



**UNIVERSITI PUTRA MALAYSIA**

***FINANCIAL DEVELOPMENT, INSTITUTIONAL QUALITY, AND  
FINANCIAL RISK OF CONVENTIONAL AND ISLAMIC BANKS***

**NORMAIZATUL AKMA BINTI SAIDI**

**GSM 2018 23**



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FINANCIAL RISK OF CONVENTIONAL AND ISLAMIC BANKS**

**By**

**NORMAIZATUL AKMA BINTI SAIDI**

**Thesis Submitted to the Graduate School of Management,  
Universiti Putra Malaysia, in Fulfilment of the Requirements for the  
Degree of Doctor of Philosophy**

**January 2018**

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in  
fulfilment of the requirements for the degree of Doctor of Philosophy

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RISK OF CONVENTIONAL AND ISLAMIC BANKS**

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**January 2018**

**Chair: Professor Annuar Md Nassir, PhD**

**Faculty: Graduate School of Management, UPM**

Both conventional and Islamic banks are vital for the economy as financial intermediary, which serve to channel excess funds to those who face fund shortage. This empirical study was propelled by the inconclusive evidences on the effects of financial development and institutional quality towards financial risk (liquidity risk and credit risk) for conventional and Islamic banks. In the context of conventional and Islamic banks, this study aimed to (1) evaluate the moderating effects of institutional quality on the relationship between financial development and financial risk for conventional and Islamic banks; (2) evaluate the effects of institutional quality (government effectiveness and regulatory quality) towards their financial risk; and (3) identify the determinants of their liquidity risk and credit risk (financial risk). This study adopted multivariate panel regression analysis, specifically, static panel regression analysis as an estimation method. Data between 2006 and 2014 were obtained from 392 banks (297 conventional banks and 95 Islamic banks) in 17 countries within three primary regional Islamic banking hubs (Middle East, Southeast Asia, and South Asia). With respect to the first objective, the relationship between financial development and liquidity risk was only moderated by regulatory quality for conventional banks. However, both measures of institutional quality moderated the relationship of financial development and financial risk for Islamic banks. Meanwhile, empirical findings revealed that the financial development affected only liquidity risk for conventional banks whereas as for Islamic banks, both financial risk was not affected. In line with the second objective, institutional quality was found to affect liquidity risk and only government effectiveness affect credit risk for conventional banks, but as for Islamic banks, institutional quality not affected their financial risk. With respect to the third objective, both measures of financial risk were affected by different factors—bank size and capitalization affected financial risk for conventional banks while bank size and capitalization affected only liquidity risk for Islamic banks. Additionally, technical efficiency affected only liquidity risk while global financial crisis affected

only credit risk for conventional banks. As for Islamic banks, global financial crisis affected financial risk. Hence, appropriate mechanism to improve the risk management of banks can be determined by regulators or policymakers. Subsequently, identifying specific dimensions of institutional quality serves as guidance for designing related policies and regulations. Conclusively, it is highly recommended for investors to focus on the potential risk imposed by conventional and Islamic banks for low-risk investment.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia  
sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**PEMBANGUNAN KEWANGAN, KUALITI INSTITUSI, DAN RISIKO KEWANGAN  
BANK-BANK KONVENSIONAL DAN ISLAM**

Oleh

**NORMAIZATUL AKMA BINTI SAIDI**

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Perbankan konvensional dan Islam adalah sangat penting dalam sesuatu ekonomi sebagai perantara kewangan yang menyalurkan lebih dana kepada tempat yang mengalami kekurangan dana. Kajian ini diinspirasikan daripada keterangan umum mengenai kesan pembangunan kewangan dan kualiti institusi ke atas risiko kewangan (kecairan dan risiko kredit) bank-bank konvensional dan Islam. Objektif kajian ini adalah untuk: pertama, menentukan sama ada hubungan di antara pembangunan kewangan dan risiko kewangan dikawal oleh kualiti institusi bank-bank konvensional dan Islam; kedua, mengenal pasti kesan kualiti institusi (kecekapan kerajaan dan kualiti kawal selia) ke atas risiko kewangan (kecairan dan risiko kredit) bank-bank konvensional dan Islam, dan; ketiga, menyiasat penentu risiko kewangan (kecairan dan risiko kredit) bagi bank konvensional dan Islam. Di dalam kajian ini, Analisis Regresi Data Panel, atau dikenali sebagai Analisis Regresi Panel Berganda telah digunakan sebagai kaedah penganggaran. 392 buah bank iaitu 297 buah bank konvensional dan 95 buah bank Islam terlibat di dalam kajian ini. Bank-bank ini dipilih daripada tiga wilayah utama perbankan Islam (Timur Tengah, Asia Tenggara dan Asia Selatan) yang merangkumi 17 buah negara dari tahun 2006 hingga 2014. Berdasarkan hasil kajian yang diperolehi, dapat dilihat bahawa hanya kualiti kawal selia dapat mengawal hubungan di antara pembangunan kewangan dan risiko kecairan bank konvensional. Sebaliknya, pengukur kualiti institusi mengawal hubungan di antara pembangunan kewangan dan risiko kewangan (kecairan dan risiko kredit) bank Islam. Selain itu, pembangunan kewangan mempunyai impak hanya ke atas risiko kecairan bank konvensional, namun tidak mempunyai impak ketara ke atas faktor risiko kecairan dan risiko kredit bank Islam. Di samping itu, kecekapan pihak kerajaan dan kualiti kawal selia memberi kesan ke atas aspek kecairan dan hanya kecekapan pihak kerajaan memberi kesan ke atas risiko kredit bank konvensional. Bagi bank Islam, kualiti institusi tidak mempunyai kesan ke atas risiko kewangan. Pembolehubah saiz

bank dan permodalan adalah merupakan penentu risiko kewangan bank konvensional. Selain itu, saiz bank dan permodalan dilihat hanya mempunyai kesan ke atas kecairan bank Islam. Secara khususnya, risiko kecairan hanya dipengaruhi oleh faktor kecukupan teknikal, manakala risiko kredit hanya dipengaruhi oleh krisis kewangan global bagi bank konvensional. Bagi bank Islam, krisis kewangan global mempunyai kesan ke atas risiko kewangan. Kesimpulannya, pengawal selia atau penggubal dasar harus mengenal pasti mekanisme untuk meningkatkan pengurusan risiko bank. Di samping itu, penemuan kajian ini boleh dijadikan panduan kepada penggubal dasar untuk membuat dasar dan peraturan baru berkaitan dimensi khusus kualiti institusi. Akhirnya, kajian ini dapat memberikan maklumat penting mengenai potensi risiko bank konvensional dan Islam kepada pelabur yang berminat dengan pelaburan berisiko rendah.



## ACKNOWLEDGEMENTS

First and foremost, I would like to thank Almighty Allah, the source of my life and strength; for without His blessings, this achievement would not be possible.

I would like to express my sincerest appreciation and special thanks to my supervisory committee. In particular, I would like to express my utmost gratitude to **Prof. Dr Annuar Md Nassir**, my main supervisor, who believes in me and has given me unwavering encouragement and invaluable guidance at all times throughout my quest for knowledge. I am eternally grateful for he has made my thesis writing journey particularly, not just a learning process, but an insightful and enlightening journey. What I have really learned from him is his personal conviction—always trust in our own abilities and be confident in whatever we do, for it truly makes a difference. I am also indebted to **Dr Mohamed Hisham Dato Haji Yahya** and **Dr Amalina Abdullah** for their heartfelt encouragement, motivation, and support in my thesis writing journey.

To my mother, **Siti Hasnah Yaacob**, and mother-in-law, **Kamariah Idris**, who always inspire me to acquire knowledge, I would like to offer my deepest appreciation and gratitude. They continuously provide me the best of everything; without their unselfish love, unflinching guidance, and inspiration, the completion of this thesis would not be possible. Special thanks to my siblings too for their continuous support, understanding, and faith in me throughout my PhD journey.

My acknowledgement would be incomplete without thanking my husband, **Nik Mohd Shahril Ismail**. I would like to thank him for his continuous encouragement, endless love, and firm belief in me that I would successfully complete my PhD journey. Thank you so much for always being there for me throughout those difficult moments in this challenging journey. Also, my son, **Nik Mohd Adam Nik Mohd Shahril**, and my daughter, **Nik Sumaiyah Nik Mohd Shahril**—my greatest source of comfort and motivation. This would not be possible without their unflinching patience, support, and understanding for the long hours I spent to complete this thesis.



I certify that a Thesis Examination Committee has met on 30 January 2018 to conduct the final examination of Normaizatul Akma Binti Saidi on her thesis entitled Financial Development, Institutional Quality, and Financial Risk of Conventional and Islamic Banks in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the degree of Doctor of Philosophy.

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## LIST OF ABBREVIATIONS

AAOIFI	-	Auditing Organization for Islamic Financial Institutions
AIG	-	American International Group
BANKDEV	-	Banking sector development
BCC	-	Banker, Charnes and Cooper
BD	-	Bangladesh
BH	-	Bahrain
BIS	-	Bank for International Settlement
BN	-	Brunei Darussalam
BPLM	-	Breusch and Pagan Lagrangian Multiplier
CAMEL	-	Capital adequacy, Asset quality, Management, Earnings, and Liquidity
CCR	-	Charnes, Cooper and Rhodes
CFaR	-	Cash Flow-at-Risk
CRS	-	Constant returns to scale
DEA	-	Data envelopment analysis
DMUs	-	Decision making units
DUMGFC	-	Global Financial Crisis
DFA	-	Distribution free approach
EG	-	Egypt
ETA	-	Capitalization
FEM	-	Fixed effect model
FDH	-	Free disposal hull
GCC	-	Gulf Cooperation Council
GDP	-	Gross Domestic Product
GE	-	Government Effectiveness
GFC	-	Global Financial Crisis
GLS	-	Generalized least square
HSBC	-	Hongkong and Shanghai Banking Corporation
ID	-	Indonesia
IMF	-	International Monetary Fund
IQ	-	Iraq
JO	-	Jordan
KW	-	Kuwait
LCR	-	Liquidity coverage ratio
LLPTL	-	Loan loss provisions to total loans
LDR	-	Loan to Deposit Ratio
lnTA	-	Natural Logarithm of Bank size
ME	-	Middle East
MPRA	-	Multivariate Panel Regression Analysis
MY	-	Malaysia
NPL	-	Non-Performing Loans
NSFR	-	Net stable funding ratio
OLS	-	Ordinary least square
PAP	-	People's Action Party
PK	-	Pakistan
POLS	-	Poolability Ordinary Least Square
QA	-	Qatar

REM	-	Random effect model
RQ	-	Regulatory quality
SA	-	South Asia
SA	-	Saudi Arabia
SEA	-	Southeast Asia
SFA	-	Stochastic Frontier Analysis
SG	-	Singapore
SHSE	-	Shanghai Stock Exchange
SY	-	Syria
SZSE	-	Shenzhen Stock Exchange
TBTF	-	Too big to fail
TE	-	Technical efficiency
TFA	-	Thick frontier approach
TR	-	Turkey
UAE	-	United Arab Emirates
US	-	United States
VaR	-	Value-at-Risk
VRS	-	Variable returns to scale
WDI	-	World Development Indicators
WGI	-	Worldwide Governance Indicator
YE	-	Yemen

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

This chapter specifically presents the background of study, problem statement, objectives and research questions of this study, significance of study, and the scope of study. This chapter provides the general description of liquidity and credit management in conventional and Islamic banks, followed by bank-specific characteristics, country and global financial crisis determinants of liquidity and credit management, and the effects of institutional quality towards liquidity risk and credit risk for conventional and Islamic banks.

### 1.2 Background of Study

An efficient and sound financial system, which ensures the mobilization of savings for investment, is integral for a stable and vibrant economy. Therefore, the economic role of financial intermediation is vital because it facilitates the need of deficit unit and surplus unit. Accordingly, it improves the efficiency of economic resource utilization. The structure and function of the financial market are rather complex. The financial system is regulated by the government despite the different types of financial institutions, namely, mutual funds, insurance companies, security market, and banks. Compared to other financial institutions, banks are significantly vital in the financial market as the source of funds and financial intermediary between deficit unit (borrower) and surplus unit (lender) (Zaib et al., 2014).

Fundamentally, similar to other business entity, a bank aims to maximize the returns at the lowest cost through its role as financial intermediary. Channelling funds from lenders to borrowers through banks as an intermediary is vital for economic growth. In addition, banks must operate within the lowest possible cost in order to ensure social welfare, which can be achieved through low interest margin that eventually reduces the cost of financial intermediation (Maudos & DeGuevara, 2004). The fundamental basis of credits in most economies comes from banks that are exposed to rapid economic fluctuations and competitive technological progression.

The annual growth rate of conventional banking (20%) is generally higher than the annual growth rate of Islamic banking (15%) (Financial Stability Report, 2010). After all, conventional banks have longer history of existence than Islamic banks. These banks, as intermediaries in the financial system, help to simplify the movement of capitals from one party with excess fund to another party with shortage of fund. Accordingly, banks charge a certain amount of fee for the

services rendered and interest for provided loans or financing. Islamic banks also perform similar banking role as conventional banks with the exclusion of riba in their transactions in accordance to the Sharia law (Sun et al., 2014).

Following the occurrence of global financial crisis and subprime mortgage crisis in the United States, the core principles of free-wheeling capitalism are daunted. Therefore, this interest-based banking system has raised both doubts as well as the question of whether this system is a contributing factor to the massive financial crises (Miah & Sharmeen, 2015). As the interest-based banking system remains questionable, the profit and loss sharing banking system has gained growing interest as an alternative with sustainable competitive advantage. Additionally, the increasing attention on Islamic banking globally has propounded the above assumption (Al Rajhi, 1999; Iqbal & Molyneux, 2005).

The rapid growth of Islamic banking system at global scale in terms of the amount of funds, accounts, bank numbers, and branches demonstrates the viability of Islamic banking system as an alternative to conventional banking system. The establishment of interbank money market and capital market as well as financial services supervisory board and rating agency based on the Sharia law indicates reputable achievement of Islamic banking system. In addition, Western-style commercial banks, such as Citigroup and HSBC, are aware of the success of such system as a profitable business opportunity to establish Islamic banking services in the Western countries and expand them globally given the growing Muslim population and demands. With that, the Islamic financial industry has proved its significance in the global financial system (Mounira & Anas, 2008). In addition, Bahrain in Gulf Cooperation Council (GCC) and Malaysia in Asia have been the forefronts of Islamic banking since the early 1990s (Iqbal & Molyneux, 2005).

Meanwhile, the dual-banking system has been operating along with conventional banking system in many countries globally. In this context, this system adopts interest-free banking, which operate in accordance with the Sharia law (that prohibits the collection and payment of interest) and based on the principles of profit and loss sharing. The United Arab Emirates (UAE) was the first country that applies this system with the establishment of Dubai Islamic Bank in 1973 with a paid-up capital of US\$14 million. Following that, similar banking system is established in other countries. In addition, more than 100 interest-free banks are in operation in 45 different countries, including the Bahamas, Cyprus, Denmark, Luxembourg, Switzerland, and United Kingdom. Meanwhile, the banking system in Iran, Pakistan, and Sudan is presently interest-free (Metwally, 2012). The operation of dual-banking system has extended to other countries such as Bangladesh, Egypt, Indonesia, Jordan, and Malaysia through separate banks, branches, subsidiaries, or with the Islamic windows (Sundararajan & Errico, 2002).

Besides that, the global banking industry has been experiencing key transformation over the past two decades. The internationalization, deregulation,



technological changes and advances, securitization, and credit expansion are among the challenges that banks in most countries encounter. These challenges are likely to affect the ability of banks to grow, operate, and perform in a competitive environment (Srairi, 2008).

A banking system that obeys the Sharia law or also known as Islamic law is specifically referred to as Islamic banking. There are certain underlying principles that govern the operation of Islamic banking, which are (1) avoidance of riba, (2) risk-sharing, (3) materiality, (4) avoidance of exploitation, and (5) avoidance of financing activities that threaten the society (Rajhi & Hassairi, 2011). Firstly, Islam prohibits any transaction that increases the price after the completed transaction, which is known as interest or usury. Any loan or investment that is guaranteed of its return rate is considered as riba in Islam; thus, it is prohibited as well. Meanwhile, the risk-sharing concept is related to mudharaba contract, which is used extensively by the deposit facility. In this context, a bank becomes the fund manager and a depositor becomes the owner. The asset and liability management of Islamic banks emphasize and adhere to the concept of sharing the profit and loss between the bank and the borrower. Similar concept is also applied between the bank and depositor. Thirdly, financial transaction must be backed by real economic transaction where the materiality is referred to as ijara or leasing. Besides that, Islamic banking also emphasizes transparency in all transactions where information must be fully disclosed in the contract between both parties to avoid exploitation. Finally, the production of alcoholic beverages is considered as threat to the society; thus, financing its production is strictly prohibited. The differences between conventional and Islamic banks are summarized in **Table A1** in Appendix A.

The Islamic banking and finance have experienced rapid growth globally over the last 15 years. The estimated number of Islamic banks and financial institutions globally are over 300 with estimated assets ranging between US\$200 and US\$300 billion and Islamic global fund of US\$1.1 trillion. The expansion of Islamic finance along with more vigorous and ample asset liability management provides an assurance defence to this sector (Pollard & Samers, 2007).

Although conventional and Islamic banks operate based on different principles, both banks are significantly competitive. Therefore, the analysis of risk management is vital since risk minimization is necessary to achieve profit maximization and maintain the survival of these banks. Moreover, Islamic banks encounter similar risk spectrum as what conventional banks encounter as well, which means that there is no escape of risk.

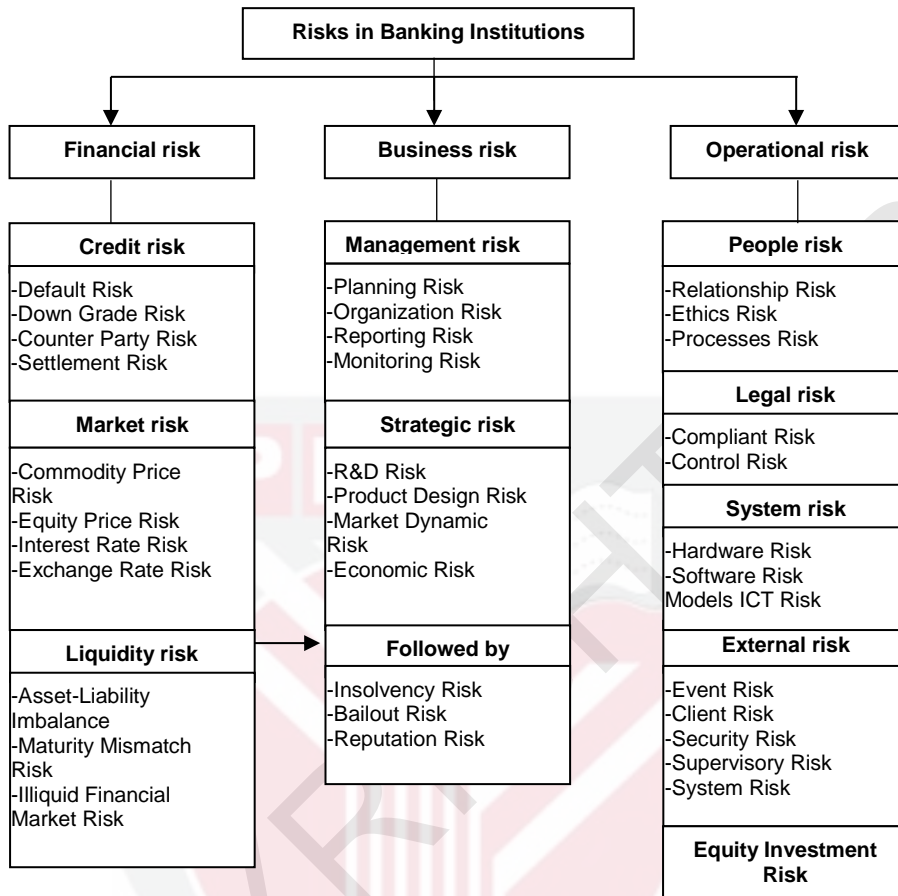
The economic improvement is strongly influenced by the banking industry. Banks are unique financial intermediaries with unique operations in the financial markets. The profitability goals need to be adjusted to reduce exposure to liquidity risk. The recent global crisis has revealed that banks are the key financial player. The global crisis is the result of negligence of systemic risk, inappropriate management incentives, and unregulated financial innovations.



The general lack of liquidity is the crucial contributor to the latent vulnerabilities, as revealed by historical period of global financial architecture reform (Munteanu, 2012). The profitable financial institutions will also be at risk with mismanagement of liquidity such as the case of Lehman Brothers in 2008. Hence, optimum level of profitability and liquidity are crucial for long-term financial stability and soundness (Sufian, 2009).

Banks perform maturity transformation as part of the financial intermediation function between lenders and borrowers to ensure efficient allocation of economic resources. Banks are exposed to a certain number of risks, such as funding-liquidity risk, when they perform their economic functions. The mismanagement of liquidity in one bank, however, affects other banks, which eventually leads to financial intermediation breakdown, as depicted by the global financial crisis. The establishment of Basel III liquidity framework is motivated by financial crises that were caused by failure in managing liquidity risk (Gomes & Wilkins, 2013).

There are several types of risk involved for banking institutions, as shown in **Figure 1.1**. Howells and Bain (1999) defined risk as the possibility that the real returns may be different from the anticipated returns. There are three broad categories of risk in the financial system, which are (1) financial risk, (2) business risk, and (3) operational risk.



**Figure 1.1. Risks in conventional and Islamic banks**

(Sources: Khan, 2006; Mirakhor & Iqbal, 2007; Ismal, 2010)

Risk related to banking activities is known as financial risk while business risk and operational risk refer to risks related to internal banking interaction. The risk of loss due to the internal process failure, people, system, or external event is referred to as operational risk (BIS, 2011). Hence, credit risk, liquidity risk, and market risk fall under the category of financial risk, as previously shown in **Figure 1.1.**

In addition, the sources of banking fragility in the banking system need to be identified since banks are exposed to several financial risks. For examples, the possibilities of depositors abruptly withdraw their deposits (liquidity risk), borrowers do not repay their loans on time (credit risk), interest rates change (interest rate risk), or the computer system failure or the building caught fire (operational risk) (Cecchetti & Schoenholtz, 2011). Nonetheless, credit risk and liquidity risk are, not only significant risks that banks encounter, but related to

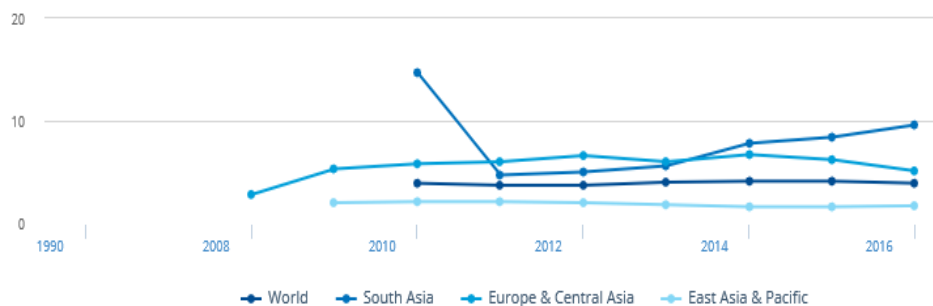
what banks do as well as the direct contributors to their failure (Ghenimi et al., 2017).

The recent global financial crisis contributed to sharp declination in bank profitability (BIS, 2009a). The allowances for loan losses were not designed to absorb all loan losses during the crisis despite the allocated provision for such cases at all times. The accumulation of such loans pushes banks to increase the level of their allowances, which damages bank profits; thus, making provisioning procyclical (BIS, 2009b). **Figure 1.2** represent data from **Table 1.1** shows an increasing trend of credit risk (nonperforming loans to total gross loans ratio) for banks. This ratio measures bank health and efficiency by identifying asset quality issues in the loan portfolio; thus, high ratio may signify deterioration of the credit portfolio.

**Table 1.1. Global credit risk trends between 2008 and 2015 (%)**

Year/ Economies	World	South Asia	Europe & Central Asia	East Asia & Pacific
2008	-	-	2.8	-
2009	-	-	5.3	2.0
2010	3.9	14.7	5.8	2.1
2011	3.7	4.7	6.0	2.1
2012	3.7	5.0	6.6	2.0
2013	4.0	5.6	6.0	1.8
2014	4.1	7.8	6.7	1.6
2015	4.1	8.4	6.2	1.6

(Source: The World Bank, 2017)



**Figure 1.2. Global credit risk trends (%) for banks**

(Source: The World Bank, 2017)

The effects of nonperforming loans are also reflected throughout the history of systemic banking crises (which are indicated by the losses in the banking system, bank runs, and bank liquidations) (**Table A2** in **Appendix A**) as well as

borderline and smaller (nonsystemic) banking crises (**Table A3 in Appendix A**) in the listed countries since the late 1970s (Caprio & Klingebiel, 2002).

In view of the above, the liquidity and credit management of banks should be emphasized to strengthen the financial system. With that, this study combined both liquidity risk and credit risk in the financial risk analysis. The liabilities in the balance sheet relate to liquidity risk while the credit risk is based on the assets in the balance sheet. Hence, this study examined the risks of both sides in the balance sheet. Accordingly, the significance of these risks was highlighted in the financial crisis of 2007–2009, which was associated with the issues of liquidity risk and credit risk (Athanasoglou, Brissimis & Delis, 2008; Hussain & Al-Ajmi, 2012).

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.

The moderating effects of institutional quality (government effectiveness and regulatory quality) on the relationship between financial development and financial risk were examined in this study as well. There are limited studies that examined the indirect effects of these two measures of institutional quality on the relationship between financial development and financial risk, as most studies focused on the direct effects of corporate governance towards financial risk.

Therefore, this study examined the recent issues on the effects of institutional quality towards financial risk (both direct and indirect effects), which are of the growing interest of researchers, regulators, and practitioners' and of significant importance in the face of crisis. In addition, the obtained findings of this study extend the existing knowledge on the effects of institutional quality towards financial risk and contribute improved understanding among related stakeholders, such as investors, policymakers, academicians, and the management of conventional and Islamic banks.

### **1.3 Problem Statement**

Financial institutions aim to maximize the profit and shareholder value through the provision of various financial products and services (Ahmed, 2002). However, this can only be achieved if the risks are well-managed (Heffernan, 1996; Scholtens & Wensveen, 2000). Besides that, banks are generally known for its economic role as financial intermediary, which channel excess funds to those who face fund shortage (Breuer, 2006). Previous studies examined the liquidity management in conventional banks (Vodova, 2011; Munteanu, 2012; Jordan, Branch, McQuay, Cooper & Smith, 2013; Vogiazas & Alexiou, 2013) or compared conventional and Islamic banks (Hussein, 2010; Anam et al., 2012; AlKulaib et al., 2013).

Financial development is significant for economic growth. Nevertheless, the health of the financial system can be threatened as such development exposes risk to these banks (Acharya & Naqvi, 2012; Vithessonthi, 2014). Therefore, this study focused on the effects of financial development towards financial risk for conventional and Islamic banks.

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). Therefore, this study was performed to examine the specific measures of institutional quality, which focused on government capabilities (government effectiveness and regulatory quality). Besides that, the moderating effects of institutional quality on the relationship between financial development and financial risk were also examined. Most studies considered the moderating effects of institutions on the relationship between financial development and economic growth (Aron, 2000; Demetriades & Law, 2006).

Lastly, there have been inconclusive evidences on the effects of bank-specific variables towards the financial risk for conventional and Islamic banks. Hence, this study is significant to examine the most influential variable in bank-specific determinants, which could affect financial risk of conventional and Islamic banks. In short, this study considered the aforementioned issues as significantly important and beneficial to ensure the operations of banking institutions are at optimal liquidity level and minimum credit risk for long-term soundness and stability in the market.

### **1.4 Objectives of Study**

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 evaluate the moderating effects of institutional quality on the relationship between financial development and financial 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
- 3) To identify the determinants of financial risk (liquidity risk and credit risk) for conventional and Islamic banks

## **1.5 Research Questions**

With respect to the specific objectives, this study focused on the following questions:

- 1) Does the institutional quality of conventional and Islamic banks moderate the relationship between financial development and financial risk? (This study also focused to identify these effects within these regions—the Middle East, Southeast Asia, and South Asia.)
- 2) What are the effects of institutional quality (government effectiveness and regulatory quality) towards financial risk (liquidity risk and credit risk) for conventional and Islamic banks? (This study also focused to identify these effects within these regions—the Middle East, Southeast Asia, and South Asia.)
- 3) What are the determinants of financial risk (liquidity risk and credit risk) for conventional and Islamic banks? (This study also focused to identify these determinants within these regions—the Middle East, Southeast Asia, and South Asia.)

## **1.6 Significance of Study**

Studies on the risk management are abundant, which covered extensive aspects and dimensions of risk. However, there are limited studies on banks in developing countries. Most of these studies focused on conventional banks in developed countries. Therefore, this study contributes new insights on both conventional and Islamic banks in the developed countries and developing countries within the regions of Middle East, Southeast Asia, and South Asia.

Besides that, most of these previous studies on risk management especially of those in line with the Basel III are single-country studies due to data availability constraint. The proxy used for stability risk, which is liquidity coverage ratio (LCR) and net stable funding ratio (NSFR), require detailed information from each bank for the assessment. The LCR refers to the ability of banks to promote resilience towards the short-term liquidity risk (within 30 days), while the NSFR refines the banks' long-term of structural funding. Therefore, this study extends the existing literature gap with the utilization of the proxy to perform cross-country study, which provided new empirical evidences.



Additionally, most of these previous studies (John et al., 2008; Laeven & Levine, 2009; Pathan, 2009) considered the effects of firm governance towards risk management. Therefore, the findings obtained from this study enhance knowledge on the effects of institutional quality or country governance towards financial risk for conventional and Islamic banks within the selected regions (Middle East, Southeast Asia, and South Asia). Thus, this study extended these previous studies on risk management of conventional and Islamic banks, which sheds light on financial risk (liquidity risk and credit risk) of both banking systems.

Moreover, the moderating effects of institutional quality on the relationship between financial development and financial risk were examined in this study. Most previous studies examined the direct effects of corporate governance towards bank risk. Nonetheless, this study examined country governance as moderating variable instead.

In addition, this study also aimed to ascertain the factors based on bank-specific characteristics that would affect financial risk of conventional and Islamic banks. The country-specific determinants were also identified to examine their effects towards financial risk. By identifying these potential determinants, the study further examined the most influential determinants of financial risk for conventional and Islamic banks. Therefore, the empirical evidences provided by this study serve as a guide for future activities pertaining to conventional and Islamic banks.

In a nutshell, this study contributes to the respective parties such as investors, academicians, regulators, policymakers, and management of both conventional and Islamic banks, given the focus of this study on the effects of institutional quality towards financial risk. The documentation of underlying determinants for liquidity and credit issues provides improved understanding on the significance of liquidity and credit risk management to ensure confidence of potential clients and generate profit as well as for the operation, security, and stability of banks.

## **1.7 Scope of Study**

The sample of this study was derived from the data of conventional and Islamic banks within three main Islamic banking and finance hubs, which are Middle East, Southeast Asia, and South Asia. These three regions were selected to avoid bias because as previously stated in existing literature, pure Islamic banks are within these regions. Therefore, similar selection of regions for both banking systems in this study would minimize the bias given the similar economic environment and conditions for the operation of these banks. The overall sample for this study involved 392 banks (297 conventional banks and 95 Islamic banks) from 17 countries. The identification of whether the selected banks are specialized in conventional or Islamic banking system was determined by the BankScope database in the selected region.

The data for this study covered a nine-year period between 2006 and 2014 to determine the existence of varying levels of liquidity risk and credit risk at different timeline of financial crisis (before the crisis, during the crisis, and after the crisis). The BankScope database, which is produced by the Bureau van Dijk, was utilized as the source of financial data (such as income statement of bank and balance sheet) in this study. Additionally, the BankScope enables the conversion of data in various currencies; thus, the U.S. dollar currency was chosen to ensure the homogeneity of data across the sample size in this study. The financial crisis between 2008 and 2009 was included and controlled to avoid any bias in this study.

The website of World Bank Governance was the source of both measures of institutional quality in this study. These measures were constructed based on the methodology of unobserved components, as introduced by Kaufman et al. (2009). The range of the values for governance performance is between -2.5 (weak) to +2.5 (strong). Back in 1999, the indicators were back-calculated because each indicator will be recalculated and updated every two years.

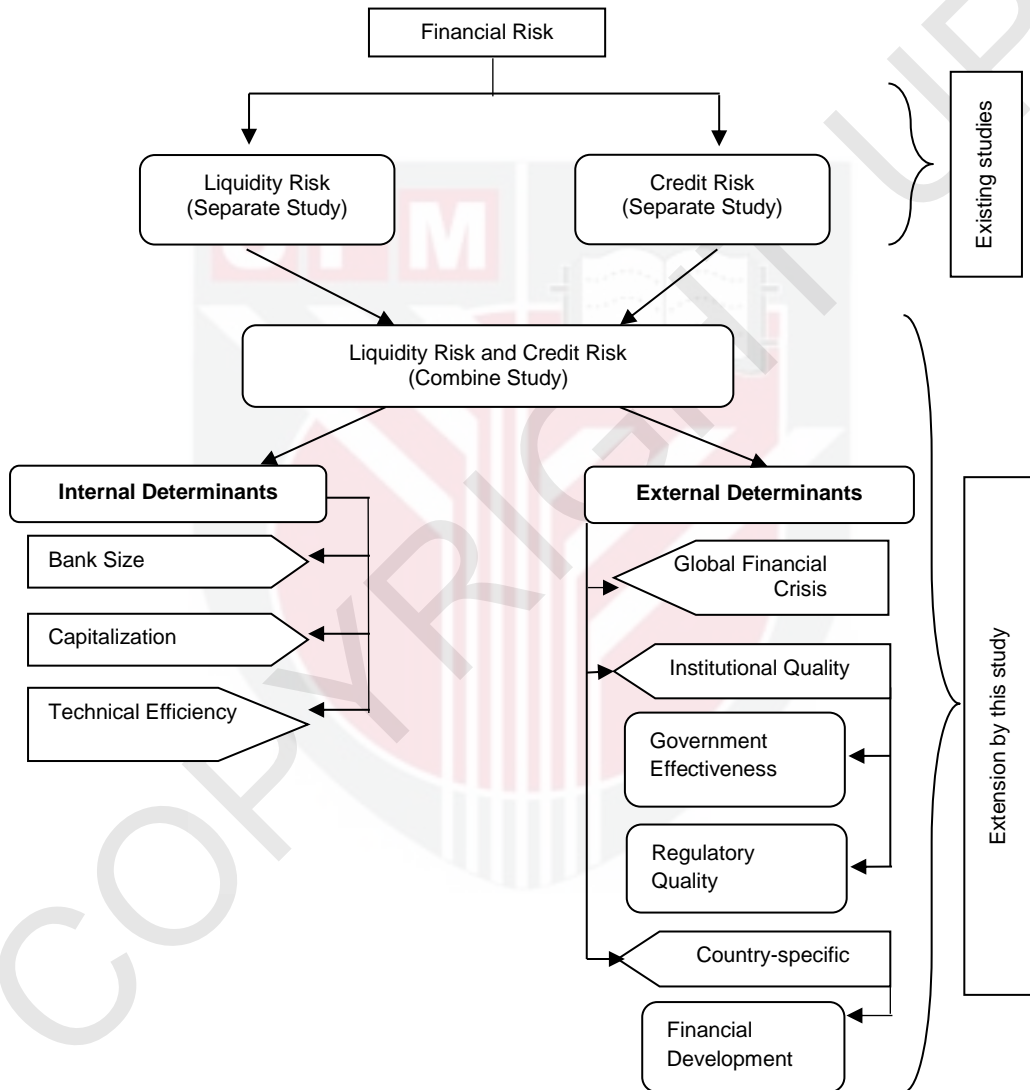
For technical efficiency, the score of efficiency for conventional and Islamic banks were obtained using Data Envelopment Analysis (DEA) with the application of intermediation approach. The efficiency frontiers on annual basis were constructed to address the linear programming issues, instead of constructing single multi-year frontier to allow the variations of efficiency and inefficiency over time (Sufian, 2009a). The technical efficiency scores of both banks were then regressed against financial risk.

Following that, the determinants of liquidity risk and credit risk for conventional and Islamic banks were identified. The bank-specific characteristics determinants were bank size, capitalization, and technical efficiency. The effects of government capabilities towards liquidity risk and credit risk were examined as well as the effects of financial development and global financial crisis. The World Development Indicators database, which is published by World Bank, was considered as the source to obtain financial development data for this study. Lastly, this study performed multivariate panel regression analysis as the primary analysis.



## 1.8 Research Framework

The following **Figure 1.3** illustrates the overall research framework of this study on the effects of financial development and institutional quality towards the financial risk, with the inclusion of other determinants of the conventional and Islamic banking systems.



**Figure 1.3. Research framework on the determinants of financial risk for conventional and Islamic banks**

## 1.9 Thesis Organization

Overall, this thesis consists of five chapters, which is organized as follows:

The current chapter (**Chapter 1**) presented an overview of financial risk in background of study. Then, followed by problem statement, objectives of study, research questions, and significance of study. This chapter also discussed the scope of study and research framework.

**Chapter 2** reviews the relevant theories associated to the banking sector and past evidences on the determinants of financial risk for conventional and Islamic banks.

**Chapter 3** provides descriptions of the methodology of this study with respect to the objectives of this study. In general, this study considered the efficiency measurement and the determinants of financial risk. This chapter provides descriptions on the efficiency measurement, which include the selection of inputs and outputs and the DEA. Following that, the discussion on the determinants of financial risk includes panel data estimation and the description of selected variables.

**Chapter 4** presents the obtained results of this study, which include the results of the trend analysis for main variables and the results of the panel data regression for the determinants of financial risk according to each specific objectives of this study.

**Chapter 5** summarizes the obtained results of this study before drawing conclusions with respect to the objectives of this study. In this chapter, the policy implications, the limitations of this study, and recommendations for future research are also discussed.

## REFERENCES

- Abdullah, A., & Khan, A.Q., (2012). Liquidity risk management: A comparative study between domestic and foreign banks in Pakistan. *Journal of Managerial Sciences*, VI(1), 62.
- Abdullah, D.V. (2010). Liquidity management in institutions offering Islamic financial services. *Second Islamic Financial Stability Forum. Addressing Liquidity Management Challenges to Enhance the Financial Stability of the Islamic Financial Services Industry*. Jeddah, Kingdom of Saudi Arabia, 14 December 2010.
- Abdul-Majid, M., Saal D. S., & Battisti, G., (2011). The impact of Islamic banking on the cost efficiency and productivity change of Malaysian commercial banks. *Applied Economics*, 43(16), 2033-2054. Retrieved at <http://dx.doi.org/10.1080/00036840902984381>
- Abdul-Rahman, Y. (1999). Islamic instruments for managing liquidity. *International Journal of Islamic Financial Services*, 1(1), 1-7.
- Abedifar, P., Molyneux, P., & Tarazi, A. (2013). Risk in Islamic banking. *Review of Finance*, 17(6), 2035-2096.
- Abiad, A., Detragiache, E., & Tressel, T. (2010). A new database of financial reforms. *IMF Staff Papers*, 57(2), 281-302.
- Abou-El-Sood, H., (2017). Corporate governance structure and capital adequacy: implications to bank risk taking. *International Journal of Managerial Finance*, 13(2), 165-185, doi: 10.1108/IJMF-04-2016-0078, Permanent link to this document: <http://dx.doi.org/10.1108/IJMF-04-2016-0078>
- Abu-Alkheil, A.M., Burghof, H.P., & Khan, W.A., (2012). International Islamic commercial banking in Europe: A cross-country and inter-bank analysis of efficiency performance. *Business & Economics Research Journal*, 11(6), 647.
- Acharya, V. V., & Merrouche, O. (2012). Precautionary hoarding of liquidity and interbank markets: Evidence from the subprime crisis. *Review of Finance*, 17(1), 107-160.
- Acharya, V. V., Santos, J., & Yorulmazer, T. (2010). *Systemic Risk and Deposit Insurance Premiums*. New York: Federal Reserve Bank of New York.
- Acharya, V., & Naqvi, H., (2012). The seeds of a crisis: A theory of bank liquidity and risk taking over the business cycle, *Journal of Financial Economics*, 106(2012), 349-366, <http://dx.doi.org/10.1016/j.jfineco.2012.05.014>
- Adrian, T., & Shin, H.S., (2010). Liquidity and leverage. *Journal of Financial Intermediaries*, 19, 418–437.

- Adusei, M., Yaw Akomea, S., & Nyadu-Addo, R. (2014). Predicting bank credit risk: Does board structure matter?. *International Journal of Business & Finance Research (JBFR)*, 8(5), 59-70.
- Aebi, V., Sabato, G., & Schmid, M., (2012). Risk management, corporate governance, and bank performance in the financial crisis. *Journal of Banking & Finance*, 36(2012), 3213–3226.
- Ahmad, A., & Humayoun, A. (2010). Banking developments in Pakistan: A Journey from conventional to Islamic banking. *European Journal of Social Sciences*, 17(1), 12-17.
- Ahmad, N. (2008). *Basel II Capital Adequacy Requirements: Implementation Challenges for Islamic Banks*. Paper presented at The 6th International Islamic Finance Conference, Kuala Lumpur, Malaysia. Available At: [Www.Philadelphia.Edu.Jo/Courses/Banking/Files/Banks/C225.Pdf](http://www.philadelphia.edu.jo/courses/banking/files/banks/C225.pdf)
- Ahmad, S., & Abdul Rahman, A. R. (2013). The efficiency of islamic and conventional commercial banks in Malaysia. *International Journal of Islamic and Middle Eastern Finance and Management*, 5(3), 241-263.
- Ahmad, S., Nafees, B., & Khan, Z. (2012). Determinants of profitability of Pakistani banks: Panel data evidence for the period 2001-2010. *Journal Of Business Studies Quarterly*, 4(1), 149-165.
- Ahmed, A.U.F., & Hassan, M.K. (2007). Regulation and performance of Islamic banking in Bangladesh. *Thunderbird International Business Review*, 49(2), 251-277.
- Ahmed, H. (2002). *A Microeconomic Model of an Islamic Bank*. Jeddah: The Islamic Research and Teaching Institute.
- Ahmed, N., Akhtar, M. F., & Usman, M. (2011). Risk management practices and islamic banks: An empirical investigation from Pakistan. *Interdisciplinary Journal of Research in Business*, 1(6), 50-57.
- Akash, D., & Schaefer, G., (2004). Are banks liquidity transformers? *Harvard University Working Paper (May)*.
- Akerlof, G. (1970). The market for 'lemons': Quality and the market mechanism. *Quarterly Journal of Economics*, 84, 488-500.
- Akhtar, M.F., Ali, K., & Sadaqat, S., (2011). Liquidity risk management: A comparative study between conventional and Islamic banks of Pakistan. *Interdisciplinary Journal of Research in Business*, 1(1), 35-44.
- Akhtar, M.H. (2010). Are Saudi banks productive and efficient?. *International Journal of Islamic and Middle Eastern Finance and Management*, 3(2), 95-112.
- Akhtar, S. (2007). Building an effective Islamic financial system. *BIS Review*, 38.

- Akkizidis, I And Khandelwal, S. (2008). *Financial Risk Management for Islamic Banking and Finance*. New York: Palgrave Macmillan.
- Alam, N., (2013). Impact of banking regulation on risk and efficiency in Islamic banking. *Journal of Financial Reporting and Accounting*, 11(1), 29-50.
- Al-Deehani, T., Abdul Karim, R.A, & Murinde, V. (1999). The capital structure of Islamic banks under the contractual obligation of profit sharing. *International Journal of Theoretical and Applied Finance*, 2(3), 243- 283.
- Alhassan, A. L., & Biekpe, N. (2016). Insurance market development and economic growth: Exploring causality in 8 selected African countries. *International Journal of Social Economics*, 43(3), 321-339.
- Al-Khouri, R., (2012). Bank characteristics and liquidity transformation: The case of GCC banks. *International Journal of Economics and Finance*, 4(12), 114.
- Alkulaib, Y. A., Almudhaf, F. W., & Al-Jassar, S. A. (2013). The banking industry during an extended financial crisis. *Academy of Banking Studies Journal*, 12(1), 61-74.
- Allen, F., & Gale, D. (2000). Financial contagion. *Journal of Political Economy*, 108(2000), 1-33.
- Allen, F., & Giovannetti, G., (2011). The effects of the financial crisis on Sub-Saharan Africa. *Review of Development Finance*, 1(1), 1-27.
- Allen, F., & Santomero, A.M. (1998). The theory of financial intermediation. *Journal of Banking & Finance*, 21(1998), 1461-1485.
- AlRajhi, A. (1999). Islamic banks: Technology and global challenges and opportunities. *Proceedings of the Third Harvard University Forum on Islamic Finance*, Cambridge (pp. 177-178).
- Al-Tamimi, H.A.H., & Al-Mazrooei, F.M. (2007). Banks' risk management: A comparison study of UAE national and foreign banks. *The Journal of Risk Finance*, 8(4), 394-409.
- Altunbas, Y., Carbo, S., Gardener, E., & Molyneux, P. (2007). Examining the relationships between capital, risk and efficiency in European banking. *European Financial Management*, 13(1), 49-70.
- Aly, H. Y., Grabowski, R., Pasurka, C., & Rangan, N. (1990). Technical, scale, and allocative efficiencies in U.S. banking: An empirical investigation. *The Review of Economics And Statistics*, 2, 211-218.
- Al-Yousif, Y. K. (2002). Financial development and economic growth: Another look at the evidence from developing countries. *Review of Financial Economics*, 11(2), 131-150.

- Amuzie, E., Muoghalu, M., & Elike, U. (2011). The money market instruments and money stock in Nigeria: Comparative analysis of the regulation and deregulation periods. *International Journal of Business, Accounting, & Finance*, 5(1), 143-152.
- Anam, S., Hasan, S., Huda, H.A.E., Uddin, A., & Hossain, M.M., (2012). Liquidity risk management: A comparative study between conventional and islamic banks of Bangladesh. *Research Journal of Economics, Business and ICT*, 12(5). ISSN 2045-3345.
- Angkinand, A. P., Barth, J. R., Jahera, John S., Jr, Phumiwasana, T., & Wihlborg, C. (2013). Regulatory and market forces in controlling bank risk-taking: a cross-country analysis. *Journal of Current Issues in Finance, Business and Economics*, 6(2), 271-286.
- Angkinand, A., & Wihlborg, C. (2010). Deposit insurance coverage, ownership, and banks' risk-taking in emerging markets. *Journal of International Money and Finance*, 29(2), 252-274.
- Angora, A., & Roulet, C. (2010). Do market activities and liquidity risk matter for bank default? Evidence for US and European banks during the subprime crisis. In *KSG Faculty Research Working Paper Series*.
- Antunes, A., Cavalcanti, T., & Villamil, A. (2013). Costly intermediation and consumption smoothing. *Economic Inquiry*, 51(1), 459-472.
- Apanga, M. A-N., Appiah, K. O. & Arthur, J., (2016). Credit risk management of Ghanaian listed banks. *International Journal of Law and Management*, 58(2), 162–178.
- Apergis, N., & Payne, J.E. (2013). European banking authority stress tests and bank failure: Evidence from credit risk and macroeconomic factors. *Banking & Finance Review*, 5(2).
- Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, 58(2), 277-297.
- Arellano, M., & Bover, O., (1995). Another look at the instrumental-variable estimation of error-components. *Journal of Economy*, 68, 29–52.
- Arestis, P., & Demetriades, P. (1997). Financial development and economic growth: Assessing the evidence. *The Economic Journal*, 107(442), 783-799.
- Ariff M, And Can L. (2008). Cost and profit efficiency of Chinese banks: A non-parametric analysis. *China Economic Review*, 2008(19), 260-73.
- Ariffin, N. M., Archer, S., & Karim, R. A. A. (2009). Risks in Islamic banks: Evidence from empirical research. *Journal of Banking Regulation*, 10(2), 153-163.



- Ariffin, N.M., (2012). Liquidity risk management and financial performance in Malaysia: Empirical evidence from Islamic banks. *Aceh International Journal of Social Sciences*, 1(2): 68-75.
- Aron, J. (2000). Growth and institutions: A review of the evidence. *The World Bank Research Observer*, 15(1), 99-135.
- Asongu, S.A., (2013). Post-crisis bank liquidity risk management disclosure. *Qualitative Research in Financial Markets*, 5(1), 65-84.
- Aspachs, O., Nier, E. W., & Tiesset, M. (2005). *Liquidity, Banking Regulation and the Macroeconomy*. Available at SSRN <https://ssrn.com/abstract=673883>
- Assaf, A.G., Barros, C.P., & Matousek, R., (2011). Technical efficiency in Saudi banks. *Expert Systems with Applications*, 38(5), 5781-5786.
- Asteriou, D., & Hall, S. (2007). *Applied Econometrics: A Modern Approach* (Revised edition). China: Palgrave Macmillan.
- Athanasoglou, P. P., Brissimis, S. N., & Delis, M. D. (2008). Bank-specific, industry-specific and macroeconomic determinants of bank profitability. *Journal of International Financial Markets, Institutions and Money*, 18, 121-136.
- Athanasoglou, P., Delis, M., & Staikouras, C. (2006). *Determinants of Bank Profitability in the South Eastern European Region*. Retrieved from <https://mpra.ub.uni-muenchen.de/10274/>
- Avery, R. B., & Hanweck, G. A. (1984). A dynamic analysis of bank failures. *Proceedings of the 20th Annual Conference on Bank Structure and Competition*, Federal Reserve Bank of Chicago, 380-395.
- Ayub, M. (2007). *Understanding Islamic Finance*. Jakarta: PT Gramedia Pustaka Utama.
- Aziz, Z.A. (2010). Islamic finance: Strengthening the global financial market. *Keynote Address at the World Congress of Accountants (WCOA): 10 November 2010*. Bank Negara Malaysia.
- Bacha, O.I. (2008). The Islamic interbank money market and a dual banking system: The Malaysian experience. *International Journal of Islamic and Middle Eastern Finance and Management*, 1(3), 210-226.
- Baglioni, A. (2012). Liquidity crunch in the interbank market: Is it credit or liquidity risk, or both?. *Journal of Financial Services Research*, 41(1-2), 1-18.
- Baltagi, B. H., & Griffin, J. M. (1997). Pooled estimators vs. their heterogeneous counterparts in the context of dynamic demand for gasoline. *Journal of Econometrics*, 77(2), 303-327.
- Baltagi, B. H., Song, S. H., & Koh, W. (2003). Testing panel data regression models with spatial error correlation. *Journal of Econometrics*, 117(1), 123-150.

- Bank for International Settlements (2008). Overview. *BIS Quarterly Review December*, 1-24.
- Bank for International Settlements (2013). International banking and financial market developments. *BIS Quarterly Review September*.
- Banker, R. D., Charnes, A., & Cooper, W. W. (1984). Some models for estimation of technical and scale inefficiencies in data envelopment analysis. *Management Science*, 30(9), 1078-1092.
- Bareikaite, E., & Raimonda Martinkute-Kauliene (2014). Liquidity risk and its management in Lithuanian banking system, *Verslas XXI amziuje Business in XXI Century*, 6(1): 64–71.
- Barseghyan, L. (2010). Non-performing loans, prospective bailouts, and Japan's slowdown. *Journal of Monetary Economics*, 57(2010) 873–890. doi: 10.1016/j.jmoneco.2010.08.002
- Barth, J. R., Brumbaugh, R. D., Sauerhaft, D., & Wang, G. H. (1985). Thrift institution failures: Causes and policy issues. In *Federal Reserve Bank of Chicago Proceedings* (No. 68).
- Barth, J. R., Caprio Jr, G., & Levine, R. (2001a). Banking systems around the globe: Do regulation and ownership affect performance and stability?. In *Prudential Supervision: What Works and What Doesn't* (pp. 31-96). Chicago: University of Chicago Press.
- Barth, J. R., Caprio, G., & Levine, R. (2001b). *The Regulation and Supervision of Banks around the World: A New Database* (Vol. 2588). World Bank Publications.
- Barth, J. R., Caprio, G., & Levine, R. (2004). Bank regulation and supervision: what works best? *Journal of Financial Intermediation*, 13(2), 205-248.
- Barton, G. (2008). Indonesia's year of living normally: Taking the long view on Indonesia's progress. *Southeast Asian Affairs*, 123-145. Retrieved from <https://search.proquest.com/docview/216932907?accountid=27932>
- Basel Committee of Banking Supervision (2010). *International Framework for Liquidity Risk Measurement, Standards and Monitoring*. Basel, Switzerland: Bank of International Settlements.
- Basel Committee of Banking Supervision (2011). *Principles for the Sound Management of Operational Risk*. Basel, Switzerland: Bank for International Settlements Communications.
- Basel Committee on Banking Supervision (1998). *Operational Risk Management*. Basel, Switzerland: Bank of International Settlements.
- Basel Committee on Banking Supervision (2008). *Principles for Sound Liquidity Risk Management and Supervision*. Basel, Switzerland: Bank of International Settlements.



- Baselga-Pascual, L., Trujillo-Ponce, A., & Cardone-Riportella, C., (2015). Factors influencing bank risk in Europe: Evidence from the financial crisis. *North American Journal of Economics and Finance*, 34(2015), 138-166, <http://dx.doi.org/10.1016/j.najef.2015.08.004>
- Baum, C. F., Chakraborty, A., Han, L., & Liu, B. (2012). The effects of uncertainty and corporate governance on firms' demand for liquidity. *Applied Economics*, 44(4), 515-525.
- Baum, C. F., Schaffer, M. E., & Stillman, S. (2003). Instrumental variables and GMM: Estimation and testing. *Stata Journal*, 3(1), 1-31.
- Beatty, A. L., & Gron, A. (2001). Capital, portfolio, and growth: Bank behavior under risk based capital guidelines. *Journal of Financial Services Research*, 20, 5-31.
- Beau, E., Hill, J., & Nixon, D. (2014). Bank funding costs: What are they, what determines them and why do they matter? *Bank of England Quarterly Bulletin*, 54(4), 370-384.
- Beck, R., Jakubik, P., & Piloui, A., (2013). Non-performing loans what matters in addition to the economic cycle? *European Central Bank Working Paper Series*, 1515.
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2006). Bank concentration, competition, and crises: First results. *Journal of Banking & Finance*. 30(5), 1581-1603.
- Beck, T., Demirguc-Kunt, A., & Levine, R. (2006). Bank supervision and corruption in lending. *Journal of Monetary Economics*, 53(8), 2131-2163.
- Beck, T., Demirgüç-Kunt, A., & Merrouche, O. (2013). Islamic vs. conventional banking: Business model, efficiency and stability. *Journal of Banking & Finance*, 37(2), 433-447.
- Ben Selma, M., Abdelghani, E., & Rajhi, M. (2013). Risk management tools practiced in Tunisian commercial banks. *Studies in Business & Economics*, 8(1), 55-78.
- Benzschawel, T. (2014). Early warning signals and systems for liquidity risk. *Journal of Risk Management in Financial Institutions*, 8(1), 6-26.
- Berger, A. N., & Humphrey, D. B. (1992). Measurement and efficiency issues in commercial banking. In *Output Measurement in the Service Sectors* (pp. 245-300). University of Chicago Press.
- Berger, A. N., & Humphrey, D. B. (1997). Efficiency of financial institutions: International survey and directions for future research. *European Journal of Operational Research*, 98(2), 175-212.
- Berger, A. N., Demirguc-Kunt, A., Levine, R., & Haubrich, J. G. (2004). Bank concentration and competition: An evolution in the making. *Journal of Money, Credit, and Banking*, 36(3), 433-451.

- Berger, A. N., Hancock, D., & Humphrey, D. B., (1993a). Bank efficiency derived from the profit function. *Journal of Banking and Finance*, 17(1993), 317-347.
- Berger, A., & Bouwman, C., (2009). Bank liquidity creation. *The Review of Financial Studies*, 22, 3779–3837.
- Berger, A., & Bouwman, C., (2011). *Bank Liquidity Creation, Monetary Policy, and Financial Crises*. Working paper. Wharton Financial Institutions Center.
- Berger, A., & De Young, R. (1997). Problem loans and cost efficiency in commercial banking. *Journal of Banking and Finance*, 21(1), 849-870.
- Berger, A., Klapper, L., Turk-Ariss, R., (2009). Bank competition and financial stability. *Journal of Financial Services Research*, 21, 849–870.
- Berger, Allen N., & Loretta J. Mester. (1997). Inside the black box: What explains differences in the efficiencies of financial institutions? *Journal of Banking and Finance*, 21, 895-947.
- Bernanke, B. (2009b). Financial reform to address systemic risk. *Speech at the Council on Foreign Relations*, 10.
- Bernanke, B. S. (1983). Nonmonetary effects of the financial crisis in the propagation of the great depression. *The American Economic Review*, 73(3), 257-276.
- Bernanke, B. S. (2009a). The crisis and the policy response. *Stamp Lecture, London School of Economics, January*, 13.
- Besanko, D., & Kanatas, G. (1996). The regulation of bank capital: Do capital standards promote bank safety? *Journal of Financial Intermediation*, 5 (2), 160-183.
- Bessis, J. (2011). Liquidity risk: A risk left to be tamed. *Journal of Risk Management in Financial Institutions*, 108-111.
- Bhattacharya, S., & Jacklin, C. (1988). Distinguishing panics and information-based runs: Welfare and policy implications. *Journal of Political Economy*, 96, 568-92.
- Bhattacharya, S., & Thakor, A.V., (1993). Contemporary banking theory. *Journal of Financial Intermediation* 3, 2-50.
- Bikker, J.A., & Metzmakers, P.A.J., (2005). Bank provisioning behaviour and procyclicality. *Journal of International Financial Markets Institutions and Money*, 15, 141–157.
- Blum, J. (1999). Do Capital Adequacy Requirements Reduce Risks in Banking?. *Journal of Banking and Finance*, 23, 755-771.

- Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87(1), 115-143.
- Borio, C., (2014). The financial cycle and macroeconomics: What have we learnt? *Journal of Banking and Finance*, 45(2014), 182-198.
- Borio, C., Furfine, C., & Lowe, P. (2001). Procyclicality of the financial system and financial stability: Issues and policy options. *BIS Papers*, 1, 1-57.
- Bourke, P. (1989). Concentration and other determinants of bank profitability in Europe, North America and Australia. *Journal of Banking and Finance*, 13, 65- 79.
- Boyd, J., & Prescott, E. (1983). *Financial Intermediaries*. Working Paper, University of Minnesota.
- Breuer, J.B. (2006). Problem bank loans, conflicts of interest, and institutions. *Journal of Financial Stability*, 2(2006), 266–285.
- Brockman, P., Liebenberg, I., & Schutte, M., (2010). Comovement, information production, and the business cycle. *Journal of Financial Economics*, 97, 107–129.
- Brown, K., (2003). Islamic banking comparative analysis. *The Arab Bank Review*, 5(2), 43-50.
- Bruinshoofd, A., & Kool, C. J. (2004). Dutch corporate liquidity management: New evidence on aggregation. *Discussion Paper Series/Tjalling C. Koopmans Research Institute*, 4(05).
- Brunnermeier, M., & Pedersen, L. (2009). Market liquidity and funding liquidity. *Review of Financial Studies*, 22(6), 2201-2238.
- Bryant, J. (1980). A model of reserves, bank runs, and deposit insurance. *Journal of Banking and Finance*, 4, 335-44.
- Bushman, R. M., & Smith, A. J. (2003). Transparency, financial accounting information, and corporate governance. *Financial Accounting Information, and Corporate Governance. Economic Policy Review*, 9(1).
- Calem, P.S., & Rob, R. (1996). The impact of capital-based regulation on bank risk-taking: A dynamic model. *Federal Reserve Board, Finance and Economics Discussion Series*, 96-12, February.
- Caprio J. G., & Klingebiel, D., (1997). Bank insolvency: Bad luck, bad policy, or bad banking? *Annual World Bank Conference on Development Economics 1996*.
- Caprio, G., & Levine, R. (2002). Corporate governance in finance: Concepts and international observations. *Financial Sector Governance: The Roles of the Public and Private Sectors*, 17-50.

- Caprio, G., D'Apice, V., Ferri, G., & Puopolo, G. W. (2010). Macro financial determinants of the great financial crisis: Implications for financial regulation. *Available at SSRN 1695335*.
- Casu, B., Girardone, C., & Molyneux, P., (2006). *Introduction to Banking*. New Jersey: Prentice Hall.
- Cecchetti, S. G., & Schoenholtz, K. L. (2011). *Money, Banking, and Financial Markets* (3rd ed.). New York: McGraw-Hill Education.
- Cecchetti, S.G., King, M.R., & Yetman, J., (2011). Weathering the financial crisis: Good policy or good luck? *BIS Working Papers*, 351.
- Chaibi, H., & Ftiti, Z. (2015). Credit risk determinants: Evidence from a cross-country study. *Research in International Business and Finance*, 33, 1-16.
- Chao, C. M., Yu, M. M., & Chen, M. C. (2010). Measuring the performance of financial holding companies. *The Service Industries Journal*, 30, 811–829.
- Charles W.C., & Joseph R.M. (2003). Consequences of bank distress during the great depression. *The American Economic Review*, 93(3), 937-947.
- Charnes, A., Cooper W.W., & Rhodes, E. (1978). Measuring the efficiency of decision making units. *European Journal of Operational Research*, 2, 429-444.
- Chen, T. H., Chou, H. H., Chang, Y., & Fang, H. (2015). The effect of excess lending on bank liquidity: Evidence from China. *International Review of Economics & Finance*, 36, 54-68.
- Chinn, M.D., and Ito, H., (2006). What matters for financial development? Capital controls, institutions, and interactions. *Journal of Development Economic*, 81, 163–192.
- Chortareas, G. E., Girardone, C., & Ventouri, A. (2011). Financial frictions, bank efficiency and risk: Evidence from the Eurozone. *Journal of Business Finance & Accounting*, 38(1-2), 259-287.
- Choudhry, M., (2011). *An Introduction to Banking: Liquidity Risk and Asset-Liability Management*. New York: John Wiley and Sons.
- Chung, K. H., Elder, J., & Kim, J. C. (2010). Corporate governance and liquidity. *Journal of Financial and Quantitative Analysis*, 45(2), 265–291. Doi: 10.1017/S0022109010000104
- Claessens, S., Kose, M.A., & Terrones, M.E., (2012). *Journal of International Economics*, 87(2012), 178–190, DOI: 10.1016/j.jinteco.2011.11.008
- Clichici, D., (2013). The determinants of banking system vulnerability in the Republic of Moldova. *Financial Studies*, 17(4).

- Cocco, J. F., Gomes, F. J. and Martins, N. C. (2009). Lending relationships in the interbank market. *Journal of Financial Intermediation*, 18(2009) 24-48.
- Cook, W.D, Tone, K., & Zhu, J., (2014). Data envelopment analysis: Prior to choosing a model, *Omega*, 44(2014), 1–4.
- Cooper, W.W., Seiford, L.M., & Tone, K. (2007). *Data Envelopment Analysis: A Comprehensive Text with Models, Applications, References and DEA-solver Software* (2nd ed.). New York: Springer Science & Business Media.
- Cornett, M. M., McNutt, J. J., Strahan, P. E., & Tehranian, H. (2011). Liquidity risk management and credit supply in the financial crisis. *Journal of Financial Economics*, 101(2), 297-312.
- Crowe, K. (2009). Liquidity risk management: More important than ever. *Harland Financial Solution*, P.3.
- Crujisen van der, C., de Haan, J., Jansen, D.-J., & Mosch, R., (2010). *Knowledge and Opinions about Banking Supervision: Evidence from a Survey of Dutch Households*. Paper presented at the Conference on Monetary Policy and Financial Stability: What Role for Central Bank Communication? Organized by De Nederlandsche Bank, The European Central Bank, and The University of Groningen, November 15-16, 2010, Amsterdam.
- Cubillas, E., & González, F. (2014). Financial liberalization and bank risk-taking: International evidence. *Journal of Financial Stability*, 11, 32-48.
- Cubillas, E., Fonseca, A.R., and Gonzalez, F., (2012). Banking crises and market discipline: International evidence. *Journal of Banking & Finance*, 36(2012), 2285–2298.
- de Guevara, J. F., & Maudos, J. (2009). Regional financial development and bank competition: effects on firms' growth. *Regional Studies*, 43(2), 211-228.
- Deelchand, T., & Padgett, C. (2009). The relationship between risk, capital and efficiency: evidence from Japanese cooperative banks. *ICMA Centre Discussion Papers in Finance*, DP #2009-2012.
- Demetriades, P., & Andrianova, S. (2004). Finance and growth: What we know and what we need to know. In *Financial Development and Economic Growth* (pp. 38-65). UK: Palgrave Macmillan.
- Demetriades, P., & Hook Law, S. (2006). Finance, institutions and economic development. *International Journal of Finance & Economics*, 11(3), 245-260.
- Demetriades, P., & Hussein, K. (1996). Does financial development cause economic growth? Time series evidence from 16 countries. *Journal of Development Economics*, 51(2), 387-411.



- Demirguc-Kunt, A., & Huizinga, H., (1999). Determinants of commercial bank interest margins and profitability: Some international evidence. *World Bank Economic Review*, 13(2), 379–408.
- Demirguc-Kunt, A., (1989). Deposit-institution failures: A review of the empirical literature. *Federal Reserve Bank of Cleveland, Economic Review, Quarter 4*.
- Demirgüç-Kunt, A., Detragiache, E., & Tressel, T. (2008). Banking on the principles: Compliance with Basel Core Principles and bank soundness. *Journal of Financial Intermediation*, 17(4), 511-542.
- Demsetz, R. S., & Strahan, P. E. (1995). Historical patterns and recent changes in the relationship between bank holding company size and risk. *Economic Policy Review*, 1(2).
- Devillea, A., Ferrier, G.D., & Leleu, H., (2014). Measuring the performance of hierarchical organizations: An application to bank efficiency at the regional and branch levels. *Management Accounting Research*, 25(2014), 30-44.
- DeYoung, R., & Torna, G., (2013). Nontraditional banking activities and bank failures during the financial crisis. *Journal of Financial Intermediation*, 22 (2013), 397-421, <http://dx.doi.org/10.1016/j.jfi.2013.01.001>
- DeYoung, R., & Yom, C. (2008). On the independence of assets and liabilities: Evidence from US commercial banks, 1990–2005. *Journal of Financial Stability*, 4(3), 275-303.
- Diamond, D. W. (1984). Financial intermediation and delegated monitoring. *Review of Economic Studies*, 51(3), 393.
- Diamond, D. W., (1985). Optimal release of information by firms. *Journal of Finance*, 40, 1071-1094.
- Diamond, D.W., & Dybvig, P.H. (1983). Bank runs, deposit insurance, and liquidity. *Journal of Political Economy*, 91(5): 401–19.
- Diamond, D.W., & Rajan, R.G. (2001). Liquidity risk, liquidity creation, and financial fragility: A theory of banking. *The Journal of Political Economy*, 109(2), 287-325.
- DiSalvo, J., & Johnston, R. (2017). The rise in loan-to-deposit ratios: Is 80 the new 60?. *Economic Insights*, 2(3), 18-23.
- Distinguin, I., Roulet, C., & Tarazi, A., (2013). Bank regulatory capital and liquidity: Evidence from US and European publicly traded banks. *Journal of Banking & Finance*, 37(2013), 3295–3317.
- Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2002). The regulation of entry. *The Quarterly Journal of Economics*, 117, 1–37.

- Dong, Y., Hamilton, R., & Tippett, M., (2014). Cost efficiency of the Chinese banking sector: A comparison of stochastic frontier analysis and data envelopment analysis. *Economic Modelling*, 36(2014), 298–308.
- Douglas, D.W., & Dybvig, P.H. (1983). Bank runs, deposit insurance, and liquidity. *Journal of Political Economy*, 91, 401-419.
- Dusuki, A.W. (2007). Commodity Murabahah Programme (CMP): An innovative approach to liquidity management. *Journal of Islamic Economics, Banking and Finance*, 3(1), 1-23.
- Duttweiler, R., (2009). The meaning of liquidity risk. In *Managing Liquidity in Banks* (pp. 10-11). John Wiley & Sons: West Sussex, United Kingdom.
- Eedle, S., (2009). *A Global Bank's View of The Evolution of Islamic Finance*. Essex: Adrian Hornbrook.
- Eleswarapu, V., & Venkataraman, K., (2006). The impact of legal and political institutions on equity trading costs: A Cross-Country analysis. *Review of Financial Studies*, 19, 1081-1111.
- El-Tiby, A., (2010). The nature of risk. *Opinion: Risky Business, Dalam IBF*, 610.
- Ericsson, J., & Renault, O. (2006). Liquidity and credit risk. *The Journal of Finance*, 61(5), 2219-2250.
- Estrella, A., Park, S., & Peristiani, S. (2000). Capital ratios as predictors of bank failure. *Economic Policy Review*, 6(2).
- Fabozzi, F. J., & Modigliani, F., (2003). *Capital Markets: Institutions and Instruments* (3rd ed.). New Jersey: Prentice Hall.
- Fan, L., & Shaffer, S., (2004). Efficiency versus risk in large domestic US banks. *Managerial Finance*, 30(9), 1-19.
- Farrell, M. J. (1957). The measurement of productive efficiency. *Journal of the Royal Statistical Society. Series A (General)*, 120(3), 253-290.
- Fase, M.M.G., & Abma, R.C.N., (2003). Financial development and economic growth in selected Asian countries. *Journal of Asian Economics*, 14(1), 11-21.
- Favero, C. A., & Papi, L. (1995). Technical efficiency and scale efficiency in the Italian banking sector: A non-parametric approach. *Applied Economics*, 27(4), 385-395.
- Febrian, E., & Meera, A.K.M., (2011). Performance of market discipline in financial crisis: The case of islamic and local banks in Indonesia. *Journal of International Finance and Economics*, 11(1).
- Fecht, F., Nyborg, K.G., & Rocholl, J. (2008). The price of liquidity: Bank characteristics and market conditions. *Bundesbank Discussion Paper No.*

30. Available at: [www.bundesbank.de/download/volkswirtschaft/dkp/2008/200830dkp.pdf](http://www.bundesbank.de/download/volkswirtschaft/dkp/2008/200830dkp.pdf)

- Fecht, F., Nyborg, K.G., and Rocholl, J., (2010). The price of liquidity: Bank characteristics and market conditions. *Swiss Finance Institute Research Paper No. 10-20*. Available at SSRN: <http://ssrn.com/abstract=1605084> or <http://dx.doi.org/10.2139/ssrn.1605084>
- Fernández, A. I., & González, F. (2005). How accounting and auditing systems can counteract risk-shifting of safety-nets in banking: Some international evidence. *Journal of Financial Stability*, 1(4), 466-500.
- Ferrouhi, E. M. (2014). Bank liquidity and financial performance: Evidence from Moroccan banking industry. *Business: Theory & Practice*, 15(4), 351-361.
- Fethi, M. D., & Pasiouras, F. (2010). Assessing bank efficiency and performance with operational research and artificial intelligence techniques: A survey. *European Journal of Operational Research*, 204(2), 189-198.
- Fiedler, R. (2000). Liquidity risk. *The Professional Handbook of Financial Risk Management* (pp. 441-472). Oxford: Butterworth-Heinemann.
- Financial Stability and Payment System Report (2010). *International Islamic Liquidity Management Corporation (IILM): Enhancing Global Islamic Liquidity Management*.
- Financial Stability Forum (2008). *Report of the Financial Stability Forum on Enhancing Market and Institutional Resilience*, April 7.
- Fiordelisi, F., & Mare, D.S. (2013). Probability of default and efficiency in cooperative banking. *Journal of International Financial Markets, Institutions and Money*, 26, 30-45.
- Fiordelisi, F., & Molyneux, P. (2010). The determinants of shareholder value in European banking. *Journal of Banking & Finance*, 34(6), 1189-1200.
- Fiordelisi, F., Marques-Ibanez, D., & Molyneux, P., (2011). Efficiency and risk in European banking. *Journal of Banking & Finance*, 35(5), 1315-1326.
- Freixas, X., & Rochet, J. C. (2008). *Microeconomics of banking*. Cambridge: MIT Press.
- Friedman, M., & Schwartz, A. J., (1963). Money and business cycles. *Review of Economics and Statistics*, 45(1), 485.
- Friedman, M., & Schwartz, A. (1963). *A monetary history of the United States*. Princeton: Princeton University Press.
- Fungáčová, Z., Weill, L., & Zhou, M. (2010). Bank capital, liquidity creation and deposit insurance. *Journal of Financial Services Research*, 51(1), 97-123.



- Gai, P., & Kapadia, S., (2010). Contagion in financial networks. In *Proceedings of the Royal Society of London A: Mathematical, Physical and Engineering Sciences* (pp. 2401-2423). The Royal Society.
- Gande, A., Puri, M., Saunders, A., & Walter, I. (1997). Bank underwriting of debt securities: Modern evidence. *Review of Financial Studies*, 10(4), 1175-1202.
- Gatev, E., Schuermann, T., & Strahan, P. (2007). How do banks manage liquidity risk? Evidence from the equity and deposit markets in the Fall of 1998. In *The Risks of Financial Institutions* (pp. 105-132). Chicago: University of Chicago Press.
- Georg, C. P. (2011). *The Effect of the Interbank Network Structure on Contagion and Common Shocks*. Discussion Papers of The Deutsche Bundesbank.
- Gerard, C., & Levine, R., (2002). *Corporate Governance of Banks: Concepts and International Observations*. paper presented in the Global Corporate Governance Forum Research Network Meeting, April 5.
- Ghannadian, F., & Goswami, G. (2004). Developing economy banking: The case of Islamic banks. *International Journal of Social Economics*, 740-752.
- Ghenimi, A., Chaibi, H., & Omri, M. A. B. (2017). The effects of liquidity risk and credit risk on bank stability: Evidence from the MENA region. *Borsa Istanbul Review*, 17(4), 238-248.
- Ghosh, A. (2015). Banking-industry specific and regional economic determinants of non-performing loans: Evidence from US states. *Journal of Financial Stability*, 20(2015), 93–104.
- Ghosh, A. (2016). Banking sector globalization and bank performance: A comparative analysis of low income countries with emerging markets and advanced economies. *Review of Development Finance*, 6(1), 58–70.
- Ghosh, S., (2016). Macprudential policies, crisis and risk-taking Evidence from dual banking systems in GCC countries. *Journal of Islamic Accounting and Business Research*, 7(1), 6-27.
- Ghossoub, E. A., Laosuthi, T., & Reed, R. R. (2012). The role of financial sector competition for monetary policy. *Canadian Journal of Economics*, 45(1), 270-287.
- Giannotti, C., Gibilaro, L., & Mattarocci, G. (2011). Liquidity risk exposure for specialised and unspecialised real estate banks. *Journal of Property Investment & Finance*, 29(2), 98-114.
- Gimet, C., & Lagoarde-Segot, T. (2011). A closer look at financial development and income distribution. *Journal of Banking and Finance*, 35, 1698–1713.
- Gimet, C., Lagoarde-Segot, T. (2012). Financial sector development and access to finance. Does size say it all? *Emerging Markets Review*, 13, 316–337.

- Goldsmith, R.W. (1969). *Financial Structure and Development*. New Haven: Yale University Press.
- Goldstein, I., & Pauzner, A., (2005). Demand-deposit contracts and the probability of bank runs. *The Journal of Finance*, LX(3).
- Gomes, T., & Wilkins, C., (2013). The basel III liquidity standards: An update. *Bank of Canada, Financial System Review*.
- González-Hermosillo, M. B. (1999). *Determinants of Ex-Ante Banking System Distress: A Macro-Micro Empirical Exploration of Some Recent Episodes*. International Monetary Fund.
- Goodhart, C. (2008). Liquidity risk management. *Financial Stability Review*, 11, 39-44.
- Greenbaum, S.I., & Thakor, A.V., (1995). *Contemporary Financial Intermediation*. USA: The Dryden Press.
- Greenwood, J. & Jovanovic, B. (1990). Financial development, growth, and the distribution of income. *Journal of Political Economy*, 98(5), pp. 1076-1107.
- Greenwood, J., & Smith, B. D. (1997). Financial markets in development, and the development of financial markets. *Journal of Economic Dynamics and Control*, 21(1), 145-181.
- Greuning, H. V., & Bratanovic, S. B. (1999). *Analyzing Banking Risk: A Framework for Assessing Corporate Governance and Financial Risk Management*. Washington D. C.: The World Bank.
- Greuning, H., & Iqbal, Z. (2008). *Risk Analysis for Islamic Banks*. Washington DC: The World Bank Publisher.
- Guglielmo, M. R. (2008). Managing liquidity risk. *Bank Accounting and Finance*, 21(1), 3.
- Gujarati, D. (2004). *Basic Econometrics*. United States Military Academy: West Point.
- Hadad, M. D., Agusman, A., Monroe, G. S., Gasbarro, D., & Zumwalt, J. K. (2011). Market discipline, financial crisis and regulatory changes: Evidence from Indonesian banks. *Journal of Banking & Finance*, 35(6), 1552-1562.
- Haldane, A. G., (2009). *Rethinking the Financial Network*. Speech delivered at The Financial Student Association, Amsterdam.
- Hanif, M., Tariq, M Tahir, A., & Wajeeh-ul-Momeneen (2012). Comparative Performance Study of Conventional and Islamic Banking in Pakistan. *International Research Journal of Finance and Economics*, ISSN 1450-2887 Issue 83. Retrieved from <http://www.internationalresearchjournaloffinanceandeconomics.com>

- Haron, S., (2004). Determinants of Islamic bank profitability. *The Global Journal of Finance and Economics*. 1(1), 11-33.
- Hasan, I., & Wall, L.-D., (2003). Determinants of the loan loss allowance: Some cross-country comparison. *Bank Finland Discussion Papers* 33.
- Hasbi And Haruman (2011). Banking: According to Islamic sharia concepts and its performance in Indonesia. *International Review of Business Research Papers*. 7(1), 60-76.
- Hassan, M. K., & Hussein, K. A. (2003). Static and dynamic efficiency in the Sudanese banking system. *Review of Islamic Economics*, 14(1), 5-48.
- Hassan, M. K., & Kayed, R. N. (2009). The global financial crisis, risk management and social justice in Islamic finance. *ISRA Journal of Islamic Finance*, *Forthcoming*.
- Hearn, B. (2014). The political institutional and firm governance determinants of liquidity: Evidence from North Africa and the Arab Spring. *Journal of International Financial Markets, Institutions and Money*, 31, 127-158.
- Heffernan, S. (1996). *Modern Banking in Theory and Practice*, (pp. 97-106). John Wiley and Sons, Chichester Institute for Research in Economic History, Stockholm Economies, Stockholm.
- Heffernan, S. (2005). *Modern Banking*. England: John Wiley & Sons, Ltd.
- Hidayat, S.E., Al-Khalifa, M.D., & Aryasantana, A.G.P., (2012). A survey on the level of effectiveness of liquidity risk management of Islamic banks in Bahrain. *International Research Journal of Finance and Economics*, 91, 39-45.
- Holmstrom, B., & Tirole, J., (1998). Private and public supply of liquidity. *Journal of Political Economy*, 106(1998), 1-40.
- Holmstrom, B., & Tirole, J., (2000). Liquidity and risk management. *Journal of Money Credit and Banking*, 32(3), 295-319.
- Holtz-Eakin, D., Newey, W., & Rosen, H. S. (1988). Estimating vector autoregressions with panel data. *Econometrica: Journal of the Econometric Society*, 1371-1395.
- Horvath, R., Seidler, J., & Weill, L., (2013). How bank competition influence liquidity creation, *BOFIT Discussion Papers* 16/2013.
- Horvath, R., Seidler, J., & Weill, L., (2016). How bank competition influences liquidity creation. *Economic Modelling*, 52(2016), 155–161, <http://dx.doi.org/10.1016/j.econmod.2014.11.032>
- How, J. C. Y., Karim, M. A., & Verhoeven, P., (2005). Islamic financing and bank risks: The case of Malaysia. *Thunderbird International Business Review*, 47(1), 75-94.

- Howells, P., & Bain, K., (1999). The privatization of monetary policy. In S. Daniel, J. Grahl, & P. Arestis (Eds.), *Money and Macroeconomic Policy*. Cheltenham, UK: Edward Elgar.
- Hsiao, C. (2005). Why panel data? *The Singapore Economic Review*, 50(02), 143-154.
- Hsueh, S.J., Hu, Y.H., & Tu, C.H., (2013). Economic growth and financial development in Asian countries: A bootstrap panel granger causality analysis. *Economic Modelling*, 32(3), 294-301.
- Hu, J. L., Li, Y., & Chiu, Y. H. (2004). Ownership and nonperforming loans: Evidence from Taiwan's banks. *The Developing Economies*, 42(3), 405-420.
- Hughes, J. P., Mester, L. J., & Moon, C. G. (2001). Are scale economies in banking elusive or illusive? Evidence obtained by incorporating capital structure and risk-taking into models of bank production. *Journal of Banking & Finance*, 25(12), 2169-2208.
- Hussain, H. A., & Al-Ajmi, J., (2012). Risk management practices of conventional and Islamic banks in Bahrain. *The Journal of Risk Finance*, 13(3), 215-239.
- Hussein, K., (2010). Bank-level stability factors and consumer confidence: A comparative study of Islamic and conventional banks' product mix. *Journal of Financial Services Marketing*, 15, 259-270.
- Imbierowicz, B., & Rauch, C., (2014). The relationship between liquidity risk and credit risk in banks. *Journal of Banking & Finance*, 40, 242-256.
- Ioan, T., Peter, B., & Simona, M., (2013). A macroprudential supervision model. Empirical evidence from the central and eastern European banking system. *Annals of The University of Oradea, Economic Science Series*, 22(1), 1133-1141.
- Iqbal, A. (2012). Liquidity risk management: A comparative research between conventional and Islamic Banks of Pakistan. *Global Journal of Management and Business Research*, 12(5), 54-64.
- Iqbal, M., & Molyneux, P., (2005). *Thirty Years of Islamic Banking: History, Performance and Prospects* (1st ed.). UK: Palgrave Macmillan UK.
- Islam, A., & Maitra, P., (2012). Health shocks and consumption smoothing in rural households: Does microcredit have a role to play? *Journal of Development Economics*, 97(2012) 232-243.
- Islamic Financial Services Board (2005). *Guiding Principles of Risk Management for Institutions (Other Than Takaful Institutions) Offering Only Islamic Financial Services*.

- Ismail, A. (2010). *Money, Islamic Banks and The Real Economy*. Cengage Learning Asia Pte. Ltd.
- Ismail, F., Majid, M.S.A., & Rahim, R.A., (2013). Efficiency of Islamic and conventional banks in Malaysia. *Journal of Financial Reporting and Accounting*, 11(1), 92-107.
- Ismail, R. (2008). Shariah issues in liquidity risk management: A survey. *Review of Islamic Economics*, 12(2), 45-66. ISSN: 2231-962X
- Ismail, R. (2010a). Managing banking liquidity risk in the current economic conditions: A conceptual framework. *Journal of Management & Public Policy*, 1(2).
- Ismail, R. (2010b). Strengthening and Improving the Liquidity Management in Islamic Banking. *Journal of Humanomics*, 26(1), 19-35.
- Ismail, R. (2010c). *The Management of Liquidity Risk in Islamic Banks: The Case of Indonesia*. Durham Theses, Durham University. Available at Durham E-Theses Online: [Http://etheses.dur.ac.uk/550/](http://etheses.dur.ac.uk/550/)
- Ismail, R. (2012). Formulating withdrawal risk and bankruptcy risk in Islamic banking. *International Journal of Islamic and Middle Eastern Finance and Management*, 5(1), 63-77.
- Jakubik, P., & Reiningger, T. (2013). Determinants of nonperforming loans in central, eastern and southeastern Europe, focus on European economic integration. *Oesterreichische Nationalbank* 3, 48–66.
- Jarque, C. M., & Bera, A. K. (1980). Efficient tests for normality, homoscedasticity and serial independence of regression residuals. *Economics Letters*, 6(3), 255-259.
- Jasiene, M., Martinavicius, J., Jaseviciene, F., & Krivkiene, G. (2012). Bank liquidity risk: Analysis and estimates. *Business, Management & Education / Verslas, Vadyba Ir Studijos*, 10(2), 186-204. Doi:10.3846/Bme.2012.14
- Jeanne, O., & Svensson, L.O. (2007). Credible commitment to optimal escape from a liquidity trap: The role of the balance sheet. *The American Economic Review*, 97(1), 474-90.
- Jenkinson, N. (2008). Strengthening regimes for controlling liquidity risk: Some lessons from the recent turmoil. *Bank of England Quarterly Bulletin*, Quarterly, 2.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- John, K., Litov, L., & Yeung, B. (2008). Corporate governance and risk-taking. *The Journal of Finance*, 63(4), 1679-1728.



- Jorda, O., Schularick, M., & Taylor, A.M. (2011). Financial crises, credit booms, and external imbalances: 140 years of lessons. *IMF Economic Review* 59(2), 340-378.
- Jordan, A., Branch, S., McQuay, A., Cooper, Y., & Smith, L. (2013). An analysis of bank liquidity in the Bahamas. *Business, Finance & Economics In Emerging Economies*, 8(2), 57.
- Jung, W.S. (1986). Financial development and economic growth: International evidence. *Economic Development and Cultural Change*, 34(2), 333-346.
- Kabir, M.H. (1999). Islamic banking in theory and practice: The experience of Bangladesh. *Managerial Finance*, 25(5), 60-113.
- Kahn, C. M., & Santos, J. (2005). *Endogenous Financial Fragility and Prudential Regulation*. SSRN Elibrary, Doi:10.2139/Ssrn.680161.
- Kamaruddin, B.H., Safa, M.S., & Mohd, R. (2008). Assessing production efficiency of Islamic banks and conventional bank Islamic windows in Malaysia. *International Journal of Business & Management Science*, 1(1), 31-48.
- Kaminsky, G.L., & Reinhart, C.M. (1999). The twin crises: The causes of banking and balance-of-payments problems. *American Economic Review*, 473-500.
- Kane, E.J. (2010). Redefining and containing systemic risk. *Atlantic Economic Journal*, 38(3), 251-264.
- Karas, A., Pyle, W., & Schoors, K. (2013). Deposit insurance, banking crises, and market discipline: Evidence from a natural experiment on deposit flows and rates. *Journal of Money, Credit and Banking*, 45(1), 179-200.
- Karim, M. Z. A., Chan, S. G., & Hassan, S. (2010). Bank efficiency and non-performing loans: Evidence from Malaysia and Singapore. *Prague Economic Papers*, 2(2010), 118-132.
- Kashmari, A., (2015). Technical Efficiency in Persian Gulf Banking. *Business Economics Journal*, 6, 143.
- Kasman, A., & Carvallo, O., (2013). Efficiency and risk in Latin American banking: Explaining resilience. *Emerging Markets Finance & Trade*, 49(2), 105-130.
- Kassim, S.H., & Manap, T.A.A., (2008). The information content of the Islamic interbank money market rate in Malaysia. *International Journal of Islamic and Middle Eastern Finance and Management*, 1(4), 304-312.
- Kaufmann, D., Kraay, A., & Mastruzzi, M., (2007). Governance matters VI: Aggregate and individual governance indicators 1996–2006. *World Bank Policy Research Working Paper*, No.4280. Washington, D.C.

- Kaufmann, D., Kraay, A., & Mastruzzi, M., (2010). The worldwide governance indicators; methodology and analytical issues. *Policy Research Working Paper 5430*.
- Kaufmann, D., Kraay, A., & Mastruzzi, M., (2014). *The Worldwide Governance Indicators*. [www.govindicators.org](http://www.govindicators.org).
- Kaufmann, D., Kraay, A., & Zoido-Lobaton, P., (1999). Governance matters. *World Bank Policy Research Working Paper*, No.2196. Washington, D.C.
- Khir, K., Gupta, L., & Shanmugam, B. (2008). *Islamic Banking A Practical Perspective*. Selangor Darul Ehsan, Malaysia: Pearson Malaysia Sdn. Bhd.
- Kim, I., & Kim, I., (2014). Independence and architecture of financial supervision: With focus on the effects on banking stability. *Global Economic Review*, 43(4), 338-354.
- King, M.R. (2013). The Basel III net stable funding ratio and bank net interest margins. *Journal of Banking & Finance*, 37(11), 4144-4156.
- Klein, M., (1971). A theory of the banking firm. *Journal of Money, Credit, and Banking*, 3, 205-18.
- Klomp, J., & de Haan, J. (2014). Bank regulation, the quality of institutions, and banking risk in emerging and developing countries: An empirical analysis. *Emerging Markets Finance and Trade*, 50(6), 19-40.
- Koutsomanoli-Filippaki, A.I., & Mamatzakis, E.C., (2011). efficiency under quantile regression: What is the relationship with risk in the EU banking industry? *Review of Financial Economics*, 20(2), 84-95.
- Kroszner, R. S., & Rajan, R. G. (1994). Is the Glass-Steagall Act justified? A study of the US experience with universal banking before 1933. *The American Economic Review*, 810-832.
- Kumar, S., and Gulati, R., (2008). Evaluation of technical efficiency and ranking of public sector banks in India: An analysis from cross-sectional perspective. *International Journal of Productivity and Performance Management*, 57(7), 540-568.
- Kumar, V. (2008). *Why Liquidity Is Important for Banks?* Available At: [Www.Gtnews. Com/Article/7362.Cfm#Request.Location#](http://www.gtnews.com/Article/7362.Cfm#Request.Location#)
- Kumaran, S., (2012). Risk management and mitigation techniques in Islamic finance: A conceptual framework. *International Research Journal of Finance and Economics*. ISSN 1450-2887 Issue 98 September, 2012
- Kwan, S.H., & Eisenbeis, R. (1995). An analysis of inefficiencies in banking. *Journal of Banking & Finance*, 19(3/4), 733-4.

- Laeven, L., & Levine, R. (2007). Is there a diversification discount in financial conglomerates? *Journal of Financial Economics*, 85(2), 331-367.
- Laeven, L., & Levine, R. (2009). Bank governance, regulation and risk taking. *Journal of Financial Economics*, 93(2), 259-275.
- Laeven, L., & Levine, R. (2009). Bank governance, regulation and risk taking. *Journal of Financial Economics*, 93(2), 259-275.
- Law, S. H., & Azman-Saini, W. N. W. (2012). Institutional quality, governance, and financial development. *Economics of Governance*, 13(3), 217-236.
- Law, S. H., Azman-Saini, W. N. W., & Ibrahim, M. H. (2013). Institutional quality thresholds and the finance–Growth nexus. *Journal of Banking & Finance*, 37(12), 5373-5381.
- Law, S. H., Tan, H. B., & Azman-Saini, W. N. W. (2014). Financial development and income inequality at different levels of institutional quality. *Emerging Markets Finance and Trade*, 50(sup1), 21-33.
- Lee, S.Y., and Whitford, A.B., (2009). Government effectiveness in comparative perspective. *Journal of Comparative Policy Analysis*. DOI: 10.2139/ssrn.1081642
- Leibenstein, H. (1966). Allocative efficiency vs. " X-efficiency". *The American Economic Review*, 56(3), 392-415.
- Leland, H.E., and Pyle, D.H. (1977). Informational asymmetries, financial structure, and financial intermediation. *Journal of Finance*, 32, 371-387.
- Lesmond, D. A. (2005). Liquidity of emerging markets. *Journal of Financial Economics*, 77(2), 411-452.
- Leung, W.S., Taylor, N., & Evans, K.P. (2015). The determinants of bank risks: Evidence from the recent financial crisis. *Journal of International Financial Markets, Institutions & Money*, 34(2015), 277–293.
- Levine, R., & Zervos, S. (1998). Stock markets, banks, and economic growth. *American Economic Review*, 537-558.
- Levine, R., (1997). Financial development and economic growth: Views and agenda. *Journal of Economic Literature*, 35, 688–726.
- Levine, R., (2004). The corporate governance of banks: A concise discussion of concepts and evidence. *World Bank Policy Research Working Paper No. 3404*.
- Lin, J.C., Hu, J.L., & Sung, L. (2005). The effect of electronic banking on the cost efficiency of commercial banks: An empirical study. *International Journal of Management*, 22(4), 605–611.



- Llewellyn, D.T., (1999). *The Economic Rationale for Financial Regulation*. London: Financial Services Authority.
- Longhofer, S.D., & Santos, J.A.C., (2000). The Importance of Bank Seniority for Relationship Lending. *Journal of Financial Intermediation*, 9, 57-89.
- Louzis, D.P., Vouldis, A.T., & Metaxas, V.L., (2012). Macroeconomic and bank-specific determinants of non-performing loans in Greece: A comparative study of mortgage, business and consumer loan portfolios. *Journal of Banking & Finance*, 36(2012), 1012–1027.
- Louzis, D.P., Vouldis, A.T., & Metaxas, V.L., (2012). Macroeconomic and bank-specific determinants of non-performing loans in Greece: A comparative study of mortgage, business and consumer loan portfolios. *Journal of Banking & Finance*, 36(2012) 1012-1027. Doi: 10.1016/J.jbankfin.2011.10.012
- Lucas, R.E. (1988). On the mechanics of economic development. *Journal of Monetary Economics*, 22(1), 3-42.
- Macey, J.R., & O'Hara, M. (2003). The corporate governance of banks. *Economic Policy Review - Federal Reserve Bank of New York*, 9(1), 91-107.
- Maddala, G. S., Li, H., & Srivastava, V. K. (2001). A comparative study of different shrinkage estimators for panel data models. *Annals of Economics and Finance*, 2(1), 1-30.
- Maghyreh, A.I., & Awartani, B., (2014). The effect of market structure, regulation, and risk on banks efficiency, *Journal of Economic Studies*, 41(3), 405-430.
- Majid, A., & Rais, A. (2003). Development of liquidity management instruments: Challenges and opportunities. In *International Conference on Islamic Banking: Risk Management, Regulation and Supervision*, Jakarta, Indonesia.
- Makri, V., & Papadatos, K. (2014). How accounting information and macroeconomic environment determine credit risk? Evidence from Greece. *International Journal of Economic Sciences & Applied Research*, 7(1), 129-143.
- Mamatzakis, E. (2015). Risk and efficiency in the Central and Eastern European banking industry under quantile analysis. *Quantitative Finance*, 15(3), 553-567.
- Maraghni, H., & Bouheni, F. B. (2015). Bank capital ratio, prudential regulation and liquidity risk taking: Behavior of tunisian banks in a simultaneous approach. *International Journal of Economics and Finance*, 7(6), 263-278.
- Marcus, A.J. (1983). The bank capital decision: A time series-cross section analysis. *The Journal of Finance*, 38(4), 1217-1232.

- Marrouch, W., & Turk-Arissa, R., (2014). Joint market power in banking: Evidence from developing countries. *Journal of International Financial Markets, Institutions and Money*, 31(2014), 253–267.
- Matutes, C., & Vives, X. (2000). Imperfect competition, risk taking, and regulation in banking. *European Economic Review*, 44(1), 1-34.
- Maudos, J., & DeGuevara, J. F. (2004). Factors explaining the interest margin in the banking sectors of the European Union. *Journal of Banking & Finance*, 28(2004), 2259–2281.
- Megeid, N.S.A., (2017). Liquidity risk management: Conventional versus Islamic banking system in Egypt. *Journal of Islamic Accounting and Business Research*, 8(1), 100-128.
- Melecky, M., & Podpiera, A. (2010). Macroprudential Stress-testing Practices of central banks in central and southern Eastern Europe: An overview and challenges ahead. *Policy Research Working Paper*, World Bank.
- Mommel, C., & Schertler, A. (2012). The dependency of the banks' assets and liabilities: Evidence from Germany. *European Financial Management*, 18(4), 602-619.
- Merton, R.C., (1995). A functional perspective of financial intermediation. *Financial Management*. 24, 23–41.
- Messai, A., and Jouini, F., (2013). Micro and macro determinants of non-performing loans. *International Journal of Economics and Financial Issues*, 3(4), 852–860.
- Metwally, M.M., (1997). *European Business Review*, 97(2), 92-98.
- Metwally, M.M., (2012). Differences between the financial characteristics of interest free banks and conventional bank. *Journal of Financial Management and Analysis*, 25(1), 44-50.
- Miah, M. D., & Sharmeen, K., (2015). Relationship between capital, risk and efficiency. *International Journal of Islamic and Middle Eastern Finance and Management*, 8(2), 203-221.
- Miller, K.D., (1992). A framework for integrated risk management in international business. *Journal of International Business Studies*, 23, 311–331.
- Miller, S.M., & Noulas, A.G. (1997). Portfolio mix and large-bank profitability in the USA. *Applied Economics*, 29(4), 505-512.
- Milosevic, N., Rakocevic, S. B., & Milanovic, N., (2014). One Approach to Risk Management in SMEs Banking. *Management (1820-0222)*, 73, 59-67.
- Mirakhor, A., & Iqbal, Z., (2007). *An Introduction to Islamic Finance: Theory and Practices*. Singapore: John Wiley And Sons Pte, Ltd.

- Mirakhor, A., & Krichene, N. (2009). *The Recent Crisis: Lessons for Islamic Finance*, 1-92.
- Mishkin, F. S. (2009). *Is Monetary Policy Effective During Financial Crises?* (No. w14678). National Bureau of Economic Research.
- Mishkin, F.S, Stern, G., & Fieldman, R. (2006). How big a problem too big too fail? A review of Stern, G. and Fieldman, R. too big too fail: The hazards of bank bailouts. *Journal of Economic Literature*, 44(4), 988-1004.
- Mohamad, A. A. S., Mohamad, M. T., & Samsudin, M. L. (2013). How Islamic banks of Malaysia managing liquidity? An emphasis on confronting Economic Cycles. *International Journal of Business and Social Science*, 4(7).
- Mokhtar, H.S.A., Abdullah, N. & AlHabshi, S.M. (2006). Efficiency of Islamic banks in Malaysia: A stochastic frontier approach. *Journal of Economic Cooperation among Islamic Countries*, 27(2), 37-70.
- Mokhtar, H.S.A., Abdullah, N., & Alhabshi, S.M., (2008). Efficiency and competition of Islamic banking in Malaysia. *Humanomics*, 24(1), 28-48.
- Molyneux, P., & Thornton, J. (1992). Determinants of European bank profitability: A note. *Journal of Banking and Finance*, 16, 1173-1178.
- Mounira, B.A., and Anas, E., (2008). Managing risks and liquidity in an interest free banking framework: The case of the Islamic banks. *International Journal of Business and Management*.
- Munteanua, I., (2012). Bank liquidity and its determinants in Romania. *Procedia Economics and Finance*, 3(2012), 993-998.
- Myers, S.C., Rajan, R.G. (1998). The paradox of liquidity. *Quarterly Journal of Economy*, 113(3), 733–771.
- Ndikumana, L. (2005). Financial development, financial structure, and domestic investment: International evidence. *Journal of International Money and Finance*, 24(4), 651-673.
- Nguyen, T.P.T, & Nghiem, S.H., (2015). The interrelationships among default risk, capital ratio and efficiency. *Managerial Finance*, 41(5), 507–525.
- Nkusu, M., (2011). Nonperforming loans and macrofinancial vulnerabilities in advanced economies. *International Monetary Fund Working Paper* 11/161.
- Noor M., M. M. A., & Ahmad, N. H. (2011). *Relationship Between Islamic Banking Profitability and Determinants of Efficiency*.
- Obaidullah, M. (2005). *Islamic Financial Services*. Jeddah.

- Ofoeda, I., Abor, J., & Adjasi, C.K.D., (2012). Non-bank financial institutions regulation and risk-taking. *Journal of Financial Regulation and Compliance*, 20(4), 433-450.
- Oldfield, G. & A. Santomero (1997). Risk management in financial institutions. *Sloan Management Review*, Fall, 33-46.
- Ongore, V. O., & Kusa, G. B. (2013). Determinants of financial performance of commercial banks in Kenya. *International Journal of Economics and Financial Issues*, 3(1), 237.
- Ozkan-Gunay, E. N., Gunay, Z. N., & Gunay, G. (2013). The impact of regulatory policies on risk taking and scale efficiency of commercial banks in an emerging banking sector. *Emerging Markets Finance & Trade*, 4980-98.
- Parker, M., (2010). Malaysia aims to take Islamic finance to its next level. *Arab News*, 21 November 2010.
- Pasiouras, F., & Kosmidou, K., (2007). Factors influencing the profitability of domestic and foreign commercial banks in the European Union. *Research in International Business and Finance*, 21(2), 222–237.
- Pasiouras, F., Gaganis, C., & Zopounidis, C. (2006). The impact of bank regulations, supervision, market structure, and bank characteristics on individual bank ratings: A cross-country analysis. *Review of Quantitative Finance and Accounting*, 27(4), 403-438.
- Pastor, J.M. & Serrano, L., (2005). Efficiency, endogenous and exogenous credit risk in the banking systems of the Euro Area. *Applied Financial Economics*, 15(9), 631-649.
- Pastor, J.M. (1999). Efficiency and risk management in Spanish banking: A method to decompose risk. *Applied Financial Economics*, 9(4), 371-384. DOI: 10.1080/096031099332267
- Pathan, S. (2009). Strong boards, CEO power and bank risk-taking. *Journal of Banking & Finance*, 33(7), 1340-1350.
- Patrick, H.T. (1966). Financial development and economic growth in under-developed countries. *Economic Development and Cultural Change*, 14(2), 174-189.
- Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled mean group estimation of dynamic heterogeneous panels. *Journal of the American Statistical Association*, 94(446), 621-634.
- Peura, S., & Keppo, J. (2006). Optimal bank capital with costly recapitalization. *The Journal of Business*, 79(4), 2163-2201.
- Podpiera, J., & Weill, L., 2008. Bad luck or bad management? Emerging banking market experience. *Journal of Financial Stability*, 4, 135–148.

- Pollard, J. & Samers, M. (2007). Islamic banking and finance: Postcolonial political economy and the decentering of economic geography. *Transactions of the Institute of British Geographers*, 32, 313–330.
- Porath, D. (2004). Estimating probabilities of default for German saving banks and credit cooperatives. *Deutsche Bundesbank Banking Supervision Discussion Papers*, 2004/06.
- Quah, J.S.T. (2013). Ensuring good governance in Singapore. *The International Journal of Public Sector Management*, 26(5), 401-420. Retrieved from <https://search.proquest.com/docview/1373224952?accountid=27932>
- Quintyn, M., & Taylor, M., 2002. Regulatory and supervisory independence and financial stability. *International Monetary Fund Working Paper No. 02/46*, March.
- Rahman, A.A. (2012). *Risk Exposures and Lending Structures of Malaysian Banks*. Malaysia: Penerbit Universiti Kebangsaan Malaysia. ISBN 978-967-412-019-1.
- Rahman, M. (2011). Different parametric and non-parametric approaches to model the efficiency of Islamic and conventional banks in Bangladesh. *International Journal of Business & Management Science*, 4(2), 147-174.
- Rajan, R., & Dhal, S. C. (2003). Non-performing loans and terms of credit of public sector banks in India: An empirical assessment. *Occasional Papers*, 24(3), 81-121.
- Rajan, R.G., & Zingales, L., (1998). Financial dependence and growth. *American Economic Review*, 88, 559–586.
- Rajhi, W., & Hassairi, S. A., (2011). Unconventional Banking System in Distress. *International Journal of Economics & Finance*, 3(4), 70-82.
- Ramadan, I.Z., (2011). Bank-specific determinants of Islamic banks profitability: An empirical study of the Jordanian market. *International Journal of Academic Research*, 3(6).
- Ramakrishnan, R. T., & Thakor, A. V. (1984). Information reliability and a theory of financial intermediation. *Review of Economic Studies*, 51(3), 415.
- Rasem K.N., & Kabir, M.H., (2009). The global financial crisis and islamic finance solution, *May 2009 Working Paper*.
- Ray, N. (1995). *Arab Islamic Banking and The Renewal of Islamic Law*. London: Graham and Troutman Limited.
- Reinhart, C., & Rogoff, K. (2008). This time is different: A panomarcic view of eight centuries of financial crises. *Working Paper No. 13882*, National Bureau of Economic Research, Cambridge, MA.



- Richardson, B.J., (2014). To govern and be governed: The governance dimensions of SRI's influence. In *Socially Responsible Investment in the 21st Century: Does it Make a Difference for Society?* Critical Studies on Corporate Responsibility, Governance and Sustainability, Volume 7, 247272. Retrieved from: <http://dx.doi.org/10.1108/S2043-90592014000007010>
- Rinaldi, L., & Sanchis-Arellano, A. (2006). *Household Debt Sustainability: What Explains Household Non-Performing Loans? An Empirical Analysis*.
- Robert B.M., & Smith, A.J., (2003). Transparency, financial accounting information, and corporate governance. *Economic Policy Review*, 9(Special Issue April), 65-90.
- Robinson, J. (1952). The generalization of the general theory. *The Rate of Interest, and Other Essays*. Macmillan, London.
- Rochet, J.C., & Tirole, J., (1996). Interbank Lending and Systemic Risk. *Journal of Money, Credit, and Banking*, 28, 733-62.
- Roman, A., & Sargu, A. C. (2015). The Impact of Bank-specific Factors on the Commercial Banks Liquidity: Empirical Evidence from CEE Countries. *Procedia Economics and Finance*, 20, 571-579.
- Rose, P.S., (2002). *Commercial Bank Management*. USA: Mcgraw-Hill/Irwin.
- Rosly, S. A, & Zaini, M. A. M., (2008). Risk-return analysis of Islamic banks' investment deposits and shareholders' fund. *Managerial Finance*, 34(10), 695–707.
- Rosly, S. A. (2005). *Critical Issues on Islamic Banking and Financial Markets: Islamic Economics, Banking and Finance, Investments, Takaful And Financial Planning*. Kuala Lumpur: Dinamas Publishing.
- Rosman, R., Abd Wahab, N., & Zainol, Z., (2014). Efficiency of Islamic banks during the financial crisis: An analysis of Middle Eastern and Asian countries. *Pacific-Basin Finance Journal*, 28(2014), 76–90.
- Rouissi, R. B., & Bouzgarrou, H. (2012). Cost efficiency of French commercial. *The International Journal of Business and Finance Research*, 6(4), 101-113.
- Saadaoui, A., and Boujelbene, Y. (2014). Liquidity and credit risk in the emerging financial markets. *Public Finance Quarterly (0031-496X)*, 59(2), 207-219.
- Saeed, M., & Izzeldin, M. (2014). Examining the relationship between default risk and efficiency in Islamic and conventional banks. *Journal of Economic Behavior & Organization*.
- Salah, N. B., & Fedhila, H. (2012). Effects of securitization on credit risk and banking stability: Empirical evidence from American commercial banks. *International Journal of Economics and Finance*, 4(5), 194.

- Salas, V., and Saurina, J., (2002). Credit risk in two institutional regimes: Spanish commercial and savings banks. *Journal of Financial Services Research*, 22, 203–224.
- Samad, A. (2012). Credit risk determinants of bank failure: Evidence from US bank failure. *International Business Research*, 5(9), 10-15. Retrieved from <http://search.proquest.com/docview/1040716290?accountid=27932>
- Samad, A., & Hassan, K., (2000). The performance of Malaysian Islamic bank during 1984-1997: An exploratory study. *Thoughts on Economics*, 10(1&2), 7-26.
- Samad, A., & Hassan, M. K. (1999). The performance of Malaysian Islamic bank during 1984-1997: An exploratory study. *International Journal of Islamic Financial Services*, 1(3), 1-14.
- Samad, A., & Hassan, M.K. (1999). The performance of Malaysian Islamic bank during 1984-1997: An exploratory study. *International Journal of Islamic Financial Services*, 1(3).
- Samad, A., (2004). Performance of interest-free Islamic banks vis-a-vis interest-based conventional banks of Bahrain. *IJUM Journal of Economics and Management*, 12(2).
- Samsudin, M.L., Halim, M.R.A., Mohamad, M.T., Sulaiman, A.A., (2012). Pengurusan kecairan berasaskan aset dan liabiliti perbankan Islam di Malaysia. *Prosiding Perkem VII*, 2(2012), 891-905.
- Satria, D. M., Harun, C. A., & Taruna, A. A. (2016). The Macro-prudential aspects of loan-to-deposit-ratio-linked reserve requirement. *Applied Economics*, 48(1), 24-34.
- Saunders, A. & Cornet, M.M., (2008). *Financial Institutions Management, A Risk Management Approach* (6th Edition), McGraw-Hill Irwin.
- Saurina, J. (2009). *Dynamic provisioning. The experience of Spain*. Washington DC: World Bank.
- Sawada (2010). Liquidity risk and bank portfolio management in a financial system without deposit insurance: Empirical evidence from pre-war Japan. *International Review of Economics and Finance*, 19, 392-406.
- Scholtens, B., & Van Wensveen, D. (2000). A critique on the theory of financial intermediation. *Journal of Banking & Finance*, 24(8), 1243-1251.
- Schumpeter, J.A. (1911), *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle*. Cambridge: Harvard University Press.
- Sealey, C. & Lindley, J.T. (1977). Inputs, outputs and a theory of production and cost at depository financial institutions. *Journal of Finance*, 32(4), 1251-66.



- See, K.F., & He, Y., (2015). Determinants of technical efficiency in Chinese banking: A double bootstrap data envelopment analysis approach. *Global Economic Review: Perspectives on East Asian Economies and Industries*, DOI: 10.1080/1226508X.2015.1014392
- Sehrawat, M., & Giri, A.K., (2015). Financial development and economic growth: Empirical evidence from India. *Studies in Economics and Finance*, 32(3), 340-356, doi: 10.1108/SEF-10-2013-0152.
- Seiford, L.M. & Thrall, R.M. (1990). Recent developments in DEA: The mathematical programming approach to frontier analysis. *Journal of Econometrics*, 46(1-2), 7-38.
- Shaw, E.S. (1973). *Financial Deepening in Economic Development*. New York: Oxford University Press.
- Shin, H. S. (2009). Reflections on Northern Rock: The bank run that heralded the global financial crisis. *Journal of Economic Perspectives*, 23(1), 101-19.
- Shleifer, A., & Vishny, R. (1998). *The Grabbing Hand: Government Pathologies and Their Cures*. Cambridge, MA: Harvard University Press.
- Siddiqui, A. (2008). Financial contracts, risk and performance of Islamic banking. *Managerial Finance*, 34(10), 680-694.
- Soedarmono, W., Machrouh, F., & Tarazi, A. (2013). Bank competition, crisis and risk taking: Evidence from emerging markets in Asia. *Journal of International Financial Markets, Institutions and Money*, 23, 196-221.
- Sole, J. (2007). *Introducing Islamic Banks into Conventional Banking Systems*. Washington: International Monetary Fund Working Paper. 07/175.
- Srairi, S., (2008). A comparison of the profitability of Islamic and conventional banks: The case of GCC countries. *Bankers, Markets & Investors*, 98, 16-27.
- Stern, G., Feldman, R. (2004). *Too Big to Fail: The Hazards of Bank Bailouts*. Washington, DC: The Brookings Institution.
- Subramanyam, T., (2012). Technical and risk efficiency evaluation of Indian commercial banks using DEA models. *International Journal of Information, Business and Management*, 5(3).
- Sudin, H., & Azmi, W.N.W., (2005). Measuring depositors' behavior of Malaysian Islamic banking system: A co-integration approach. Paper presented at 6th International Conference on Islamic Economics and Finance, Jakarta, Indonesia.
- Sudin, H., & Bala, S., (1997). *Islamic Banking System Concepts and Application*. Selangor, Malaysia: Pelanduk Publications.

- Sudipto, B., & Fulghieri, P., (1994). Uncertain liquidity and interbank contracting. *Economics Letters*, 44, 287-94.
- Sudipto, B., & Gale, D., (1987). Preference shocks, liquidity, and central bank policy. In W. Barnett & K. Singleton (Eds.), *New Approaches to Monetary Economics* (pp. 69-88). Cambridge: Cambridge University Press.
- Sufian, F. (2006). The efficiency of non-bank financial institutions: Empirical evidence from Malaysia. *International Journal of Finance and Economics*, 6.
- Sufian, F. (2009). Determinants of bank efficiency during unstable macroeconomic environment: Empirical evidence from Malaysia. *Research in International Business and Finance*, 23(1), 54-77.
- Sufian, F., & Chong, R. R., (2008). Determinants of bank profitability in a developing economy: Empirical evidence from the Philippines. *Asian Academy of Management Journal of Accounting & Finance*, 4(2), 91-112.
- Sufian, F., & Habibullah, M. S. (2009). Determinants of bank profitability in a developing economy: Empirical evidence from Bangladesh. *Journal of Business Economics and Management*, 10(3), 207-217.
- Sufian, F., & Noor, M. A. N. M., (2009). The determinants of Islamic banks' efficiency changes. *International Journal of Islamic and Middle Eastern Finance and Management*, 2(2), 120-138.
- Sufian, F., (2009a). Assessing the impact of mergers and acquisitions on bank profit efficiency: Empirical evidence from Malaysia. *International Journal Decision Sciences, Risk and Management*, 1(3&4), 258-285.
- Sufian, F., Kamarudin, F., & Noor, M.N.H (2014). Revenue efficiency and returns to scale in Islamic banks: Empirical evidence from Malaysia. *Journal of Economic Cooperation And Development*, 35(1), 47-80.
- Sufian, F., Kamarudin, F., & Noor, N. H. H. M. (2012). Determinants of revenue efficiency in the Malaysian Islamic banking sector, *Journal of King Abdulaziz University: Islamic Economics*, 25(2), 195-224.
- Sun, P.H., Hassan, M.K., Hassan, T., & Ramadilli, S.M., (2014). The assets and liabilities gap management of conventional and Islamic banks in the organization of Islamic cooperation (OIC) countries. *Applied Financial Economics*, 24(5), 333-346.
- Sundararajan, V., & Errico, L., (2002). Islamic financial institutions and products in the global financial system: Key issues in risk management and challenges ahead. *IMF Working Paper November 2002*. WP/02/192
- Switzer, L. N., & Wang, J. (2013). Default risk estimation, bank credit risk, and corporate governance. *Financial Markets, Institutions & Instruments*, 22(2), 91-112. Doi:10.1111/Fmii.12005

- Tadesse, S. (2006). The economic value of regulated disclosure: Evidence from the banking sector. *Journal of Accounting and Public Policy*, 25(1), 32-70.
- Tai, L. (2014). Efficiency and performance of conventional and Islamic banks in GCC countries. *Middle East Journal of Business*, 9(2), 60-71.
- Tamadonnejad, A., Abdul-Majid, M., Rahman, A.A., & Jusoh, M., (2013a). Political Stability, Country Risk and Bank Efficiency in East Asian Countries. *Prosiding Perkem VIII, Jilid 2(2013)*, 616-628, ISSN: 2231-962X
- Tamadonnejad, A., Rahman, A.A., & Abdul-Majid, M., (2013b). The impact of efficiency and crisis on insolvency risk: The case of East Asian Banks. *Prosiding Perkem VIII, Jilid 3(2013)* 1471-1482.
- Tan, A.Y. & Floros, C. (2013). Risk, capital and efficiency in Chinese banking. *Journal of International Financial Markets, Institutions and Money*, 26(3), 378-393.
- Tang, K., & Wang, C., (2011). Corporate Governance and Firm Liquidity: Evidence from the Chinese Stock Market. *Emerging Markets Finance and Trade*, 47(sup1), 47-60.
- Tarawneh, M. (2006). A comparison of financial performance in the banking sector: Some evidence from Omani commercial banks, 101-111.
- Tariq, M., Tahir, A., Momeneen, W. & Hanif, M. (2012). Comparative performance study of conventional and Islamic banking in Pakistan. *International Research Journal of Finance and Economics*, 83, 62-72.
- Tariqullah, K., (2006). *The Challenge of Fixed to Floating Rate Swap. Presentation on 3rd International Seminar on Challenges Facing the Islamic Financial Service Industry*, Kuwait, March 26, 2006.
- Tobin, J. (1987). Financial intermediaries. In *Cowles Foundation Discussion Papers 817*. Yale: Cowles Foundation, Yale University.
- Tomuleasa, I.I., (2015). Macroprudential policy and systemic risk: An overview. *Procedia Economics and Finance*, 20(2015), 645-653.
- Tsung-Ming, Y., (2017). Governance, risk-taking and default risk during the financial crisis: the evidence of Japanese regional banks. *Corporate Governance: The International Journal of Business in Society*, 17(2), 212-229.
- ul Mustafa, A. R., Ansari, R. H., & Younis, M. U. (2012). Does the loan loss provision affect the banking profitability in case of Pakistan?. *Asian Economic and Financial Review*, 2(7), 772.
- Van den End, J. W., & Kruidhof, M. (2013). Modelling the liquidity ratio as macroprudential instrument. *Journal of Banking Regulation*, 14(2), 91-106.

- Van den End, J. W., (2016). A macroprudential approach to address liquidity risk with the loan-to-deposit ratio. *The European Journal of Finance*, 22(3), 237-253.
- Vazquez, F., & Federico, P., (2015). Bank funding structures and risk: Evidence from the global financial crisis. *Journal of Banking & Finance*, 61(2015), 1–14.
- Vento, G. A., & La Ganga, P. (2009). Bank liquidity risk management and supervision: which lessons from recent market turmoil. *Journal of Money, Investment and Banking*, 10(10), 78-125.
- Vinogradov, D., (2012). Destructive effects of constructive ambiguity in risky times. *Journal of International Money and Finance*, 31(2012), 1459-1481.
- Vithessonthi, C., & Tongurai, J. (2016). Financial markets development, business cycles, and bank risk in South America. *Research in International Business and Finance*, 36, 472-484.
- Vithessonthi, C., (2014a). The effect of financial markets development on bank risk: evidence from Southeast Asian countries. *International Review of Finance Analysis*, 35, 249–260.
- Vithessonthi, C., (2014b). Financial markets development and bank risk: experience from Thailand during 1990–2012. *Journal of Multinational Finance and Management*, 27, 67–88.
- Vodova, P. (2011). Liquidity of Czech commercial banks and its determinants. *International Journal of Mathematical Models and Methods in Applied Science*, 6(5).
- Vodova, P., (2013). Determinants of commercial banks liquidity in Hungary. *e-Finance*, 9(3), 64.
- Vogel, F., & Hayes, S., (1998). *Islamic Law and Finance: Religion, Risk and Return*. The Hague: Kluwer Law International.
- Vogiazas, S., & Alexiou, C., (2013). Liquidity and the business cycle: Empirical evidence from the Greek banking sector. *Economic Annals, Volume LVIII*, No. 199 / October – December 2013, DOI:10.2298/EKA1399109V
- Vuuren, G.V. (2011). Modelling systemic liquidity risk with feedback effects. *Journal of Risk Management in Financial Institutions*, 5(1), 36–59.
- Wagner, W. (2007). The liquidity of bank assets and banking stability. *Journal of Banking & Finance*, 31(1), 121-139.
- Wahyudi, I., and Sani, G. A., (2014). Interdependence between Islamic capital market and money market: Evidence from Indonesia. *Borsa Istanbul Review*, 14(2014), 32-47. Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

- Wang, K., Huang, W., Wu, J., & Liu, Y.N., (2014). Efficiency measures of the Chinese commercial banking system using an additive two-stage DEA. *Omega*, 44(2014), 5–20.
- Warue, B.N. (2013). The effects of bank specific and macroeconomic factors on nonperforming loans in commercial banks in Kenya: A comparative panel data analysis. *Advances in Management and Applied Economics*, 3(2), 135.
- Wheelock, D. C., & Wilson, P. W. (1995). Explaining bank failures: Deposit insurance, regulation, and efficiency. *The Review of Economics and Statistics*, 689-700.
- White, E. N. (1986). Before the Glass-Steagall Act: An analysis of the investment banking activities of national banks. *Explorations in Economic History*, 23(1), 33-55.
- Williams, J. (2004). Determining management behaviour in European banking. *Journal of Banking & Finance*, 28(10), 2427-2460.
- Windmeijer, F. (2000). Moment conditions for fixed effects count data models with endogenous regressors. *Economics Letters*, 68(1), 21-24.
- Wooldridge, J. M. (1995). Selection corrections for panel data models under conditional mean independence assumptions. *Journal of Econometrics*, 68(1), 115-132.
- Worthington, A. C. (2010). Frontier efficiency measurement in deposit-taking financial mutuals: A review of techniques, applications, and future research directions. *Annals of Public & Cooperative Economics*, 81(1), 39-75.
- Xavier, F., Parigi, B., & Rochet, J.C., (2000). Systemic risk, interbank relations and liquidity provision by the central bank. *Journal of Money, Credit, and Banking*, 32(3-2), 611-40.
- Xiao, S., & Zhao, S., (2012). Financial development, government ownership of banks and firm innovation. *Journal of International Money and Finance*, s31, 880–906.
- Yan, M., Hall, M.J.B., & Turner, P., (2014). Estimating liquidity risk using the exposure-based cash-flow-at-risk approach: An application to The UK banking sector. *International Journal of Finance and Economics*, 19, 225–238.
- Yang, C. C. (2014). An enhanced DEA model for decomposition of technical efficiency in banking. *Annals of Operations Research*, 214(1), 167-185.
- Yang, C.C., (2012). Service, investment, and risk management performance in commercial banks. *The Service Industries Journal*, 32(12), 2005-2025.



- Yin, H-Y., Wu, S., & Chen, D-Y., (2015). The impact of regulatory changes on banks' risks and returns in Taiwan. *Research in Finance*. Published online: 08 Mar 2015; 173-198. Retrieved from: [http://dx.doi.org/10.1016/S0196-3821\(02\)19009-5](http://dx.doi.org/10.1016/S0196-3821(02)19009-5).
- Yudistira, D. (2004.) Efficiency in Islamic banking: An empirical analysis of eighteen banks. *Islamic Economic Studies*, 112(1), 1-19.
- Yusof, R. M., Al Wosabi, M., & Majid, M.S.A., (2009). Monetary policy shocks and Islamic banks' deposits in a dual banking system: Empirical evidence from Malaysia and Bahrain. *Journal of Economic Cooperation and Development*, 30(2), 1-26.
- Zaib, A., Farid, F., & Khan, M. K. (2014). Macroeconomic and bank-specific determinants of non-performing loans in the banking sector in Pakistan. *International Journal of Information, Business & Management*, 6(2), 53-81.
- Zamir, I., And Abbas, M., (2007). *An Introduction to Islamic Finance: Theory and Practices*. Singapore: John Wiley & Son Pte, Ltd.
- Zheng, H. (2011). Is the reform of new rural financial institutions feasible? Analysis from the perspective of monitoring efficiency. *Economic Research Journal*, 2, 005.
- Zhu, H. (2001). Bank runs without self-fulfilling prophecies. *Bank for International Settlements Working Papers*, No.106.
- Zribi, N., & Boujelbène, Y. (2011). The factors influencing bank credit risk: The case of Tunisia. *Journal of Accounting and Taxation*, 3(4), 70.