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Loan Loss Provisions: Evidence from Malaysian Islamic and Conventional Banks

Faridah Najuna Misman*[a] and Wahida Ahmad**[b]

The Islamic banking system has evolved globally at a rapid rate alongside that of conventional banking, and since its inception about four decades ago, outperformed it. In Malaysia, Islamic banks operate side-by-side with conventional banks. Both their operations are based on their own principles and frameworks although some regulations might overlap with each other. This study aims to explore the treatment of loan loss provisions as a tool in managing earnings and capital for both banks during the period 1993 to 2009. The paper discusses whether Islamic and conventional banks behave in the same way when dealing with loan loss provisions. The hypotheses testing employed pooled regression with generalized least square estimation for four independent variables: i) return on average assets, ii) earnings before tax and provisions, iii) non-performing loans, and iv) capital ratio. The findings prove that Islamic and conventional banks in Malaysia use loan loss provisions in their earnings and capital management. However, they behave in differently with regard to capital ratio when managing loan loss provisions.

Fields of Research: Banks; Loan loss provisions

1. Introduction

Loan loss provisions are widely used by commercial bank managers when managing risk exposure in their lending activities. Loan loss provisions are expected when anticipated losses occur as a result of lending and financing activities (Anandarajan, Hasan & McCarthy 2007). Commercial banks must comply with the risk weighted capital adequacy framework in using loan loss provisions as tools for managing risks. Risk weighted capital adequacy is a framework developed based on international standards of capital adequacy. These were introduced by the Basel Committee on Banking Supervision (BCBS) in 1988 and are also referred to as Basel I. In 1990, the capital adequacy framework was amended and all banks are now required to maintain a minimum total capital of 8% from risk weighted assets (RWA) of the bank. Total capital consists of Tier 1 and Tier 2 capital. Under this framework, Tier 1 must exceed at least 4% of the risk weighted assets and 3% of total assets. In Tier 2, the amount must not exceed the amount of Tier 1. This system therefore requires at least 50% of the amount of total capital to be supplied by Tier 1 capital. Tier 1 capital includes the sum of book value of equity, qualifying noncumulative perpetual preferred stock and minority interest in equity accounts of subsidiaries less goodwill

*Corresponding author.
School of Economics and Finance, Faculty of Law and Management, La Trobe University, Australia.
[a]Lecturer, Faculty of Business and Management, Universiti Teknologi MARA Johor, Malaysia.
E-mail: fnmisman@students.latrobe.edu.au or faridahnajuna@yahoo.com.sg
**School of Economics and Finance, Faculty of Law and Management, La Trobe University, Australia.
[b]Lecturer, Faculty of Business and Management, Universiti Teknologi MARA Perlis, Malaysia.
E-mail: wahmad@students.latrobe.edu.au

and other intangible assets. For Tier 2, the amount consists of the sum loan loss reserves (up to maximum of 1.25% of risk weighted assets), perpetual preferred stock, hybrid capital instruments, and perpetual debt, mandatory convertible debt securities, term subordinated debt and intermediated preferred stock. In June 2004, Basel I was revised and became known as Basel II but this did not change the amount required for capital adequacy.

To date, only a few studies about loan loss provisions in Malaysian commercial banks have been done. Ismail and Lay (2002), Eng and Nabar (2007) and Angklomkliew, George and Packer (2009) studied the use of loan loss provisions in conventional banks in Malaysia. Other authors, most notably Ismail and Shahimi (2003) and Misman and Ahmad (2010) documented the use of loan loss provisions in Malaysia's Islamic banks. However, Ismail and Shahimi (2003) used only one bank as a sample case. This study focuses on conventional and Islamic bank practices in their use of loan loss provisions when managing capital and earnings. In Malaysia all commercial banks are required to disclose loan loss provision amounts in their profit and loss accounts. Disclosure of loan loss provisions in profit and loss statements will decrease the amount of reported earnings (IASB). For Islamic banks the capital adequacy framework was introduced on 1 January 2008. This particular framework was developed based on the Capital Adequacy Standard for Institutions Offering Only Islamic Financial Services issued by the Islamic Financial Services Board (IFSB) in December 2005. It requires Islamic banks to reveal the amount of loan loss provisions in their profit and loss statements.

The objective of this study is to explore the determinant of loan loss provision (LLP) in Malaysian Islamic banks. It will also examine if there is any difference in the determining factors between Islamic and conventional banks in Malaysia. The paper is organized as follows: Section 2 discusses the literature on loan loss provision and its management; Section 3 explains the data and methodology; Section 4 is concerned with an analysis of the results, which are discussed in section 4. Finally, Section 5 provides a conclusion on the findings and limitations of this study.

2. Literature Review

Loan loss provisions have been widely employed by bank managers in managing risk on capital and earnings. Managers can find out about future positions and therefore they can manipulate this information to control how a bank performs in the future. In banking operations, risk is accumulated during good economic times. Therefore, a manager must build up loan loss reserves in 'boom times' and this reserve will be drawn on in bad times to mitigate credit crunches (Bushman & Williams 2007). Zoubi and Al-Khazali (2007) explain there are five objectives of using loan loss provisions: i) income smoothing, ii) stock pricing, iii) management bonus, iv) provide signals about future losses and earnings, and v) to comply with legal requirements. They also explain that several factors will influence managerial decisions concerning loan loss provisions. These include: i) amount of non-performing loan, ii) loan write–off amount , iii) past and present earnings, iv) capital adequacy ratio, and v) size of the bank. Banks can increase their reserves by increasing loan loss provisions in a good financial year. Generally loan loss provisions can be used by banks to overcome and manage problems concerning losses from loan activities, meet regulations or laws on capital requirement and manage present and future income.

2.1 Capital Management

Before 1990 the amount of loan loss provisions was included in Tier 1 capital. However under the new capital adequacy framework loan loss provisions is not included in Tier 1 capital. For this reason banks with low levels of capital cannot use loan loss provisions to increase their amount of total capital. Ahmed, Takeda and Thomas (1999) in their study find that using loan loss provisions in capital management has declined consistently when capital management incentives change. The use of loan loss provisions to increase total capital ratio is more costly due to the opposing effect that loan loss provisions have on Tier 1 capital (IASB). However, loan loss provisions will have an impact on the amount of Tier 2 capital and this impact depends on the proportion of loan loss reserve. If the amount of loan loss reserve is below 1.25% of risk weighted assets, loan loss provisions will have a positive impact on Tier 2 capital.

Previous studies have documented mixed evidence about the use of loan loss provisions in commercial banks' capital management. Ahmed, et al. (1999), Kim and Kross (1993) and Collins, Shackelford and Wahlen (1995) find that a bank's capital wields a positive influence on loan loss provisions. This evidence suggests that banks with less capital will tend to have lower loan loss provisions compared to banks with much capital. Ismail and Lay (2002) in their study of Malaysian commercial banks, conclude that such banks generally rely on loan loss provisions to fulfil their Tier 2 capital requirements. This outcome is in contrast to Moyer (1990), Beatty, Chamberlain and Magliolo (1995) and Anandarajan, Hasan, and Lozano-Vivas (2002) where capital management does not have a positive influence on loan loss provisions. However, Ismail and Shahimi (2003) in their study of Islamic banks note different results when comparing them to conventional banks. They state that Islamic banks do not rely on Tier 2 capital to fulfil their capital requirements. This result is similar to Zoubi and Al-Khazali (2007), where they find that Islamic banks in the GCC region do not use loan loss provisions to manage their capital and reserve requirement as specified by bank regulators in the GCC region.

2.2 Income Smoothing

Income smoothing or earning management is one of the important factors that will influence bank managers in making decisions on loan loss provisions. Income smoothing refer to managers' financial reporting decisions and structuring of transactions. They may alter financial statements to influence possible outcomes or mislead shareholders about how a bank is really performing (Bushman & Williams 2007).

It has been hypothesised that managers have incentives to practice income smoothing. Wetmore and Brick (2009) explain that the strategy behind income smoothing is that bank managers take large loan-loss provisions in a good year so that extra reserves are available for bad years. According to Anandarajan, et al. (2003) after the new regulation came into effect, banks have now adopted a more aggressive earnings management strategy. This is because of the capital adequacy regulation of 1992 having removed any capital constraint, and then acted as a disincentive to aggressive earnings management. Earlier studies on the relationship between earning management and loan loss provisions reported mixed results. Some studies assume there is a positive relationship between loan loss provisions and

earning and expected future cash flows (Wahlen 1994; Collins, Shackelford & M.Wahlen 1995; Eng & Nabar 2007). This evidence suggests that bank managers will increase loan loss provisions when future cash flows or earning prospects are positive. Zoubi and Al-Khazali (2007) in their study on GCC Islamic banks also note that there is positive relationship between loan loss provisions and income. This positive relationship means that Islamic bank managers also use loan loss provisions in managing their present and future earnings. However Ahmed, et al. (1999), Beatty, et al. (1995), and Wetmore and Brick (1994) argue there is no evidence that banks have used loan loss provisions to smooth their earnings. This mixed evidence provides an avenue for future study on the true nature of loan loss provisions.

2.3 Loan Loss Provisions in Asian Banks

Commercial banks in Asia extensively use loan loss provisions as a tool to manage earnings and capital. Angklomkliew, George, and Packer (2009) claim that after the severe losses experienced during the Asian Financial Crisis of 1997-98, most governments in Asia adopted more conservative loan loss provisioning standards. They also reported that most of the central banks and supervisory regulations in Asian countries have tightened their prudential supervision to ensure banks have appropriate reserves and loan provisioning to compensate for any risks. For example some central banks in Asia are adopting International Accounting Standard 39 (IAS 39) and strategies concerning issues of tax deductibility for specific loan loss provisions. IAS 39 is a standard relating to recognition and measuring of financial assets, financial liabilities and some contracts to buy or sell non-financial items (IASB). In Malaysia the full implementation of IAS 39 was planned to start in 2010, 2011 and 2013. However, in May 2010, IASB introduced International Financial Reporting Standard 9 to replace IAS 39 (IFRS9). The objective of this replacement is to simplify the classification and measurement requirement for financial instruments in order to improve the usefulness of financial statements. IFRS 9 will completely replace IAS 39 by the second quarter of 2011.

3. Data and Methodology

Our aim is to study the determinants of loan loss provisions (LLP) of Malaysian Islamic banks in comparison to conventional banks. The paper investigates the relationship between LLP with capital management and income smoothing. The sample consists of 352 observations of 16 Islamic banks and 22 conventional banks in Malaysia for an unbalanced sample from 1993 to 2009. The data were obtained from the financial statements of individual banks documented on the International Bank Credit Analysis Bankscope database. Consolidated statements are used only if the unconsolidated statement is unavailable or data is insufficient. Islamic banks in Malaysia are still in the development stage and they are relatively smaller than their conventional counterparts. Hence at this stage, with regards to the small number of Islamic banks, our total number of observations is considerable.

We used four (4) independent variables to regress with the dependent variable, i.e. loan loss provisions. The regressors consist of: i) return on average assets (ROA); ii) earnings before taxes and provisions (EBTP); iii) non-performing loans (NPL); and iv) capital ratio (CR). The first two regressors are proxies for banks' profitability and earnings management, NPL measures banks' credit risks as part of capital management and CR is a proxy for bank capital adequacy. In addition to these

variables, we employ dummy variable to distinguish between Islamic and conventional banks. The exact definitions of these variables are provided in Table 1.

Table 1: Independent and Dependent Variables

Variables	Definition
Loan Loss Provisions (LLP)	Loan loss provisions to total financing outstanding ratio
Return on Assets (ROA)	Net income to average total assets
Earnings before Taxes and Provisions (EBTP)	Earnings before taxes and loan loss provisions to total assets ratio
Non-performing Loan (NPL)	Non-performing loans to total financing outstanding
Capital Ratio (CR)	Total capital (Tier 1 and Tier 2 capital) to total assets ratio
Dummy Variable (Type)	1 represents Islamic banks and 0 otherwise

Tables 2 and 3 provide descriptive statistics on the variables used in this study. The mean and median for LLP of Malaysian Islamic banks is slightly more than conventional banks, yet both are not more than 2%. However, average growth in LLP for conventional banks is huge at more than 50% compared to the 17% for Islamic banks throughout 17 years' worth of data (Table 4 & Figure 1). This growth was mainly due to a significant amplification in the average growth of LLP for conventional banks in 1997, 1998, 2005 and 2006. The highest growth of LLP for conventional banks (585%) occurred in 2006 while the highest growth of LLP (96%) for Islamic banks occurred in 1998.

Table 2: Descriptive Statistics of Independent and Dependent Variables for Malaysian Islamic Banks

	LLP	ROA	EBTP	NPL	CR
Mean	1.5555	0.1244	0.9829	5.0833	23.7186
Median	1.3131	0.6000	1.3212	4.0532	14.8000
Std. Dev.	2.0812	3.6829	4.0648	3.5558	36.0258
Jarque-Bera	2346.6930	4160.9950	6158.1920	89.8169	980.9450
Probability	0.0000	0.0000	0.0000	0.0000	0.0000
Observations	62	62	62	62	62
Cross sections	16	16	16	16	16

Table 3: Descriptive Statistics of Independent and Dependent Variables for Malaysian Conventional Banks

	LLP	ROA	EBTP	NPL	CR
Mean	1.0020	1.1938	2.2001	5.6186	22.6700
Median	0.6798	1.1950	2.0228	3.9978	13.7000
Std. Dev.	2.5356	1.2536	1.0713	6.1167	25.0780
Jarque-Bera	13137.2800	3659.9730	832.9772	6649.8680	2408.3660
Probability	0.0000	0.0000	0.0000	0.0000	0.0000
Observations	290	290	290	290	290
Cross sections	22	22	22	22	22

In order to investigate the relationship between the LLP with its capital and earnings management of Malaysian banks, our study specifies the following hypotheses:

Hypothesis 1:

H_a: Earnings management has a significant effect on loan loss provisions concerning Malaysian Islamic and conventional banks

Hypothesis 2:

H_a: Capital management has a significant effect on loan loss provisions concerning Malaysian Islamic and conventional banks

Hypothesis 3:

H_a: Islamic banks and conventional banks are significantly different regarding loan loss provisions management

This study employed Pooled Cross-Section and Times-Series econometric technique for our unbalanced sample. The hypotheses had been tested using the following equation:

$$LLP = f\ (ROA, EBTP, NPL, CR, Dummy)$$

$$\text{Conventional banks: } LLP_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 EBTP_{it} + \beta_3 NPL_{it} + \beta_4 CR_{it} + \varepsilon_{it}$$

$$\text{Islamic banks: } LLP_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 EBTP_{it} + \beta_3 NPL_{it} + \beta_4 CR_{it} + \varepsilon_{it}$$

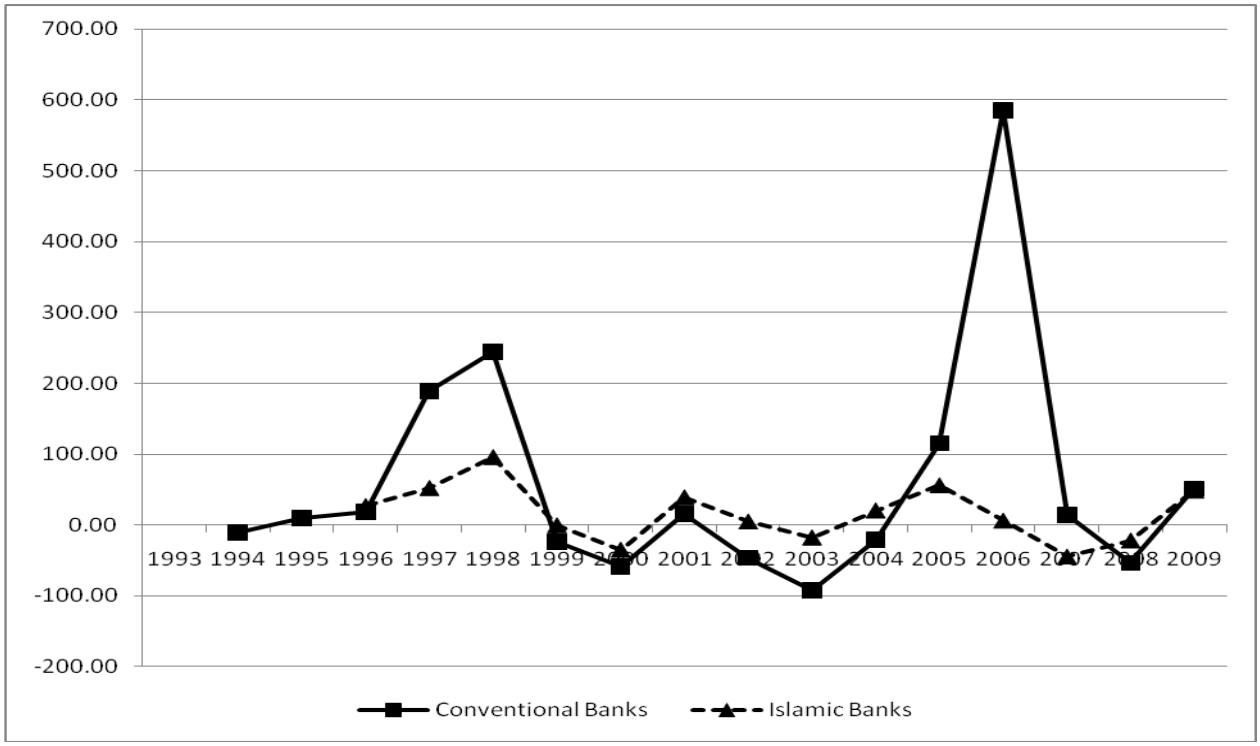
$$\text{All banks: } LLP_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 EBTP_{it} + \beta_3 NPL_{it} + \beta_4 CR_{it} + TYPE + \varepsilon_{it}$$

We utilised Pooled Ordinary Least Square (OLS) estimates to identify the relationship between LLP with earnings management and capital management. The Jarque-Bera statistics as shown in Table 3 provide significant data. Hence OLS estimates provide the best results for this study.

Table 4: Average Growth Rate of Loan Loss Provisions to Total Financing for Malaysian Islamic and Conventional Banks

Year	Conventional Banks	Islamic Banks
1994	-10.26	n/a
1995	9.4	n/a
1996	18.34	26.82
1997	188.69	52.25
1998	244.34	95.9
1999	-23.95	-0.32
2000	-58.64	-34.72
2001	15.72	39.05
2002	-46.66	5.1
2003	-92.15	-17.51
2004	-20.91	20.59
2005	115.16	56.07
2006	584.79	6.22
2007	14.04	-44.41
2008	-53.46	-21.78
2009	51.26	48.65
Average	**58.48**	**16.57**

Figure 1: Average Growth Rate of Loan Loss Provisions to Total Financing for Malaysian Islamic and Conventional Banks



4. Analysis of Results

Table 5 summarises regression results of the estimates for conventional banks, Islamic banks and all banks respectively. From the multivariate regression, we present the following equation:

Conventional banks:
$LLP_{it} = –0.8229 – 1.9861ROA_{it} + 1.8794EBTP_{it} + 0.0409NPL_{it} – 0.0074CR_{it}$

Islamic banks:
$LLP_{it} = –0.2072 – 1.5295ROA_{it} + 1.3513EBTP_{it} + 0.0693NPL_{it} + 0.0115CR_{it}$

All banks:
$LLP_{it} = -0.5394 – 1.9205ROA_{it} + 1.6674EBTP_{it} + 0.0362NPL_{it} – 0.0017CR_{it} + 0.5502Type$

From the OLS estimates, t-statistics of independent variables for conventional banks are significant at 1% and 5% level accordingly. Islamic banks provide similar results on the t-statistics with variables being significant at 1% and 5% level. The F-statistic for both conventional and Islamic models are 189.8920 (p=0.0000) and 139.3921 (p=0.0000) respectively. From the above figures, we can reject the null hypothesis of hypothesis 1 and hypothesis 2 for conventional and Islamic banks. Hypothesis 1 implies LLP have a significant impact on banks' earnings management for both Islamic and conventional banks in Malaysia. Hypothesis 2 indicates capital management and non-performing loans are important factors for conventional banks and Islamic banks in Malaysia.

The adjusted R-squared for conventional and Islamic banks is 72% and 90% respectively. It shows that 72% of the variation in LLP can be explained by the independent variables in conventional banks and 90% for Islamic banks.

Results of dummy variable reveal significant differences between Malaysian Islamic and conventional banks when managing their LLP. It is implied that Islamic and conventional banks do not behave in the same way when dealing with LLP. Thus at 5% significance level, we reject the null hypothesis 3. This is proven in the capital management of conventional banks and Islamic banks, which are very different regarding LLP. Note that CR for conventional banks is negatively related to LLP but it is positively related to Islamic banks.

There are positive relationships between LLP with NPL and EBTP for both types of banks. It indicates that there is a higher credit risk influence concerning larger amounts of LLP. The positive relationship between EBTP with LLP provides support for the hypothesis of income smoothing through LLP for Islamic and conventional banks in Malaysia. On the other hand, there is an inverse relationship between LLP and ROA for conventional and Islamic banks. It reveals that the more profitable banks are in Malaysia, lesser LLP is incurred.

Table 5: OLS Estimation Result

	Model 1 Conventional Banks		Model 2 Islamic Bank		Model 3 All bank	
	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat
C	-0.8229*	-4.1910	-0.2072	-1.1411	-0.5394*	-3.6429
ROA	-1.9861*	-22.5868	-1.5295*	-18.9413	-1.9205*	-26.3968
EBTP	1.8794*	19.1142	1.3513*	17.3053	1.6674*	22.5791
NPL	0.0409*	2.7692	0.0693**	2.4655	0.0362*	2.6801
CR	-0.0074**	-2.1794	0.0115*	3.6683	-0.0017	-0.5961
Dummy					0.5502*	2.9674
R-squared	0.7272		0.9073		0.7320	
Adjusted R-squared	0.7233		0.9007		0.7281	
S.E. of regression	1.3337		0.6557		1.2869	
F-statistic	189.8920		139.3921		188.9994	
Prob(F-statistic)	0.0000		0.0000		0.0000	

* and ** denote significance at the 1% and 5% confidence level, respectively.

5. Conclusion and Limitations

This study investigated the treatment of LLP in banks' earnings and capital management. The study consisted of data for Islamic and conventional banks in Malaysia over a 17-year period. Our findings reject both the null hypothesis of LLP in income smoothing and capital smoothing. It indicates that Islamic and conventional banks in Malaysia use LLP as an important tool in their earnings management and capital management. With tested dummy variables, we reject the hypothesis of conventional banks and Islamic banks behaving in the same way regarding LLP. This study also reveals that Islamic and conventional banks behave differently in their LLP management on the issue of capital smoothing. This study puts forward the contention that conventional and Islamic banks have differing capital ratios concerning loan loss provisions.

It is evident that further studies should be conducted in order to explore the issues covered here, particularly with reference to additional variables included in such studies. With Islamic finance emerging rapidly in the last decade there are now more Islamic banks operating. Considering the constraint of having only a small sample in this study, future analyses will be able to contribute to new knowledge by having access to larger samples of banks.

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