IMPACT OF BANK-SPECIFIC CHARACTERISTICS, MACROECONOMIC FACTORS AND GOVERNANCE ON ISLAMIC AND CONVENTIONAL BANK REVENUE EFFICIENCIES

FAKARUDIN BIN KAMARUDIN

GSM 2015 1
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By

FAKARUDIN BIN KAMARUDIN

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

January 2015
DEDICATION

TO MY BELOVED FAMILY

Ramini Laiman
Kamarudin Abd. Hamid
Qamariatul Arifah
Latifah
Faizah

TO MY PRECIOUS PARENT-IN-LAW

Mohd Redzuan Hj. Shariff
Maisarah Hj. Mat Dom

TO MY TREASURED WIFE AND SON

Nazratul Aina Mohamad Anwar
Muhammad Fateh Arish

...With you, hopes are always there...
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FAKARUDIN BIN KAMARUDIN

January 2015

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Faculty      :  Graduate School of Management, UPM

The main objective of Islamic and conventional banks is to maximize shareholders’ value or wealth via profit maximization even though they are operate under two different principles. The profitability of banks is generally related to the level of bank’s profit efficiency. To attain a higher level of profit efficiency, banks should maximize their revenue efficiency rather than just focus on the cost efficiency level. Generally, bank governance plays a main role in ensuring that a bank’s efficiency is at the optimal level. Nevertheless, prior results are inconclusive. One of the mechanisms that could significantly improve the efficiency level of banks is through country governance. Few studies have examined the effect of country governance on banks revenue efficiency. In general, country governance is defined as the set of traditions and institutions by which the authority in a country is exercised.

The levels of the revenue efficiency in the Islamic and conventional banks are measured using the Data Envelopment Analysis (DEA) method via the intermediation approach. Then, the potential determinants and the effect of country governance on the revenue efficiency of both banks are investigated by adopting the Multivariate Panel Regression Analysis (MPRA) via the pooled Ordinary Least Square (OLS), Fixed Effect Model (FEM), Random Effect Model (REM) and the Generalized Method of Moments (GMM) as estimation methods. The data for this study consists of 454 banks (112 Islamic and 342 conventional banks) selected from the three regions of the main hubs of Islamic banking (Middle East, Southeast Asia, and South Asia) that cover 19 countries from the year 2003 to 2011.

Overall, the empirical findings suggest that the Islamic banks’ revenue efficiency level is higher than that of conventional banks’. Furthermore, this study finds that, bank size has a positive impact on both types of banks’ revenue efficiency. However,
others factors, such as, capitalization and market power reveal the opposite relationship. The credit risk, liquidity and economic growth have a positive impact on the Islamic banks’ revenue efficiency. Meanwhile, inflation and market concentration have a positive impact on the conventional banks’ revenue efficiency, whilst global financial crisis and overhead expenses report the contrary findings.

Finally, this study also finds that, in general, country governance dimensions, such as, voice and accountability have a positive influence on both Islamic and conventional banks’ revenue efficiency. However, the opposite effects are observed for other country governance dimensions, such as, political stability and absence of violence and control of corruption. In addition, the government effectiveness, regulatory quality and rule of law dimensions negatively influence banks’ revenue efficiency but is only significant for conventional banks.

This study concludes that the levels of revenue efficiency in the Islamic and conventional banks are not just influenced by bank-specific characteristics and macroeconomic conditions, but they are also influenced by the effect of country governance.

Tahap kecekapan hasil bagi bank Islam dan bank konvensional diukur menggunakan kaedah Analisis Pengumpulan Data (DEA) melalui pendekatan pengantaran. Kemudian, faktor penentu yang berpotensi dan kesan tadbir urus negara ke atas kecekapan hasil terhadap kedua-dua sektor perbankan tersebut dikaji dengan menggunakan analisis regresi Panel multivariat (MPRA) melalui Kaedah pengumpulan Kuasadua Terkecil (OLS), Model Kesan Tetap (FEM), Model Kesan Rawak (REM) dan ‘Generalized Method of Moments’ (GMM) sebagai satu kaedah anggaran. Data kajian ini terdiri daripada 454 buah bank (112 buah bank Islam dan 342 buah bank konvensional) yang dipilih dari tiga kawasan hab utama perbankan Islam (Timur Tengah, Asia Tenggara dan Asia Selatan) merangkumi 19 buah negara dari tahun 2003 hingga 2011.

Secara keseluruhannya penemuan kajian mencadangkan bahawa tahap kecekapan hasil bank Islam adalah lebih tinggi dari bank konvensional. Disamping itu, kajian...
mendapati, faktor saiz bank mempunyai kesan yang positif terhadap kecekapan hasil kepada kedua-dua jenis bank. Walau bagaimanapun, faktor permodalan and kuasa pasaran menyumbang kepada kesan yang bertentangan. Seterusnya, faktor risiko kredit, kecairan and pertumbuhan ekonomi memberikan kesan positif terhadap kecekapan hasil bank Islam. Sementara itu, faktor inflasi dan penumpuan pasaran mempunyai kesan positif terhadap kecekapan hasil bank konvensional, manakala krisis kewangan global dan perbelanjaan overhed menunjukkan penemuan yang berlawanan.

Akhir sekali, kajian ini juga mendapati, secara umumnya, dimensi tadbir urus negara seperti dimensi suara dan akauntabiliti mempunyai pengaruh positif terhadap kecekapan hasil bagi kedua-dua bank Islam dan bank konvensional. Walau bagaimanapun, kesan bertentangan telah dikenal pasti bagi dimensi tadbir urus negara yang lain seperti, dimensi kestabilan politik dan keamanan dan kawalan rasuah. Sementara itu, dimensi keberkesanan kerajaan, kualiti kawal selia dan kedaulatan undang-undang memberikan pengaruh negatif kepada kecekapan hasil bank tetapi hanya signifikan bagi bank konvensional.

Kajian ini menyimpulkan bahawa tahap kecekapan hasil bagi bank Islam dan bank konvensional tidak hanya dipengaruhi oleh ciri-ciri pengkhususan bank dan keadaan makroekonomi, tetapi juga kesan daripada tadbir urus negara.
ACKNOWLEDGEMENT

First and foremost, I would like to thank and praise The Almighty Allah S.W.T. for giving me the willpower and strength to undertake and complete my Ph.D thesis.

I would also like to deeply thank my beloved parents and family members, Kamarudin Abd Hamid, Ramini Laiman, Qamariatull Arifah, Latifah and Faizah for their continuous support and encouragement. Special thanks also goes to my wife, Nazratul Aina Mohamad Anwar and my son, Muhammad Fateh Arish for their prayers, understanding and patience through this challenging phase.

My gratitude also goes to my supervisor, Professor Dr. Annuar Md Nassir for his constant guidance, encouragement, valuable opinion and professional supervision. My appreciation also goes to other members of my supervisory committee, Dr. Mohamed Hisham Dato Haji Yahya and Dr. Ridzwana Mohd Said for their assistance, support and valuable comments.

I am also indebted to my excellent motivators for this dissertation, Professor Dr. Fadzlan Sufian and Associate Professor Dr. Baharom Abdul Hamid for their assistance on the DEAFrontier program and STATA package, particularly on the Generalized Methods of Moments (GMM) estimator.

Last but not least, special thank to my friends and lecturers of Faculty of Economics and Management in Universiti Putra Malaysia and those who have encouraged and supported me directly or indirectly during the process of completing this study.
I certify that a Thesis Examination Committee has met on 2 January 2015 to conduct the final examination of Fakarudin Bin Kamarudin on his thesis entitled "Impact of Bank-Specific Characteristics, Macroeconomic Factors and Governance on Islamic and Conventional Bank Revenue Efficiencies" 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 Doctor of Philosophy degree.

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<td>USD</td>
<td>United State Dollar</td>
</tr>
<tr>
<td>VAR</td>
<td>Vector Auto-Regression</td>
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<tr>
<td>VRS</td>
<td>Variable Returns to Scale</td>
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<tr>
<td>WDI</td>
<td>World Development Indicators</td>
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<tr>
<td>WGI</td>
<td>Worldwide Governance Indicator</td>
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</table>
CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter provides the background of the study, problem statement, research questions, research objectives, and significance of this study. It provides a general description of Islamic and conventional banks and their efficiency levels in the Middle East, Southeast Asia and South Asia. These three regions are, increasingly important, major hubs of Islamic banking and finance. This chapter also discusses bank-specific characteristics and macroeconomic determinants that are responsible in producing revenue efficient results in both Islamic and conventional banks. The impacts of country governance on both Islamic and conventional banks’ revenue efficiency are also discussed. These will then lead to the problem statement, research questions, research objectives and significance of the study.

1.2 Background of the Study

Financial institutions play an important role as institutions that provide financial services to its clients or members. The banking sector represents the part of the financial institutions that are most important to economic growth. Iqbal and Molyneux (2005) describe the bank as a financial intermediary that offers the widest range of financial services such as savings, credit and payment services. In addition,
banks also perform the widest range of financial functions of any business firm in the economy. Another approach of performing the financial intermediary function is through the Islamic banking practice.

The definition of the Islamic banking system (IBS) is a banking system that operates in accordance with Islamic or Syariah rules (Beck et al., 2013). Basically, the three main prohibitions in finance according to the Syariah law are 1) *riba* (interest), 2) *gharar* (risk or uncertainty defined as speculation) and 3) financing of illicit activities such as alcohol, drugs, pork and weapons. Syariah law advocates the profit and loss sharing (PLS) principle and that all transaction need to be backed by a real economic transaction where tangible assets are involved. All Islamic banking operations or transactions that involve either deposits or financing, must be done in accordance with Syariah principles. These principles also cover other banking transactions such as money order transaction, letter of guarantee, letter of credit and foreign exchange.

The main factor that distinguishes Islamic banks from conventional banks is that transactions are administered without involving the elements of *riba* (better known as interest). Islam prohibits *riba* and all Muslims are aware of this matter. It is clearly mentioned on the prohibition of *riba* in the Quran, the Muslim’s holy book and the traditions of Prophet Muhammad (*sunnah*). It is commonly agreed that the meaning of *riba* is ‘an increase’ or ‘growth’. Some maintain that it is the increase imposed on the debtor when the debt matures should the debtor fail to settle it and wishes to roll it over. The prime form of *riba* transactions is sale on credit in which case the
(deferred) price is already higher than the spot price due to the deferment and the need for an explicit increase applied only if payment is further postponed.

Nevertheless, most of the scholars are of the opinion that *riba* covers the interest indicated when the contract was made in the case of loans and also the subsequent increase should the loan or the debt arising from sale on credit be rolled over because the debtor fails to pay it on time (Badawi, 1964). Technically, any increase or premium advantage obtained by the lender as a condition of the loan is considered as ‘*riba*’. This type of income is “*haram*” or forbidden in Islam and Muslims are forbidden from giving or receiving *riba*. More importantly, the principal objective of the establishment of Islamic banks is to cater to the needs of Muslims in banking transactions in accordance with the rulings set in the Al Quran and Hadith (Haron and Azmi, 2009). The business management of the banks is governed by the concepts of justice and fairness.

Santos (2000) suggests that the principle of the conventional bank is to obtain profits simply by purchasing transaction deposits at a low interest rate and then reselling those funds at a higher interest rate. Therefore, in the simple view, the conventional banks make profits through the interest received from the borrowers with a higher rate and paying the interest to their depositors at a lower rate.

Nevertheless, Islamic banks also play the role of the intermediary and charge fees for the services provided to earn profit comparable to the conventional bank. However, the difference is that the Islamic banks do not receive a predetermined interest from borrowers and pay a predetermined interest to depositors. The profit generated by
Islamic banks is based on interest free principle and the principle of PLS. Therefore, in performing their businesses as intermediaries, Islamic banks deal with profit sharing instead of interest, where, profit sharing depends on the extent of the risk participation of the parties (Arif, 1988; Dar and Presley, 2000; Arif, 2006).

Islamic banking dates back almost 40 years. Islamic banking was conceptualised and recognized in the late 1940s. Many distinguished Islamic banks were established in the 1970s including Dar Al-Maal Al-Islami in 1980, Kuwait Finance House and Faisal Islamic Bank of Sudan in 1977, Dubai Islamic Bank in 1975, Islamic Development Bank in 1975 and Nasser Social Bank Cairo in 1972. In the early 1980s, three Muslim countries namely, Pakistan, Sudan and Iran surprised the world by deciding to base their economics and financial systems along Islamic lines (Khan and Bhatti, 2008).

In recent years, Islamic Banking has been one of the steadiest growing institutions and become most competitive to conventional banking even though the size of a typical Islamic bank is much smaller than that of a conventional bank’s. Global Islamic Finance Forum (2012) reports that the number of Islamic financial institutions increased from 75 in 1975 to over 600 in 2012, covering more than 75 countries. The total assets of the Islamic financial institutions hit USD 1 trillion in 2011, rising annually at about 150% and growing 50% faster than the overall banking sector. According to a World Islamic Banking Competitiveness report for the period from 2012 to 2013, the Islamic banking assets are projected to grow beyond the milestone of USD 2 trillion by 2014.
In 2011, Syariah compliant assets reached about USD 409.02 billion throughout the world. There are five countries that have been identified as having the largest Syariah compliant assets in the world in 2011, namely, Saudi Arabia, Iran, Kuwait, United Arab Emirates (UAE) and Malaysia. Table 1.1 shows a list of the top 10 largest Islamic banks in the world based on their total assets. Iranian banks accounted for about 62.42% of the total assets of the world’s top 10 Islamic banks. Al Rajhi Banking and Investment Corporation, with assets of USD 58.88 billion (14.4%) is top of the list, followed by Iran’s Bank Melli, Bank Mellat with USD 57 billion (13.945%) and USD 55.79 billion (13.64%) respectively. In fact, Iran holds the world’s largest level of Islamic finance assets valued at USD 255.33 billion (based on top 10 Islamic banks). Maybank Islamic Berhad represents the last of the top 10 with total assets USD 21.83 billion (5.34%).

Table 1.1: List of the Top 10 largest Islamic Banks in the World Year 2011

<table>
<thead>
<tr>
<th>Rank</th>
<th>Bank</th>
<th>Total Assets (Billion (USD ))</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Al Rajhi Banking and Investment Corporation (Saudi Arabia)</td>
<td>58.88</td>
<td>14.40</td>
</tr>
<tr>
<td>2</td>
<td>Bank Melli Iran (Iran)</td>
<td>57.00</td>
<td>13.94</td>
</tr>
<tr>
<td>3</td>
<td>Bank Mellat (Iran)</td>
<td>55.79</td>
<td>13.64</td>
</tr>
<tr>
<td>4</td>
<td>Bank Saderat (Iran)</td>
<td>54.14</td>
<td>13.24</td>
</tr>
<tr>
<td>5</td>
<td>Kuwait Finance House (Kuwait)</td>
<td>48.31</td>
<td>11.81</td>
</tr>
<tr>
<td>6</td>
<td>Bank Tejarat (Iran)</td>
<td>38.11</td>
<td>9.32</td>
</tr>
<tr>
<td>7</td>
<td>Parsian Bank (Iran)</td>
<td>25.47</td>
<td>6.23</td>
</tr>
<tr>
<td>8</td>
<td>Bank Sepah (Iran)</td>
<td>24.81</td>
<td>6.07</td>
</tr>
<tr>
<td>9</td>
<td>Dubai Islamic Bank (UAE)</td>
<td>24.67</td>
<td>6.03</td>
</tr>
<tr>
<td>10</td>
<td>Maybank Islamic Berhad (Malaysia)</td>
<td>21.83</td>
<td>5.34</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>409.02</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source: BankScope database 2011 produced by the Bureau van Dijk

Table 1.2 shows a list of top 10 largest conventional banks in the world in 2011 based on total assets. The top 10 conventional banks have about USD 25.12 trillion in combined assets. Among the top five biggest banks, two are Japanese banks.
namely, Mitsubishi UFJ Financial Group with USD 2,741.52 billion (10.92%) and Japan Post Bank with USD 2,542.77 billion. Currently, the largest bank in the world is Deutsche Bank based on total assets of USD 2,802.71 billion (11.16%), with a market share of 15.6%. They employ over 100,000 people and serve over 20 million customers through a large number of branches (about 3,100 branches) all over the world. Deutsche Bank is followed by the second largest bank, Mitsubishi UFJ Financial Group (MUFG). It consists of four main subsidiaries namely, Mitsubishi UFJ Trust and Banking, Bank of Tokyo-Mitsubishi UFJ, Mitsubishi UFJ Securities and UnionBanCal Corporation. HSBC Holdings is the third largest bank with about 90 million customers worldwide.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Bank</th>
<th>Total Assets</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Deutsche Bank (Germany)</td>
<td>2,802.71</td>
<td>11.16</td>
</tr>
<tr>
<td>2</td>
<td>Mitsubishi UFJ Financial Group (Japan)</td>
<td>2,741.52</td>
<td>10.92</td>
</tr>
<tr>
<td>3</td>
<td>HSBC Holdings (UK)</td>
<td>2,555.58</td>
<td>10.17</td>
</tr>
<tr>
<td>4</td>
<td>BNP Paribas (France)</td>
<td>2,545.34</td>
<td>10.13</td>
</tr>
<tr>
<td>5</td>
<td>Japan Post Bank (Japan)</td>
<td>2,542.77</td>
<td>10.12</td>
</tr>
<tr>
<td>6</td>
<td>Industrial and Commercial Bank of China</td>
<td>2,455.59</td>
<td>9.78</td>
</tr>
<tr>
<td>7</td>
<td>Crédit Agricole Group (France)</td>
<td>2,434.24</td>
<td>9.69</td>
</tr>
<tr>
<td>8</td>
<td>Barclays PLC (UK)</td>
<td>2,430.74</td>
<td>9.68</td>
</tr>
<tr>
<td>9</td>
<td>Royal Bank of Scotland Group (UK)</td>
<td>2,342.66</td>
<td>9.33</td>
</tr>
<tr>
<td>10</td>
<td>JPMorgan Chase and Co. (US)</td>
<td>2,265.79</td>
<td>9.02</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>25,116.94</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

Source: http://www.relbanks.com/worlds-top-banks/assets-2011

Nowadays, the globalization era has improved the financial institutions worldwide through greater deregulation and liberalization. However, the increasing advances in technology, the liberalization of financial markets on a global scale and the information revolution have put competitive pressure on the banking sector (Carvallo
and Kasman, 2005). This competitive pressure is particularly significant for banks in the emerging markets as they are the major financial intermediaries to channel savings and investment. In this context, operational efficiency is being viewed as critical in gaining competitive advantage. In comparison with Islamic banks, conventional banks:

- have superior experience and protracted history,
- practice and accept interest from loans that represent a major source of the banks’ revenue,
- enjoy huge capital, and do not share loss with clients,
- have much more developed technologies,
- ask for guaranteed collaterals in most transactions, and
- spread very widely through the large number of branches

Furthermore, the conventional banks could also enter the Islamic banking market that gives them an advantage to be competitive rivals with Islamic banking. For example, the Western financial market players such as Citibank, ABN AMRO (Algemene Bank Nederland [ABN] Amsterdam Rotterdam [AMRO]), HSBC (Hong Kong and Shanghai Banking Corporation Bank) and others have established their own Islamic windows or subsidiaries for the purpose of attracting petrodollar deposits from the Middle East and Muslim clientele in local markets.

Although the Islamic and conventional banks operate based on different principles, both are competitive since their main motives are still to maximize profit and shareholder’s wealth (Khan and Bhatti, 2008 and Olson and Zoubi, 2008). Thus, they
need to be efficient to utilize the minimum inputs and produce maximum outputs. Berger and Humphrey (1997) suggest that studies on the efficiency of financial institutions have become an important part of banking literature since the early 1990s. Indeed, according to Levine (1997) and Rajan and Zingales (1998), the efficiency of the financial sector is crucial to overall economic growth. A study by Berger et al. (1993b) suggests that if banks are efficient, they could expect higher profitability, better prices and enhanced service quality for consumers and higher volume of funds would be intermediated.

Previous studies have investigated the efficiency levels of both Islamic and conventional banks but the results are mixed and inconclusive. A number of researchers suggest that conventional banks are more efficient than Islamic banks (Beck et al., 2013; Ahmad and Rahman, 2012; Srairi, 2010; Samad, 1999), while others documented contrary findings (Yudistira, 2004; El-Gamal and Inanoglu, 2005; Olson and Zoubi, 2008; Kassim et al., 2009; Ahmad and Luo, 2010; Khan, 2010; Ariss, 2010). Furthermore, several studies have found that there is no significant difference between efficiency of Islamic and conventional banks (Yahya et al., 2012; Hassan et al., 2009; Mohamad et al., 2008).

Khan and Bhatti (2008) report three regions namely Middle East, Southeast Asia and South Asia are the central hubs of Islamic banking and finance. Figure 1.1 exhibits the efficiency of outputs/inputs for Islamic and conventional banks years 2003 to 2011 from these regions. The measurement of outputs/inputs is the basic and easiest method to measure the banks’ efficiency proposed by Farrell (1957). In general, Figure 1.1 summarizes the Islamic banks’ efficiency in Middle East and South Asia
for all years are higher than conventional banks (1.006 > 0.967 and 1.039 > 0.982), while only Southeast Asia present the contrary banks’ efficiency level.

Furthermore, the trend of Islamic and conventional banks’ efficiency can be observed from Figure 1.1 that the trend of efficiency in conventional banks are more consistence and stable rather than Islamic banks. On average, over the years 2003 to 2011, the highest efficiency level in Islamic banks occurred in region of South Asia (1.039), while the lowest in Southeast Asia (0.981). On the other hands, the conventional banks experienced the highest (lowest) efficiency level in Southeast Asia (Middle East).

<table>
<thead>
<tr>
<th>Region</th>
<th>Bank/Year</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>All Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle</td>
<td>IB</td>
<td>0.965</td>
<td>1.034</td>
<td>0.937</td>
<td>0.925</td>
<td>1.012</td>
<td>1.076</td>
<td>1.037</td>
<td>1.005</td>
<td>0.992</td>
<td>1.006</td>
</tr>
<tr>
<td>East</td>
<td>CB</td>
<td>0.953</td>
<td>0.959</td>
<td>0.976</td>
<td>0.962</td>
<td>0.972</td>
<td>0.969</td>
<td>0.970</td>
<td>0.976</td>
<td>0.967</td>
<td>0.967</td>
</tr>
<tr>
<td>Southeast</td>
<td>IB</td>
<td>0.944</td>
<td>0.879</td>
<td>1.037</td>
<td>0.978</td>
<td>0.955</td>
<td>0.981</td>
<td>0.982</td>
<td>0.996</td>
<td>0.993</td>
<td>0.981</td>
</tr>
<tr>
<td>Asia</td>
<td>CB</td>
<td>0.986</td>
<td>0.982</td>
<td>1.013</td>
<td>1.005</td>
<td>0.987</td>
<td>0.993</td>
<td>0.995</td>
<td>1.006</td>
<td>0.979</td>
<td>0.994</td>
</tr>
<tr>
<td>South</td>
<td>IB</td>
<td>0.974</td>
<td>0.966</td>
<td>1.083</td>
<td>1.129</td>
<td>1.105</td>
<td>1.028</td>
<td>1.072</td>
<td>0.856</td>
<td>1.063</td>
<td>1.039</td>
</tr>
<tr>
<td>Asia</td>
<td>CB</td>
<td>0.967</td>
<td>0.972</td>
<td>0.977</td>
<td>0.977</td>
<td>0.982</td>
<td>0.984</td>
<td>0.986</td>
<td>0.989</td>
<td>0.991</td>
<td>0.982</td>
</tr>
</tbody>
</table>

Note: IB indicates Islamic bank, CB indicates conventional bank

**Figure 1.1: Efficiency of Outputs/Inputs for Islamic and Conventional Banks in Middle East, Southeast Asia and South Asia Years 2003 to 2011**
In overall, Figure 1.1 summarizes that both Islamic and conventional banks are behave differently in each regions since their efficiency of outputs/inputs levels are not homogenous. Nevertheless, the observation are only based on the basic efficiency concept of banks’ outputs/inputs. Therefore, it is noteworthy and beneficial to examine efficiency the levels of both these banking sectors with a new approach that primarily focuses on revenue efficiency. In general, there are three main refinements that are proposed in this study.

Firstly, this study focuses on the revenue efficiency level of both Islamic and conventional banks. The analysis on the revenue efficiency concept is crucial since revenue efficiency may significantly lead to higher or lower profitability of the banking sector. Secondly, the potential determinants that may impact revenue efficiency, specifically, on Islamic and conventional banks are identified. The identification of the factors that may influence the level of the revenue efficiency is very essential because both types of banks could concentrate on the factors that could contribute to higher revenue efficiency. Finally, this study analyses the impacts of country governance on the revenue efficiency, specifically, on the Islamic and conventional banks. Country governance may also influence the efficiency level of the banks. Due to this reason, the investigation on the effect of country governance on revenue efficiency is vital since, to the knowledge of the researcher, no research on this point of view has been conducted. Therefore, these findings may significantly improve the understanding, information and strategies of all related parties such as investors, policy makers, researchers and both the Islamic and conventional banks as well.
1.3 Efficiency in the Banking Sector

The performance of the banks basically depends on efficiency (Ramanathan, 2007; Isik, 2008; Filippaki et al., 2009; Liu, 2010; Assaf, 2011). There is a profusion of studies on banking efficiency which points to the importance of efficiency to the banking sector (English et al., 1993; Berger and Mester, 1997; Chu and Lim, 1998; Drake, 2001; Hassan and Hussein, 2003; Yudistira, 2004; Sufian, 2004; Ramanathan, 2007; Sufian, 2007; Sufian et al., 2008; Bader et al., 2008; Ariff and Can, 2008; Al-Sharkas et al., 2008; Tahir and Haron, 2008; Hassan et al., 2009; Sufian and Habibullah, 2011; Das and Kumbhakar, 2012; Feng and Zhang, 2012).

Akhtar (2002) suggests that the banking industry plays the role of intermediary in modern trade and commerce acting as a bridge to provide a major source of financial intermediation. The relationship between financial intermediation and economic growth focuses on the key functions of financial systems in the saving-investment-growth nexus. Nissanke and Stein (2003) assert that these include effective deploying of funds from surplus to deficit units and ensuring an efficient transformation of funds into real productive capital.

According to Levine (1998), the efficiency of financial intermediation affects a country’s economic growth and at the same time, the bank’s (financial intermediation) insolvencies could cause systemic crises, which will negatively impact the economy and lead to losses. The financial intermediation also modifies the maturity of the portfolios of savers and investors; at the same time it provides the
required liquidity to the system as and when it is needed. In addition, diversifying and adopting risk sharing and pooling techniques will help to minimize risks.

Carvallo and Kasman (2005) point out that, liberalisation of financial markets on a global scale, increased applications of advanced technology, and information and communication technology (ICT) revolution have led to a more competitive market scenario and put pressure on banking firms in the national and global contexts. This pressure is of great significance especially in emerging markets, where banks are major financial intermediaries for the channelling of savings and investment. How banks are affected by the increasing competitive pressure depends, in part, on how efficiently they are run. Karim (2001) argues that banks that fail to run efficiently will be driven off the market by the more efficient banks. Thus, the most efficient banks will have competitive advantages, attesting to the importance of studies on bank efficiency.

In other parts of the world, studies of bank efficiency have focused primarily on cost, profit, or cost-profit efficiency. The studies of bank efficiency that focus primarily on cost efficiency analysis looked at a firm’s minimization of costs in producing the same amount of output (Berger and Mester, 1997 and Ariff and Can, 2008). Cost efficiency arises from technical and allocative efficiency (cost X-efficiency). Technical efficiency measures the proportional reduction in input usage that can be attained if the bank operates on the efficient frontier, or if the bank produces maximum outputs based on a limited set of inputs. The allocative efficiency measures the proportional reduction in costs if the bank chooses the right mix of inputs to be used (Isik and Hassan, 2002a).
A study by Adongo et al. (2005) and another by Akhavein et al. (1997) find that whether the cost changes are greater or less than revenue changes could not be determined from cost analysis alone. Thus, the improvement or drop in cost efficiency does not imply that the bank has become more or less profitable and efficient. In this regard, this problem could be solved by examining the profit efficiency concept. According to a survey done by Berger and Humphrey (1997), there has been a dearth of research on revenue and profit efficiency, as most of the research focused primarily on cost efficiency. This can be seen in most of the studies in the 1990s which concentrated mainly on the estimation of cost efficiency (Srinivasin, 1992; Linder and Crane, 1992; Shaffer, 1993; Rhoades, 1993; Pilloff, 1996 and Resti, 1997).

Akhavein et al. (1997) was the first to argue that profit efficiency analysis is more appropriate than cost efficiency. Profit efficiency is a widely accepted concept of cost efficiency because it considers the effect of the choice of the vector of production on costs and revenues. It refers to the firm’s maximization of profit by giving an amount of inputs and outputs and a level of their prices (Ariff and Can, 2008). The result of their study is supported by Berger and Mester (2003) and Maudos and Pastor (2003), where they find that profit efficiency offers more useful information of management efficiency. As stated earlier, profit efficiency provides a final or overall result on bank efficiency. However, it can only determine the efficiency of the bank, but it is unable to identify, in detail, which side (cost and revenue) of the efficiency concept that can contribute to higher profit efficiency (Berger and Mester, 1997).
Several studies investigate the efficiency of bank efficiency by taking into account the combination of both cost and profit efficiency (Berger and Mester, 1997; Rogers, 1998; Vander-Vennet, 2001; Huizinga et al., 2001; Al-Sharkas et al., 2008 and Ariff and Can 2008). The researchers find that the levels of cost efficiency are higher than the levels of profit efficiency. Furthermore, this finding (cost efficiency levels are more than profit efficiency levels) is consistent with the studies that examine the bank’s cost and profit efficiency (Chu and Lim, 1998; Maudos et al., 2002; Maudos and Pastor, 2003 and Yildirim and Philippatos, 2007). The different levels between cost and profit efficiency on banks are due to the efficiency of the revenue side (Maudos et al., 2002; Ariff and Can, 2008; Bader et al., 2008; Hassan et al., 2009).

There have been limited studies that focus on revenue efficiency of the banking sectors (Akhavein et al., 1997; Maudos et al., 2002; Sufian et al., 2012a; 2012b and Kamarudin et al., 2013). English et al. (1993) and Al-Sharkas et al. (2008) suggest that, in order to maximize banks’ revenue efficiencies, the banks should be both technically and allocatively efficient (revenue X-efficiency). With technical efficiency, a bank can produce the maximum output using a minimum number of inputs. Through allocative efficiency, banks can enhance their revenue if they choose the right mix of outputs to produce.

Studies on bank efficiency, which ignore the revenue side, have been criticised (Bader et al., 2008 and Hassan et al., 2009). It is mainly because most of the studies have only revealed the levels of cost efficiency, which are higher than the profit efficiency, but they have not identified the causes. Ariff and Can (2008) find that inefficient revenue affects the difference between cost and profit efficiency, but they
do not investigate further (i.e. the revenue efficiency and the reasons for such an occurrence). Studies, which investigate the causes of inefficiency, have been conducted by Maudos et al. (2002), Rogers (1998) and Berger et al. (1993a) who find that revenue inefficiency is caused either by mispricing of outputs or giving wrong choice of output.

Generally, the concept of efficiency involves three components: cost, revenue, and profit efficiency (Adongo et al., 2005, Bader et al., 2008 and Hassan et al., 2009). Figure 1.2 summarises the organisational chart of these efficiencies. Evidence on bank efficiency can be produced by looking at these three types of efficiency concepts. However, most previous studies have mainly focused on the efficiency of cost, profit or both (cost and profit efficiency combined) (Pilloff, 1996; Resti 1997; Huizinga et al., 2001; Al-Sharkas et al., 2008 and Ariff and Can 2008)

![Figure 1.2: Organizational Chart of Profit, Revenue and Cost Efficiency](image)

When banks are efficient, they help to improve the economy. This has an effect on general social welfare. Nevertheless, the efficiency of the banking sectors may be
influenced by several factors. Bank efficiency could be influenced by the internal and external determinants (Sufian and Chong, 2008; Athanasoglou et al., 2008; Delis et al., 2008; Ben Naceur and Omran, 2011; Sufian and Majid, 2011; Abedifar et al., 2011; Agoraki et al., 2011; Sun and Chang, 2011; Sufian et al., 2012a; 2012b; Masood and Ashraf, 2012; Willimas, 2012; Sufian and Noor, 2012; Sufian and Kamarudin, 2012; Beck et al., 2013; Bourkhis and Nabi, 2013). The internal determinants focus on bank-specific features and are mainly influenced by a bank’s management decisions and policy objectives. While the external determinants, the macroeconomic characteristics, are not related to bank management but reflect the economic and legal environment that affect the operation and performance of financial institutions. In addition, the governance practice also may influence the efficiency of the banks.

Even though Islamic and conventional banks have their own capabilities and strengths to be a great competitor in the financial sector, they are still affected by governance issue since they are also deemed as firms. Good governance practised by the banks seems to be more than in other industries since the banking sector plays a crucial financial role in any economy (Adnan et al., 2011). Poor governance in the banking sectors may lead to a loss of confidence in the capability of a bank to properly manage its assets and liabilities, including deposits. This could cause a crisis in liquidity and it may lead to economic crisis and produce a systematic risk to society at large (Alexander, 2006 and Garcia and Robles, 2008). Due to the rapid development of the Islamic banks and the advantages that are enjoyed by the conventional banks, it is reasonable to expect that the efficiency levels of Islamic and conventional banks are at the optimal level.
1.4 Governance in Banking Sector

One of the mechanisms to ensure the efficiency of the banks is at the optimum level is through the quality of corporate governance (Williams and Nguyen, 2005; Berger et al., 2005; Burki and Ahmad, 2010; Wang et al., 2012). In general, Ard and Berg (2010) define corporate governance as the set of rules and incentives through which the management of a company is controlled and directed. The scope of corporate governance includes the 1) distribution the management rights and responsibilities, and 2) control of shareholders and minority shareholders by the board of directors, and other stakeholders providing the structure for setting, implementing and monitoring the objectives of the company. Implementing good corporate governance enables the firm to have an empowered board, good internal control of the environment, high disclosure and transparency levels and shareholder rights and interests that are well defined and protected (Ard and Berg, 2010).

Levine (2004) asserts that corporate governance issues in the banking sector are more complicated because of its specialty, such as the strength of bank regulation and supervision, the lack of transparency of assets, the extent of market development and the overall institutional environment. Even though the bank is considered as a firm, since they have a similarity of firms such as shareholders, competitors, debtors and board of directors, they are not quite the same as a firm. Therefore, the corporate governance of bank is not similar to the corporate governance of private firms.

Banks face particular issues of corporate governance. Their stakeholder profiles are more varied than other private companies’, as banks have depositors and the general
public besides their shareholders. More specifically, banks have two related characteristics that inspire a separate analysis of their corporate governance that is also known as bank governance. First, banks are generally more opaque than non-financial firms due to several reasons such as the informational asymmetries. For example, information asymmetry is larger and less transparent where the loan quality is not readily observable and could be hidden for long periods. In addition, banks may alter the risk composition of their assets more swiftly than most non-financial firms (Furfine, 2001).

Second, banks are frequently very heavily regulated. The government imposes an elaborate array of regulations on banks because of the importance of the banks in the economy; they represent a ready source of fiscal revenue and the opacity of bank assets and activities. The explosion of international standards through the Bank for International Settlements (BIS), the International Monetary Fund (IMF) and World Bank virtually assures heavy government involvement in the banking sector. Consequently, sound bank governance is necessary, requiring boards to be even more focused on evaluating, managing and mitigating risk. Good governance also enhances financial supervision and is an inseparable part of effective risk-based oversight (Ard and Berg, 2010). Nonetheless, bank governance in the Islamic bank is different from conventional the bank since they are governed in accordance with Syariah principles.

In general, the majority of studies that examine the effect of governance on the bank’s efficiency are more focused on the micro dimension which is governance that mainly focuses on the governance within the institution (Darmadi, 2013; Bukhari et
al., 2013; Jiang et al., 2009; Berger et al., 2005). In fact, according to Lensink (2008) and Chortareas et al. (2012) country governance (macro governance) may also significantly influence the efficiency of the banking sector that primarily covers the governance within the country. In general, country governance covers the three governance clusters (Kaufmann et al., 2010 and 2009). First, how the governments are selected, monitored and replaced measured by voice and accountability (VA) and political stability and absence of violence (PV). Second, how the government is capable to effectively formulate and implement sound policies assessed by government effectiveness (GE) and regulatory quality (RQ). Third, the respect of citizens and the state for the institutions that govern economic and social interactions among them measured in accordance with the rule of law (RL) and control of corruption (CC). Nevertheless, there is still a paucity of study that investigates the impact of country governance on banking efficiency, particularly on revenue efficiency (Huang et al., 2011; Hwang and Akdede, 2011; Cooray, 2011; Ellis et al., 2012; Eisazadeh and Shaeri, 2013).

In conclusion, since most studies have overlooked the improvement of revenue efficiency in the banking sector that is due to the effect of country governance, this study extends the work by Maudos et al. (2002), Hassan et al. (2009), and Chortareas et al (2012) which have examined the nexus between efficiency of the banking sector and country governance. The extension will cover the examination of the effect of country governance on the revenue efficiency of the Islamic and conventional banking sectors in the Middle East, Southeast Asia and South Asia, the three main emerging hubs of Islamic banking and finance over the period from 2003 to 2011.
1.5 Problem Statement

The main objective of banks is to maximize the shareholders’ value or wealth through maximizing the profit. In general, bank’s profit is used to give shareholders a good return on their investment. Meanwhile, Islamic banking also has the same objective as the conventional banks’ i.e. to maximize profit. However, the Islamic banking is considered a different banking stream as it prohibits interest and substitutes it with the principle of Profit-and-Loss sharing (PLS) and based on Syariah rules.

In order to achieve an optimum profit, banks should be profit efficient. The profit efficiency considers the minimization of cost and maximization of revenue and represents the most vital parts that influence the profitability of the bank. Therefore, a higher level of profit efficiency can enhance the banks’ profitability. However, in most cases the bank’s profit efficiency is not at the optimum levels since the findings show that the bank’s cost efficiency is found to be at a higher level rather than at a profit efficiency level. Most of the previous studies claim that banks are able to minimize the cost through higher cost efficiency, but they are not able to maximize the profit via higher profit efficiency as a result of revenue inefficiency (Kamarudin et al., 2013 and Maudos et al., 2002). In fact, the results of the profit efficiency levels are contaminated by the revenue inefficiency side.

The main predicament that contributes to the lower profit efficiency originates from revenue inefficiency. A bank may experience revenue inefficiency when it produces too few outputs for the given inputs. It could also be if it responds poorly to relative
prices and produces too little of a high-priced output and too much of a low-priced output. Findings on previous studies on developed and developing countries show that the level of the profit is lower than the level of cost efficiency due to revenue inefficiency. Thus, instead of focusing on the profit efficiency alone, it is better to compare it with cost efficiency as well in order to identify the existence of revenue efficiency. Furthermore, Islamic and conventional banks are behave differently in the regions of the main hubs of Islamic banking and finance (refer Figure 1.1). Therefore, does revenue efficiency significantly influence the profitability of the Islamic and conventional banking sectors in Middle East, Southeast Asia, and South Asia? This is as issue that is investigated in the present study.

Furthermore, internal and external determinants may influence the bank efficiency. Among the bank’s internal determinants (bank-specific characteristics) are bank size, credit risk, capitalization, market power, liquidity and overhead expenses. Macroeconomic conditions or external determinants such as economic growth, inflation, market concentration ratio and global financial crisis could also influence the bank efficiency (Sufian and Habibullah, 2011). These factors are said to increase the level of efficiency when the inefficiency level is reduced but the results are inconclusive. Nevertheless, do both internal and external determinants significantly influence the Islamic and conventional banking revenue efficiency? The present study further incorporates internal and external factors that may influence the level of bank efficiency specifically in the revenue efficiency concept.

Finally, a number of studies have focused on how bank governance impacts bank’s efficiency level since it can influence the efficiency of the banking sector. However,
although bank governance has been practised in the banking system, the efficiency level of banks is still inconclusive since these studies only look at the micro governance. In fact the quality of the governance may drive efficiency (Meon and Weill, 2005). Nevertheless, it is hard to evaluate the indicators of quality in governance due to subjective evaluation. Usually, such evaluation is based on experts ratings indices produced by private risk-rating agencies (for example Internal Country Risk Guide or Business Environmental Risk Intelligence). Besides, international or non-governmental organizations also provide the indicator from residents’ surveys and the indices provided in the World Economic Forum’s Global Competitiveness Report. However, those indicators are not always inclusive, with limited availability, and biased.

The country governance (macro governance) is capable of avoiding these deficiencies by allowing the elimination of the individual indices and providing the overall countries’ aggregate indices. Therefore, ignorance of the country governance factors, may lead to discrepancies in the results on bank efficiency due to the effect of governance because it may influence the efficiency of the banking sector (Chortareas et al., 2012). Since country governance may improve efficiency of the banking sectors, how significantly will country governance affect revenue efficiency on both Islamic and conventional banking sectors is being looked into in this study.

Therefore, the issues in this study are interesting and significantly important to be examined in order to improve, enhance and maintain the revenue efficiency with the effect of the country governance of the Islamic and conventional banking sectors.
1.6 Objectives of the Study

There are three main objectives of this study. They are:

i. To examine the different levels of revenue efficiency between the Islamic and conventional banking sectors in the Middle East, Southeast Asia and South Asia.

ii. To ascertain the potential bank-specific characteristics and macroeconomic determinants for revenue efficiency, specifically, on the Islamic and conventional banking sectors in the Middle East, Southeast Asia and South Asia.

iii. To analyse the effect of country governance on revenue efficiency, specifically, on the Islamic and conventional banking sectors in the Middle East, Southeast Asia and South Asia.

1.7 Research Questions

i. Are the levels of the revenue efficiency significantly different in the Islamic and conventional banks in Middle East, Southeast Asia and South Asia?

ii. What are the potential 1) bank-specific and 2) macroeconomic determinants that influence the revenue efficiency of the Islamic and conventional banks in the Middle East, Southeast Asia and South Asia?

iii. Does voice and accountability (VA) have a significant influence on revenue efficiency in the Islamic and conventional banks in the Middle East, Southeast Asia and South Asia?
iv. Does political stability and the absence of violence (PV) have a significant influence on revenue efficiency of the Islamic and conventional banks in the Middle East, Southeast Asia and South Asia?

v. Does government effectiveness (GE) have a significant influence on revenue efficiency of the Islamic and conventional banks in the Middle East, Southeast Asia and South Asia?

vi. Does the regulatory quality (RQ) have a significant influence on revenue efficiency of the Islamic and conventional banks in the Middle East, Southeast Asia and South Asia?

vii. Does the rule of law (RL) have a significant influence on revenue efficiency of the Islamic and conventional banks in the Middle East, Southeast Asia and South Asia?

viii. Does the control of corruption (CC) have a significant influence on revenue efficiency of the Islamic and conventional banks in the Middle East, Southeast Asia and South Asia?

1.8 Significance of the Study

The findings of this study will add to the current knowledge on the effect of country governance on the revenue efficiency of the Islamic and conventional banks. Even though there has been widespread literature investigating the efficiency of the Islamic and conventional banking sectors, the study on the specific revenue efficiency concept of Islamic and conventional banking is still in its formative stage. This study attempts to fill this gap by extending the previous works on the efficiency of the Islamic and conventional banking sectors, specifically, on revenue efficiency.
in the countries of the Middle East, Southeast Asia, and South Asia. The results will elucidate which banking sector is more revenue efficient, in general.

This study also attempts to identify the internal (or bank-specific characteristics) determinants of revenue efficiency, specifically, for the Islamic and conventional banks. The external (macroeconomic) determinants will also be taken into account to identify the factors that may influence the revenue efficiency at the macro level. By recognizing all the potential determinants, the factors that have the most influence on revenue efficiency could be further examined. Since revenue efficiency may significantly contribute towards a higher or lower profitability for the banks, it is important to identify their determinants. In essence, the determinants of revenue efficiency could be used as a guide in future Islamic and conventional banking.

In addition, most of the previous studies are interested in examining the effect of bank governance rather than country governance on the efficiency of banks. The majority of the studies that examine the effect of governance on bank efficiency have focused more on the micro dimension, which is, corporate or bank governance that affects the governance within the institution. Thus, to the best of the researcher’s knowledge, no study has been done to address the effect of macro governance (i.e. country governance) on the revenue efficiency of the Islamic and conventional banking sectors. To fill this gap, this study provides empirical evidence on the effect of country governance on the revenue efficiency of the Islamic and conventional banking sectors. The findings of this study will be useful to several parties such as policy makers, investors, researchers and also to the management of Islamic and conventional banks.
1.9 Scope of the Study

This study examines the revenue efficiency in the context of the country governance on the Islamic and conventional banking sectors in the Middle East, Southeast Asia, and South Asia. The data gathered are from 2003 to 2011. Despite the global financial crisis during 2007 to 2008 (which is included in the observation), the crisis period has been controlled in this study in order to avoid any possible biases.

The sample data covers 454 banks (112 Islamic and 342 conventional banks) which are selected from the three regions of the main hubs of Islamic banking and finance (Middle East, Southeast Asia, and South Asia), which consists of 19 countries. Excluded from the sample of this study are all the finance companies, insurance companies and investment banks. Currently, all the true Islamic banks in the world come from these regions. The selection of conventional banks from the same regions will reduce bias since all the banks operate under the same economic conditions and environment. If conventional banks outside of these regions are included in the sample, the result might lead to argument on comparability between the sample of Islamic and conventional banks.

All the financial data of the Islamic banking sectors are obtained from the BankScope database produced by the Bureau van Dijk which provides the banks’ balance sheets and income statements. In addition, the information on the macroeconomics variables namely economic growth and inflation are retrieved from World Development Indicators (WDI) database. Meanwhile, the data on country governance are obtained from the updated worldwide governance indicator (WGI).
To allow efficiency and inefficiency to differ over time, the efficiency frontiers are constructed on an annual basis by solving the linear programming problems rather than by constructing a single multi-year frontier (Sufian, 2009a). The levels of revenue efficiency of the Islamic and conventional banks are measured using the Data Envelopment Analysis (DEA) method by applying the intermediation approach in the first stage of the analysis. The data are tested by parametric (t-test) and non-parametric Mann-Whitney (Wilcoxon) and Kruskal-Wallis tests.

On top of addressing the revenue efficiency of the Islamic and conventional banking sectors, this study also seeks to discover the internal (bank-specific characteristics) and external (macroeconomics condition) determinants that influence the revenue efficiency of the Islamic and conventional banks in the second stage of the analysis. Six main bank-specific characteristics determinants are examined in this study; namely, size of bank, credit risk, capitalization, market share, liquidity and overhead expenses. In addition, macroeconomics determinants are included to serve as additional control variables. They are economic growth, inflation, market concentration, and global financial crisis.

Furthermore, this study proceeds to examine the effect of country governance on the Islamic and conventional banks. All six aggregate indicators of country governance from the WGI dataset are examined in this study namely, 1) voice and accountability (VA), 2) political stability and absence of violence (PV), 3) government effectiveness (GE), 4) regulatory quality (RQ), 5) rule of law (RL) and 6) control of corruption (CC). In order to identify the relationship between revenue efficiency of the banks (Islamic and conventional banks) and the bank-specific characteristics,
macroeconomic condition and country governance, this study uses the Multivariate Panel Regression Analysis (MPRA) by adopting the pooled Ordinary Least Square (OLS), Fixed Effect Model (FEM) and Random Effect Model (REM) estimations method. The Breusch Pagan and Lagrangian Multiplier (BP and LM) test used to identify either the data suitable to be pooled or panel and proceed with Hausman test to classify between FEM and REM. Furthermore, for main and robust results, the study also employs the Generalized Method of Moments (GMM) estimation method tested by the Hansen and Arrelano-Bond (AR2) tests in order to control the endogeneity problems and serial correlation.
1.10 Chapter Summary

The main highlights of chapter one are summarized in Table 1.3.

Table 1.3: Summary of Chapter One

<table>
<thead>
<tr>
<th>Objective of this study</th>
<th>Current literature</th>
<th>Contribution of this study</th>
</tr>
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<tbody>
<tr>
<td>i. To examine the different levels of the revenue efficiency between the Islamic and conventional banking sectors in the Middle East, Southeast Asia, and South Asia.</td>
<td>Sufian and Habibullah, 2011; Das and Kumbhakar, 2012; Feng and Zhang, 2012; Yahya et al., 2012; Ahmad and Rahman, 2012; Sufian et al., 2012a; 2012b; Beek et al., 2013; Kamarudin et al., 2013</td>
<td>The findings of this study hopefully could identify the levels of the revenue efficiency of the Islamic and conventional banks. The analysis of the revenue efficiency concept is crucial since revenue efficiency may significantly lead to a higher or lower profitability of the banking sector.</td>
</tr>
<tr>
<td>ii. To ascertain the potential bank-specific characteristics and macroeconomic condition determinants of revenue efficiency specifically of the Islamic and conventional banking sectors in Middle East, Southeast Asia, and South Asia</td>
<td>Ben Naceur and Omran, 2011; Abedifar et al., 2011; Agoraki et al., 2011; Sun and Chang, 2011; Sufian et al., 2012a; 2012b; Masood and Ashraf, 2012; Willimas, 2012; Sufian and Kamarudin, 2012; Beck et al., 2013; Bourkhis and Nabi, 2013</td>
<td>This study will contribute new findings on the determinants that influence higher revenue efficiency of the Islamic and conventional banks. The identification of the factors that may influence the level of the revenue efficiency is very important because both types of banks can focus on the factors that could contribute to higher revenue efficiency.</td>
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<td>iii. To analyse the effect of country governance on revenue efficiency specifically of the Islamic and conventional banking sectors in Middle East, Southeast Asia, and South Asia.</td>
<td>Huang et al., 2011; Hwang and Akdede, 2011; Chortareas et al., 2012; Cooray, 2011; Ellis et al., 2012; Eisazadeh and Shaeri, 2013</td>
<td>Country governance may also influence the efficiency level of the banks. Due to this reason, the investigation on the effect of country governance on the revenue efficiency is vital since none of the research have studied this point of view. Thus, this study could fill the gap in the literature and improve understanding of this issue.</td>
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In addition, Figure 1.3 describes the research framework on the effects of country governance on the efficiency together with the other determinants of the Islamic and conventional banking sectors.

Figure 1.3: Research framework on revenue efficiency of the Islamic and conventional banks with internal and external determinants and the effect of the country governance
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