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# FINANCING GROWTH AND IMPAIRED FINANCING: A STUDY ON MALAYSIAN ISLAMIC BANKS

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# MASTER IN ISLAMIC FINANCE AND BANKING UNIVERSITI UTARA MALAYSIA MAY 2018

# FINANCING GROWTH AND IMPAIRED FINANCING: A STUDY ON MALAYSIAN ISLAMIC BANKS



Research Paper Submitted to Othman Yeop Abdullah Graduate School of Business Universiti Utara Malaysia In Partial Fulfillment of the Requirement for the Master in Islamic Finance and Banking



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#### ABSTRAK

Perbankan Islam di Malaysia telah mencatatkan pertumbuhan yang amat memberangsangkan semenjak dua dekad yang lalu. Namun begitu, tahap pertumbuhan bagi pembiayaan perbankan Islam telah mengalami kemerosotan sejak tahun kebelakangan ini disebabkan oleh beberapa faktor. Tujuan utama kajian ini adalah untuk mengkaji hubungan antara pertumbuhan pembiayaan dan pembiayaan terjejas. Selain itu, kajian ini juga dijalankan bagi mengkaji lain-lain faktor penentu kepada pertumbuhan pembiayaan seperti nisbah modal (CAP), saiz bank (SIZE), keluaran dalaman kasar (GDP), kadar inflasi (INF) dan juga kadar faedah (OPR). Ia dijalankan kerana melihat kepada kepentingan pertumbuhan pembiayaan terhadap perbankan Islam dan limitasi kajian-kajian lepas untuk menentukan dengan jelas faktor-faktor yang menyumbang kepada pembiayaan pertumbuhan bank-bank Islam di Malaysia. Data sekunder telah digunakan daripada 16 buah bank Islam di Malaysia bagi tempoh 2012 -2016 (80 pemerhatian). Kajian ini menggunakan teknik analisis seperti Statistik Deskriptif, Matriks Kolerasi, Ujian Diagnostik, Ujian Data Panel dan Analisis Regresi Pelbagai. Hasil kajian mendapati bahawa faktor-faktor luaran dan dalaman iaitu GDP, INF, IF dan CAP mempunyai kesan yang signifikan dalam mempengaruhi pertumbuhan pembiayaan bank-bank Islam di Malaysia. Manakala, SIZE dan OPR tidak mempunyai kesan yang signifikan terhadap pertumbuhan pembiayaan. Hasil kajian ini menyediakan bukti-bukti bahawa peningkatan dalam pembiayaan statistik terieias akan mengurangkan pertumbuhan pembiayaan. Oleh itu, pengkaji memberikan beberapa cadangan bagi pihak bank dan badan penyelaras agar meminimumkan tahap pembiayaan terjejas dan seterusnya membolehkan kadar pertumbuhan pembiayaan bank-bank Islam di Malaysia untuk berkembang.

Kata Kunci: Perbankan Islam, pertumbuhan pembiayaan, pembiayaan terjejas

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# ABSTRACT

Islamic banking in Malaysia has recorded tremendous development and growth in the last two decades. However, the level of financing growth of Islamic banks has experienced a declination in the recent years due to several factors. The main purpose of this research is to examine the relationship between financing growth and impaired financing particularly. At the same time, it attempts to investigate other determinants of financing growth such as capital (CAP), bank size (SIZE), gross domestic product (GDP), inflation (INF) and overnight policy rate (OPR). This is due to the importance of financing growth towards Islamic banks and lack of empirical research to distinctly establish the determinants of financing growth, especially in Malaysian Islamic banks. The secondary data was used from 16 Islamic banks in Malaysia over the 2012 - 2016 period (80 observations). This study employs Descriptive Statistics, Correlation Analysis, Diagnostic Tests, Panel Data Test and Multiple Regression Analysis as data analysis. The study reveals that external and internal factors, namely GDP, INF, IF and CAP are significantly influencing the financing growth of Malaysian Islamic banks. On the other hand, SIZE and OPR have no significant impact on the financing growth. The results provide statistical evidence that an increase in impaired financing reduces Islamic banks' financing growth. Hence, the researcher suggests several recommendations to bankers and body regulations in order to minimize the level of impaired financing and thus, enabling the expansion of financing growth level in Malaysian Islamic banks.

Keywords: Islamic banks, financing growth, impaired financing



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# LIST OF ABBREVIATIONS

AIBIM	Association of Islamic Banking Institution Malaysia
BIMB	Bank Islam Malaysia Berhad
BNM	Bank Negara Malaysia
САР	Capital
CEE	Central and Eastern Europe
EURIBOR	Euro Interbank Offer Rate
FEM	Fixed Effect Model
FGROWTH	Financing Growth
GDP	Gross Domestic Product
GLS	Generalized Least Square
IF	Impaired Financing
INF	Inflation Universiti Utara Malaysia
KFH	Kuwait Finance House
MOF	Ministry of Finance
NPL	Non-Performing Loan
OLS	Ordinary Least Squares
OPR	Overnight Policy Rate
REM	Random Effects Model
SIZE	Bank Size
VIF	Variance Inflation Factor

#### **CHAPTER ONE**

# **INTRODUCTION**

#### **1.0** Introduction

The research aims to investigate the relationship between financing growth and impaired financing as well as to examine other determinants influencing financing growth of Malaysian Islamic banks. Hence, this research will study on the determinants of Islamic banks financing growth in Malaysia. This chapter comprises of the background of the study to provide a general discussion with regards to selected topic, research problem in order to discuss on arising issue, research questions and research objectives as a guideline to this topic. Besides that, the significance of study, scope and limitation and organization of study will be covered in this chapter too.

# 1.1 Background of the Study

The history of Islamic banking in Malaysia had started from the establishment of Tabung Haji in 1963 (Mokhtar et al., 2008). Meanwhile, Bank Islam Malaysia Berhad (BIMB) which established in 1983 has been recorded as the first Islamic bank in Malaysia. According to Laldin (2008), the progress of bank was very active and rapidly growing and developing. Thereafter, Malaysia has emerged and recognized worldwide as the first country to actualize the dual banking system which Islamic banks operate side-by-side with the conventional banking system. The implementation has intrigued numerous countries to adopt the dual banking system in their respective countries (Mokhtar et al, 2008).

Islamic banks play the same function like conventional banking as a financial intermediary. Islamic banking system in Malaysia currently consists of 16 banking institutions, which offer several Islamic financial products and services. Today, Islamic

banking in Malaysia is emerging as an alternative to conventional banking and becoming one of the prominent Islamic finance players in the world that serves both Muslim and non-muslim community. Moreover, according to Global Islamic Finance Report (2016), Malaysia has successfully overtook Iran for the first time in becoming the global leader in Islamic banking and finance (IBF) industry. It was also reported that the biggest Islamic bond issuer or *Sukuk* in the world belong to Malaysia which comprising RM142.7 billion of global *Sukuk* issuance in the year 2017 (The Edge Markets, 2018). Besides, according to The Star Online (2017), Islamic financing market in Malaysia is still growing and is expected to surpass the conventional banking loan growth in near future and thus, enabling the improvement of global competitiveness.

There are various roles of the financial institution such as money lending, financial services which encompass credit extension, small and medium industries promotion, advisor of financial and investment and so on (Tang, 1999). As for commercial banks, they supply loans or deposit to the public on demand (Panagopoulos and Spiliotis, 1998). On the other hand, Islamic banks provide financing for customers and the funds gained from several sources. The main source of fund is attained from the depositors that used in investment activities such as project financing, trade financing and others. According to Mohamad (2014), this activity is recognized as credit creation with a purpose of income generation for the bank which based on *Shari'ah* rules and guidelines. According to Tahir et al. (2015), credit has a vital role in the expansion of economic and the growth of developing countries. In addition, financing is considered as the main contributor to any institution's income that acts as financial intermediary including Islamic banks. It denotes the largest asset composition compared to others (Mohamad, 2014). Hence, the growth of financing is very important for enhancing the bank's performance because if the credit needs unable to be met, the banks will confront

multiple of risks. Mohamad (2014) also added that a failure in satisfying the credit needs of the community would cause another banking institutions such as conventional banks to take over the role of Islamic banking.

Financing is different with loans in conventional banking. Loans in conventional banking contain the element of *riba* or interest that is prohibited in Islam. Md. Taib et al. (2008) stated that money is regarded as a commodity for gaining a profit through loans in conventional banking practice but in Islam, money should not be treated as a commodity for business exchange as it is contradicted to the teaching of *Al-Quran* and *As-Sunnah*. Moreover, based on the concept of financing in Islamic banking, the banks will bear the risk together with clients who accountable for the success or failure of any particular business or investment activities (Chong et al., 2009). In other words, Islamic finance encourages the concept of risk sharing rather than risk transfer as implemented by conventional banks (Hasan, 2015). A loan transaction is just a process of lending money that consists of an interest in conventional banks it is an obvious example of risk transfer concept as stated by (Mohamad, 2014; Othman et al., 2017). These are several characteristics which differentiate the concept of financing in Islamic banks and loans in conventional banks.

# **1.2 Problem Statement**

Islamic finance has shown a tremendous development year by year and the growth of Islamic banks has increased rapidly in the recent years such as in asset growth (Abduh and Idrees, 2013). As an evidence, Ernst and Young (2016) has reported in their World Islamic Banking Competitiveness Report that the growth of asset for Islamic banks is about 4% which is higher than conventional banks which has recorded to 1% only in 2014. According to Mohamad (2014), the growth rate of financing in Islamic banks

displays a good performance since the first Islamic bank was established in 1983 compared to the conventional banking. However, the consistency of performance over the years is not firm because there were some circumstances that led to unpleasant impacts on Malaysia's economy as occurred during the financial crisis in 1997-1998 and 2007-2008. Shafique et al. (2012) asserted that these crises became real obstacles towards the expansion of Islamic banks' growth. Credit risk has been detected as one of the dominant risks that seriously influences the growth of bank during the crisis (Ali and Ghauri, 2013). Moreover, Mačerinskienė et al. (2014) have mentioned that the biggest source of credit risk is the loans.

The financing growth rate of Islamic banks for the recent years show a declining trend even though it has passed from the financial crisis period, which causes a concern because financing is considered as the main contributor for any institution's income that acts as a financial intermediary including Islamic banks. The financing growth rate of some Islamic banks can be seen in Figure 1.1.

Figure 1.1: Financing Growth of Selected Islamic Banks



Source: Fitch Connect Database (2012 - 2016)

Figure 1.1 shows the trend of several Islamic banks financing growth for the recent five years. In general, the financing growth of some Islamic banks has declined. For an instance, the financing growth rate of Kuwait Finance House (KFH) has indicated a very poor performance in the year 2016, which recorded -7.44% compared to previous years which recorded 9.09%, 9.23% and 4.16 in the year 2013, 2014 and 2015 respectively.

One of the important factors which can influences the financing growth is impaired financing. In recent years, the impaired financing level of Islamic banks is declining as recorded in Bank Islam, Bank Muamalat, RHB Islamic, Cimb Islamic, Affin Islamic, Hong Leong Islamic, Public Islamic and Al-Rajhi (Fitch Connect Database). Hence, it denotes that the performance of Islamic banks in recent years is great despite declination in the growth rate of financing in Islamic banks.

This is contradicting to past studies which revealed the negative relationship between credit growth and impaired financing (Shingjergji and Hyseni, 2015; Ivanović, 2016; Miyajima, 2017; Vinh, 2017). According to Miyajima (2017), there was a negative and significant relationship between non-performing loans (NPL) with credit growth in Saudi Arabia's banks. It is a sign that an increase in NPL provision causes the resources for additional lending to be decreased and leads to deterioration of credit growth. In addition, most of the empirical findings from previous studies indicate that the declination of banks credit related to NPLs (Vinh, 2017). According to literature regarding NPLs impact on bank profitability and lending behaviour, the rise in NPLs causes a higher provision, reduction in profitability and also a deterioration in bank capital. All of these circumstances will lead to negative impact on lending (Vinh, 2017). This statement is further supported by the study from Ivanović (2016) who found the negative relationship with credit growth during the post-crisis period in Montenegro.

Apart from that, impaired financing is strongly correlated with the asset quality as well as profitability level of banks (Isa, 2014; Mat Nor and Ahmad, 2015). Impaired financing causes the profitability of the banks to decrease and in the worst case, it also leads to losses. Therefore, lower profitability tends to degenerate the level of financing growth as found in the study from Laidroo (2014) which indicates a positive relationship between profitability and financing growth in 15 CEE countries' banks.

Moreover, impaired financing or non-performing loans also have a negative impact on banks' cost efficiency. It indicates that an increase in non-performing loans causes the declination of cost efficiency (Karim et al., 2010). Hence, the performance of banks can be affected by the level of impaired financing due to the declination of cost efficiency and thus leads to deterioration of financing growth. As for the empirical gap, the studies with regard to determinants of credit or financing growth are very limited. Hence, the researchers have shown a great interest to conduct a study on this topic given the importance of financing growth towards Islamic banks and due to lack of empirical research to distinctly establish the determinants of financing growth, especially in Malaysia's Islamic banks. Moreover, Elekdag & Han (2012) affirmed that, although the study on determinants of bank credit is compelling and considered as evolving topic in the empirical literature, the determinants of credit growth seem to be complex. Thus, the researcher chooses to conduct this study for investigating the possible determinants of credit growth or financing growth in Islamic banks. The study is expected to enrich the literature regarding the topic.

# **1.3** Research Questions

The following are the key research questions, which the research aimed to answer:

1. To what extent is the level of financing growth in Malaysian Islamic banks?

2. What is the relationship between financing growth and impaired financing of Malaysian Islamic banks?

3. What are the other significant determinants influencing financing growth of Malaysian Islamic banks?

# 1.4 Research Objectives

The following are the specific purposes given of the study:

1. To evaluate the level of financing growth in Malaysian Islamic banks.

2. To investigate the relationship between financing growth and impaired financing of Malaysian Islamic banks.

3. To examine the other significant determinants influencing financing growth of Malaysian Islamic banks.

# **1.5** Significance of the Study

The study will benefit a lot in terms of literature since the study with regards to the determinants of Islamic banks financing growth in Malaysia is very limited and helps to provide significant guidelines for future researchers such as academicians and students who interested to conduct further research and enriching the knowledge that related to this topic. Hence, it can fill the practical and empirical gap in this area of study.

Besides, the study is expected to benefit the bankers and regulators through identification on factors determining financing growth of Islamic banks. Therefore, it is expected that proper actions towards the betterment of financing growth and ensuring the improvement of Islamic banks' operation in future in order to remain competitive within the market against conventional banks will be carried out. In addition, the findings of the study may help the government or the other relevant body regulations such as Central Bank (BNM), Ministry of Finance (MOF) and Association of Islamic Banking Institution Malaysia (AIBIM) to improve the existing policies by creating new policies with regard to financing restructuring in order to boost the performance of Islamic banks in Malaysia.

Lastly, this study will contribute a beneficial information to the investors and community with regards to the level of financing growth in Islamic banks which reflecting the reputation or image of Islamic banks. Thus, it is expected to change the public's perception towards Islamic banks performance and operation as a whole.

# 1.6 Scope and Limitations of the Study

This study concentrates on the determinants of financing growth in Islamic banking which based on bank specific and macroeconomic factors. This study only covers a period of 2012 until 2016 as the study period is the post-financial crisis period. Moreover, this study is limited to data derived from financial statements in annual reports for 16 local Islamic banks, the database from Fitch Connect which are related to this study, the data from World Bank as well as Bank Negara Malaysia (BNM) for macroeconomic factors. The financial statements are those which are already audited and available for public use and references.

Apart from that, there is a limitation in terms of variable selection as the study is only investigating a few variables such as impaired financing, capital, bank size, GDP, inflation and overnight policy rate. Moreover, the study is restricted in terms of literature because the study with regards to the determinants of Islamic banks financing growth in Malaysia is very limited. Therefore, the resources are limited to make as references and the reason on why the researcher had to confront some difficulties to find references in order to complete the study.

# 1.7 Organization of the Thesis

This study comprises of five chapters. The first chapter will provide an introduction to a whole picture with regards to the research such as the background of the study which generally explains the topic and arising issue as the problem statement. Some research questions and objectives also have been stated besides the significance and scope of the study. Next, the researcher will discuss on the literature review in Chapter two that explains about the variables involved as well as the hypotheses development. The methodology applied in this study will be explained further in Chapter three. As for Chapter four, the findings and its discussions will be discussed in details. Lastly, the researcher will include the conclusions and recommendations with regard to this study in Chapter five.

# 1.8 Summary

In this chapter, the researcher has discussed comprehensively regarding the background of the study which includes a brief history of Islamic banking system in Malaysia as well as their current progress and achievement in the recent years. The researcher also discussed several issues with regards to the financing growth as a problem statement of the study. Therefore, the researcher had come out with the research questions and research objectives as a guideline to solve the issues as well as to fill the research gap. Besides, the researcher also discussed on the significance of the study as well as the scope and limitations of the study at the end of this chapter.

#### **CHAPTER TWO**

#### LITERATURE REVIEW

#### 2.0 Introduction

The aim of this research is to investigate the relationship between financing growth and impaired financing. Simultaneously, it attempts to examine other determinants affecting financing growth of Malaysian Islamic banks due to the importance of financing growth towards Islamic banks as well as insufficient empirical research to distinctly establish the determinants of financing growth, especially in Malaysian Islamic banks. This chapter consists of four main sections. The first section started with a brief introduction regards to this chapter followed by an explanation of the concept of financing growth and concept of impaired financing. Next section includes the previous review of empirical studies regarding the financing growth's determinants and their relationship. Lastly, section four summarizes the whole chapter in brief.

# 2.1 Concept of Financing Growth

The financing growth is important to the Islamic banks because financing is the main contributor to generate the income for the bank as well as to expand the growth of the country's economy (Mohamad, 2014; Tahir et al. 2015). According to Foos et al. (2010), the loan growth refers to the change of percentage in total customer's financing provided by the bank in this year compared to previous year. In other words, it is an indicator for the annual changes of the bank in dispensing new financing towards its clients. Loan growth or financing growth figure is needed by regulators to measure the banks' stability (Zemel, 2018). If the credit needs are unable to be met, the banks will confront multiple of risks (Mohamad, 2014). The main risk that encountered by the banks is liquidity risk due to an inability of Islamic banks to provide the financing. Besides, Mohamad (2014) also emphasized that financing growth is very important in

contributing to the accomplishment of bank's goal by offering valid credit demand for the society who seeks the services from Islamic banks.

Furthermore, financing in Islamic banks is different with loans in conventional banks. Loans in conventional banks are interest-based which contain the element of *riba*, while the income of financing is derived from the profit gain. In Islam, we should not gain an interest but a profit. Allah has clearly prohibited *riba* by mentioning its prohibition in several verses in *Al-Quran* such as in *Surah Al-Imran* verse 130.

# يَتَأَيُّهُا ٱلَّذِينَ ءَامَنُواْ لَا تَأْكُلُوا ٱلرِّبَوَ ٱضْعَنْفَا مُّضَعَفَةً وَٱتَّقُوا ٱللَهَ لَعَلَّكُمْ تُفْلِحُونَ ٢

"Oh you who believed, do not fill yourself with riba doubled and quadrupled, be pious to Allah, that you may be successful"

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In addition, financing must comply with the *Shari'ah* rules. Any financing related to immoral activities such as drinking alcohol, casinos, pornography and production and distribution of pork is strictly prohibited. Besides that, Islamic finance encourages the concept of risk sharing rather than risk transfer as implemented by conventional banks (Hasan, 2015). Hence, the banks will bear the risk together with clients who accountable for the success or failure of any particular business or investment activities (Chong et al., 2009). According to Md. Taib et al. (2008) and Nordin and Zainuddin (2016), money should not be treated as a commodity to be traded but to use as a medium of exchange in Islamic finance practice. In other words, Islamic financing is following the principle of realism which is based on real assets.

# 2.2 Concept of Impaired Financing

According to Mokhtar and Zakaria (2009), impaired financing refers to non-payment of the financing that exceeds 90 days, which is considered as default due to inability to pay the credit obligation. In addition, The Central Bank of Malaysia (BNM, 2011) has issued the guideline regarding non-performing loans or impaired financing. In this guideline, both non-performing loans and impaired financing shared the same definition. BNM (2011) has defined impaired financing as principal or profit that is more than 90 days overdue. According to Pham (2015), this variable is used to measure the stability of banking system in terms of asset quality, which can greatly affect the domestic credit growth. Ozili (2017) stated that impaired financing indicates the quality of loan portfolio offered by the banks. Thus, it is a vital indicator to evaluate banks' asset quality and can be measured as the ratio of impaired loans to gross loans.

Impaired financing is strongly associated with the asset quality as well as profitability level of banks (Isa, 2014; Mat Nor and Ahmad, 2015). Impaired financing causes the profitability of the banks to decrease and in the worst case, it also leads to losses. Therefore, the limitation of impaired financing and its improvement contributes to the expansion of profit as well as the growth of asset for the banks (Augustine, 2017). In addition, Ahmad (2003) as cited in Mat Nor (2015) emphasized that an increment in impaired financing leads to a reduction of bank's incomes which causes the bank to provide more provision for financing loss. As a result, the net income and profit of the bank will face a declination. Therefore, the performance, profitability and the competitiveness of banks can be affected by high level of impaired financing.

Besides, inefficient in management is one of the factors influencing escalation of nonperforming loans (Berger and Deyoung, 1996). The finding from the study carried out by Haneef et al. (2012) shows that an appropriate risk management by the banks could mitigate the impact of non-performing loans and thus, improve the performance of the banks. In Islamic practice, the mankind is encouraged to mitigate the risk by having a strategic planning (Agha and Sabirzyanov, 2015). Additionally, those impaired or default customers who fail to pay the debts where they have a capability to do so are considered as those who are disobeying the principles of Islam in carrying out what they have promise which consequently increase the level of impaired financing. Allah has elaborated in *Surah Al-Baqarah*, verse 282 regarding the debt obligation to emphasize the importance of fulfilling the debts in Islam.

يتَأَيُّهَا ٱلَّذِينَ ، امنُوَّا إذا تَدَايَنتُم بِدَيْنِ إِلَى أَجَلِ مُسَحَى فَاَتَ تُبُوهُ وَلَيَكْتُ بَيْنَكُم صَاتِبُ بَالْعَدُ وَلا وَلا يَأْبَ كَاتِبُ أَن يَكُنُبُ حَمَا عَلَمَهُ ٱللَّهُ فَلَيَتَ تُبَ وَلَيُمْلِلِ ٱلَّذِى عَلَيْهِ ٱلْحَقُّ وَلَيَتَن يَبْخَسَ مِنْهُ شَيْتًا فَإِن كَانَ ٱلَّذِى عَلَيْهِ ٱلْمَةُ فَلَيَتَ تُبْ وَلَيْمُ لِل الَّذِى عَلَيْهِ الْحَقُ بَالْعُدَلِ قَوَاسْتَشْهِدُوا شَهِيدَيْ مِن رَجَالِتُ لَقَا وَضَعِيفًا أَوْ لَا يَسْتَطِعُ أَن يُمِلَ هُو فَلَيْمُلِلْ وَلِيُّهُ بَاللَّهُ مَا يَنْهُ شَيْتًا فَإِن كَانَ ٱلَّذِى عَلَيْهِ ٱلْحَقُّ سَفِيها أَوْ صَعِيفًا أَوْ لَا يَسْتَطِعُ أَن يُعلَى هُو فَلَيْمُولَ وَلِيَّهُ بَالْعُدَلِ قَوَاسْتَشْهِدُوا شَهِيدَيْ مِن رَجَالِتُهُمُ أَفْنَ لَمْ يَكُونَا وَجُلَيْنِ فَرَجُ لُنُ وَامْرَأَتَ مِعْنَ رَضَوْنَ مِنَ الشُّهُ مَدَاء أَن تَضِلَ إِحْدَلَهُ مَا فَتُنَكَّر إِحْدَلَهُمَا الْأُخْرَى قُولا يَقْولاً يَسْتَطِعُ أَن مَا مُعَنَّ وَلَيْهُ الشُّهُ مَدَاء أَن تَضِلَ إِحَدَلَهُ مَا فَتُنَكَر إِحْدَلَهُ مَا الْأُخْرَى وَلَا يَتْ مَعْذَا وَا إِيلَهُ اللَّهُ وَا مَن تَكُذُبُوهُ صَغِيرًا أَوْ كَبِيرًا إِلَى أَجَلَهِ وَالَقُولَةُ إِلَيْ اللَّهُ وَلَا يَعْدَلُوا أَنْ اللَّهُ مَاتِ وَاللَّهُ مَنْ وَكَمَا مَا مَعْتَنَهُ وَلَيْ أَعْتَ وَلَيْ مَعْ وَالَقُ تَكُوُنُ تِجَدَى اللَهُ مَنْ وَا تَصْرَ اللَهُ عَنْتَ فَي أَنَ اللَّهُ مَا عَلَيْ مَا عَلَيْهُ وَلَا اللَهُ وَا تَكُونُ وَلَا يَنْ وَا مَنْ مَا مَا مَدُوا إِنَا يَعْهُ مُوا أَنَ وَاللَهُ وَالَكُ مُوالَ أَنَ وَي فَا يَعْتَمُوا أَنَ وَلَا يَعْ وَلَا يُسَمَا وَلَا يَعْتُ مُوالَا اللَهُ وَا مَا مَا مَنْ وَا اللَهُ وَا عَا يَعْتُ مُ اللَّهُ وَا عَالَهُ مَن وَا مَا يَعْ وَالَكُنَا مُوالاً إِنَا مُولَا اللَّهُ وَا يَعْتُ مُوا أَنَ اللَهُ مُنَا مُوا أَنَهُ مَا مَنْ وَا أَنَا مَا يَعْ مَا مَنَ عَلَى مُوالَقُونُ مَا مَنْ وَلَة مُ مُوا مَا يَ مَنْ وَا مَنْ مَا مَا مُ عَائِ وَا مَنْ مُوا مَا مُ مُ وَلَكُنُ مُوا مُنْ مَا مَا مَا مَا مَا مَا مَا مَا مَا مُنَا مُوا أَنْ مَا مُوا مُوا مَا مُولَ مَا مُوا مُوا مُ والْنَا مُوا مُوا مُوا مُ وَا مُوا مُوا مَا مَا مَا مَا مَا مَا مُوا مَا مَا مَا مَا مُوا مَا مُوا مُوا مُوا مُوا مُوا مُ "O, believers! When you contract a debt for a specified term, record it in writing. Let a scribe write it down in justice between the parties, and the scribe shall not refuse to write as Allah has taught him so. So, let him write and let the one who has the obligation to order; and let him fear his Lord, Allah and do not leave anything out of it. But if the borrowers are mentally unsound and weak or unable to dictate for himself, let his guardian to dictate in justice; and bring two witnesses among you (to bear witness to all such documents), but if the two men are not available, then a man and two women of your choice should bear the witness, so if one of the women makes mistake (forgets), then the other can remind her. The witnesses should not refuse when they are called upon to do so; and do not be weary to write it, whether it is a small matter or big. That is more just in the sight of Allah because it facilitates the establishment of evidence and it is the best way to avoid all doubts among you, except when it is an immediate transaction which you carry out among yourselves, then there is no blame on you if you do not record it in writing; and take witnesses when you conclude a contract. Let no harm to be done towards scribe or witnesses; and if you do so, indeed it is (grave) disobedience in you; and fear Allah as it is Allah who teaches you and Allah is Knowing of all things."

Therefore, this verse proven that Allah has emphasized the importance to fulfill the debts as those who fail to do so will face a grave punishment by Him in the hereafter. Besides, Allah encourages the mankind to record the debts in writing (such as documents and contracts) as an evidence in order to avoid all doubts that may arose.

# 2.3 Financing Growth and Impaired Financing

There are several previous works of literature that have studied the relationship between financing or credit growth and impaired financing (Labonne and Lamé, 2014; Shingjergji and Hyseni, 2015; Ivanović, 2016; Miyajima, 2017; Vinh, 2017).

According to Shingjergji and Hyseni (2015) who analyzed the credit growth in Albanian banking system has found that the coefficient of non-performing loan (NPL) is negative and it has a significant relationship with credit growth. The result is further endorsed by the study from Ivanović (2016). The findings show that non-performing loan (NPL) has a statistically significant negative relationship with credit growth at 1% significance level during post-crisis period in Montenegro. It indicates that an increase in NPL ratio by one percent leads to a declination of credit growth by 0.48 percent.

Besides, the empirical study from Miyajima (2017) also indicates that non-performing loan (NPL) has a negative and significant relationship with credit growth at 1% significance level. Every one percent increase in NPL provision causes credit growth to decrease by 0.1-0.2 percent. It is a sign that an increase in NPL provision causes the resources for additional lending to be decreased and leads to deterioration of credit growth.

Furthermore, based on the study from Vinh (2017) in 34 Vietnamese commercial banks by using Generalized Method of Moments (GMM) technique over the period of 2005 to 2015 has found that non-performing loan (NPL) has a negative and significant relationship with the lending behaviour of Vietnamese commercial banks. Vinh (2017) stated that the rise in NPL causing a higher provision, reduction of profitability and also a deterioration in bank capital. All of these circumstances will lead to negative impact on lending. However, the study from Labonne and Lame (2014) has found that nonperforming loan (NPL) has no significant relationship with credit growth which is contradicted to the most of studies.

In summary, the relationship between impaired financing and financing growth is found to be negative according to past studies by Shingjergji and Hyseni (2015), Ivanović (2016), Miyajima (2017) and Vinh (2017). However, there was a study from Labonne and Lamé (2014) which stated that impaired financing has no significant relationship with financing growth.

#### 2.4 The Other Determinants of Financing Growth

# 2.4.1 Capital

There are a few studies which aim to examine the determinants of financing growth. Based on previous studies, one of the most common variables that could affect the financing growth is capital (Laidroo, 2014; Awdeh, 2017; Igan et al., 2017; Kim and Sohn, 2017; Vinh, 2017).

Laidroo (2014) who analyzed the determinants of lending growth in 15 CEE countries' banks during the period of 2004 until 2010 found that capital has a positive and significant relationship with credit growth. The study is in line with Igan et al. (2017) who analyzed 33 countries during 1980-2011. They found that capital has a positive coefficient and significantly associated with credit growth. It is a sign that higher capital inflows tend to boost credit growth.

Besides, the same result was found on a study conducted by Kim and Sohn (2017) in 1050 commercial banks of US, who found that capital variable has a

positive and significant relationship with loan growth. Every 1 percent increases in capital, the loan growth will be raised by 0.6 to 0.7 percent. The finding conforms to the study from Vinh (2017) who found a positive and significant relationship at 1% significance level between capital and credit growth in Vietnamese banks.

Nonetheless, Awdeh (2017) who analyzed the determinants of credit growth on 34 commercial banks in Lebanon for the period 2000-2015 has found that capital has an insignificant relationship with credit growth which is contradicted to the most of studies. This is due to the fact an increase in capital does not really affect the supply of loans.

In summary, the relationship between capital and financing growth is found to be positive according to past studies by Laidroo (2014), Igan et al. (2017), Kim and Sohn (2017) and Vinh (2017). However, there was a study from Awdeh (2017) which stated that capital has an insignificant relationship with financing growth.

#### 2.4.2 Bank Size

There are several past empirical studies that have investigated the relationship between bank size and credit growth (Aydin, 2008; Ghosh, 2010; Laidroo, 2014; Mohamad, 2014; Olszak et al., 2016; Awdeh, 2017; Kim and Sohn, 2017).

According to the study conducted by Kim and Sohn (2017) in 1050 commercial banks of US, the size of the bank is found to be negative and statistically significant with the credit growth. This could be due to the fact that small banks tend to concentrate on traditional borrowing activity and thus small banks are more willing to provide a loan rather than large banks. The result is confirmed with the studies conducted by Ghosh (2010) on India banks over the period of 1996-2008 and Laidroo (2014) who analyzed the determinants of lending growth in 15 CEE countries' banks during the period of 2004 until 2010. The bank size has found to be negative and has a significant relationship with the credit growth, indicating that larger banks tend to have a slower credit growth and smaller banks were capable to show a better credit growth due to lower base value.

In contrast, Olszak et al. (2016) who analyzed credit growth on individual banks that available in the database of Bankscope for the years 1996 until 2011 has found that size of the bank is positive and statistically significant associated with credit growth. This result implies that larger banks tend to expand more new loans compared to small banks. Every one percent increase in the size of bank leads to rising in lending activity by 5 percent. This finding is further confirmed by Awdeh (2017) who analyzed the determinants of credit growth on 34 commercial banks in Lebanon for the period 2000-2015, Mohamad (2014) who studied on financing growth of 17 Islamic banks in Malaysia for the years 1994-2010 and Aydin (2008) who investigated on credit growth in CEE countries. The bank size is found to be positive and has a significant relationship with credit growth.

As a summary, the relationship between bank size and financing growth is inconclusive. The finding from past studies shows that there is a positive and negative relationship between bank size and financing growth. Hence, bank size has added as one of the independent variables in order to be tested in this research.

# 2.4.3 GDP

There are numerous number of previous literatures that have studied the relationship between financing growth and gross domestic product (GDP) (Aydin, 2008; Samantaraya, 2009; Aisen and Franken, 2010; Laidroo, 2014; Shingjergji and Hyseni, 2015; Ivanović, 2016; Awdeh, 2017; Igan et al., 2017).

According to a study from Aisen and Franken (2010) by involving aggregate data and 14 CEE countries indicates that GDP has a positive and statistically significant relationship with credit growth during post-Lehman and Brothers bankruptcy time. Every one percent rise in GDP leads to increase in credit growth by 0.1 percent. The result is similar to the study from Laidroo (2014) who found the positive association between GDP growth and credit growth in15 CEE countries' banks during the period of 2004 until 2010.

Interestingly, Ivanović (2016) showed that GDP growth rate has a positive significant impact towards credit growth during pre-crisis period Montenegro. But, the finding was found contradict during a post-crisis period which indicated that GDP growth has no significant impact towards credit growth because credit growth only influenced by bank specific factors during this period. Samantaraya (2009) studied the relationship between real economic growth (GDP) and bank credit growth of India since the 1950s. The result reveals that GDP is positively influences the growth of bank credit and the relationship between them is

significant. One percent increase in GDP, the growth of bank credit will expand by 0.03 percent.

According to the study conducted by Awdeh (2017) on 34 commercial banks in Lebanon over the period of 2000 until 2015, the empirical finding shows that GDP has a significant and positive relationship with credit growth. The result is as expected because a rise in GDP growth indicates an enhancement of economic activities which can encourage businesses to lend so as to develop their investment's ability. The study is in line with the finding from Aydin (2008), which found that GDP growth rate has a positive coefficient and significant association with credit growth in the CEE countries.

In addition, the same result was also found on the study conducted by Shingjergji and Hyseni (2015) in the Albanian banking system. The coefficient of GDP growth is found to be positive and it has a significant relationship with credit growth. It is a sign that good economic circumstances tend to expand the level of Albanian banking system credit. Besides, based on the study from Igan et al. (2017), GDP is found to have a positive association with credit growth as higher GDP growth causes credit boom.

In summary, most of the studies indicate the positive relationship between financing growth and GDP growth.

# 2.4.4 Inflation

There are several studies that have been conducted to examine the determinants of financing growth. Another common macroeconomic factor that could influences the financing growth is inflation (Samantaraya, 2009; Guo and Stepanyan, 2011; Laidroo, 2014; Ivanović, 2016; Awdeh, 2017).

Based on the study from Laidroo (2014) in 15 CEE countries' banks during the period of 2004 until 2010, inflation indicates a positive association with credit growth. This study is in line with the study from Awdeh (2017) on 34 commercial banks in Lebanon over the period of 2000 until 2015. The empirical finding denotes that inflation has a positive and significant relationship with credit growth at 1% significance level. Awdeh (2017) explained that this could be a result of the higher rate of inflation leads to the declination of real interest rate and the cost of borrowing, which causes the credit demand to expand.

In contrast, the finding from Guo and Stepanyan (2011) indicates that inflation has a negative and significant relationship with real private credit growth in Emerging Market Economies. It is a sign that a low inflation rate tends to boost credit growth and thus further enhances the economic activities.

Besides, the study conducted by Samantaraya (2009) in India indicates that inflation is not statistically significant with credit growth despite having a negative sign. This could be due to the fact that inflation rate in India has stayed low and stable. The result conforms to the empirical finding of the study conducted by Ivanović (2016) during a pre-crisis and post-crisis period in Montenegro. It was revealed that inflation has no significant relationship with credit growth.
As a summary, the relationship between inflation and financing growth is inconclusive. The finding from past studies shows that there is a positive and negative relationship between inflation and financing growth. Hence, inflation has added as a variable in this research and to be tested on financing growth of Islamic banks in Malaysia.

# 2.4.5 Overnight Policy Rate

There are numerous past studies that have examined the relationship between financing growth and overnight policy rate (Albulescu, 2009; Radiah and Leong, 2009; Chen and Wu, 2014; Reyes et al., 2015; Awdeh, 2017).

Based on the study from Radiah and Leong (2009) in Malaysian Islamic banks, the base lending rate has a positive and significant relationship with the demand and growth of Islamic financing. This is due to the fact that an increase in the base lending rate would encourage the clients to acquire Islamic financing from Islamic banks.

On the contrary, the result from Albulescu (2009) study in Romania indicates that the Euribor interest rate has a negative and statistically significant relationship with credit growth rate. The same result was found in the study from Chen and Wu (2014) who analyzed the credit growth of domestic banks in Asia, Latin America and emerging Europe. The expansionary of monetary policy by lowering the interest rates would lead to higher credit growth. The interest rates have a significant relationship with credit growth at 1% significance level.

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These results were further supported by Reyes et al. (2015) who analyzed the loan growth in Colombia's banks. The finding also indicates that short-term interest rates have a negative impact towards the loan growth. This is due to the fact that an increase in interbank interest rate causes the deterioration of loan growth rate.

Apart from that, the study by Awdeh (2017) on 34 commercial banks in Lebanon over the period of 2000 until 2015 has found that an increase in lending rate would cause the credit growth to be declined as it causes the cost of borrowing to be higher and thus, the demand for credit is becoming lower.

In summary, the relationship between overnight policy rate and financing growth is not conclusive, which means there is a mixture of positive and negative relationship according to past studies. Therefore, overnight policy rate has added as a variable in this research in order to be tested on financing growth of Islamic banks in Malaysia.

# 2.5 Underpinning Theory

# **2.5.1** Theory of Financial Intermediation

Financial intermediation theory explains the function of financial institutions in transferring the funds from the funds' provider, depositors or investors towards customers or borrowers. In other words, financial intermediaries act as a mediator between the surplus proxy and deficit proxy (Andries, 2009). The theory was developed by Douglas W. Diamond in 1984 (Diamond, 1984).

Financial intermediaries have a vital role in the modern economy as they cover for the risk of counterparts by providing a certain product which cannot be offered by individual investors to savers (Scholtens and Wensveen, 2003). According to Allen and Santomero (1998), the risk management is one of the main roles for financial intermediaries as they act as coordinators of risk transfer in dealing with the complex operation of financial markets. Hence, they might be exposed to financial risk business while executing their role to give financing towards customers or borrowers from the money they received from the lender, depositors, fund providers or investors. In fact, the financial intermediaries such as banks have to face default risk in most cases due to inability of customers to pay the credit obligations that exceed 90 days and thus becoming impaired financing, which can affects the financing growth of the bank negatively (Shingjergji and Hyseni, 2015; Ivanović, 2016; Miyajima, 2017; Vinh, 2017).

Therefore, it is important for financial intermediaries to be productive and efficient in order to increase the level of saving and investment and enhance the efficiency in terms of financial funds allocation (Scholtens and Wensveen, 2003). This is due to well organized financial intermediaries tend to increase the financing growth positively, particularly banks.

# 2.6 Summary

In this chapter, the researcher has discussed comprehensively with regards to the literature review of the study. The researcher briefly discussed the concept of financing growth and impaired financing before explaining the relationship between them. Next, the researcher has explained thoroughly about the other determinants of financing growth and their relationship, which are capital, size, GDP, inflation and OPR. Finally, there is an explanation with regards to the underpinning theory, that is the financial intermediary theory.



#### **CHAPTER THREE**

# METHODOLOGY

# 3.0 Introduction

The purpose of this research is to study the relationship between financing growth and impaired financing. At the same time, it attempts to investigate other determinants of financing growth. This is due to the importance of financing growth towards Islamic banks and lack of empirical research to distinctly establish the determinants of financing growth, especially in Malaysian Islamic banks. The study is expected to enrich the literature regarding the topic since the study regarding the determinants of Islamic banks financing growth in Malaysia is very limited as well as to provide significant guidelines for future researchers such as academicians and students who interested to conduct further research and enriching the knowledge related to this topic. The methodology used to conduct the research is explained in this chapter in order to answer the research questions as well as to reach the research objectives of the study. The methodology applied is very important to ensure the reliability and accuracy of the findings. This chapter explains briefly on theoretical framework, hypotheses development, operational definition and measurement, research design, data collection and data analysis techniques used in this study.

# 3.1 Theoretical Framework

The theoretical framework helps the researcher to make hypotheses according to selected variables in order to extend the understanding of the related study area. Based on the review of the previous related literature, this part introduces a theoretical framework to show the relationship between financing growth and internal and external variables. The proposed framework by researcher can be shown in Figure 3.1.

# **Independent Variables**

**Dependent Variable** 

(IV)

(DV)



Figure 3.1: *Theoretical Framework* 

Figure 3.1 displays the theoretical framework which comprising of dependent and independent variables. The dependent variable of study is financing growth and the determinants of financing growth act as independent variables. The determinants of financing growth are divided into bank specific factors and macroeconomic factors. The bank specific factors are Impaired Financing, Capital and Bank Size while GDP, Inflation and Overnight Policy Rate are used by the researcher as macroeconomic

factors. These variables have either positive or negative relationship with financing growth of banks based on previous studies from following authors (Aydin, 2008; Albulescu, 2009; Radiah and Leong, 2009; Samantaraya, 2009; Aisen and Franken, 2010; Ghosh, 2010; Guo and Stepanyan, 2011; Chen and Wu, 2014; Labonne and Lamé, 2014; Laidroo, 2014; Mohamad, 2014; Shingjergji & Hyseni, 2015; Ivanović, 2016; Awdeh, 2017; Igan et al., 2017; Kim and Sohn, 2017; Miyajima, 2017; Vinh, 2017).

# **3.2** Operational Definitions and Measurements

According to Sekaran and Bougie (2010), operational is refers to the definition of an idea that can be measured by looking at the behavioral aspects, dimensions or properties indicated by the concept. Hence, the dependent and independent variables are measured in order to answer the research questions as well as to reach the research objectives. The dependent variable in this study is financing growth and there are six independent variables which are impaired financing, capital, bank size, GDP, inflation and overnight policy rate. The operational definition of each variable is elaborated in the following subsection.

# 3.2.1 Dependent Variable

#### **Financing Growth**

According to Foos et al. (2010), the loan growth refers to the change of percentage in total customer's financing provided by the bank in this year compared to previous year. In other words, it is an indicator for the annual changes of the bank in dispensing new financing towards its clients. It can be concluded that financing growth refers to the annual growth of banks in terms of financing disbursement towards its customers and it indicates the performance of the banks with regards to financing activities. Based on the

past studies, there are several determinants of financing growth and it can be divided into bank specific factors and macroeconomic factors which have either positive or negative relationship with financing growth.

#### 3.2.2 Independent Variables

# **3.2.2.1 Internal Factors**

#### **Impaired Financing**

Mokhtar and Zakaria (2009) stated that impaired financing refers to non-payment of the financing that exceeds 90 days, which is considered as default due to inability to pay the credit obligation. In addition, BNM (2011) has defined impaired financing as principal or profit that is more than 90 days overdue. It could be understood that impaired financing refers to default payment when the customers are unable to pay the credit obligation at least 90 days. According to Pham (2015), this variable is used to measure the strength of banking system. It can be measured as the ratio of impaired financing to gross financing.

Based on the previous literature review, the relationship between impaired financing and financing growth was found to be negative in most studies (Shingjergji and Hyseni, 2015; Ivanović, 2016; Miyajima, 2017; Vinh, 2017). According to Miyajima (2017), an increase in NPL provision causes the resources for additional lending to be decreased and leads to deterioration of credit growth. It can be concluded that impaired financing or bad loans causing the financing growth to be worse due to default risk. Therefore, in this study, impaired financing is expected to have a negative impact on financing growth.

# <u>Capital</u>

According to Abduh & Alias (2014), capital (CAP) is expressed as the ratio of total equity divided by the total asset that denotes the number of banks or other financial institution assets on which shareholders have a residual claim. To sum up, capital refers to the amount of money which invested by the shareholders in a company to support the further asset growth. Moreover, according to Dang (2011) as cited in Malimi (2017), capital is important to mitigate the potential losses and safeguard the debt holder of the financial institution.

Based on the previous literature review, the relationship between capital and financing growth was found to be positive in most studies (Laidroo, 2014; Igan et al., 2017; Kim and Sohn, 2017; Vinh, 2017). It can be concluded that the banks with higher capital inflows tend to boost financing growth. Hence, it is expected to have a positive impact towards financing growth in this study.

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# <u>Bank Size</u>

The definition of bank size is natural logarithm of total assets (InTA). InTA is represented as the measurement of bank size (Al-Khouri, 2012). It could be understood that bank size is the total scale of assets which owned by the banks. The previous studies found that Bank Size has either positive or negative relationship with credit growth (Aydin, 2008; Ghosh, 2010; Laidroo, 2014; Mohamad, 2014; Olszak et al., 2016; Awdeh, 2017; Kim and Sohn, 2017).

Based on the findings of study, the relationship of bank size with credit growth was negative because small banks tend to concentrate on traditional borrowing activity and thus small banks are more willing to provide a loan rather than large banks and the larger banks tend to have a slower credit growth and smaller banks were capable to show a better credit growth due to lower base value (Laidroo, 2014; Kim and Sohn 2017). In contrast, the relationship of bank size is positive with credit growth because larger banks tend to expand more new loans compared to small banks according to Olszak et al. (2016). As a conclusion, the relationship between size and financing growth is inconclusive. In this study, bank size is expected to have a positive impact on financing growth.

#### **3.2.2.2 External Factors**

# <u>GDP</u>

GDP is used as a proxy to measure the national production over a period of time in the particular country (Kira, 2013). In addition, Kira (2013) also added that GDP is defined as final goods and services of total market value which produced by the country in a given duration of time.

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Based on the previous literature review, the relationship between GDP and financing growth was found to be positive in most studies (Aydin, 2008; Samantaraya, 2009; Aisen and Franken, 2010; Laidroo, 2014; Shingjergji and Hyseni, 2015; Ivanović, 2016; Awdeh, 2017; Igan et al., 2017). It can be concluded that the banks when operating in good economic conditions and activities tend to boost the level of credit growth and thus, GDP is expected to have a positive impact towards financing growth in this study.

# **Inflation**

According to Moussa & Chedia (2016), inflation is a constant increase in general prices of goods and services in country's economy for the interval of time. It can be measured by percentage change in consumer price (Vinh, 2017). The previous studies found that inflation has either positive or negative relationship with credit growth (Samantaraya, 2009; Guo and Stepanyan, 2011; Laidroo, 2014; Ivanović, 2016; Awdeh, 2017).

Based on the findings of the study, the relationship of inflation with credit growth was positive because a higher rate of inflation leads to the declination of real interest rate and the cost of borrowing, which causes the credit demand to expand (Awdeh, 2017). On the contrary, the relationship of inflation with credit growth is negative because a low inflation rate tends to boost credit growth and further enhances the economy activities (Guo and Stepanyan, 2011). It can be concluded that the relationship between inflation and financing growth is inconclusive and in this study, it is expected to have a negative impact on financing growth.

# **Overnight Policy Rate**

Overnight Policy Rate (OPR) is an overnight interest rate determined by Bank Negara Malaysia (BNM) to indicate its monetary policy stance and perform as a target rate for the daily operations of the BNM's liquidity (Yakob et al., 2014). According to exchange rates website, OPR refers to the rate set by BNM which the borrower bank has to pay towards leading bank in exchange for the funds that have been borrowed. The previous studies found that OPR has either positive or negative relationship with credit growth (Albulescu, 2009; Radiah and Leong, 2009; Chen and Wu, 2014; Reyes et al., 2015; Awdeh, 2017).

Based on the past studies, the relationship between OPR and credit growth was negative because an increase in interest rate would cause the credit growth to be declined as it causes the cost of borrowing to be higher and thus, the demand for credit is becoming lower (Awdeh, 2017). In contrast, the relationship between OPR and credit growth can be positive too as an increase in interest rate would encourage the clients to acquire the financing (Radiah and Leong, 2009). As a conclusion, the relationship between OPR and financing growth is not conclusive and it is expected to have a negative impact on financing growth in this study. The operational definition and measurement of variables are summarized in Table 3.1.

Expected Variable/s Measurement Sources Sign Current year total financing -Financing Fitch Growth previous year total financing Connect (FGROWTH) Previous year total financing Impaired Impaired financing Fitch -Financing Connect Gross financing (IF) Equity Capital Fitch +(CAP) Total Asset Connect Natural Logarithm of Total Assets Bank Size Fitch +(SIZE) (InTA) Connect GDP per capita **Gross** Domestic World Bank +Data Product (GDP) Inflation Consumer price index World Bank \_ (INF) Data Overnight BNM Overnight Policy Rate (OPR) BNM \_ Policy Rate Monthly (OPR) Statistical Bulletin

Table 3.1:Summary on Operational Definition and Measurement of Variables

Table 3.1 shows a summary with regards to operational definition and measurement of variables of the study which includes a measurement, sources and expected sign.

# **3.3** Hypotheses Development

The purpose of this study is to examine the relationship between dependent variable (Financing Growth) and independent variables (Impaired Financing, Capital, Bank Size, GDP, Inflation and Overnight Policy Rate) that influencing financing growth of Malaysian Islamic banks. The researcher is elaborating the development of hypotheses according to the theoretical framework as displayed before. The hypotheses tested are as follows:

# 3.3.1 Internal Factors (Bank Specific)

- H<sub>01</sub>: There is no significant relationship between impaired financing and financing growth.
- H<sub>a1</sub>: There is a significant relationship between impaired financing and financing growth.
- H<sub>02</sub>: There is no significant relationship between capital and financing growth.
- H<sub>a2</sub>: There is a significant relationship between capital and financing growth.
- H<sub>03</sub>: There is no significant relationship between bank size and financing growth.
- H<sub>a3</sub>: There is a significant relationship between bank size and financing growth.

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# **3.3.2 External Factors (Macroeconomic)**

- H<sub>04</sub>: There is no significant relationship between GDP and financing growth.
- H<sub>a4</sub>: There is a significant relationship between GDP and financing growth.
- H<sub>05</sub>: There is no significant relationship between inflation and financing growth.
- H<sub>a5</sub>: There is a significant relationship between inflation and financing growth.
- H<sub>06</sub>: There is no significant relationship between OPR and financing growth.
- H<sub>a6</sub>: There is a significant relationship between OPR and financing growth.

# 3.4 Research Design

The research design section introduces and explains the data collection as well as data analysis used in this study. The data collection comprises of data sources and data collection method explanation, while data analysis discusses on techniques which are applied by the researcher to test the variables.

# **3.4.1 Data Collection**

The procedure of data collection for this study is explained in the following sections which consists of data collection method and data sources. The researcher only used secondary data because the quantitative approach is found to be more appropriate to conduct the study. Hence, there is no primary data has been applied. The data sources for analyzing the bank specific factors over the period of 2012 - 2016 are obtained from 16 Islamic banks annual reports that were already audited and the database from Fitch Connect. On the other hand, the data sources for analyzing the external factors are derived from the website of World Bank Data and Bank Negara Malaysia (BNM) over the period of 2012 - 2016. The list of Islamic banks in Malaysia can be referred to Appendix A. This period was chosen because of availability of data and the period has passed from the financial crisis period.

# 3.4.2 Data Analysis

The data analysis techniques which are applied to test the variables are discussed in this section. The researcher used STATA version 12 and SPSS 22 as data analysis software. Five analysis were carried out which are descriptive statistics, correlation analysis, diagnostic test, panel data test and multiple regression analysis.

# **3.4.2.1 Descriptive Statistics**

According to Thompson (2009), descriptive statistics are referring to the numbers that summarize the data set in order to describe what has taken place in the sample. In fact, descriptive statistics are used to explain the basic features of the data which consist of frequency distribution, mean, median, mode, range, standard deviation and variance.

#### **3.4.2.2** Correlation Analysis

The correlation matrix shows the expected correlation signs in the model. Correlation analysis is carried out to examine the relationship level among the tested variables. Hauke et al. (2011) stated that the different coefficients can measure the correlation between variables. Besides, Pallant (2010) proposed that the correlation matrix should be examined in order to check the multicollinearity presence in the model. In this study, the researcher used the Pearson correlation analysis in SPSS 22 software.

# **3.4.2.3 Diagnostic Test**

There are several assumptions that need to be made for the linear regression analysis model in order to show that the estimation technique of ordinary least squares (OLS) had a number of desired properties, and to ensure that the hypothesis tests which regard to coefficient estimates could validly be conducted (Brooks, 2008). This is known as diagnostic tests.

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#### a) Assumption 1: Multicollinearity Check

Multicollinearity test is conducted to find the multicollinearity presence among the variables. The most common method used to test multicollinearity presence is Variance Inflation Factor (VIF). The role of multicollinearity test is to examine whether the explanatory variables in the multiple regression model are highly linearly related to each other. Hair et al. (2006) stated that if the correlation coefficient is lower than 10.0, it will not lead to a serious problem of multicollinearity.

b) Assumption 2: Heteroscedasticity/ Homoscedasticity Test

Brooks (2008) suggested that homoscedasticity exist when the variance of the errors is constant. If the variance is unequal, it is said to be heteroscedasticity. The null

hypothesis of this test is homoscedasticity, while the alternative hypothesis is heteroscedasticity. The test is carried out by the researcher using the Breusch-Pagan test in STATA 12 software.

c) Assumption 3: Serial or Auto Correlation Test

This test is needed to be conducted since auto correlation biases the standard errors and causes the results to be less efficient (Opoku-Agyemang, 2015). The researcher used Wooldrige test to conduct auto correlation test since it is available in STATA software. The null hypothesis for the test is 'No First-Order Autocorellation'.

# 3.4.2.4 Panel Data Test

As general, panel data refers to data that comprise of time series observations for a number of individuals (Hsiao, 2006). Since this study is applying a panel data, an analysis must be conducted in order to determine the most fitting model for panel data. There are two panel data model that are prominently adopted. Firstly, fixed effects model (FEM) and secondly, random effects model (REM) (Gujarati and Porter, 2010). Gujarati and Porter (2010) stated that Hausman test is needed to be run in order to choose between fixed effects model (FEM) and random effects model (REM) as the more suitable model for the study. The null hypothesis is that the preferred model is random effects model, while the alternative hypothesis is fixed effects model. If the null hypothesis is rejected, it indicates that the random effects model is not suitable and it is better to use the fixed effects model and vice versa.

# 3.4.2.5 Multiple Regression Analysis

According to Pallant (2010), multiple regression analysis is a technique that can be used to investigate the relationship between dependent variable and independent variables. Hence, this test is used to verify the hypotheses of study and enables the researcher to reach the research objectives as well as to answer the research questions. The researcher chooses to run Generalized Least Square (GLS) regression for multiple regression analysis.

The regression model for this study is:

 $FGROWTH_{it} = \alpha_0 + \beta_1 GDP_{it} + \beta_2 INF_{it} + \beta_3 OPR_{it} + \beta_4 IF_{it} + \beta_5 CAP_{it} + \beta_6 SIZE_{it} + \varepsilon_{it}$ 

Where,	α	=	constant
	i	=	bank
	t	=	time period
	$\epsilon_{it}$	=	Error term of bank <i>i</i> on time <i>t</i>
	FGROWTH	=	Financing Growth
	UGDPersiti	i∔Jta	Gross domestic products
	INF	=	Inflation
	OPR	=	Overnight policy rate
	IF	=	Impaired financing
	CAP	=	Capital
	SIZE	=	Bank size

# 3.5 Summary

The researcher has discussed about theoretical framework, hypotheses development, research design, operational definition and measurement, data collection and data analysis techniques in this section. The theoretical framework consists of financing growth (FGROWTH) as a dependent variable, while there are six independent variables, which are impaired financing (IF), capital (CAP), size (SIZE), gross domestic products (GDP) inflation (INF) and overnight policy rate (OPR). Then, the hypotheses are developed based on these variables in order to answer the research questions. The data have been derived from financial statements of 16 Islamic banks which have been converted into a financial ratio, Fitch Connect database, World Bank data and Bank Negara Malaysia (BNM) over a period of 2012 – 2016. Finally, the methods suggested by the researcher are Descriptive Statistics, Correlation Analysis, Diagnostic Tests, Panel Data Test either to choose fixed effects model (FEM) or random effects model (REM) and Multiple Regression Analysis.

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#### **CHAPTER FOUR**

# **RESULTS AND DISCUSSION**

#### 4.0 Introduction

The study is carried out by the researcher to identify the relationship between impaired financing and financing growth as well as the other determinants of financing growth. This chapter further discusses the results of the analysis used which are descriptive statistics, correlation analysis, diagnostic test, panel data test and multiple regression analysis. The data collected have been analyzed using STATA 12 and SPSS 22 software. The results are displayed in the table as well as the graph along with some discussions. At the end of this chapter, the summary of the results is presented.

#### 4.1 Level of Financing Growth

Figure 4.1 shows the level of financing growth for 16 Islamic banks in average during the study period from 2012 until 2016.

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Figure 4.1:

Source: Fitch Connect Database (2012 -2016)

Figure 4.1 shows the trend of financing growth rate for 16 Islamic banks during the study period from 2012 until 2016. In general, financing growth rate for 16 Islamic banks has experienced a major declination. The level of financing growth for Islamic banks in the year 2012 and 2013 is high which stood at 18.72% and 26.02% respectively. However, the level of financing growth for Islamic banks in the year 2014, 2015 and 2016 has been declining to 12.5%, 10.71% and 7.24% sequentially.

The financing growth rate of Islamic banks in the year 2016 is the lowest compared to previous years. This may be due to the fact that financing growth rate of Islamic banks has severely affected by the declination of GDP growth rate in Malaysia at the same year. As the GDP growth rate has decreased, the financing growth rate of Islamic banks also experienced a declination (e.g. the GDP growth rate in the year 2016 has been declined to 4.22% from 6.01% in the year 2014). Besides, Malaysia also experienced a rise in the inflation rate in the year 2016 (e.g. inflation rate in the year 2016 has increased to 2.12% compared to the previous year which has recorded to 2.08%). This might be one of the factors that influence the level of financing growth.

# 4.2 **Descriptive Statistics**

Descriptive statistics are used to explain the basic features of the data which consist of frequency distribution, mean, median, mode, range, standard deviation, variance and more (Thompson, 2009). The main purpose of descriptive statistics is to summarize the data set in order to describe what has taken place in the sample rather than used to test the hypotheses of the study. Table 4.2 shows the descriptive statistics of all the variables for Malaysian Islamic banks.

Variables	Mean	Median	Max	Min	Std. Dev.	Ν
FGROWTH	15.652	11.995	154.740	-31.280	21.206	80
IF	2.082	1.440	15.630	0.330	2.378	80
CAP	8.523	7.110	20.250	0.520	3.986	80
SIZE	7.462	7.340	9.460	6.810	0.621	80
InGDP	4.016	4.033	4.049	3.978	0.029	80
InINF	0.338	0.320	0.500	0.220	0.091	80
InOPR	0.491	0.477	0.512	0.477	0.017	80

Table 4.1: *Descriptive Statistics* 

Source: Author's Calculation

Table 4.1 shows the descriptive statistics of all variables that were used in this study, which are financing growth, impaired financing, capital, size, GDP and inflation. The result shows that the mean value of financing growth is 15.651. This denotes that some Islamic banks in Malaysia experienced high financing growth of 15.651% during the period of study from 2012 to 2016. The standard deviation of 21.206 also indicates that financing growth in Malaysian Islamic banks varied highly between individual banks. The maximum value of financing growth is 154.740 while the minimum value is - 31.280. The minimum value of financing growth might reach to a negative point due to the fact that GDP growth rate of Malaysia has experienced a declination (e.g. the GDP growth rate in the year 2016 has been declined to 4.22% from 6.01% in the year 2014).

Among the independent variables, the mean value of impaired financing is 2.082 which indicate that Malaysian Islamic banks experienced a relatively high of impaired financing level during the study period with a standard deviation of 2.378. The maximum and minimum values of impaired financing are 15.630 and 0.330 respectively. As for capital, its mean value is 8.523 which show a high level of capital in Islamic banks of Malaysia during the period of study with a standard deviation of 3.986. The maximum value and minimum value for capital are 20.25 and 0.520 respectively. Meanwhile, the mean value of bank size is 7.462 which denote a high level

of bank size during the study period with a standard deviation of 0621. The maximum value and minimum value for bank size are 9.460 and 6.810 respectively.

As for macroeconomic factors, the mean value of GDP is 4.016 which indicate that GDP for Malaysia during the period of study was at a stable growth of 4.01% with a standard deviation of 0.029. The maximum value of GDP is 4.049 while its minimum value is 3.978. On the other hand, the mean value for inflation is 0.338 which show the inflation rate during the study period is low at 0.33% with a standard deviation of 0.091. The maximum value and minimum value for inflation are 0.500 and 0.220 respectively. Finally, the mean value of OPR is 0.491 which denotes that the level of OPR during the study period is low at 0.49% with a standard deviation of 0.017. OPR has recorded 0.512 and 0.477 for the maximum value and minimum value and minimum value respectively.

# 4.3 Correlation Analysis

Correlation analysis is carried out to examine the relationship level among the tested variables and to show the expected correlation signs in the model. Hauke et al. (2011) stated that the different coefficients can measure the correlation between variables. Besides, Pallant (2010) proposed that the correlation matrix should be examined in order to check the multicollinearity presence in the model. The correlation matrix of Malaysian Islamic banks is shown as follows in Table 4.2.

Correlation Matrix							
	FGROWTH	IF	CAP	SIZE	InGDP	InINF	InOPR
FGROWTH	1						
IF	-0.209	1					
САР	-0.226*	0.585**	1				
SIZE	0.044	-0.069	0.280*	1			
InGDP	0.202	0.017	-0.056	-0.064	1		
InINF	-0.116	-0.120	0.005	0.037	0.291**	1	
InOPR	-0.127	-0.128	0.002	0.035	0.012	0.650**	1

Table 4.2:

\*Correlation is significant at the 0.05 level (2 tailed).

\*\*Correlation is significant at the 0.01 level (2 tailed).

Source: Conducted by the researcher using SPSS 22 (refer Appendix B)

Table 4.2 indicates the correlation analysis between all variables in this study. Impaired financing ratio is negatively correlated with financing growth at -0.209, which indicates that an increase in impaired financing leads to the declination of financing growth. The capital ratio also shows a negative correlation with financing growth at -0.226. This indicates when capital ratio increases, financing growth will decrease. On the other hand, bank size is positively and significantly correlated with financing growth at 0.044. This shows that an increase in size, financing growth will also increase. This is similar to the relationship between GDP and financing growth which is positively correlated at 0.202. Inflation shows a negative correlation with financing growth at -0.116, which denotes that an increase in inflation rate, financing growth will decline. OPR is found to be negatively correlated with financing growth at -0.127. This shows when OPR increases, financing growth will decrease.

Apart from that, there are also significant correlations among the independent variables. Capital and financing growth has a negative and significant correlation towards each other at 5 percent level. On the other hand, capital shows a positive and significant correlation with impaired financing at 1 percent level. Besides, size indicates a positive and significant correlation with capital at 5 percent level. Inflation is positively and

significantly correlated with GDP at 1 percent level and lastly, OPR denotes a positive and significant correlation with inflation at 1 percent level.

In general, the correlation matrix indicates that there is no existence of multicollinearity among the independent variables since all the correlation coefficient values are less than 0.9. The value of 0.9 is the benchmark to examine the presence of multicollinearity problem (Pallant, 2010).

# 4.4 Diagnostic Test

# 4.4.1 Multicollinearity Check

The role of multicollinearity test is to examine whether the explanatory variables in the multiple regression model are highly linearly related to each other. Variance Inflation Factor (VIF) is used to find the multicollinearity presence among the variables of the study. Hair et al. (2006), mentioned that if the VIF values are higher than 10 or the tolerance values are lower than 0.10, it shows the presence of multicollinearity problem. On the other hand, VIF values which are more than 9.0 indicate that there is multicollinearity problem exists and the correlation matrix should be examined (Pallant, 2010). The result of the test is presented in Table 4.3.

Variables	VIF	<b>Tolerance Value (1/VIF)</b>		
IF	1.73	0.581		
CAP	1.83	0.546		
SIZE	1.19	0.839		
InGDP	1.18	0.899		
InINF	2.03	0.886		
InOPR	1.85	0.541		

Table 4.3:

Source: Conducted by the researcher using STATA 12

Based on Table 4.3, there was no evidence that showed the presence of multicollinearity problem in the model since all the variables have less than 9.0 of VIF values. The highest VIF among the variables is inflation which is 2.03.

# 4.4.2. Heteroscedasticity/ Homoscedasticity Test

By using the Breusch-Pagan test in STATA 12 software (see Appendix C), the p-value of chi-square (Prob>chi2) of the model is 0.0000. The result indicates that there is evidence for the presence of heteroscedasticity in the model since the p-value of chi-square is significant. Thus, there is sufficient evidence to reject the null hypothesis (H<sub>0</sub>: Homoscedasticity), which means that there is a problem of heteroscedasticity where the variance of the errors is not constant in the model.

# 4.4.3. Serial or Auto Correlation Test

This test is needed to be conducted since auto correlation biases the standard errors and causes the results to be less efficient (Opoku-Agyemang, 2015). By using Wooldrige test in STATA 12 software (see appendix D), the p-value of chi-square (Prob>chi2) of the model is 0.4831. The result indicates that there is evidence for the absence of serial correlation problem in the model since the p-value of chi-square is not significant. Hence, there is sufficient evidence to not reject the null hypothesis (H<sub>0</sub>: No First-Order Autocorellation), which means that the model does not suffer from serial correlation problem.

# 4.5 Panel Data Test

Gujarati and Porter (2010) stated that Hausman test is needed to be run in order to choose between fixed effects model (FEM) and random effects model (REM) as the

more suitable model for the study. By using STATA 12 software, the result of Hausman test with chi-square score is 0.9577 (refer appendix E) which indicates that the null hypothesis is not rejected (H<sub>0</sub>: Random effect model is appropriate). Hence, the more suitable model for the study is random effect model rather than fixed effect model.

# 4.6 Multiple Regression Analysis

The multiple regression analysis for this study uses Generalized Least Square as the data is not normally distributed due to the existence of heteroscedasticity (Wooldridge, 2010). GLS estimation is also used for correcting the issue of serial correlation or auto-correlation besides heteroscedasticity problem. Hence, it is suitable for this study since there is an issue of heteroscedasticity where the variance of the errors is not constant in the model.

The researcher chooses the random effect GLS regression to analyze the regression model since the Hausman test indicates that the random effect model is more appropriate than fixed effect model. The researcher performed the test using STATA 12 software.

# 4.6.1 Robustness Test

The robustness test is carried out due to the presence of heteroscedasticity. Thus, robust standard errors are used to correct the problem of heteroscedastic in the model (Opoku-Agyemang, 2015). The random effect GLS regression model after conducting the robustness test can be shown in Table 4.4.

Table 4.4:Random effect GLS regression

	Coefficient	Std. Error	p-value		
IF	-1.2720*	0.6797	0.061		
САР	-0.8255*	0.4810	0.086		
SIZE	3.5094	2.4392	0.150		
InGDP	189.0004**	69.9227	0.007		
InINF	-45.6987***	10.6879	0.000		
InOPR	-30.0271	133.3385	0.822		
Intercept	-729.7052	250.0629	0.004		
(baseline)					
Prob>chi2 = 0.0000					
$R^2 = 0.1055$					
N = 80					

\*\*\*significant at 1 percent level

\*\*significant at 5 percent level

\*significant at 10 percent level

Source: Conducted by the researcher using Stata 12 (refer Appendix F)

The result of the Generalized Least Square regression for the random effect model is presented in Table 4.4. The Prob>chi2 is found to be significant at 0.0000 levels which explains the overall significance of the model although the model could only explain 10.55% of the variation in financing growth of Malaysian Islamic banks. Generally, the bank specific factors such as impaired financing and capital are found to be significant with financing growth. Meanwhile, there are two macroeconomic factors which are having a statistically significant impact on financing growth of Malaysian Islamic banks. On the other hand, bank size and overnight policy rate (OPR) are not having a significant impact towards financing growth of Malaysian Islamic banks.

# 4.6.2 Discussion on Results

The results of these variables are discussed and elaborated as follows.

# 1. Impaired Financing and Financing Growth

The coefficient estimation of impaired financing is as expected which is -1.2720 with a p-value of 0.061. The result shows that impaired financing has a negative and significant relationship with the financing growth of Malaysian Islamic banks at 10% significance level. It indicates that an increase of 1 point in impaired financing, the financing growth will decrease by 1.2720 points. Hence, the null hypothesis  $H_{01}$  is rejected. The result is in line with the past studies from Shingjergji and Hyseni (2015), Ivanović (2016), Miyajima (2017) and Vinh (2017).

It can be concluded that an increase in impaired financing provision causes the resources for an additional financing to be decreased and leads to deterioration of financing growth. Besides, the rise in NPL leads to higher provisions, reduction of profitability as well as deterioration in bank capital. It also contributes to bad impact on the asset quality of Islamic banks. Eventually, these consequences are responsible for the declination of financing growth. Therefore, Islamic banks need to improve and enhance their risk management, particularly in credit risk and liquidity risk management in order to mitigate the impaired financing and boost the financing growth.

# 2. Capital and Financing Growth

The coefficient estimation capital is -0.8255 which is not as expected to be a positive sign although the p-value is 0.086 which indicates that there is a

negative and significant relationship between capital and financing growth at 10% significance level. This shows that an increase in capital by 1 point leads to the declination of financing growth by 0.8255 points. Thus, the null hypothesis  $H_{02}$  is rejected. However, the result is not aligns with the findings from past studies by Laidroo (2014), Igan et al. (2017), Kim and Sohn (2017) and Vinh (2017) which show the positive relationship between capital and financing growth of Malaysian Islamic banks as higher capital inflows tend to boost credit growth.

This may be due to the fact that high excessive capital tends to increase the risktaking of banks' activities as excessive capital is found to be correlated with high non-performing loan ratio (Osei-Assibey and Asenso, 2015). Besides, excessive capital holdings increase the potential of banks to make bad loans or impaired financing in order to make a profit quickly for generating the returns towards the capital provider. Hence, as impaired financing increases, the financing growth of Malaysian Islamic banks will be decreased. In other words, an increase in capital is indirectly causes a negative impact on financing growth. This is the justification for why the capital has a negative relationship with financing growth.

# 3. Bank Size and Financing Growth

The coefficient estimation of bank size is 3.5094 with a p-value of 0.150. This result indicates that a 1 point increase in bank size leads to an increase in financing growth by 3.5094 points. Although the result is insignificant, it shows that there is a positive relationship between bank size and financing growth of Malaysian Islamic banks, which reveals that larger banks tend to expand more

new financing compared to small banks. Several past studies from Aydin (2008), Mohamad (2014), Olszak et al. (2016) and Awdeh (2017) also found the positive relationship between bank size and credit growth. The result fails to reject null hypothesis  $H_{03}$ .

# 4. Gross Domestic Product (GDP) and Financing Growth

The coefficient estimation of GDP is as expected which is 189.0004 with a p-value of 0.007. The result shows that GDP has a positive and significant relationship with the financing growth of Malaysian Islamic banks at 5% significance level. It denotes that an increase of 1 point in GDP, the financing growth will increase by 189.0004 which reveal that good economic conditions and growth tend to enhance the economic activities which can encourage the financing activities and its growth too. Hence, the null hypothesis  $H_{04}$  is rejected.

This result is in accordance with the study from Aydin (2008), Samantaraya (2009), Aisen and Franken (2010), Laidroo (2014), Shingjergji and Hyseni (2015), Ivanović (2016), Awdeh (2017) and Igan et al. (2017) which found a positive and significant relationship between GDP and financing growth.

# 5. Inflation and Financing Growth

The coefficient estimation of inflation is -45.6987 with a p-value of 0.000. The result shows that inflation has a negative and significant relationship with the financing growth of Malaysian Islamic banks at 1% significance level. It indicates that an increase in 1 point of inflation causes the financing growth to decrease by 45.6987 points. The result reveals that a low inflation rate tends to enhance the economic activities and thus further boosts the growth of financing.

Therefore, the null hypothesis  $H_{05}$  is rejected. The result is confirmed by the study from Guo and Stepanyan (2011) which indicates that inflation has a negative and significant relationship with real private credit growth in Emerging Market Economies.

# 6. Overnight Policy Rate (OPR) and Financing Growth

The coefficient estimation of inflation is -30.0271 with a p-value of 0.822. This result indicates that a 1 point increase in OPR leads to the declination of financing growth by -30.0271 point. Although the result is insignificant, it shows that there is a negative relationship between OPR and financing growth of Malaysian Islamic banks, which reveals that an increase in OPR causes the cost of financing to be higher and thus, the demand for the financing becomes lower along with its growth. Several past studies from Albulescu (2009), Chen and Wu (2014) Reves et al. (2015) and Awdeh (2017) also found the negative relationship between interest rate and credit growth. The result fails to reject null hypothesis H<sub>06</sub>.

# 4.6.3 The Summary Result of the Relationship between Independent Variables and Financing Growth of Malaysian Islamic Banks

In summary, based on the results discussion, the given hypotheses  $H_{01}$ ,  $H_{02}$ ,  $H_{04}$  and  $H_{05}$  are found to be significant while the other hypotheses  $H_{03}$  and  $H_{06}$  are not significant. The significance level for macroeconomic factors which are GDP and inflation is found to be better at 5% and 1% respectively compared to the significance level for bank specific factors which are impaired financing and capital which indicate 10% of significance level. This reveals that macroeconomic factors are more significantly affecting the financing growth of

Malaysian Islamic banks. The summarization of random effect GLS regression

test is presented in Table 4.5.

Table 4.5:

Variables	Hypotheses	Results		
Impaired Financing	H <sub>01</sub> : There is no significant	Reject H <sub>01</sub>		
and Financing	relationship between impaired			
Growth	financing and financing growth.			
~				
Capital and	$H_{02}$ : There is no significant	Reject H <sub>02</sub>		
Financing Growth	relationship between capital and			
	financing growth.			
Bank Size and	$H_{03}$ : There is no significant	Fail to reject H <sub>03</sub>		
Financing Growth	relationship between bank size and			
	financing growth.			
GDP and	H <sub>04</sub> : There is no significant	Reject H <sub>04</sub>		
Financing Growth	relationship between GDP and			
	financing growth.			
Inflation and	H <sub>05</sub> : There is no significant	Reject H <sub>05</sub>		
Financing Growth	relationship between inflation and			
	financing growth.			
Overnight Policy	H <sub>06</sub> : There is no significant	Fail to reject H <sub>06</sub>		
Rate and Financing	relationship between OPR and			
Growth	financing growth.			
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Summary of Random Effect GLS Regression Result of Independent Variables on Financing Growth in Malaysian Islamic Banks

Table 4.5 shows the summary of random effect GLS regression result of all variables which includes the hypotheses of the study and the final result whether to reject  $H_0$  or fail to reject  $H_0$ . The results reveal that only impaired financing, capital, GDP and inflation are significant in influencing financing growth of Malaysian Islamic banks during the study period.

# 4.7 Summary

This chapter discussed and elaborated on the results of five main methods used in this study which are descriptive statistics, correlation analysis, diagnostic test, panel data test and multiple regression analysis. The descriptive statistics explains the basic features of the data which consist of mean, median, standard deviation, the maximum value and minimum value of the variables and indicates the financing growth of Malaysian Islamic banks during the study period of 2012 until 2016. Then, correlation analysis is carried out to examine the relationship level among the tested variables and to show the expected correlation signs in the model. The diagnostic test is done by the researcher to ensure that the hypothesis tests which regard to coefficient estimates could validly be conducted. Next, the panel data analysis is carried out by running the Hausman test in order to choose between fixed effects model (FEM) and random effects model (REM) as the more suitable model for the study. The multiple regression analysis indicates the impact of the independent variables towards the financing growth of Islamic banks in Malaysia. The next chapter which is Chapter five includes the summary of findings, recommendations, suggestions for the future studies, discussion on the contribution of the study as well as its limitation.

#### **CHAPTER FIVE**

# **CONCLUSION AND RECOMMENDATION**

#### 5.0 Introduction

This study is carried out by the researcher to analyze the relationship between independent variables with the financing growth of Malaysian Islamic banks. The researcher motivates to conduct the study due to the importance of financing growth towards Islamic banks. Besides, the previous studies indicate an inconclusive evidence regarding the relationship between internal and external factors with financing growth of Malaysian Islamic banks. This chapter discusses and summarizes the findings of the study whether the results could answer the research questions as well as reaching the research objectives or not. The researcher discusses the summary of findings besides providing several recommendations to relevant parties and suggestions for future research in order to improve the findings of the present study. Then, the researcher deliberates on the contribution of the study as well as its limitation in the last section of this chapter.

# 5.1 Summary of the Findings

Financing is viewed as the main contributor to any institution's income that acts as financial intermediary including Islamic banks. It indicates the largest asset composition compared to others (Mohamad, 2014). Hence, the growth of financing is very important towards achieving a better performance of Islamic bank because if the credit needs unable to be met, the banks will face various of risks. Therefore, the researcher interested to do the research regarding the financing growth of Islamic banks in Malaysia due to the importance of financing growth towards Islamic banks. This study aims to examine the determinants of financing growth in Malaysian Islamic banks,

particularly the influence of impaired financing on financing growth during the year 2012 until 2016.

The result of the study has found that the level of financing growth for 16 Islamic banks during the study period in the year 2012 to 2016 has experienced a major declination. At first, the trend of financing growth rate for Islamic banks in the year 2012 and 2013 indicates a high level. Unfortunately, the level of financing growth for Islamic banks in the year 2014, 2015 and 2016 showed a huge declination year by year. The lowest level is recorded in the year 2016. This may be due to the fact that Malaysia has encountered a critical phase as GDP growth rate has fall immensely and a rise in the inflation rate in the year 2016. Eventually, these unfavourable conditions lead to the declination of financing growth.

Besides, the finding of the study reveals that the impaired financing is negatively and significantly correlated to financing growth. The results supported the findings of past studies from Shingjergji and Hyseni (2015), Ivanović (2016), Miyajima (2017) and Vinh (2017). This is due to the fact that impaired financing causes a limit for additional financing and eventually leads to deterioration of financing growth. Moreover, impaired financing is one of the factors which cause the profitability of the banks to fall and in the worst case, it also leads to losses which contribute to the declination of financing growth. The asset quality of the bank will also severely affected due to impaired financing and thus, worsening the growth of financing in Islamic banks. Hence, Islamic banks are suggested to improve and empower their risk management, particularly in the management of credit risk and liquidity risk so as to mitigate the impaired financing and further enhance the financing growth.

The result of the study reveals that the capital is negatively and significantly associated with financing growth. The result contradicts to the findings from past studies by Laidroo (2014), Igan et al. (2017), Kim and Sohn (2017) and Vinh (2017) which show the positive relationship between capital and financing growth of Malaysian Islamic banks. It shows that an increase in capital tends to increase the risk-taking of banks' activities as excessive capital is found to be correlated with high impaired financing and thus lower the growth of financing indirectly. Hence, Islamic banks in Malaysia should have a fitting level of capital ratio and robust capital base in order to mitigate the impaired financing ratio and further enhance the growth of financing.

On the other hand, the study also found that GDP has a positive and significant relationship with financing growth. The study supported the findings from past studies by Aydin (2008), Samantaraya (2009), Aisen and Franken (2010), Laidroo (2014), Shingjergji and Hyseni (2015), Ivanović (2016), Awdeh (2017) and Igan et al. (2017). The result indicates that good economic conditions and growth tend to enhance the economic activities which can encourage the financing activities and its growth.

In addition, there is a highly significant and negative relationship between inflation and financing growth in Malaysian Islamic banks. The result further supported the finding of the study from Guo and Stepanyan (2011). It reveals that a low inflation rate tends to enhance the economic activities and thus further stimulates the growth of financing.
The summary of findings can be shown in Table 5.1 as follows.

1 4010 5.1.	Tabl	e 5.	1:
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Summary	of the	Findings
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Research Questions	Research	Method	Findings		
	Objectives				
1. What is the level of financing growth in Malaysian Islamic banks?	1. To evaluate the level of financing growth in Malaysian Islamic banks.	Descriptive Statistics	Islamic banks in Malaysia experienced huge declination in financing growth rate, especially in the year 2016.		
			This may be due to the declination of GDP growth rate, particularly in the year 2016.		
2. What is the	2. To investigate	Multiple	Impaired financing has a		
relationship between	the relationship	Regression	negative and significant		
financing growth and	between financing	Analysis	relationship with the		
impaired financing of	growth and		financing growth.		
banks?	of Malaysian Islamic banks.	J	Impaired financing causes the resources for additional financing to be decreased.		
TIM BUDY BASE	Universiti U	tara Mal	Impaired financing causes the reduction of profitability and asset quality.		
3. What are the other	3. To examine the	Multiple	GDP, Capital and		
determinants	other determinants	Regression	Inflation have a		
influencing financing	influencing	Analysis	significant relationship		
growth of Malaysian	tinancing growth		with financing growth.		
Islamic banks?	OI Malaysian				
	Islamic banks.				

Table 5.1 shows a summary with regards to findings of the study. It includes the methods used by the researcher in order to answer the research questions as well as to achieve the research objectives.

## 5.2 Recommendations

There are several recommendations for the relevant parties regarding the findings of the study. Firstly, Islamic banks should maintain a reasonable level of impaired financing since impaired financing has proven affecting the financing growth negatively. They should improve their efficiency in disbursing their financing towards the customers and enhance the risk management within the banks by creating a systematic and strategic structure in order to mitigate the risk, particularly in credit risk and liquidity risk. The approaches implemented by the banks in risk management should be different following the types of Islamic financing contracts as each contract contains particular risks.

Secondly, Islamic banks should ensure an appropriate level for financing as excessive financing may lead to higher impaired financing and insufficient financing may cause the difficulty for Islamic banks to gain a profit through financing activities. Hence, Islamic banks are recommended to allocate a reasonable provision for financing according to the types of Islamic financing contracts.

Thirdly, the body regulation such as Central Bank (BNM), Ministry of Finance (MOF) and Association of Islamic Banking Institution Malaysia (AIBIM) should consider executing new policies with regard to financing restructuring in order to strengthen the performance and efficiency of Islamic banks in Malaysia, specifically in financing operation.

In summary, the bankers and regulators should take appropriate actions towards the betterment of financing growth and ensure the improvement of Islamic banks' operation in the future in order to compete with the conventional banks as well as to change the perception of public towards Islamic banks performance and operation.

#### 5.3 Suggestion for Future Research

As the suggestion or recommendation for the future study, the researcher suggests the future researchers to increase the time series which is more than 10 years for 16 Islamic banks in Malaysia and add more significant variables in order to increase the value of R-squared of the model and also to get more significant results. Besides that, to make the study more significant, it is recommended that future researchers to include the conventional banks in order to make a comparison with Islamic banks in Malaysia in terms of their credit growth level, patterns and behaviour as well as to consider the other factors which are relevant in the area of the study.

Moreover, the variables selected for the future study should not be restrained to several macroeconomic and bank specific factors only, but also to consider the other related areas such as Islamic perspectives, a public stand of views, global crisis and more. Finally, the future researchers are recommended to use another kind of statistical software such as EVIEWS to explore new econometric statistical software as well as to discover further visions on numerous operational and strategic sides of the system in Islamic banking.

## 5.4 Contribution of the Study

The study contributes to the body of knowledge by investigating the significant determinants of financing growth in Malaysian Islamic banks. Hence, it will benefit a lot in terms of literature since the study with regards to the determinants of Islamic banks financing growth in Malaysia is very limited as well as to provide the significant guidelines for future researchers such as academicians and students who interested to conduct further research and enriching the existing pieces of literature that related to this topic. Thus, it can fill the practical and empirical gap in this area of the study.

Besides, the study is expected to benefit the bankers and regulators through identification on factors determining financing growth of Islamic banks. Therefore, they will take appropriate actions towards the betterment of financing growth and ensure the improvement of Islamic banks' operation in future in order to remain competitive within the market against conventional banks. In addition, the findings of the study contribute to the government or the other relevant body regulations such as Central Bank, Ministry of Finance and Association of Islamic Banking Institution Malaysia as they can improve the existing policies by creating new policies regard to financing restructuring in order to boost the performance of Islamic banks in Malaysia. Lastly, this study will provide beneficial information towards investors and community regards to the level of financing growth in Islamic banks and thus change the perception of public towards Islamic banks performance and operation.

## 5.5 Limitation of the Study

This study concentrates on the determinants of financing growth in Islamic banking which based on bank specific and macroeconomic factors. The scope of this study period only covers the year of 2012 until 2016 as these years have shown a declination in financing growth for several Islamic banks. Moreover, this study is limited to data derived from financial statements in annual reports for 16 local Islamic banks, the database from Fitch Connect which are related to this study, the data from World Bank as well as Bank Negara Malaysia (BNM) for macroeconomic factors. The financial statements are those which are already audited and available for public use and references.

Besides, the study is restricted in terms of literature because the study with regards to the determinants of Islamic banks financing growth in Malaysia is very limited. Therefore, the resources are limited to make as references and the reason on why the researcher had to confront some difficulties to find references in order to complete the study. However, despite these limitations, the finding of this study may contribute to valuable information regarding this area of study which can be useful for the Islamic banks to enhance their performance.

## 5.6 Summary

This chapter elaborated on the summary of the findings besides providing several recommendations based on the result of the study. This chapter also includes the suggestion for the future research in order to improve the findings of the present study. Besides, the researcher had discussed on the contribution of the study as well as its limitation at the end of this chapter.



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## **APPENDICES**

## Appendix A (List of Islamic banks in Malaysia)

No.	Institution Name	Type and Year of
		Incorporation
1	Affin Islamic Bank Berhad	Local, 2005
2	Al Rajhi Banking & Investment Corporation (Malaysia) Berhad	Foreign, 2006
3	Alliance Islamic Bank Berhad	Local, 2007
4	AmBank Islamic Berhad	Local, 2006
5	Asian Finance Bank Berhad	Foreign, 2005
6	Bank Islam Malaysia Berhad	Local, 1983
7	Bank Muamalat Malaysia Berhad	Local, 1999
8	CIMB Islamic Bank Berhad	Local, 2006
9	HSBC Amanah Malaysia Berhad	Foreign, 2008
10	Hong Leong Islamic Bank Berhad	Local, 2005
11	Kuwait Finance House (Malaysia) Berhad	Foreign, 2005
12	Maybank Islamic Berhad	Local, 2008
13	OCBC Al-Amin Bank Berhad	Foreign, 2008
14	Public Islamic Bank Berhad	Local, 2008
15	RHB Islamic Bank Berhad	Local, 2005
16	Standard Chartered Saadiq Berhad	Foreign, 2008

Source : Annual Report of Islamic Banks

## **Appendix B: (Correlation Matrix)**

```
CORRELATIONS
```

/VARIABLES=FGROW IF CAP SIZE INGDP ININF INOPR /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE.

#### Correlations

		FGROW	IF	CAP	SIZE	InGDP	InINF	InOPR
FGROV	WPearson Correlation	1	209	226*	.044	.202	116	127
	Sig. (2-tailed)		.062	.044	.696	.072	.306	.261
	Ν	80	80	80	80	80	80	80
IF	Pearson Correlation	209	1	.585**	069	.017	120	128
	Sig. (2-tailed)	.062		.000	.544	.884	.289	.258
	Ν	80	80	80	80	80	80	80
CAP	Pearson Correlation	226*	.585**	1	.280*	056	.005	.002
	Sig. (2-tailed)	.044	.000		.012	.620	.965	.985
	Ν	80	80	80	80	80	80	80
SIZE	Pearson Correlation	.044	069	.280*	1	064	.037	.035
	Sig. (2-tailed)	.696	.544	.012		.572	.745	.756
	Ν	80	80	80	80	80	80	80
InGDP	Pearson Correlation	.202	.017	056	064	1	.291**	.012
	Sig. (2-tailed)	.072	.884	.620	.572		.009	.915
	N	80	80	80	80	80	80	80
InINF	Pearson Correlation	116	120	.005	.037	.291**	1	.650**
	Sig. (2-tailed)	.306	.289	.965	.745	.009		.000
	N	80	80	80	80	80	80	80
InOPR	Pearson Correlation	127	128	.002	.035	.012	.650**	1
	Sig. (2-tailed)	.261	.258	.985	.756	.915	.000	
	N	80	80	80	80	80	80	80

\*. Correlation is significant at the 0.05 level (2-tailed). \*\*. Correlation is significant at the 0.01 level (2-tailed).

## **Appendix C: (Heteroscedasticity Test)**

. hettest IF CAP SIZE InGDP ININF INOPR

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: IF CAP SIZE InGDP InINF InOPR
```

chi2(6) = 66.09 Prob > chi2 = **0.0000** 

## **Appendix D: (Auto Correlation Test)**

. xtserial FGROW IF CAP SIZE InGDP ININF INOPR

Wooldridge test for autocorrelation in panel data H0: no first-order autocorrelation F(1, 15) = 0.522Prob > F = 0.4813

# Appendix E: (Hausman Test)

Fixed-effects (within) regression	Number of obs	=	80
Group variable: code	Number of groups	=	16
R-sq: within = 0.1186	Obs per group: min	. =	5
between = 0.0380	avç	r =	5.0
overall = 0.0195	max	x =	5
	F(6,58)	=	1.30
$corr(u_i, Xb) = -0.9449$	Prob > F	=	0.2711

FGROW	Coef.	Std. Err.	t	P> t	[95% Conf.	Interval]
					V	
IF	-2.833292	2.268211	-1.25	0.217	-7.373609	1.707025
CAP	.8439295	3.002145	0.28	0.780	-5.165517	6.853376
SIZE	48.55756	62.22918	0.78	0.438	-76.00767	173.1228
InGDP	289.3882	154.9887	1.87	0.067	-20.85547	599.6318
InINF	-71.98572	49.12991	-1.47	0.148	-170.3299	26.35848
InOPR	-27.4385	193.2786	-0.14	0.888	-414.3276	359.4506
_cons	-1472.39	1052.027	-1.40	0.167	-3578.252	633.4713
+						
sigma_u	31.878143					
sigma_e	21.44394					
rho	.68846592	(fraction	of variar	nce due t	co u_i)	
F test that all	l u_i=0:	F(15, 58) =	0.52	2	Prob >	F = 0.9176

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. xtreg FGROW IF CAP SIZE GDP INF OPR, re

Random-effects GLS regression	Number of obs	=	80
Group variable: code	Number of groups	=	16
R-sq: within = 0.1055	Obs per group: mir	n =	5
between = 0.3937	avo	1 =	5.0
overall = 0.1478	mas	x =	5
	Wald chi2(6)	=	12.66
$corr(u_i, X) = 0$ (assumed)	Prob > chi2	=	0.0488

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FGROW	Coef.	Std. Err.	Z	P> z	[95% Conf.	Interval]
	TARA					
IF	-1.271951	1.266264	-1.00	0.315	-3.753782	1.20988
CAP	825477	.7780381	-1.06	0.289	-2.350404	.6994497
SIZE	3.509388	4.03125	0.87	0.384	-4.391717	11.41049
InGDP	189.0004	85.31584	2.22	a 0.027	21.78443	356.2164
InINF	-45.69866	35.90193	-1.27	0.203	-116.0651	24.66783
InOPR	-30.02711	181.7864	-0.17	0.869	-386.3219	326.2677
_cons	-729.7052	370.6221	-1.97	0.049	-1456.111	-3.299234
+						
sigma_u	0					
sigma_e	21.44394					
rho	0	(fraction	of varia	nce due	to u_i)	

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	Coefficients						
I	(b)	(B)	(b-B)	<pre>sqrt(diag(V_b-V_B))</pre>			
I	fe	re	Difference	S.E.			
+-							
IF	-2.833292	-1.271951	-1.561341	1.881849			
CAP	.8439295	825477	1.669406	2.899574			
SIZE	48.55756	3.509388	45.04817	62.09847			
InGDP	289.3882	189.0004	100.3878	129.3936			
InINF	-71.98572	-45.69866	-26.28706	33.53803			
InOPR	-27.4385	-30.02711	2.588612	65.65301			

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

# chi2(6) = $(b-B)'[(V_b-V_B)^{(-1)}](b-B)$

1.04

Prob>chi2 = 0.9842

=

## Appendix F: (Random Effect GLS Regression after Robustness Test)

. xtreg FGROW IF CAP SIZE InGDP InINF InOPR, re robust

Random-effe	ects	GLS regress	ion		Number	of obs	=	80
Group varia	able:	code			Number	of group	os =	16
R-sq: with	nin	= 0.1055			Obs per	group:	min =	5
bet	ween	= 0.3937					avg =	5.0
ove	rall	= 0.1478					max =	5
					Wald ch	i2(6)	=	67.87
corr(u_i, X	K)	= 0 (assume	d)		Prob >	chi2	=	0.0000
			(Std	l. Err. ac	ljusted f	or 16 cl	usters	s in code)
UNIN	ノル		Robust					
FGRO	I WC	Coef.	Std. Err.	Z	P> z	[95%	Conf.	Interval]
	BU	DI BA						
:	IF	-1.271951	.6796974	-1.87	0.061	-2.604	133	.0602316
Cž	AP	825477	.4810278	-1.72	0.086	-1.768	8274	.1173202
SI	ZE	3.509388	2.43919	1.44	0.150	-1.271	.337	8.290112
InG	OP	189.0004	69.92273	2.70	0.007	51.95	437	326.0465
InIl	NF	-45.69866	10.68785	-4.28	0.000	-66.64	645	-24.75087
InOl	PR	-30.02711	133.3385	-0.23	0.822	-291.3	8657	231.3115
_coi	ns	-729.7052	250.0629	-2.92	0.004	-1219	.82	-239.5909
	+-							
sigma_	_u	0						
sigma_	_e	21.44394						
rl	no	0	(fraction	of variar	nce due t	o u_i)		