

Financial Risk of Conventional and Islamic Banks: Does Institutional Quality Matter?

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ABSTRACT

Banks play a significant role in financing the economy and take on risky financial activities based on information and trust as they specialized companies with their own specificities. This study was propelled to unravel the determinants that affect financial risk (liquidity risk and credit risk) for conventional and Islamic banks. The bank-level data of conventional and Islamic banks in the regions of Middle East, Southeast Asia, and South Asia between 2006 and 2014 were collected from the Bankscope, which is a commercial database produced by the Bureau van Dijk. Thus, for conventional banks the obtained results exhibited significantly positive relationship between regulatory quality towards liquidity risk. Then, the relationship between regulatory quality towards credit risk was negatively significant for conventional banks. Meanwhile, as for Islamic banks, the relationship between government effectiveness and regulatory quality towards financial risk was insignificant. Hence, the regulators or policymakers are able to identify specific mechanism to improve the risk management of these banks as well through this study.

Keywords

Banks, Financial Risk, Liquidity Risk, Credit Risk

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Introduction

Banks play a significant role in financing the economy and take on risky financial activities based on information and trust as they specialized companies with their own specificities. The bank governance is weakened by the failure of several banking institutions in the 2000s and the financial crisis of 2007 since the role and specificities of banks discredited by the measures adopted in terms of corporate governance. Hence, to strengthen the internal governance of banks, which are considered a key factor in explaining banking performance, new measures (existence of a banking risk control committee, remuneration and incentive policies, structure, and size of the board of directors, etc.) were taken (Djebali & Zaghdoudi, 2020).

Banks become less cautious in countries where prudential regulations are delayed in applying (Garriga, 2017). Therefore, new governance control mechanisms which take the interests of other stakeholders into consideration so as to lower the chances of failure more effectively is vital to be designed (Srivastav & Hagedorff, 2016). Simultaneously, country-level governance

and regulation which is a macro governance framework is vital to consider as this governance can act as a substitute for corporate governance at the firm level (Berglof, 2011; Safiullah & Shamsuddin, 2018). In addition, the effect of ownership structure and bank regulations on risk taking in the Middle East and North African (MENA) region has been investigated by Haque (2019). But little is known about the interaction between either firm- or country-level dimensions.

An organization required the presence of good corporate governance since this governance can ensure that all stakeholders are treated equally and also assist in building shareholder confidence. Effective protection to shareholders to recover their investment reasonably, appropriately and efficiently, and ensure that management acts for the benefit of the company can be guaranteed by having a good corporate governance. There is extensive research has been done on the effect of good corporate governance towards firm performance (Mahrani, & Soewarno, 2018; Goel, 2018; Djebali & Zaghdoudi, 2020; Rashid et al., 2020).

Different countries have different institutional quality (e.g., level of bureaucratic corruption, political risk premium, quality of government service, and risk of expropriation) due to different economic environment. This institutional quality is considered a vital factor of a country's economic performance (Jiao & Wei, 2017).

The analysis of the effect of governance at the country and firm level, and ownership on banks' exposure in the MENA countries has been analysed by Otero et al., (2018) and Gonzalez et al., (2017). These banks in general, are operating with varying standards of governance, investor protection and ownership. In addition, some countries in this region operating under risky environment and different economic and financial conditions. In this regard, there is a gap in the literature concerning the effect of country and firm governance on banks' risk taking as stated by Otero, Alaraj and Lado-Sestayo, (2019). Therefore, the study on the effect of country governance towards financial risk of conventional and Islamic banks is vital in the regions of Middle East, South East Asia and South Asia in order to know their differing impact.

This study was propelled to identify determinants that affect liquidity risk and credit risk (financial risk) for conventional and Islamic banks. The liquidity and credit management are crucial to the future development and survival of these banking institutions. In particular, the specific objectives of this study are as follows:

1. To identify the determinants of financial risk (liquidity risk and credit risk) for conventional and Islamic banks.
2. To evaluate the effects of institutional quality (government effectiveness and regulatory quality) towards financial risk (liquidity risk and credit risk) for conventional and Islamic banks.

This paper contributes to the existing literature in several important ways. As far as we know, this study has shown that institutional quality is relevant in explaining the exposure at the country level in selected region in line with previous study done by Aggarwal et al. (2011), Berglof (2011) and Otero et al., (2019). Furthermore, the result of this study also important to the bank regulators and supervisors as a guide.

The results also support the importance of taking the country-level governance into account as this governance performed as a substitute for firm-level governance. Interestingly, although the selected countries in the selected region having a good institutional quality, the bank stability would not be improved.

The paper has been structured as follows: Section 2 presents a review of the existing literature; Section 3 presents the hypotheses; Section 4 describes the methodology; Section 5 states the results and analysis; and Section 6 concludes the paper.

Literature Review

The institutional quality that was examined in this study focused on the government capabilities to formulate and implement sound policies, which included two dimensions of governance—government effectiveness and regulatory quality—to determine how governance affects risks (liquidity risk and credit risk). Subsequently, the potential determinants of liquidity risk and credit risk for conventional and Islamic banks were identified.

The need to identify these determinants that affect liquidity risk and credit risk is crucial to ensure the survival and soundness of banks. Following that, the study examined the effects of different measures of efficiency (technical efficiency) towards liquidity risk and credit risk for conventional and Islamic banks. This efficiency may potentially affect liquidity risk and credit risk for conventional and Islamic banks, but majority of previous studies did not consider efficiency as a significant determinant.

A thorough search of literature revealed that there are no empirical studies on the effects of institutional quality towards financial risk, as most of these studies examined the effects of corporate governance towards bank risk (Switzer & Wang, 2013; Otero et al., 2019) or corporate governance towards bank performance (Rashid et al., 2020; Djebali & Zaghoudi, 2020; De Haan & Vlahu, 2016). Therefore, this study was performed to examine the specific measures of institutional quality, which focused on government capabilities (government effectiveness and regulatory quality).

Financial Risk for Banking Institutions

Sound banking system is crucial for economic stability and growth. The financial crisis between 2008 and 2009 has emphasized the importance of liquidity and credit risk management (Athanasoglou, Brissimis & Delis, 2008; Van Vuuren, 2011; Le & Dickinson, 2016; Zhou, Liu & Wang, 2020) and reaffirmed the need to consistently monitor and examine the risk. The higher the propensity to default, the higher the risk is for banks. As a result, the default leads to financial instability for the financial institutions, especially banks (Porath, 2004). The global financial crisis also highlighted the importance of good corporate governance structures in enhancing sustainability and performance of the firm in the long run (Ehikioya, 2009; Fernandez Sanchez, Odriozola Zamanillo & Luna, 2020). Additionally, quality decision making is assured by having corporate governance structures (Shivani, Jain & Yadav, 2017).

Liquidity Risk

The financial crisis between 2008 and 2009 has shed light on the role and significance of good liquidity management for the financial institutions, especially banks, because banks, as financial intermediary, significantly affect the overall economy. The Basel Accord III was subsequently introduced to cope with the financial crisis to ensure the soundness of the financial system and minimize the exposure to liquidity risk and credit risk (Ferrouhi, 2014; Benzschawel, 2014).

Credit Risk

Poor asset quality also contributes to the failure of banks (Athanasoglou et al., 2008; Nikolaidou & Vogiazas, 2014). There are numerous studies on credit risk, which emphasized its significance in the banking industry (Ericsson & Renault, 2006; Ahmed et al., 2011; Rahman, 2011; Baglioni, 2012; Salah & Fedhila, 2012; Apergis & Payne, 2013; Warue, 2013; Imbierowicz & Rauch, 2014; Nikolaidou & Vogiazas, 2014; Zaib, Farid & Khan, 2014).

Bank Size

Essentially, the size of a bank matters, depending on the scale and scope of economy; concerning liquidity, large banks may have better access to the interbank market due to their expanded network of regular counterparties or extended collateral range (Fecht, Nyborg & Rocholl, 2011). Meanwhile, characteristics such as size, status type, and specialization were found to affect the liquidity of banks (Holmstroem & Tirole, 2000; Giannotti, Gibilaro & Mattarocci, 2011). However, certain studies (e.g., Avery & Hanweck, 1984; Demsetz & Strahan, 1995; Giannotti et al., 2011; Davila & Walther, 2020; Culpepper & Tesche, 2020) argued that large banks would not fail anyhow. In that context, the size of a bank is interpreted as an indicator of liquidity based on the assumption that large banks have enhanced ability to borrow and better reputation of alleviating unexpected liquidity issues.

It has also been argued that there is market segmentation for large and small banks. A comparative advantage in nontraditional banking activities is benefited by the large bank as they required significant fixed costs. Nevertheless, more leverage and unstable funding triggered as bank venturing more into nontraditional activities. Therefore, high risk is expected for the large banks (less capitalized and more nontraditional activities). Collectively, banks that are profitable and liquid afford to put more capital aside than less profitable banks. Specifically, profitable and liquid banks provide shareholders with adequate income to raise additional equity to protect them against financial distress as stated in the charter value hypothesis (Ahmad, Ariff & Skully, 2008; Abdul Hamid, Azmi, & Ali, 2020).

Capitalization

The risks in the banking industry are compensated with adequate capitalization (Fiordelisi, Marques-Ibanez & Molyneux, 2011; Tan & Floros, 2013). Addressing that, the effects of capitalization towards bank risk were examined in several studies (Fiordelisi et al., 2011; Tan & Floros, 2013). Tan and Floros (2013) indicated that regulators would emphasize on higher capital level when the risks are high, which prevent the incurrence of cost of issuing equity at short notice

for banks (Peura & Keppo, 2006). In contrast, this is consistent with the higher level of portfolio risk held by banks which compensate with the higher level of capital required by the regulatory authority. A crisis or bank run is minimized with higher amount of capital as it acts as a cushion. Additionally, bank stability is associated with higher capitalization (Abdul Hamid et al., 2020).

Bank Efficiency

Technological change and deregulation have spurred competition among banks, which establish the significance of improved efficiency in the banking industry. However, with increasing competition, the associated risks also increase. Thus, the operation of banks has to be at their best efficient production function. High competition also would decrease the market power and stock prices of banks. In addition, the inefficiency in the banking industry consumes large amount of funds and affects the performance of banks (Pastor, 1999; Salas & Saurina, 2003; Goddard & Wilson, 2009; Le, 2020).

Institutional Quality

The quality of each environment reflected by its country-level governance, that affect the firm level standard. Therefore, corporate governance can be substituted by a strong macro governance framework (Berglof, 2011). Bank's performance and risk significantly affected by the law enforcement as stated by Naceur and Omran (2011). In addition, the legal system should not overlook the protection of shareholders. In any country, the legal protection can be measured by shareholders' rights (Srairi, 2013). Effective legal shareholder protection serves as a substitute for the existence of a large shareholder monitoring management as suggested by the banking theory (Magalhaes, Gutierrez Urriaga & Tribo, 2010) and it also give ability to owners to adjust bank risk (Laeven & Levine, 2009). Nevertheless, controversial issues still arise in the relationship between investor protection and risk taking. Although, many authors have found the positive relationship (John, Litov & Yeung, 2008; Paligorova, 2010; Nguyen, et al., 2020; Teixeira, et al., 2020), there is also negative evidences of the relationship between investor protection and

risk taking (Shleifer & Vishny, 1986; Andries et al., 2020; Koirala, et al., 2020).

The institutional quality encompasses three aspects, which are (1) the selection, observation, and substitution of the government; (2) the capability to formulate and implement sound policies by the government; and (3) the governance of institutions over how citizens and state be respected especially in their economic and social interactions (Kaufmann, Kraay & Mastruzzi, 2014). However, considering that financial institutions are heavily regulated and intervened by the government, this study considered the second aspect (Levine, 2004).

Research Hypotheses

Objective 1:

- 1) H1 (1a): The bank size significantly influences the liquidity risk for the conventional banks.
- 2) H1 (1b): The bank size significantly influences the liquidity risk for the Islamic banks.
- 3) H1 (2a): The capitalization significantly influences the liquidity risk for the conventional banks.
- 4) H1 (2b): The capitalization significantly influences the liquidity risk for the Islamic banks.
- 5) H1 (3a): The bank efficiency significantly influences the liquidity risk for the conventional banks.
- 6) H1 (3b): The bank efficiency significantly influences the liquidity risk for the Islamic banks.
- 7) H1 (4a): The bank size significantly influences the credit risk for the conventional banks.
- 8) H1 (4b): The bank size significantly influences the credit risk for the Islamic banks.
- 9) H1 (5a): The capitalization significantly influences the credit risk for the conventional banks.
- 10) H1 (5b): The capitalization significantly influences the credit risk for the Islamic banks.
- 11) H1 (6a): The bank efficiency significantly influences the credit risk for the conventional banks.
- 12) H1 (6b): The bank efficiency significantly influences the credit risk for the Islamic banks.

Objective 2

- 1) H2 (1a): The government effectiveness significantly influences the liquidity risk for the conventional banks.
- 2) H2 (1b): The government effectiveness significantly influences the liquidity risk for the Islamic banks.
- 3) H2 (2a): The regulatory quality significantly influences the liquidity risk for the conventional banks.
- 4) H2 (2b): The regulatory quality significantly influences the liquidity risk for the Islamic banks.
- 5) H2 (3a): The government effectiveness significantly influences the credit risk for the conventional banks.

- 6) H2 (3b): The government effectiveness significantly influences the credit risk for the Islamic banks.
- 7) H2 (4a): The regulatory quality significantly influences the credit risk for the conventional banks.
- 8) H2 (4b): The regulatory quality significantly influences the credit risk for the Islamic banks.

Theoretical Framework

The Figure 1 present the determinants of financial risk for conventional and Islamic banks in the regions of Middle East, Southeast Asia, and South Asia.

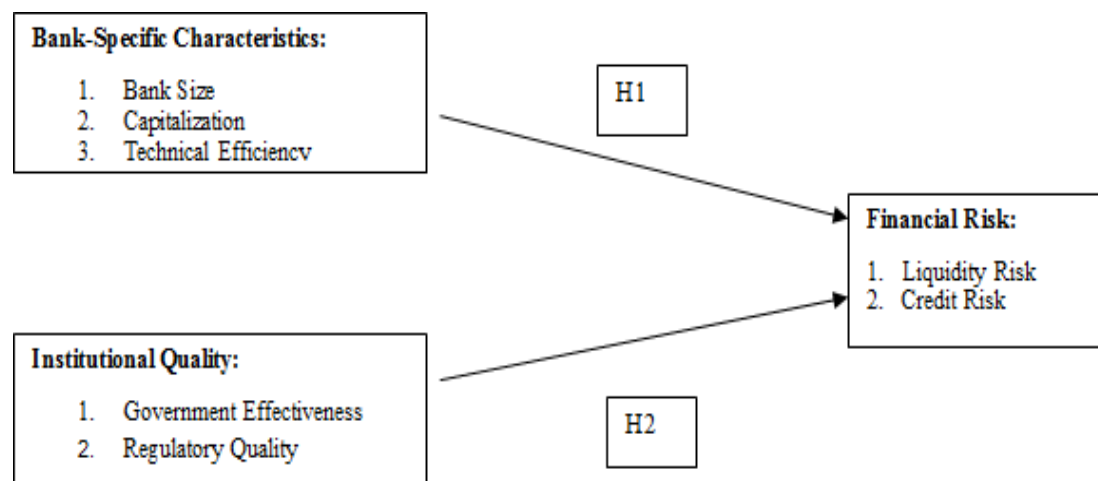


Figure 1. Theoretical Framework of the Determinants of Financial Risk for Conventional and Islamic Banks

Data and Methodology

Data Collection and Selection

The bank-level data of conventional and Islamic banks in the regions of Middle East, Southeast Asia, and South Asia between 2006 and 2014 were collected from the Bankscope, which is a commercial database produced by the Bureau Van Dijk. These three regions were selected due to their role as the main Islamic banking and finance hubs at the global scale. The total sample for this study were 392 banks (297 conventional banks and 95 Islamic banks) in 17 countries. Lastly, the data on institutional quality were obtained from the Worldwide Governance Indicator (WGI) dataset,

which is available online in the following link: www.govindicators.org.

The proxy used for this study was loan to deposit ratio (LDR) (Caprio et al., 2010; Vogiazas & Alexiou, 2013; Van den End, 2016; Satria, Harun & Taruna, 2016; Anugrah & Yatna, 2020). High LDR indicates high intermediation efficiency where ratio above one implies that the sources of non-deposit are used to finance the lending from the private sector that ultimately leads to funding instability.

Then, the proxy to measure credit risk is the ratio of loan loss provisions to total loans (LLPTL) (Mamatzakis, 2015; Chaibi & Fiti, 2015; Qiu, 2020). The loan loss provision was used to control

the anticipated loan losses as well as the identification and handling of high credit loss for loans.

This study employed natural log of assets as the measurement of bank size and the relationship between bank size and financial risk is expected to be positive or negative. This is in line with Vithessonthi and Tongurai, (2016) and Abdul Hamid et al., (2020).

Capitalization is a proxy by equity to total assets ratio and the negative and positive effect towards financial risk is expected (Angkinand et al., 2013; Tan & Floros, 2013; Miah & Sharmeen, 2015).

This study examined the technical efficiency of conventional and Islamic banks using data envelopment analysis (DEA). Based on the efficiency of financial institutions, Berger and Humphrey (1997) and Fethi and Pasiouras (2010) reviewed that DEA typically assesses the bank performance using DEA, which is considered as the nonparametric approach and better in analysing efficiency using multiple inputs and outputs in DMUs.

The dataset of Worldwide Governance Indicators (WGI) is a dataset that summarizes the opinions on the governance quality of countries, as proposed by Kaufmann et al., (1999; 2007; 2010; 2014). The two aggregate indicators from WGI include government effectiveness and regulatory quality to represent the institutions in this study.

Estimation Method

Panel Data Analysis

The pooling of observations across different entities is referred to as panel data (Baltagi et al., 2003). Thus, the panel data integrated the features of time-series and cross-sectional data. In addition, testing and relaxing of the assumptions that are implicit in cross-sectional studies are allowed in the panel data, which is its main advantage (Maddala et al., 2001). Several econometricians also claimed that the panel data analysis offers various advantages (Baltagi et al., 2003; Gujarati, 2004; Hsiao, 2005). This study employed one technique of estimation, which was

static panel data to evaluate the determinants of financial risk.

Results and Analysis

Descriptive Statistics of Conventional Banks

Table 1 report the descriptive statistics of conventional banks for this study. The average loan to deposit ratio (lnLDR) is 4.20%, while the average loan loss provision to total loan (lnLLPTL) is -0.36%. Average bank size (lnTA), proxied by total asset, is 8.81%. In terms of capitalization (lnETA), average is 2.43%. Then, average of efficiency (lnTE) is -0.67%. Meanwhile, average of government effectiveness (lnGE) and regulatory quality (lnRQ) is -0.58% and -0.80%, respectively. Bank size indicate high standard-deviation value. Then, followed by loan to deposit ratio, capitalization and loan loss provision. High standard deviation, indicating high variability in the variables used. This is due to the different structures resulted from different countries in the sample. However, bank efficiency does not have high variability. Meanwhile, government effectiveness and regulatory quality do not have a high dispersion across the countries in the sample.

Descriptive Statistics of Islamic Banks

Table 2 report the descriptive statistics of Islamic banks for this study. The average loan to deposit ratio (lnLDR) is 4.19%, while the average loan loss provision to total loan (lnLLPTL) is -0.27%. Average bank size (lnTA), proxied by total asset, is 8.29%. In terms of capitalization (lnETA), average is 2.62%. Then, average of efficiency (lnTE) is -1.02%. Meanwhile, average of government effectiveness (lnGE) and regulatory quality (lnRQ) is -0.51% and -0.82%, respectively. Bank size indicate high standard- deviation value. Then, followed by loan to deposit ratio, capitalization, bank efficiency and loan loss provision. High standard deviation, indicating high variability in the variables used. This is due to the different structures resulted from different countries in the sample. Meanwhile, government effectiveness and regulatory quality do not have a high dispersion across the countries in the sample.

Table 1. Descriptive Statistics for Conventional Banks

Variable	Mean	Std. Dev.	Min	Max
lnLDR	4.20	0.39	1.56	5.13
lnLLPTL	-0.36	1.21	-9.12	2.90
lnTA	8.81	2.72	2.32	18.40
lnETA	2.43	0.50	-0.84	4.37
lnTE	-0.67	0.38	-2.72	0.00
lnGE	-0.58	0.98	-4.89	0.89
lnRQ	-0.80	0.74	-3.55	0.80

Table 2. Descriptive Statistics for Islamic Banks

Variable	Mean	Std. Dev.	Min	Max
lnLDR	4.19	0.44	2.24	5.15
lnLLPTL	-0.27	1.24	-7.59	2.38
lnTA	8.29	2.36	3.68	16.49
lnETA	2.62	0.71	1.11	4.55
lnTE	-1.02	0.66	-4.96	3.92
lnGE	-0.51	0.84	-3.71	0.89
lnRQ	-0.82	0.73	-3.96	0.80

First Objective: to identify the determinants of liquidity risk for conventional and Islamic banks

Subsequently, this study aimed to identify the determinants of liquidity risk for conventional and Islamic banks. Using multivariate panel regression analysis, this study demonstrated the variation in liquidity risk according to the bank-specific characteristics and the environment where each bank operates.

Conventional Banks

In general, Table 3 presents the results of regression analysis, which focused on the relationship between liquidity risk and contextual variables for conventional banks in all regions. Based on Model 1 in Table 3, bank size (lnTA) exhibit insignificant towards liquidity risk (LDR) (Model 1 and Model 3) for conventional banks. Nevertheless, bank size exhibit significant positive relationship towards liquidity risk at 10% level in Model 2 for conventional banks. Besides

that, the obtained results demonstrated significantly positive relationship between capitalization (ETA) and liquidity risk at 1% level for all models. Consistent with Abdo and Onour (2020) and Vithessonthi and Tongurai (2016), it implies that higher capitalization would contribute to higher level of liquidity risk. Specifically, Vithessonthi and Tongurai (2016) measured capitalization ratio using leverage (the ratio of equity to total assets), but the effect is similar with the other measures which is positive relationship with liquidity ratio. Meanwhile, the effects of technical efficiency (TE) towards liquidity risk were insignificant for all Models.

Islamic Banks

Table 4 presents the results of regression analysis on the determinants of liquidity risk for Islamic banks in all regions. The relationship between bank size (lnTA) and liquidity risk (LDR) was significantly positive at 10% level (Model 2 and Model 3) and exhibit insignificant (Model 1) for Islamic banks, which is consistent with most

previous studies (Agustuty et al., 2020) that concluded that large banks may not fail. In other words, larger banks have lower liquidity risk. Thus, this study supported the theory of –too big to fail. The bank size is considered as an indicator of liquidity since most previous studies found that larger banks have greater ability to borrow and better reputation to alleviate unexpected liquidity issues (Demsetz & Strahan, 1995; Giannotti et al., 2011).

Meanwhile, the relationship between capitalization (ETA) and liquidity risk (LDR) was significantly positive at 1% level in all models. This indicates that higher capitalization contributes to higher liquidity risk, which is inconsistent with what regulators emphasize— hold higher capitalization to contribute positive effects to these banks. In addition, the obtained results of this study do not support the risk absorption hypothesis. Several previous studies indicated that higher capitalization would enable the banks to efficiently absorb risk according to the risk absorption hypothesis (Umar, Sun & Majeed, 2017). Nevertheless, the result obtained in this study is in line with previous study (Akhtar, Ali & Sadaqat, 2011) that found significantly positive relationship between capital adequacy ratio and liquidity ratio for conventional and Islamic banks in Pakistan.

Besides that, this study also found positively significant relationship between technical efficiency (TE) and liquidity risk (LDR) at 1% level for Islamic banks. This implies that increasing technical efficiency would increase liquidity risk for Islamic banks. Thus, the obtained results in this study do not support the bad management hypothesis, in which banks with lower efficiency of banks would incur higher cost due to inefficient control of operating expenses and incapability to monitor credits (Berger & De Young, 1997). The increase of risk is possibly contributed by operational, credit, reputational problems, and market and drops in efficiency. The economic condition would negatively affect the relationship of loan-performance. Only a small percentage of loan defaults occur during economic boom. Meanwhile, the loans defaults by borrowers tend to be high during bad times. Therefore, banks should take advantage during economic boom and protect themselves during a bust phase (Sufian,

2009; Sufian, Kamarudin, & Noor, 2012; Fallanca, Forgione & Otranto, 2020).

Second Objective: to evaluate the effects of institutional quality (government effectiveness and regulatory quality) towards financial risk (liquidity risk and credit risk) for conventional and Islamic banks.

Conventional Banks

Referring to Table 3, Model 2 demonstrated insignificant effects of government effectiveness (GE) towards liquidity risk (LDR). Nevertheless, Model 3 demonstrated statistically significantly positive effects of regulatory quality (RQ) towards liquidity risk (LDR) at 1% level. The obtained results exhibited that good institutional quality (regulatory quality) would increase liquidity risk for conventional banks.

Islamic Banks

Referring to Model 2 in Table 4, the effects of government effectiveness (GE) towards liquidity risk (LDR) were insignificant for Islamic banks. Meanwhile, the effects of regulatory quality (RQ) towards liquidity risk (LDR) were also insignificant. These obtained results demonstrated that both measures of institutional quality did not affect liquidity risk for Islamic banks.

Overall, the obtained results on conventional banks in all regions are not in line with the theory of behavioural commitment and the theory of regulation presented in this study. The government regulation is vital for the overall health of the economy, especially for the financial institutions. Besides that, the trust placed by clients of these institutions cannot be taken for granted since even the slightest mistrust leads to contagion effect, which increases bank runs and eventually affects the economic conditions (Ofoeda, Abor & Adjasi, 2012). The most prominent justifications for having financial institutions regulation are preventing the risk of failure and supporting a country's economic well-being in general. Nevertheless, the effects of regulation towards risk-taking practice of these financial institutions remain unresolved despite years of theoretical exploration and empirical studies. The actual sign of the marginal effects of regulation (such as capital regulations, deposit insurance policies, and bank activities restrictions)

towards risks were found to vary according to the ownership concentration (Laeven & Levine, 2009). The bank risk-taking practice are also affected by different corporate governance structure of these banks along with those mentioned regulations (such as capital regulations, deposit insurance policies, and bank activities restrictions). In addition, greater regulatory restrictions reduce the efficiency of banking industry and increases the probability of a country being exposed to banking crisis (Barth, Caprio & Levine, 2001a; Barth, Caprio & Levine, 2001b).

In addition, banks with strong, authorized supervision prevent excessive risk-taking practice, which contributes to bank development, performance, and stability. On the other hand, the bank performance was found to be negatively

affected by powerful supervisors, which may draw campaign donation, extract bribes, and benefit preferred voters (Shleifer & Vishny, 1998). Therefore, powerful supervision is likely to be positively related to corruption under these circumstances; thus, bank development, performance, and stability would not be improved in this case.

From another perspective, banking regulation is necessary to promote efficient system of financial services. Nevertheless, there is also another argument that such banking regulation is unnecessary since it triggers banking monopolies through legal barriers to entry, which contributes to instability of banking system (Friedman & Schwartz, 1963).

Table 3. Determinants of Liquidity Risk for Conventional Banks

VARIABLES	MODEL 1			MODEL 2			MODEL 3		
	OLS	FEM	REM	OLS	FEM	REM	OLS	FEM	REM
Constant	-0.564*** (0.191)	3.645*** (0.0851)	3.553*** (0.0685)	3.617*** (0.0977)	3.313*** (0.146)	3.261*** (0.12)	3.646*** (0.0946)	3.372*** (0.14)	3.280*** (0.117)
lnTA	0.00169 (0.0103)	0.0107 (0.008)	0.0230*** (0.00549)	0.0401*** (0.00408)	0.0168* (0.0097)	0.0302*** (0.00687)	0.0381*** (0.00393)	0.0132 (0.0095)	0.0289*** (0.0068)
lnETA	-0.01 (0.061)	0.205*** (0.0181)	0.195*** (0.0169)	0.122*** (0.031)	0.326*** (0.0344)	0.295*** (0.0315)	0.103*** (0.0302)	0.328*** (0.0326)	0.298*** (0.0305)
lnTE	-0.261*** (0.0784)	0.0114 (0.018)	0.0201 (0.0168)	0.0890** (0.0374)	0.0237 (0.0283)	0.0405 (0.0273)	0.0771** (0.0362)	0.0255 (0.0274)	0.0408 (0.0266)
lnGE				0.0151 (0.0122)	0.0192 (0.0187)	0.0186 (0.0155)			
lnRQ							-0.0257* (0.0153)	0.0517*** (0.0197)	0.0318* -0.0177
Observations	1,777	1,993	1,993	832	832	832	878	878	878
R-squared	0.006	0.069		0.114	0.12		0.114	0.124	
Wald Chi2/ F-statistic		9.18**			14.76***			21.57***	

Notes: Asterisk (*, **, ***) denotes statistically significant at 10%, 5%, and 1% level respectively

Table 4. Determinants of Liquidity Risk for Islamic Banks

VARIABLES	MODEL 1			MODEL 2			MODEL 3		
	OLS	FEM	REM	OLS	FEM	REM	OLS	FEM	REM
Constant	3.784*** (0.1)	3.662*** (0.192)	3.624*** (0.157)	3.779*** (0.129)	3.529*** (0.268)	3.790*** (0.195)	3.776*** (0.121)	3.551*** (0.263)	3.744*** (0.192)
lnTA	0.0404*** (0.0073)	0.0196 (0.0153)	0.0309*** (0.0115)	0.0488*** (0.0089)	0.0338* (0.0184)	0.0351*** (0.0134)	0.0445*** (0.0085)	0.0323* (0.018)	0.0349*** (0.0131)
lnETA	0.0732*** (0.0274)	0.208*** (0.0396)	0.165*** (0.034)	0.0512 (0.0353)	0.196*** (0.063)	0.0851* (0.0472)	0.0569* (0.0335)	0.210*** (0.0596)	0.107** (0.0453)
lnTE	0.119*** (0.028)	0.160*** (0.0233)	0.140*** (0.0219)	0.131*** (0.0322)	0.152*** (0.032)	0.140*** (0.029)	0.145*** (0.0314)	0.149*** (0.0303)	0.137*** (0.0279)
lnGE				0.0269 (0.0247)	-0.0388 (0.0436)	-0.0029 (0.032)			
lnRQ							-0.0426 (0.0277)	0.0229 (0.038)	0.00244 (0.0329)
Observations	623	623	623	364	364	364	387	387	387
R-squared	0.079	0.12		0.112	0.119		0.109	0.123	
Wald Chi2/ F-statistic		10.27***			9.27**			10.24**	

Notes: Asterisk (*, **, ***) denotes statistically significant at 10%, 5%, and 1% level respectively

First Objective: to identify the determinants of credit risk for conventional and Islamic banks

Conventional Banks

This study also aimed to identify the determinants of credit risk for conventional and Islamic banks. Using multivariate panel regression analysis, this study demonstrated the variation in credit risk according to the bank-specific characteristics and the environment where each bank operates. The results derived from the analysis framework are discussed in the following section. In general, Table 5 presents the results of panel regression analysis, which focused on the relationship between credit risk and contextual variables for conventional banks in all regions.

Based on Table 5, bank size (lnTA) exhibited significant negative effects at 1% level towards credit risk (LLPTL) for conventional banks in all

models. Meanwhile, the relationship between capitalization (ETA) and credit risk (LLPTL) was found to be insignificant in all models for conventional banks. Then, the effects of technical efficiency (TE) towards credit risk (LLPTL) were negatively significant at 5% level in Model 1 only for conventional banks. This implies that increasing technical efficiency would decrease credit risk for conventional banks. Thus, the obtained results in this study support the bad management hypothesis as stated by Berger and De Young, (1997) and Williams, (2004).

Islamic Banks

Table 6 represents the results of regression analysis on the determinants of credit risk for Islamic banks in all regions. Bank size (lnTA) exhibited negatively significant effects towards credit risk (LLPTL) for Islamic banks in Model 1

and Model 3. Nonetheless, capitalization (ETA) exhibited insignificant effects towards credit risk (LLPTL) for Islamic banks, which implies that these banks do not adjust and match their capital with asset quality (Vithessonthia & Tongurai, 2016). Meanwhile, the effects of technical efficiency (TE) towards credit risk (LLPTL) for Islamic banks were found to be insignificant.

Second Objective: to evaluate the effects of institutional quality (government effectiveness and regulatory quality) towards credit risk for conventional and Islamic banks

Conventional Banks

Referring to Table 5, Model 2 demonstrated insignificant effects of government effectiveness (GE) towards credit risk (LLPTL). In other hand, Model 3 demonstrated negatively significant effects of regulatory quality (RQ) towards credit risk (LLPTL) at 5% level. The obtained results exhibited that regulatory quality would increase credit risk for these conventional banks.

Islamic Banks

Referring to Table 6, the effects of government effectiveness (GE) towards credit risk (LLPTL) were revealed to be insignificant, as shown in Model 2. Likewise, the effects of regulatory quality (RQ) towards credit risk (LLPTL) were also insignificant (Model 3) for Islamic banks. These results revealed that both measures of

institutional quality did not affect credit risk for Islamic banks. Theoretically, banks should reduce excessive risk-taking practice according to the reforms of regulations, especially the implemented financial and banking reforms, following the Asian financial crisis in 1997 (Abiad, Detragiache & Tressel, 2010). In another study done by Fiordelisi et al., (2011), the regulatory agency potentially leads to moral hazard issues in banks. In addition, banks are encouraged to take on higher risk through flat deposit insurance scheme. Consequently, moral hazard issue also increases when the government, which represent the main regulatory bodies of a country will intervene the lenders in the collapse case in order to protect them from failure (Deelchand & Padgett, 2009).

Besides that, increased authorized supervisory power potentially contributes to the development and stability of the financial system. Previous research by Barth, Caprio and Levine, (2004) argued that authorized supervision may constitute better substitute to market failure and contribute to further stabilize the financial system due to market imperfections. Nevertheless, the performance and efficiency of financial system could be hindered by powerful supervision with corrupted environment or lack of democracy and civil discipline (Shleifer & Vishny, 1998). In a closed political system, broader supervisory power tends to be associated with higher problem loans; thus, hinders the development of banks (Barth et al., 2004).

Table 5. Determinants of Credit Risk for Conventional Banks

VARIABLES	MODEL 1			MODEL 2			MODEL 3		
	OLS	FEM	REM	OLS	FEM	REM	OLS	FEM	REM
Constant	-0.564*** (0.191)	1.810*** (0.494)	0.0492 (0.274)	-2.014*** (0.311)	1.327* (0.8)	-1.271*** (0.465)	-2.258*** (0.305)	0.857 (0.779)	-1.478*** (0.46)
lnTA	0.00169 (0.0103)	-0.226*** (0.0465)	-0.0389** (0.0188)	0.0284** (0.0135)	-0.172*** (0.0531)	0.00139 (0.0239)	0.0320** (0.0131)	-0.155*** (0.053)	0.00457 (0.0236)
lnETA	-0.01 (0.061)	-0.138 (0.106)	-0.1 (0.0827)	0.347*** (0.0954)	-0.0929 (0.187)	0.161 (0.135)	0.368*** (0.094)	-0.0613 (0.181)	0.161 (0.133)
lnTE	-0.261*** (0.0784)	-0.250** (0.105)	-0.137 (0.0872)	-0.281** (0.125)	-0.193 (0.16)	-0.138 (0.138)	-0.360*** (0.123)	-0.247 (0.157)	-0.193 (0.136)
lnGE				-0.220*** (0.0409)	-0.0836 (0.098)	-0.219*** (0.0608)			
lnRQ							-0.302*** (0.053)	-0.276** (0.107)	-0.367*** (0.0771)
Observations	1,777	1,777	1,777	768	768	768	813	813	813
R-squared	0.006	0.016		0.071	0.017		0.074	0.024	
Wald Chi2/ F-statistic		20.73***			16.23***			13.73***	

Notes: Asterisk (*, **, ***) denotes statistically significant at 10%, 5%, and 1% level respectively

Table 6. Determinants of Credit Risk for Islamic Banks

VARIABLES	MODEL 1			MODEL 2			MODEL 3		
	OLS	FEM	REM	OLS	FEM	REM	OLS	FEM	REM
Constant	-0.277 (0.29)	1.025 (0.787)	0.104 (0.461)	-0.222 (0.447)	0.239 (1.064)	-0.064 (0.674)	-0.156 (0.422)	0.16 (1.081)	0.0905 (0.65)
lnTA	-0.0091 (0.021)	-0.159*** (0.0573)	-0.0559* (0.0331)	0.00137 (0.0308)	-0.144** (0.0633)	-0.0671 (0.045)	-0.0025 (0.0296)	-0.135** (0.064)	-0.0734* (0.0436)
lnETA	-0.105 (0.0808)	0.00182 (0.186)	-0.0295 (0.113)	-0.176 (0.121)	0.259 (0.283)	0.0416 (0.168)	-0.205* (0.114)	0.163 (0.277)	-0.0378 (0.159)
lnTE	-0.342*** (0.0786)	-0.0694 (0.0971)	-0.176** (0.0843)	-0.298*** (0.109)	-0.0681 (0.126)	-0.175 (0.111)	-0.289*** (0.106)	-0.0127 (0.124)	-0.128 (0.109)
lnGE				0.0143 (0.0862)	0.0973 (0.187)	0.0411 (0.115)			
lnRQ							-0.0656 (0.0966)	-0.306* (0.174)	-0.165 (0.127)
Observations	549	549	549	320	320	320	341	341	341
R-squared	0.035	0.024		0.027	0.039		0.032	0.04	
Wald Chi2/ F-statistic		7.16*				36.77***			37.87***

Notes: Asterisk (*, **, ***) denotes statistically significant at 10%, 5%, and 1% level respectively

Conclusion

This study was propelled to unravel the determinants that affect financial risk (liquidity risk and credit risk) for conventional and Islamic banks. The management of liquidity risk and credit risk are crucial for the future development and survival of banking institutions. In general, this study proposed two primary refinements. Firstly, the determinants of liquidity risk and credit risk for conventional and Islamic banks in all regions were identified. Basically, these banks should focus on the factors that potentially reduce liquidity risk and credit risk in general after the identification of these specific factors. Secondly, this study analysed the effects of institutional quality (government effectiveness and regulatory quality) towards financial risk for conventional and Islamic banks in all regions. Therefore, the obtained results exhibited significantly positive relationship between bank size and capitalization, towards liquidity risk for conventional banks. Meanwhile, as for Islamic banks, the relationship between liquidity risk and bank size, capitalization, and technical efficiency respectively, was significant.

Then, the relationship between credit risk and bank size was significantly negative for conventional banks. Then, relationship between capitalization towards credit risk was insignificant. The technical efficiency exhibits negative and significant effect towards credit risk for conventional banks. Meanwhile, as for Islamic banks, the relationship between credit risk and bank size only was significant.

Furthermore, the government effectiveness exhibited insignificant relationship with liquidity and credit risk for both conventional and Islamic banks. Then, the relationship between regulatory quality and liquidity risk for conventional banks was significantly positive, but insignificant for Islamic banks. Meanwhile, the relationship between regulatory quality and credit risk for conventional banks was significant but insignificant for Islamic banks.

Hence, the regulators or policymakers are able to identify specific mechanism to improve the risk management of these banks as well through this study. Essentially, the risk management ensures

the overall health of the banking system and the economic system.

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