related between total asset and loan loss provision.

According to Kwak, Lee, and Eldridge (2009) additionally proved that it is significant and has positive related between loan loss provisions. Banks with larger total asset are more likely to report higher loan loss provision.

### 2.3 Total Loan

Based on the previous research, Kanagaretnam, Krishnan, and Lobo (2010) found that total loan of the banks is absolutely positive relationship with loan loss provision. At the point when the total loan of the bank is increase, loan loss provision will increase as well. The increase of total loans will cause to higher defaults of the loans. Consequently, banks will set high loan loss provision in order to prevent losses or bankruptcy.

Based on the result of the study of Craigwell and Elliott (2011), they found that there insignificant negatively relationship between total loan and loan loss provision. At the point when the total loan of banks increases, loan loss provision moves in inverse heading. Banks will expect that loan loss provision ought to decrease when total loans increase. Total loan to total asset describe the amount of credit risk, therefore if a bank has high loan it may provide more provision for the credit risk undertaking. As loan is increase there would be significant negative relationship then loan loss provision should decrease.

### 2.4 Earnings before tax

According to Anandarajan, Hasan, Cornelia (2006), there is positive significant relationship between earning before tax and loan loss provision. If banks use loan loss provision to manage earnings, there would expect a positive relationship between earning and loan loss provision. Furthermore, there were also has positive relationship between loan loss provision and earnings before tax according to Zhou (2007). If bank use loan loss provision to manage earnings, then would expect a positive relationship between earning and loan loss provision.

Besides that, based on previous researcher, Laeven and Majnoni (2003) show the result that there is a negative relationship between earning before tax and loan loss provision. It is different results from other researcher and shows that if the banks incurred losses or negative earnings, banks will make higher loan loss provision.

According to Anandarajan and Dinamona (2008), the relationship between earning before tax and loan loss provision shows negative significant correlated. It indicates that the banks take full advantage of the loan loss provision when their profit are low and reduce the loan loss provision when their profit is high.

In addition, based on the study of Dong, Liu and Hu (2012) proved that the relationship of earning before tax and loan loss provision is positively relationship. When bank's profit is high, bank managers plan more loan loss for keep certain reserve if profit fluctuation's going smoothly in future year, while bank's profit is low, bank plan to lessen the loan losses for profit in current year by borrowing reserve from future earnings.

## 2.5 Equity ratio

According to Yeh (2009), the equity ratio has a significant effect on bank's loan loss provision. The banks with higher equity ratio have more losses arising from defaulting loans. Base on the same researcher Yeh (2009) stated positively relationship between equity ratio and loan loss provision but insignificant. Thus, it shows a not significant relationship between equity ratio and bank's loan loss provision, when equity ratio is increases, it will cause bank's loan loss provision to decrease. In addition, according to (Lim, Yee, ee, Yean, & Han, 2013) found that there has significant relationship between total loan and loan loss provision.

## **CHAPTER 3 : RESEARCH METHODOLOGY**

Research methodology will be discussed clearly in this chapter. Research design, data collection method, sampling design, data processing and data analysis are been discussed in details and were applied the secondary data in this study. There are 80 observations from 8 commercial banks that owned by local to be analyzed using E-views program with the use of descriptive statistic and multiple linear regressions with time series data

### **3.1 Research Design**

This research paper is a quantitative research and obtains the data from secondary data. This paper includes the 10 years of data from 2005 until 2014.

### **3.2 Data collection Methods**

#### **3.2.1 Secondary data**

The annual financial reports of local commercial banks in Malaysia from 2005 until 2014 which is 10 years are used in this study. The annual data for the banks is collected from e-sources which are bank scope database and Thomson one.

The independent variable such as Total Asset, Equity ratio, Earning before Tax and Total loan are collected through the annual report of the bank.

### Sources of data of the variables

Variables	Proxy	Unit	Source of data
Total Asset	TA	Ringgit Malaysia (RM)	Annual report (Thomson one)
Total Loan	TL	Ringgit Malaysia (RM)	Annual report (Thomson one)
Earnings before Tax	EBT	Ringgit Malaysia (RM)	Annual report (Thomson one)
Equity Ratio	ER	Percentage	Annual report (Thomson one)

**Table 3. 1 - Source of data**

### 3.3 Sampling Design

#### 3.3.1 Target population

In this study, the population is the commercial banks that owned by local. There are a total of 8 commercial banks that owned by local. Therefore, the data from 8 commercial banks in Malaysia from 2005 until 2014 were obtained for this research purpose. The local commercial banks are listed below:

- 1) Affin Bank Berhad
- 2) Alliance Bank Malaysia Berhad
- 3) Ambank (M) Berhad
- 4) CIMB Bank Berhad
- 5) Hong Leong Bank Berhad

- 6) Malayan Banking Berhad (Maybank)
- 7) Public Bank Berhad
- 8) RHB Bank Berhad

### **3.3.2 Sampling Technique**

To analyze the data collected and the relationship between independent and dependent variable, the Econometrics Views Software as known as E-Views are use in this research. All the collected data will enter into Microsoft Excel and will run in the E-Views software. E-Vies software provides data analysis, regression and forecasting tools. In this study, panel data method is used to analyze the reliable data.

### **3.3.3 Sampling size**

This research study will be carried out from annual data from 2005 until 2014 and 8 local commercial banks in Malaysia. Therefore there are total of 80 observations in this research.

## **3.4 Data analysis**

This research paper involves the use of normality test, descriptive statistic, correlation test and multiple linear regressions with panel data. In this chapter, this study develops the method and test to find the relationship between independent and dependent variables. The correlation analysis will show on how to determine there has any linear relationship or correlation of dependent variable with any of independent variable.



### **3.4.1 Descriptive Statistic**

Descriptive statistics are used to explain the basic element of the data in the study. The descriptive statistics provide simple summaries about the sample and measurement. In addition, descriptive statistics are used to present quantitative description in a manageable form. In descriptive statistics it contains of mean, median, maximum, minimum, coefficient of variance and standard deviation. From the descriptive statistics to determine the lowest and highest mean, coefficient variance, standard deviation and related to the statistics gained from the analysis.

### **3.4.2 Normality Test**

Normality test is the test to determine whether error is normally distributed. The p-value of jarque-Bera test is use as normality test. If p-value is greater than 5 percent significance level, this indicates that we fail to reject the null hypothesis and can conclude that error term normally distributed. The hypotheses for this normality test are as follow:

H0: Error term is normally distributed

H1: Error term is not normally distributed

### **3.4.3 Correlation Test**

In this test the objective is to observe if there exists any correlation of the dependent variable with any of the independent variable. The test output under Eview7 provides whether there is correlation between the dependent variable with any of independent variables. The indicator here is to observe the p-value of the respective pairs of dependent and independent variable. If the p-value of is less than 5 percent significance level, the null hypothesis is rejected and thus there is correlation relationship between the two variables.

### **3.4.4 Multiple Linear Regression Model**

As earlier mentioned, this study uses multiple linear regression models with panel data. Multiple regression use to examine the significant relationship of any independent variable to dependent variables. Before run the model, all variable data need to be converted into logarithm to reduce the gap of the data between the variables. There are three tests that had been used in this study such as R squared, Adjusted R squared, significant value and Durbin Watson test.

### Economic function

Loan Loss Provision = (Total Asset, Total Loan, Earning Before Tax, Equity Ratio)

### Econometric Model

$$Y = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \mu_i$$

Where, Y is the dependent variable which is Loan loss provision,  $\beta_1$  is the coefficient measuring the change in loan loss provision for a change in macroeconomic factor,  $\mu_i$  is error term and  $X_i$  are the macroeconomics factors. In the study, the following factors are used:

X1: Total Asset

X2: Total Loan

X3: Earning Before Tax

X4: Equity Ratio

### 3.5 Theoretical Framework

A theoretical framework guides the research, determining what things that will measure, and what statistical relationships will look on the research paper. Variables consist of two which is dependent variables and independent variables.

### Dependent variable

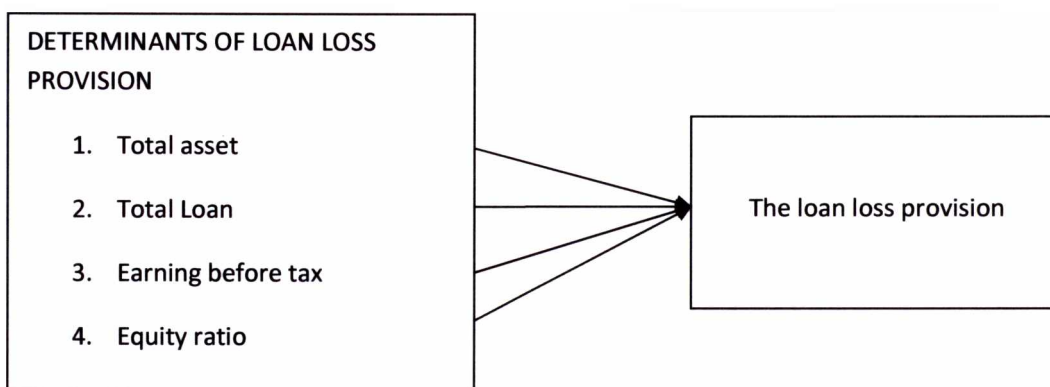
Dependent variable is important to in order to provide a measurement of the effect of the independent variables. In this study, the dependent variable is loan loss provision which is supported by independent variables.

### Independent variable

Independent variable will influence by the dependent variable and then can determined how the effect to the dependent variable. The independent variables are total asset, total loan, earning before tax and equity ratio used to determine the relationship between independent and dependent variable in order to get the final result on this research paper.

#### INDEPENDENT VARIABLE

#### DEPENDENT VARIABLE

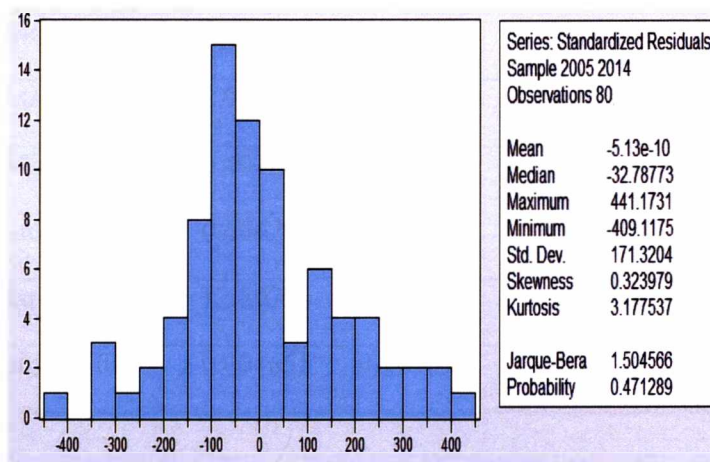


## CHAPTER 4 : DATA ANALYSIS

### 4.0 Introduction

In this chapter, it discusses the findings and analysis based on the test that had been used. It is important component for the research to shows the independent variables which are total asset, total loan, earning before tax and equity ratio would affect the bank's loan loss provision. The observation of this research is 80 observations which included the year from 2005 until 2014 with 8 samples of local commercial banks. The research using panel data and were using E-Views7 software.

### 4.1 Normality Test



**Figure 4.1- Normality Test**

Jarque- bera test is use to identify whether the error term are normally distributed or not. If the p- value of jarque-bera is greater than 5 percent significance level, so it reject the null hypothesis. The result of p-value of jarque-bera shows in the figure 4.1. From the statistics above stated the jarque-bera is at 1.504566 and the p-value is 0.471289. Since the p-value is more than 5 percent significance level, so it fails to reject null hypothesis which is the data is normally distributed.

#### 4.2 Descriptive statistic

	LLP	TA	TL	EBT	ER
Mean	2.261404	5.022690	4.799236	3.139110	0.0888609
Median	2.499279	4.977865	4.798099	3.167659	0.892733
Maximum	2.961089	5.806384	5.605858	3.959595	1.032256
Minimum	0.491362	4.333544	4.111054	2.193681	0.697752
Std.dev	0.600266	0.378954	0.385649	0.435115	0.073919
Jarque-bera	12.80774	2.663064	2.353720	2.955182	4.083163
probability	0.001655	0.264072	0.308245	0.228187	0.129823

**Table 4.1- Descriptive statistic**

Table 4.2 represents the descriptive statistic related to the loan loss provision (LLP) which indicates the loan loss provision with independent variable such as total asset, total loan, earning before tax and also equity ratio. Descriptive statistics include, mean, maximum, minimum for each variable during 2005 until 2014.

Total asset shows the highest maximum value which is 5.806384 compare to the equity ratio where the highest value can reach 1.032256 only. While the minimum value shows the lowest value is 0.491362 which is loan loss provision. The standard deviation is to measure risk, the highest value is 0.600266 which is loan loss provision shows that the loan loss provision is high risk. While the lowest risk is equity ratio shows that the value is 0.073919. For the probability shows that LLP and ER is below 10 percent which means the data collected are reliable and can be tested by next test.

### 4.3 Correlation Test

<b>Correlation T-Statistic Probability</b>	<b>LLP</b>	<b>TA</b>	<b>TL</b>	<b>EBT</b>	<b>ER</b>
LLP	1.000000 ----- -----				
TA	0.410334 3.973932 0.0002	1.000000 ----- -----			
TL	0.408114 3.948120 0.0002	0.987443 55.20423 0.0000	1.000000 ----- -----		
EBT	0.303731 2.815494 0.0062	0.958985 29.87942 0.0000	0.943784 25.21547 0.0000	1.000000 ----- -----	
ER	-0.274658 -2.522729 0.0137	-0.086574 -0.767480 0.4451	-0.073533 -0.651191 0.5168	-0.070054 -0.620228 0.5369	1.000000 ----- -----

**Table 4.2 - Correlation test**

From the table 4.2, shows that p-value of the pair (LLP, and TA) is 0.0002 which indicate that the null hypothesis is rejected at 1 percent significance level. Therefore, we can conclude that there is a positive correlation between the variable Loan Loss provision and Total Asset. In other word, loan loss provision has a linear relationship with total asset. In addition, p-value of the pair (LLP and TL) is 0.0002 which indicate the null hypothesis is rejected at 1 percent significance level. Therefore, it shows that, there is a relationship between Loan loss provision and total loan. Other than that, the p-value of pair (LLP and EBT) is 0.0062 which indicate the null hypothesis is rejected. Therefore, it can conclude that there is a positive correlation between loan loss provision and Earning before tax. For the p-value of the pair (LLP and ER) is 0.0137 which indicate that the null hypothesis is rejected at 1 percent significance



level. It concludes that there is negative correlation between loan loss provision and Equity ratio.

#### 4.4 Multiple Regression analysis

The multiple linear regression models in this research can be specified as

$$Y1 = \alpha + \beta X1 + \beta X2 + \beta X3 + \beta X4 + \mu$$

Where, Y is the dependent variable,  $\beta$  is the coefficient beta value, and X1 are independent variable which is the determinants of loan loss provision.

X1 : Total Asset (TA)

X2 : Total Loan (TL)

X3 : Earning before tax ( EBT)

X4 : Equity Ratio (ER)

Variable	Coefficient	Std.error	t-statistics	probability
Total Asset (TA)	2.113295	1.122244	1.883098	0.0636*
Total Loan (TL)	0.140661	0.943628	0.149064	0.8819
Earnings before tax (EBT)	1.485716	0.465256	3.193332	0.0021***
Equity ratio (ER)	1.851129	0.779528	2.374680	0.0201**
R-Squared	0.319831			
Adjusted R-squared	0.283555			
F-statistics	8.816685			
Prob (F-statistics)	0.000007***			
Durbin Watson test	0.870921			
Sample	2005 2014			
Periods Included	10 years			
Included observations	80			

**Note: \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%**

**Table 4.3 - Multiple regression**

In identifying independent variables, the approach is by observing the p-value and t-statistics for the coefficient of each variable. Where the p-value t-statistics is lower than 10 percent significance level the variable should be retained in the model.

According to the table above, the total loan shows the negative relationship with the loan loss provision. Meanwhile, the result also shows that total asset, earning before tax and equity ratio has positive relationship with the loan loss provision.

For total asset, shows the coefficient value is 2.113295. It indicates that the value that for one percent increases in total asset, loan loss provision will increase by 2.113295 assuming other variables remain constant. The p-value of total asset is 0.0636, which is less than 10 percent level of significance. Thus, the findings reject the null hypothesis and it can conclude that there is relationship between total asset and loan loss provision. This finding also supports by according to Kwak, Lee and Eldridge (2009) proved that is relationship between total asset and loan loss provision. Banks with larger total asset are report to higher loan loss provision.

For total loan, the coefficient value is 0.140661. this value shows that for one percent increase total loan, loan loss provision will increase by 0.140661 assuming other variable remain constant. The p-value of total loan is 0.8819 which is more than 10 percent of significance level. Therefore the findings failed to reject the null hypothesis and concluded that there has no relationship between total loan and loan loss provision. It supported by Craigwell and Elliott (2011), they found there has no

relationship between total loan and loan loss provision. As loan increase there would be significant relationship then loan loss provision should decrease.

For earning before tax, the coefficient value is 1.485716 indicates that one percent decrease earning before tax. The p-value of earning before tax is 0.0021, which is less than 1 percent significance level. The finding is rejecting the null hypothesis and concluded that there has relationship between earning before tax and loan loss provision. Proved by previous researcher, Dong, Liu and Hu (2012) there has relationship between earning before tax and loan loss provision. When bank's profit is high, banks will plan to keep more loan loss provision as reserve if profit will fluctuate in future.

The coefficient value of equity ratio is 1.851129. This value indicates that one percent increase in equity ratio. The p-value of equity ratio is 0.0201 which is less than 5 percent significance level. Thus, the result is rejecting the null hypothesis and concluded that there is relationship between equity ratio and loan loss provision.

The value of  $R^2$  shows 0.319831 which means only 31.98 percent of the loan loss provision is explained by the chosen independent variables which are total asset (TA), total loan (TL), earning before tax (EBT) and equity ratio (ER).

From the regression result that shows in the table above, adjusted  $R^2$  is 0.283555. This indicates that only 28.35 percent of loan loss provision was explained by the independent variables that affects the dependent variable.

A Durbin Watson statistic that close to 2.0 is consistent with no serial correlation. The Durbin Watson test is 1.870921 which means that is consistent with no serial correlation.

#### 4.4 Specific Hypothesis Statement

##### 4.4.1 Total Asset (TA)

The p-value of total asset is 0.0636, which is less than 10 percent significance level. Thus, this finding rejects the null hypothesis and there has relationship between total asset and loan loss provision.

H0. There is no significant relationship between total asset and loan loss provision.

**H1. There is a significant relationship between total asset and loan loss provision**

##### 4.4.2 Total Loan (TL)

The p-value of total loan is 0.8819, which is more than 10 percent significance level. This finding accept null hypothesis and there is no relationship between total loan and loan loss provision.

**H0. There is no significant relationship between total loan and loan loss provision.**

H1. There is a significant relationship between total loan and loan loss provision.

#### 4.4.3 Earning before Tax (EBT)

The p-value of earning before tax is 0.0021 which is less than 10 percent significance level. Therefore the finding rejects the null hypothesis and there is relationship between Earning before tax and loan loss provision.

H0. There is no significant relationship between earning before tax and loan loss provision.

**H1. There is a significant relationship between earning before tax and loan loss provision.**

#### 4.4.4 Equity ratio (ER)

The p-value of equity ratio (ER) is 0.0201 which is less than 10 percent significance level. Thus the finding is rejecting the null hypothesis and there is relationship between Equity ratio and loan loss provision.

H0. There is no significant relationship between equity ratio and loan loss provision.

**H1. There is a significant relationship between equity ratio and loan loss provision.**

## CHAPTER 5 : CONCLUSION AND RECOMMENDATION

In this chapter, the summary of result and discussions will be making from the previous of analysis data. Then, it will conclude the analysis based on data analysis and make some recommendations on the outcomes of result as a guideline to improve more reliable results and comprehensive study for the futures research.

### 5.1 Summary of findings

NO	RESEARCH OBJECTIVE	HYPOTHESIS	RESULT	SUPPORTED JOURNAL
1	To determine the relationship between total asset and loan loss provision	H0: There is no significant relationship between total asset and loan loss provision.  H1: There is a significant relationship between total asset and loan loss provision.	Reject H0 and Accept H1	Lim, Yee, ee, Yean, & Han, (2013) and Kwak, Lee and Eldridge (2009) revealed that there is significant relationship between total asset and loan loss provision.
2	To determine the relationship between total loan and loan loss provision.	H0: There is no significant relationship between total loan and loan loss provision.  H1: There is no significant relationship between total loan and loan loss provision.	Accept H0 and Reject H1	Kanagaretnam, Krishnan and Lobo (2010) found there has positive and significant relationship between total loan and loan loss provision, however according to Craigwell and Elliot (2011) there has negative relationship but insignificant.

3	To determine the relationship between earning before tax and loan loss provision.	<p>H0: There is no significant relationship between earning before tax and loan loss provision.</p> <p>H1: There is a significant relationship between earning before tax and loan loss provision.</p>	Reject H0 and Accept H1	Dong, Liu and Hu (2012) found that there has positive and significant relationship between earning before tax and loan loss provision.
4	To determine the relationship between equity ratio and loan loss provision.	<p>H0: There is no significant relationship between equity ratio and loan loss provision.</p> <p>H1: There is a significant relationship between equity ratio and loan loss provision.</p>	Reject H0 and Accept H1	Kok Lim et.al ( 2013) and Kwak, Lee found that there has significant relationship between equity ratio and loan loss provision.

**Tabel 5.1 - Summary of findings**

## 5.2 Discussions

The results from this study have provided important knowledge for answer the problem and hypothesis statements of this research paper. Using the basis 1 percent, 5 percent and 10 percent significance level, it can be concluded that the total asset, earning before tax and equity ratio has positive and significant relationship with the loan loss provision. However, the total loan is not significance with loan loss provision.

## 5.3 Conclusion

In the ways to support the hypothesis, it is used the multiple linear regression with panel data. The objective is to determine the factors of determining loan loss provision in commercial banks in Malaysia and to determine the relationship between the independent variable towards the bank's loan loss provision. Thus, selected independent variables of the determinants of loan loss provision is total asset, earning before tax and equity ratio are positive and significance towards the loan loss provision. The total loan has positive but insignificant towards the loan loss provision because it is not significance at 1 percent, 5 percent and 10 percent significance level.



## 5.4 Recommendation

Conducting and performing this research study have created the realization towards things and matters that need to be expand by future researchers in order to get more accurate and extensive research study.

### *5.4.1 Include more study in commercial banks*

Future researchers are advice to add more study in commercial banks included the banks that owned by the foreign instead of focus only the commercial banks that owned by local. Therefore, it can make better comparison between local and foreign banks in Malaysia.

### *5.4.2 Add more independent variables of determinants loan loss provision*

As can be seen from the study, the four selected determinants of loan loss provision only 28.35 percent were explain by the dependent variable. More variables should be considered such as gross domestic product, return on average asset and non-performing loan (Misman and Ahmad, 2011) and other variable that contribute to the factor of determinants of loan loss provision.

#### *5.4.3 Research on Islamic Banking Institution*

Future researchers are encouraged to do the study in Islamic banking institution instead of focus only on commercial banks. Thus, it will give any different in the determining factors of loan loss provision between Islamic and conventional banks in Malaysia.

#### *5.4.4 Have more comprehensive test*

Future researchers are encouraged to have more comprehensive test for consistency and reliability. Use of other test of data would be give another point of view in the research study which then could be compared with existing studies for the purpose of knowledge development. The test can that can be considered are Hausman Test, Fixed or Random Effect Test also can be used (Lim, Yee, ee, Yean, & Han, 2013)

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## APPENDICES

### 1.0 DATA OF THE STUDY

YEAR	BANK	LLP	TA	TL	EBT	ER
2005	AFFIN BANK	202.6	249.3	16.5	225.4	8.34
2006	AFFIN BANK	153.0	261.8	15.8	218.4	8.50
2007	AFFIN BANK	141.9	262.5	16.7	251.3	9.18
2008	AFFIN BANK	26.7	277.3	17.1	409.6	9.30
2009	AFFIN BANK	157.5	303.1	19.6	385.1	9.27
2010	AFFIN BANK	66.7	354.7	22.3	474.8	8.78
2011	AFFIN BANK	12.7	492.2	29.3	613.1	7.31
2012	AFFIN BANK	22.5	521.5	33.6	703.2	7.90
2013	AFFIN BANK	15.7	564.1	36.3	762.2	7.74
2014	AFFIN BANK	18.5	595.7	39.2	720.1	8.69
2005	ALLIANCE BANK	198.5	215.8	14.0	260.1	8.71
2006	ALLIANCE BANK	560.5	216.6	12.8	-243.4	8.73
2007	ALLIANCE BANK	255.9	243.9	13.5	156.2	8.20
2008	ALLIANCE BANK	18.0	258.2	13.7	480.8	9.60
2009	ALLIANCE BANK	50.9	285.8	16.9	314.1	9.32
2010	ALLIANCE BANK	10.8	269.0	17.0	253.2	10.13
2011	ALLIANCE BANK	15.9	293.9	17.4	433.8	10.22
2012	ALLIANCE BANK	3.1	296.5	24.9	679.5	9.37
2013	ALLIANCE BANK	24.8	436.0	27.7	714.3	9.11
2014	ALLIANCE BANK	13.0	481.8	31.9	748.7	8.58
2005	AMBANK	715.8	477.6	36.9	198.9	6.73
2006	AMBANK	742.5	565.4	40.5	395.4	6.26
2007	AMBANK	451.7	620.8	43.5	-523.4	4.99
2008	AMBANK	517.0	772.4	52.2	980.8	7.40
2009	AMBANK	349.2	843.0	56.9	1,011.7	5.30
2010	AMBANK	580.8	899.4	64.4	1,077.7	6.06
2011	AMBANK	228.9	813.6	55.0	967.4	6.29
2012	AMBANK	349.2	862.6	56.2	1,448.3	7.39
2013	AMBANK	580.8	874.3	56.9	1,667.2	8.05
2014	AMBANK	153.6	869.9	61.9	1,911.5	8.49

2005	CIMB	657.7	914.0	57.6	869.2	7.65
2006	CIMB	874.7	133.4	76.6	1,363.6	8.22
2007	CIMB	914.3	155.4	80.5	2,334.5	7.83
2008	CIMB	602.7	168.2	95.1	2,141.8	7.78
2009	CIMB	680.2	196.2	113.7	2,545.1	8.62
2010	CIMB	323.6	211.6	124.0	2,958.8	8.42
2011	CIMB	340.6	234.5	139.7	3,397.7	8.22
2012	CIMB	136.0	266.6	155.6	3,881.5	7.88
2013	CIMB	357.7	303.8	185.6	3,655.1	7.80
2014	CIMB	702.0	337.6	207.7	3,714.0	8.46
2005	HONGLEONG	166.1	610.8	25.7	800.7	7.64
2006	HONGLEONG	249.1	656.5	29.0	859.3	7.23
2007	HONGLEONG	161.7	771.8	32.0	985.7	6.52
2008	HONGLEONG	158.2	836.2	35.7	1,120.1	6.63
2009	HONGLEONG	155.3	864.1	35.3	1,150.2	7.19
2010	HONGLEONG	108.0	942.6	38.2	1,450.8	7.68
2011	HONGLEONG	136.5	156.8	82.1	2,422.7	5.13
2012	HONGLEONG	58.7	170.6	89.0	2,393.7	7.40
2013	HONGLEONG	37.4	180.5	90.0	2,630.0	7.97
2014	HONGLEONG	12.9	190.0	106.4	3,009.2	8.53
2005	PUBLIC BANK	455.3	134.0	64.9	1,745.5	8.06
2006	PUBLIC BANK	310.3	158.1	75.4	2,440.1	6.54
2007	PUBLIC BANK	344.5	166.9	89.7	2,850.8	5.73
2008	PUBLIC BANK	354.1	176.6	93.3	2,897.7	5.21
2009	PUBLIC BANK	394.2	186.9	107.8	2,789.2	5.40
2010	PUBLIC BANK	321.2	205.4	125.2	3,677.7	6.05
2011	PUBLIC BANK	326.8	250.5	175.8	4,877.9	6.55
2012	PUBLIC BANK	279.2	274.0	196.6	5,047.2	6.81
2013	PUBLIC BANK	351.3	305.4	219.8	5,310.0	6.93
2014	PUBLIC BANK	259.0	345.9	243.8	5,814.3	8.35

2005	MAYBANK	823.8	191.3	119.8	3,494.4	8.65
2006	MAYBANK	883.4	224.9	131.6	3,988.1	7.79
2007	MAYBANK	694.5	256.3	140.8	4,363.7	7.67
2008	MAYBANK	804.4	269.7	164.2	4,088.0	7.85
2009	MAYBANK	698.8	310.7	185.2	1,674.3	9.45
2010	MAYBANK	126.1	336.5	205.0	5,370.4	10.17
2011	MAYBANK	329.1	451.8	276.9	3,571.1	9.15
2012	MAYBANK	679.2	494.0	311.7	7,896.3	10.77
2013	MAYBANK	729.6	560.0	355.5	8,869.6	10.19
2014	MAYBANK	351.5	640.3	403.1	9,111.6	10.20
2005	RHB BANK	495.1	84.8	47.2	624.0	7.36
2006	RHB BANK	667.3	95.4	52.6	845.6	6.66
2007	RHB BANK	576.5	94.9	53.7	1,170.7	6.53
2008	RHB BANK	536.5	94.6	60.3	1,445.8	7.44
2009	RHB BANK	586.6	106.5	67.1	1,491.8	7.63
2010	RHB BANK	419.2	119.6	81.1	1,901.4	7.98
2011	RHB BANK	48.0	143.1	95.9	2,309.9	7.49
2012	RHB BANK	13.4	170.6	107.4	2,398.9	7.07
2013	RHB BANK	19.9	174.5	117.9	2,339.5	7.70
2014	RHB BANK	149.1	204.1	139.3	2,455.1	7.54