

ISLAMIC AND CONVENTIONAL BANKS: AN EMPIRICAL STUDY OF LIQUIDITY RISK

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Abstract

The banking system consist of conventional banks and Islamic banks. These two type of banks are both exposes to risk. The financial crisis is rooted from the liquidity risk. Therefore, this study is keen to examine the liquidity risk for Islamic and conventional banks in Southeast Asia for a period of 2010 to 2014. The liquidity ratios are used as the measurement of liquidity risk. Then, the descriptive statistic is used to compare the liquidity risk between Islamic and conventional banks. Based on the result of banks in all countries, the study found that the Islamic banks are exposes to a higher liquidity risk (based on mean value of NLDSF) as compared to the conventional banks.

Keywords: Liquidity Risk, Islamic Banks and Conventional Banks

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Introduction

The profit maximization is the common objective for all firms including financial institutions. But, the maximization of profit is achieved if the level of risk is at an acceptable level. The bank perform as a financial intermediary between the savers and the borrowers of funds in the economy (Iqbal and Molyneux, 2005). The banking system consist of conventional banks and Islamic banks. Islamic banking is just another way of performing the financial intermediation function. If the conventional banks use interest rate to mobilize savings, the Islamic banks use profit and loss sharing principle to mobilize the funds with their depositors (Ariff, 2006).

However, these two type of banks are both exposes to risks. The financial crisis is rooted from the liquidity risk (Athanasoglou, Brissimis and Delis, 2008; Hussain and Al-Ajmi, 2012; DeYoung and Jang, 2015). Metwally (1997) define liquidity as the banks' ability to meet demand withdrawal and having no obstacles in giving loans and other liabilities.

The need to measure risk arise as one of the main targets of risk management is to allocate resource efficiently. The overall performance or the solvency of an institution is influenced by a particular type of risk, thus the risk measurement is vital in order to know at what level it give an impact.

In line with the crisis, the Basel III Accord (2010) set a minimum standard of liquidity for internationally important and active banks. The Basel III covers two liquidity ratios; a liquidity coverage ratio (LCR) and a net stable funding ratio (NSFR). The banks need to have sufficient liquid assets to covers the outflow of cash within 30 days during a crisis under the LCR standard. Meanwhile, the banks need to finance with stable funds that are unlikely to run during the crisis for their medium and long-term loans under the NSFR standard.

However, there are several ratios that consistent with LCR and NSFR which are short-term investments to short-term non-core funds; short-term assets to short-term liabilities; net short-term liabilities to assets which represent LCR. Then, NSFR can be represented by net loans and leases to deposits; net loans and leases to core deposits (Uniform Bank Performance Report (UBPR), 2016). Nevertheless, the required data to calculate the LCR is only available for banks' insiders, therefore restrict further analysis. In addition, the NSFR is the ratio that mostly be examined by previous empirical studies (King, 2013).

The previous research state that the risks of low liquidity buffer and highly exposure to short-term funds are the bases for the recent global financial meltdown. The deposits, either short-term or medium-term, represent the main sources of funding for all credit institutions. The deposits are used to fund the long-term credit as banks perform maturity transformation. However, the soundness of the banks are threaten if the deposits are withdraw in a large volume. This also can drive the banks into bankruptcy problem. Therefore, a sufficient liquidity is needed by the banks in order to meet their liquidity needs and also potential loss of deposits is able to be absorbed (Lang and Schmidt, 2016).

In this view, there are continuous debates among scholars, practitioners, regulators and public on the comparison between both Islamic and conventional banks in term of principles, operations, competition, integration, performance and risk management. Hence, continuous comparison of Islamic and conventional banks is significantly essential especially for banking system and their stakeholders. Furthermore, both systems cannot replace each other for certain reasons, therefore, both system should learn from experience of each other and work within their own acceptable terms of preferences to achieve stability (minimum liquidity risk). Therefore, this study is keen to examine the liquidity risk for Islamic and conventional banks in the region of Southeast Asia which covers Brunei Darussalam, Indonesia, Malaysia and Singapore from year 2010 to 2014. Thus, this study adds knowledge to the current literature on the liquidity risk management in Islamic and conventional banks.

Literature Review

Liquidity Risk

A banking sector is expose to the liquidity shortfall when a large scale of funds are withdraws by depositors if a low liquidity ratio maintained. However, if the bank hold high liquidity ratio, the likelihood of a shortfall should be lower since the loss of

deposits is able to be absorbed. Hence, the liquidity risk is able to be captured through the interaction between deposits and liquidity (Lang & Schmidt, 2016).

In other studies done by Akhtar, Ali and Sadaqat (2011), a liquidity risk management is examined for both Islamic and conventional banks in Pakistan for a period of 2006 to 2009 with a sample of 12 banks. The website of State Bank of Pakistan and the Lahore Stock Exchange become the main source for the sample collected. The study used descriptive, correlation and regression analysis to analyse and interpret the data. The study found that the conventional banks are better in terms of profitability and liquidity as compared to the Islamic banks. Besides, the study also found that the conventional banks are more preferred projects with long-term financing.

Then, Hussein (2010) compares Islamic and conventional banks within the same market in terms of its behaviour of key bank-level stability factors of liquidity, capital, risk-taking and consumer confidence. The sample is based on 194 banks in Gulf Cooperation Countries (GCC) for a period of 2000 to 2007. The study found that the Islamic banks give a high level of consumer confidence than the conventional banks due to their high capitalization. Nevertheless, the conventional banks were found to be more liquid than the Islamic banks.

Lastly, the efficiency and performance has been examined for a sample of 58 publicly listed national banks in GCC for a period of 2003 to 2011. The study found that the conventional banks were better than Islamic banks during the earlier years of the study period in terms of profitability, liquidity and solvency. Meanwhile, the Islamic banks were better than conventional banks during the later years of the study period (Tai, 2014). In line with this, Fayed (2013) also found that the conventional banks were better than the Islamic banks in terms of profitability, liquidity, credit risk and solvency for the banks in Egypt.

Data and Methodology

The present study covers data from year 2010 to 2014 for all Islamic and conventional banks (as categorized by the BankScope) in selected four countries in the region of Southeast Asia which are Brunei, Indonesia, Malaysia and Singapore. The BankScope database produced by the Bureau van Dijk is used as the main source to obtain the income statements and balance sheets data for all the selected banks. Total number of banks in the selected countries are 93 conventional banks (Malaysia; 23, Singapore; 8, Brunei Darussalam; 1 and Indonesia; 62) and 30 Islamic banks (Malaysia; 18, Singapore; 1, Brunei Darussalam; 1 and Indonesia; 10). Only bank that provides enough data and information for selected years is considered for the study, thus the banks that do not meet this requirement will be eliminated from the sample.

Variable Selection and Definition

Liquidity Risk

The financial ratios are useful in detecting potential liquidity problems and analysing the banks' liquidity position as this ratio is the most common tool used in finance. In this study, three liquidity ratios are used as indicators for liquidity risk which are; net loans to total assets (NLTA) and net loans to deposits and short-term funding (NLDSF) (Tai, 2014) and loan to deposit (LD) ratio (Van Den End, 2016; DeYoung & Jang, 2015).

A high NLTA ratio signals a low liquidity of the bank, meanwhile a high NLDSF signals that the bank is exposed to a high chance to face liquidity risk. Lastly, a high LTD ratio signals high volatility due to high funding gap.

The liquidity risk at banks is defined as cash demand by customers that exceeds the supply of cash available at bank (DeYoung & Jang, 2015).

Result and Discussion

Descriptive Statistics for Islamic Banks

Table 1.1 presents a very wide dispersion of all ratios across conventional banks in all countries. The average value of LD, NLTA and NLDSF ratios are 585%, 61% and 94% respectively. From the table also it shows the minimum and maximum value of all ratios are differs largely.

Meanwhile the banks in Malaysia shows a close dispersion of all ratios. The average value of LD, NLTA and NLDSF ratios are 71%, 59% and 69% respectively. The value of minimum and maximum for banks in this country also differs largely.

Meanwhile, the descriptive statistics for banks in Singapore shows a wide dispersion of all ratios. The average value of LD, NLTA and NLDSF ratios are 3170%, 43% and 218% respectively. The minimum and maximum value for banks in Singapore are largely differs.

Then, the descriptive statistics for banks in Brunei Darussalam shows a close dispersion of all ratios. The average value of LD, NLTA and NLDSF ratios are 54%, 41% and 51% respectively. The minimum and maximum value of all ratios for banks in this country also differs largely.

Lastly, the descriptive statistics for banks in Indonesia shows a wide dispersion of all ratios. The average value of LD, NLTA and NLDSF ratios are 854%, 68% and 143% respectively. The minimum and maximum value of all ratios also differs largely for banks in this country.

Table 1.1: Summary of Descriptive Statistics for Islamic Banks

Descriptive Statistics for Banks in All Countries						
Variable		Mean	Std. Dev.	Min	Max	Observations
LD	overall	585.068	3286.321	33.8758	27455.37	N = 143
	between		1582.885	48.54024	6924.054	n = 30
	within		2920.656	-6264.57	21116.38	T-bar = 4.76667
NLTA	overall	60.66714	12.90576	10.677	80.086	N = 144
	between		10.88001	35.6336	78.3456	n = 30
	within		7.012	35.71054	87.53814	T-bar = 4.8
NLDSF	overall	93.86951	108.6561	17.737	957.277	N = 139
	between		100.8321	44.631	566.027	n = 30
	within		70.32749	-383.516	509.4515	T-bar = 4.63333

Descriptive Statistics for Banks in Malaysia						
Variable		Mean	Std. Dev.	Min	Max	Observations
LD	overall	70.83563	13.96676	33.8758	98.25663	N = 90
	between		12.34551	48.54024	88.82799	n = 18
	within		7.036247	52.30605	88.45826	T = 5
NLTA	overall	59.38659	11.86905	10.677	75.661	N = 90
	between		10.13816	35.6336	70.6596	n = 18
	within		6.535391	34.42999	73.82779	T = 5
NLDSF	overall	68.69564	13.9949	17.737	94.941	N = 90
	between		12.00718	44.631	86.2736	n = 18
	within		7.626569	41.80164	84.48844	T = 5

Descriptive Statistics for Banks in Singapore						
Variable		Mean	Std. Dev.	Min	Max	Observations
LD	overall	3169.664	6457.191	205.144	14720	N = 5
	between		.	3169.664	3169.664	n = 1
	within		6457.191	205.144	14720	T = 5
NLTA	overall	43.159	16.23932	28.008	70.03	N = 5
	between		.	43.159	43.159	n = 1
	within		16.23932	28.008	70.03	T = 5
NLDSF	overall	217.8325	63.67783	160.364	275.575	N = 4
	between		.	217.8325	217.8325	n = 1
	within		63.67783	160.364	275.575	T = 4

Descriptive Statistics for Banks in Brunei Darussalam						
Variable		Mean	Std. Dev.	Min	Max	Observations
LD	overall	54.36124	7.106002	46.96515	64.76551	N = 5
	between		.	54.36124	54.36124	n = 1
	within		7.106002	46.96515	64.76551	T = 5
NLTA	overall	40.77	4.79885	35.27	47.221	N = 5
	between		.	40.77	40.77	n = 1
	within		4.79885	35.27	47.221	T = 5
NLDSF	overall	51.0738	6.625463	43.078	59.593	N = 5
	between		.	51.0738	51.0738	n = 1
	within		6.625463	43.078	59.593	T = 5

Descriptive Statistics for Banks in Indonesia						
Variable		Mean	Std. Dev.	Min	Max	Observations
LD	overall	853.578	4172.274	62.10221	27455.37	N = 43
	between		2130.264	74.11843	6924.054	n = 10
	within		3670.545	-5996.06	21384.89	T-bar = 4.3
NLTA	overall	67.53705	10.11186	32.838	80.086	N = 44
	between		7.656766	54.78175	78.3456	n = 10
	within		6.959613	45.5933	85.1003	T-bar = 4.4
NLDSF	overall	143.4639	187.6599	61.413	957.277	N = 40
	between		157.1753	73.32225	566.027	n = 10
	within		130.583	-333.921	559.0459	T-bar = 4

*LD refers to loan to deposits ratio, NLTA refers to net loans to total assets ratio and NLDSF refers to net loans to deposits and short-term funding.

Descriptive Statistics for Conventional Banks

Table 1.2 presents a wide dispersion of all ratios across conventional banks in all countries. The average value of LD, NLTA and NLDSF ratios are 78%, 59% and 77% respectively. From the table also it shown the minimum and maximum value of all ratios are differs largely.

Banks in Malaysia shows a wide dispersion of all ratios. The average value of LD, NLTA and NLDSF ratios are 89%, 51% and 87% respectively. The value of minimum and maximum for banks in this country also differs largely.

Meanwhile, the descriptive statistics for banks in Singapore shows a close dispersion of all ratios. The average value of LD, NLTA and NLDSF ratios are 61%, 48% and 60% respectively. The minimum and maximum value for banks in Singapore are largely differs.

Then, the descriptive statistics for banks in Brunei Darussalam also shows a close dispersion of all ratios. The average value of LD, NLTA and NLDSF ratios are 46%, 37% and 43% respectively. The minimum and maximum value of all ratios for banks in this country also differs largely.

Lastly, the descriptive statistics for banks in Indonesia shows a wide dispersion of all ratios. The average value of LD, NLTA and NLDSF ratios are 86%, 64% and 84% respectively. The minimum and maximum value of all ratios also differs largely for banks in this country.

Table 1.2: Summary Descriptive Statistic for Conventional Banks

Descriptive Statistics for Banks in All Countries						
Variable		Mean	Std. Dev.	Min	Max	Observations
LD	overall	78.39263	32.18536	0.553306	326.4178	N = 461
	between		31.34044	2.775911	258.8669	n = 93
	within		11.15774	3.901439	145.9435	T-bar =

4.95699

NLTA	overall	58.75794	17.3948	0.132	85.889	N = 461
	between		16.45927	1.791	76.5625	n = 93
	within		5.70281	21.38074	77.67454	T-bar = 4.95699
NLDSF	overall	76.91629	32.06618	0.522	325.436	N = 461
	between		31.16984	2.7558	257.8105	n = 93
	within		11.30639	2.669789	144.5418	T-bar = 4.95699

Descriptive Statistics for Banks in Malaysia

Variable		Mean	Std. Dev.	Min	Max	Observations
LD	overall	88.78808	118.8267	0.553306	708.2317	N = 115
	between		118.806	2.775911	608.8837	n = 23
	within		22.36418	-50.9404	188.136	T = 5
NLTA	overall	50.56072	25.35355	0.132	97.809	N = 115
	between		25.51717	1.791	94.5486	n = 23
	within		3.810901	38.29732	61.72212	T = 5
NLDSF	overall	87.40197	118.5405	0.522	706.201	N = 115
	between		118.5238	2.7558	607.241	n = 23
	within		22.29035	-51.919	186.362	T = 5

Descriptive Statistics for Banks in Singapore

Variable		Mean	Std. Dev.	Min	Max	Observations
LD	overall	60.95295	25.72077	12.03215	97.18969	N = 40
	between		26.06284	13.16782	92.16292	n = 8
	within		7.208015	44.11754	84.43483	T = 5
NLTA	overall	47.54842	20.90493	8.44	78.4	N = 40
	between		21.3321	9.3522	76.0712	n = 8
	within		5.350741	37.82122	65.06422	T = 5
NLDSF	overall	60.19275	25.68826	10.545	96.02	N = 40
	between		26.02051	11.6682	91.0572	n = 8
	within		7.229286	43.19615	83.67775	T = 5

Descriptive Statistics for Banks in Brunei Darussalam

Variable		Mean	Std. Dev.	Min	Max	Observations
LD	overall	46.25095	11.15563	33.02525	60.07194	N = 5
	between		.	46.25095	46.25095	n = 1
	within		11.15563	33.02525	60.07194	T = 5

NLTA	overall	37.4176	8.131458	27.645	47.204	N = 5
	between	.		37.4176	37.4176	n = 1
	within		8.131458	27.645	47.204	T = 5
NLDSF	overall	43.1538	10.64143	30.488	56.289	N = 5
	between	.		43.1538	43.1538	n = 1
	within		10.64143	30.488	56.289	T = 5
Descriptive Statistics for Banks in Indonesia						
Variable		Mean	Std. Dev.	Min	Max	Observations
LD	overall	85.95889	28.47968	18.70011	326.4178	N = 306
	between		27.6231	53.44916	258.8669	n = 62 T-bar =
	within		12.10902	11.46769	153.5097	4.93548
NLTA	overall	64.23741	10.05006	9.156	85.889	N = 306
	between		7.939593	33.1912	76.5625	n = 62 T-bar =
	within		6.257845	26.86021	83.15401	4.93548
NLDSF	overall	84.37879	28.70031	18.6	325.436	N = 306
	between		27.76142	53.0426	257.8105	n = 62 T-bar =
	within		12.32875	10.13229	152.0043	4.93548

*LD refers to loan to deposits ratio, NLTA refers to net loans to total assets ratio and NLDSF refers to net loans to deposits and short-term funding.

The variety of different level of liquidity risk shows by the above Table 1.1 and Table 1.2 may be due to different economic condition, political difference and other country-specific determinants faced by each country (Castro, 2013).

Conclusion

The banking system consist of conventional banks and Islamic banks. These two type of banks are both exposes to risk. The financial crisis is rooted from the liquidity risk. Therefore, this study examines the liquidity risk for Islamic and conventional banks in the region of Southeast Asia which covers Brunei Darussalam, Indonesia, Malaysia and Singapore from year 2010 to 2014. The study employed a total of 93 conventional banks and 30 of Islamic banks in the region. The liquidity ratios are used as the measurement of liquidity risk. The descriptive statistics is used for this study in order to know the level of selected ratios for both banking streams. Hence, from the result of banks in all countries, the study found that the Islamic banks are exposes to a higher liquidity risk (based on mean value of NLDSF) as compared to the conventional banks. Hence, the liquidity risk management is vital for the overall banking system stability and growth.

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