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Financial crisis, legal origin, economic status and multi bank performance indicators: evidence from Islamic banks in developing countries
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1. Introduction

The resilience of Islamic banking during a period of economic turbulence continues to be studied in depth amid the conflicting empirical evidence and theoretical disagreement documented in the extant empirical literature in finance and economics. However, as the majority of the literature is based on either advanced markets or countries where the majority of the population practice the faith of Islam, little is known...
about the performance of Islamic banking from the pooled emerging markets, particularly in developing countries.

Most of the previous studies did not consider how macroeconomic factors might affect Islamic banking performance. Instead, they only examined the way in which Islamic banking has contributed to the economy at the macro level (Hafes Furqani & Ratna Mulyany, 2009). Additionally, most of the studies examining the performance of Islamic banking used a conventional measurement (Badreldin, 2009) and not a Sharia-based performance measurement. Based on these gaps, it is important to examine empirically the way in which the macroeconomy affects Islamic banking performance in developing countries by using two approaches to performance measurement: Sharia-based and conventional-based performance measurement.

Indeed, Islamic banking has a different business model in comparison to conventional banking (Hasan & Dridi, 2010; Seid, 2011). Islamic banking is based on the instructions of Sharia and the principles related to business. These principles prohibit banks from lending money for the sake of a simple return in the form of interest rate. Sharia views interest rate as an amount paid without considering the sharing of profit and loss in a common business transaction. Therefore, Islamic banking provides an alternative for banking transactions to be undertaken with the principles of profit and loss-sharing. Islamic banking considers that the transactions must be of benefit to society and the welfare of the people, by accounting for the creation of jobs and product variables, and by donating a compulsory amount of money to the needy people in the form of a transaction called Zakat. Indeed, Zakat is an amount deducted annually from the income of the bank. As the Islamic banking business model avoids interest rate, several scholars (Abdul
Razak, Mohamed, & Md Taib, 2008) asserted that Zakat acted as the final fortress to protect against economic turbulence. Gauging the context of resource-based view, the resilience of Islamic banking during a period of crisis is attributed to a real resource and backed by a real asset, which leads Islamic banks to be more competitive than conventional banking (Iqbal & Mirakhor, 2004). This is in line with the report by the International Monetary Fund (IMF) and the British Broadcasting Corporation (BBC) news where Islamic banking is more resilient to the crisis as the Islamic banking business model is backed by a real asset and not a leveraged asset. It is worth noting that a real asset is calculated based on the current price of an asset in the market. On the other hand, a leveraged asset considers the amount of debt used to finance an asset where mortgage is commonly used.

The recent global financial crisis has provided a different perspective regarding the resilience of Islamic banking. Despite the economic crises such as the global financial crisis that occurred in 2008–2009, industry specialists and academics have taken note of the strong growth of Islamic banking in recent years. Some have argued that the lack of exposure to the type of assets associated with most of the losses that many conventional banks experienced during the period of the economic catastrophe and the asset-based and risk-sharing nature of Islamic finance have shielded Islamic banking from the impact of the crisis. Others argue that Islamic banking, like conventional banking, relies on leverage and claim that Islamic banks have undertaken significant risks that make them vulnerable to a second round effect of the global crisis. This hypothesis is still debatable.

This research paper further examines the major advantages of Sharia-based banking in its tenacity in facing the global financial crisis. Different from other previous research
(Čihák & Hesse, 2010; Yudistira, 2004), this research tests the effect of the financial crisis by examining it from the perspective of the external determinants. The external determinants are factors considered to be beyond the control of the management of a bank. Past research identified inflation (Hassan & Bashir, 2003), size of bank (Ramadan, 2011), legal origin which relates to the formalities pertaining to banking in each country (Ahlering & Deakin, 2007), Gross Domestic Product (GDP), and economic growth (Hasan & Dridi, 2011) as predictors of an Islamic banking performance baseline model.

It can be argued that the association between the financial crisis and Islamic banking performance found in past studies could be due to the misconception of performance measurement. This paper claims that Islamic banking, with its different business model, cannot be assessed by using the conventional measures suggested by Haron and Ibrahim (2012) and the return on assets as claimed by Hasan and Dridi (2011). Instead, the Islamic banking performance ought to be measured by the Sharia approach including the examination of Zakat (Ibrahim, Wirman, Alrazi, Nor, & Pramono, 2004). Moreover, by taking the internal market hypothesis into account, different results may be obtained in Islamic banking performance in developing countries as compared to studies that have considered well-established Islamic banking in developed markets (Chapra, 2008). As emerging countries are less developed and have a less sophisticated market in Islamic banking, organizations have to rely more on internal financing for sources of funding and avoid carrying trade which may lead to a financial crisis (Al-Jarhi, 2005; Choudhry & Mirakhor, 1997).

This research paper contributes to the literature in Sharia-based approach in four ways. Firstly, it examines the context of Islamic banking as the literature indicates an
emerging interest in analyzing Islamic banking performance. Secondly, by assigning a dummy number for the period of the financial crisis (2008 – 2009) and the period without the crisis, the relationship between the economic factors in developing countries and the performance of Islamic banks can be examined. Thirdly, this research paper considers the period from 2007 to 2010 because this time saw tremendous growth in Islamic banking transactions. Fourthly, this article introduces a Zakat ratio as a new ratio describing the performance of Islamic banks.

The remainder of the paper is organized in such a way that Section 2 provides the background and a brief review of the literature. Section 3 describes the data and presents the preliminary analysis findings. Section 4 discusses the methodology and the significance of the results. Section 5 presents the conclusion and implications of the research.

1.1 Islamic banking and conventional banking differences

Islamic banking has its unique characteristics which make them worth highlighting. The way money is created and managed has been addressed in the Islamic literature, and these differences in characteristics are related to the functions, structure, and objectives of Islamic banks.

Unlike conventional banking, Islamic banking is prohibited from engaging in business transactions related to gambling and alcohol as they are considered harmful to human welfare and health. Gambling is a trading game which has no commodity exchange or service exchange as an unspecified figure is traded. Such trade contradicts the Sharia because gambling has no return to commodity or services. Furthermore, losses
in gambling could destabilize a family. Islamic banking boycotts the idea of obtaining interest without knowing the investment process or sharing in the profit and loss. To ensure that Islamic banking adheres to the Islamic principles, a committee named a Sharia supervisory board committee (SSB) monitors and oversees the banking operations.

When receiving deposits, an Islamic bank is allowed to impose a service fee on fixed deposits, but it is not permitted for the bank to impose an interest rate. The Islamic bank can also impose profit and loss sharing on investment loans. In leasing, the Islamic bank buys a house and then resells it to the applicant on an installment and profit rate. The applicant has the right to give up on buying the product after the bank has made the purchase. In addition to these transactions, the bank is supposed to collect Zakat which is a monetary contribution from money holders to be given to the needy as specified by the Sharia (Chong & Liu, 2009). Despite the differences between Islamic and conventional banks, some experts seem to have a view that Islamic banking is a replication of conventional banking with some restrictions imposed on it, a claim that many think is justified because Islamic banks lack innovative products that could make them considerably different (Zaher & Kabir Hassan, 2001).

Some limitations are still facing the growth of Islamic banking. Firstly, there is a need to establish a unified legal standard and unified Sharia Supervisory Board guidelines to govern the Islamic banking in the world. Secondly, the accounting standards used in Islamic banks are similar to those used in conventional banking, making it difficult for the former to account for Zakat and other profit and loss activities. Thirdly, there is a need for risk analysis and risk management tools to provide trading agents with hedging instruments to hedge against the high volatility in currency and commodities markets,
especially for Islamic banks in Western markets (Beck, Demirgüç-Kunt, & Merrouche, 2013).

Zakat is a term used to describe a donation authorized by Sharia. It is not a government tax (Rahman, 2007), but an amount paid only by Muslims as a form of a religious duty to please Allah the Almighty. This amount helps improve the cost of living in society. Literally speaking, Zakat means to grow and increase (Al Qardawi & Monzer, 2000). Islamic banks are obliged to pay Zakat annually. This amount is embedded in the accounting entries. Thus, the link between accounting and Zakat has stimulated a wide-ranging discussion among academics. However, papers and books published in this area are limited (Wahab & Rahman, 2011).

The reason to propose Zakat as a measurement indicator of Islamic bank performance is its dynamic ability to reflect the profitability status of a bank. The more the Islamic bank generates profit, the more it pays Zakat. Thus, it acts as a good indicator to reflect the health of Islamic bank as a firm.

2. Background of the Study

Scholars have extensively investigated Islamic banking. Today, the Islamic banking industry has gained greater attention in the current financial environment, particularly in developing countries where many Islamic banks are located. The demand for Islamic banking products and services is growing as the Islamic banking industry in developing countries has evolved into a fully serviced sector.

The commonly used approach to examining Islamic banking is through an evaluation of the advantages and disadvantages of Islamic banking in comparison to
conventional banking. For example, Beck et al. (2013) investigated the status of differences between Islamic banks and conventional banks. The result indicated a few significant differences in business orientation. Their study surmised that Islamic banks are less cost-effective, but have a higher intermediation ratio. On the contrary, Chong and Liu (2009) claimed that Islamic banking is not dissimilar from conventional banking. A study in the Malaysian banking context shows that only a negligible portion of Islamic banks’ financing is strictly profit and loss (PLS) based and that Islamic deposits are not interest-free, but are closely pegged to conventional deposits, suggesting that the rapid growth in Islamic banking is largely driven by the Islamic resurgence worldwide rather than by the advantages of the PLS paradigm and that Islamic banks should be subject to regulations similar to those of their conventional banks (Chong & Liu, 2009).

Also, Beck et al.’s (2013) study examined whether it is possible to distinguish between the conventional and Islamic banks in the Gulf Cooperation Council (GCC) region by financial characteristics alone. They found that even though Islamic banks operate under different principles, such as risk-sharing and the prohibition of interest, both types of banking face similar competitive conditions. Although the means of several ratios are similar between the two categories of banks, non-linear classification techniques ($k$-means nearest neighbors and neural networks) can correctly distinguish Islamic from conventional banks in out-of-sample tests with an approximate 92 percent success rate. Khan (2010) found that despite not providing an alternative to conventional banking and finance, the Islamic Banking and Finance industry (IBF) does strengthen a distinctly Islamic identity by providing the appropriate Islamic terminology for de facto conventional financial transactions.
Some studies have focused on investigating the profitability performance of Islamic banks during the period of the financial crisis (Islam, Alam, & Hossain, 2014; Jawadi, Jawadi, & Louhichi, 2014; Mobarek & Kalonov, 2014; Saeed & Izzeldin, 2014). By using Bahrain, Jordan, Kuwait, Qatar, Malaysia, Saudi Arabia, UAE, and Turkey, Hassan and Dridi (2010) examined the impact of the financial crisis on the performance of conventional and Islamic banks and collected data from 120 banks, of which 25 percent were Islamic. The finding indicated that Islamic banks had been influenced in a different way in comparison to conventional banks particularly during the period of the financial crisis. Hassan and Dridi (2010) claimed that the characteristics of Islamic banks had helped them to minimize the impact of financial crisis on Islamic banks in developing countries. However, the poor implementation of risk-management strategies led to decreased levels of Islamic bank performance in 2008 to 2009. Other studies (Abdulle & Kassim; Kassim & Majid, 2010) examined the influence of the financial crisis of 1997 as well as the 2008-2009 crisis on Islamic banking in Malaysia. They hypothesized that Islamic banks were more resilient than conventional banks during the recent financial crisis. However, their findings indicated that both conventional and Islamic banks were vulnerable to the financial crises. Importantly, their findings contradicted the common belief that Islamic banks had not been impacted by the financial crisis (Miniaoui & Gohou, 2011).

The issue of different regulations in each country, in other words, the legal origin, and the impact these laws and regulations have on banking has been the subject of much debate by researchers (Beck, Demirgüç-Kunt, & Levine, 2003). The empirical evidence demonstrates that understanding the status of the legal system of a country may provide a
clearer insight into the performance determinants (Ahlering & Deakin, 2007; Levine, 1998). However, the literature shows less or no evidence of the investigation of the relationship between the legal origin and Islamic banking performance in developing countries particularly in the context of the relationship between the Chief Executive Officer (CEO) duality within a bank and a bank’s performance.

The economic conditions of a country play a major role in determining a bank’s profitability performance. There has been extensive research examining the relationship between conventional banking and economic growth. There is also extensive literature concerning the economic determinants of the banks’ performance proxies of profitability such as inflation and gross domestic product growth (GDPG). The results show a positive relationship between economic growth and banking performance, particularly inflation, GDP, and GDPG (Dietrich & Wanzenried, 2009, 2011). Furthermore, there is some evidence that the legal and institutional characteristics of a country matter. On the contrary, the Islamic banking industry relationship with economic growth is still under-researched. A logical argument can be put forward that Islamic banking performance would perform better in the presence of good economic conditions. The measurement of a country’s economic conditions is a debatable issue due to the variety of ways available to measure the economic condition of a country with GDP being one of the common indicators in use along with inflation rate, unemployment rate, and GDPG. Yet, the Islamic banking industry in developing countries lacks this empirical interpretation. Accordingly, this paper seeks to redress this situation.
Bourkhis and Nabi (2013) attempted to provide an empirical answer to the question: What was the effect of the 2007–2008 financial crisis on the soundness of Islamic banks and their conventional peers? Using the Z-score as an indicator of bank stability, the regression analysis indicated no significant difference in the effect of the financial crisis on the soundness of Islamic banking and conventional banking. This finding disclosed that Islamic banks departed from their theoretical business model which would have allowed them to keep the same level of soundness even during the crisis. Interestingly, the literature review documented various conclusions regarding the effect of the financial crisis on Islamic banking. However, those papers adopted a similar approach to examining Islamic banking profitability by using conventional profitability measures. The current research endeavor is different in that it adopts both measures of profitability, namely ROA (conventional) and Zakat (Sharia).

Several scholars have agreed that Zakat is another measurement of performance (Ibrahim, 2004; Dangulbi, 2012). Worldwide, Muslims are experiencing heightened levels of poverty. Poverty is not less important than the financial crisis, and according to 2014 World Bank report, 35 percent of those who fall under the poverty level are from countries where the predominant faith is Islam. This fact has heightened the need for more funding to be directed to social welfare and activities, as governments are unable, on their own, to reduce or eradicate poverty. Indeed, it is beyond a government’s ability to undertake such plans without support from the public (Ali & Hatta, 2014).

Sharia stresses that Zakat is a way of helping Muslims to reduce poverty by making a donation authorized by Sharia. Zakat is an Arabic word which means ‘to grow’ and ‘to purify.’ It is an amount of money deducted towards social welfare under certain
terms and conditions laid out in the Holy Quran 1435 years ago. In Islam, only qualified people are eligible for the Zakat donation.

In the context of banking, Islamic banks are obliged to pay Zakat annually as approved by the Sharia Supervisory Board (SSB). This amount is embedded in the accounting entries and is operationalized in such a way that the Zakat amount is highlighted annually. In general, the Zakat amount is 2.5 percent of the surplus wealth achieved by a company for a full lunar year, and this amount is calculated based on either the working capital method or profit before tax and Zakat method. Since this amount corresponds to the amount of profit, this paper hypothesizes that the Zakat amount could be related to profitability and indicate the status of a bank’s profitability performance in relation to the growth capital method.

In this paper, the Zakat ratio is utilized and introduced as a measurement of performance. The ratio divides the Zakat by way of the amount of net asset as proposed by Ibrahim et al. (2004). By introducing such a ratio, this paper extends previous literature by providing a new understanding of Islamic banking performance measurement which reflects the soundness of the practices of Islamic banking, and in the context of this paper, it examines these practices in developing countries. In investigating the impact of the financial crisis on Islamic banking performance, this paper adopts a model driven by a commonly used control variable, such as inflation rate, economic growth, GDP, legal origin, and size of bank. Prior research has rigorously examined the association between Islamic banking performance and inflation. Revell and Revell (1980) were the first to examine the effect of inflation on the profitability of conventional banks.
Their study showed that inflation could be a causation factor for the variation in bank profitability through the bank’s monetary policy.

Molyneux and Thornton (1992) extended Revell and Revell’s (1980) study and found that inflation is statistically significant in affecting the banks’ profitability when consumer price index (CPI) is used as a proxy for inflation. In the literature examining Islamic banking, Haron and Ahmad (2000) empirically surmised that inflation is an important factor in determining Islamic banking performance. By examining banking in developing economies as the sample, they showed conventional interest rates, resulting from monetary policy to tackle inflation, would affect the economy. Having variations in economic activity, this might influence the performance of Islamic banking because it is based on the activity of profit-sharing. Others, such as Hassan and Bashir (2003) investigated the determinants of Islamic banking performance and found inflation is one of the determinants. Ghannadian and Goswami (2004) also concurred that inflation might affect the performance of Islamic banking through real economic activity. In short, inflation has to be considered as one of the determinants of banking performance.

This paper also considers GDP and GDPG as the determinants of Islamic banking performance. Previous research has extensively demonstrated the association between GDP and banking performance and also between economic growth and banking performance. GDP and GDPG are indicators of the wealth of a nation, which is highly related to the banking activity (Alesina & Summers, 1993; Beck & Levine, 2004; Williams & Nguyen, 2005). This indicates that a banking performance model has to control for GDP and GDPG. In relation to Islamic banking, several research papers have shown the significant role of GDP and GDPG in Islamic banking performance (Hassan &
Bashir, 2003; Khan & Mirakhor, 1990; Rosly & Bakar, 2003). There are theoretical grounds for Islamic banking to have a positive impact on economic development. To examine this, the development of the Islamic banking sector and its links to economic development can be calculated by the loans extended by the banks to the private sector divided by the nominal GDP.

In this research, the authors also control for the size of the bank as it is a determinant of Islamic banking. Based on the conventional literature (Emery, 1971; Haron, 1996; Kawagoe et al., 1985), the size of a bank is related to the economy of scale and banking performance. The literature surmises that the larger institutions would be more efficient and could reduce their costs. Since larger banks are assumed to enjoy economies of scale, they can produce their output more cheaply, and as a result, a larger bank can earn higher rates of profit. In Islamic banking, this hypothesis was tested by Haron and Hasan (2000), Yudistira (2004), and Sufian and Noor (2009). They concluded that the size of the Islamic bank and the profits of Islamic banking are significantly associated. Therefore, the authors of this paper control for the size of the Islamic bank in the model.

Another control variable in this research is the legal origin, which is the legal system adopted in a country. The issue of different regulations in each country has been debated by researchers (Beck et al., 2003). The empirical evidence reveals that understanding the status of a legal system a country adopts may bring a clearer insight into the performance determinants (Ahlering & Deakin, 2007; Levine, 1998). The literature shows the way in which a legal system in a country might influence the compliance of Islamic banking, which in turn affect its profitability. For instance, Khan
and Mirakhor (1990) documented the Islamic banking arrangement of profit-sharing. Iran and Pakistan have different rates of performance due to the different legal systems where Iran claims to implement the Islamic law system, but Pakistan relies on the Britten common law system. Zaher and Hassan (2001) conducted a survey to investigate the manner in which the legal system and regulation might affect Islamic banking performance. Rosly and Bakar (2003) surmised that the legal system has an important role to play in the avoidance of Riba by Islamic banking and making ethical business decisions by business practitioners, which result in better performance.

The literature categorizes the legal system types into common law, Sharia law, and civil law and notes that some countries, such as India, may use a mix of common and civil law guidelines. The literature also shows that countries with civil law appear to be lower than their counterpart regarding firm performance, ownership structure, and corporate valuation despite using additional performance measures such as Tobin’s Q.

It is noteworthy that most of the research above works tested their model by using conventional measures of performance. This paper extended the previous investigations and surmises that the financial crisis is the main variable in this research by taking ROA and the Zakat as the measurement of Islamic banking performance. This is one of the contributions of this research.

3. Methodology

3.1 Data

In this paper, the authors utilized a Data Stream/Bank Scope database and data from Bank Negara Malaysia (Malaysian Central Bank) to collect a panel set of annual financial
information for Islamic banking from the year 2007 to 2010. The initial sample covers 33 Islamic banks in developing countries listed on the International Islamic Service Board (IIFSB) as shown in Table 1. Furthermore, the authors adopted only those listed Islamic banks to tackle the data availability issue. The authors’ final sample comprised 136 observations with complete data as the number of Islamic banks in developing countries is low in comparison to their conventional peers. The financial crisis follows the commonly used timeline by the National Bureau of Economic Research (NBER) in the United States.

In this paper, the authors used a generalized least square method (GLS) pooled panel data analysis regression model. The technique was implemented because GLS can give less weight to the error term that is closely clustered around the mean, improve the goodness of fit, and remove autocorrelation compared with normal, random and fixed effect models.

Table 1

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of Islamic banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahrain</td>
<td>4</td>
</tr>
<tr>
<td>Malaysia</td>
<td>10</td>
</tr>
<tr>
<td>UAE</td>
<td>4</td>
</tr>
<tr>
<td>Qatar</td>
<td>2</td>
</tr>
<tr>
<td>Jordan</td>
<td>3</td>
</tr>
<tr>
<td>Egypt</td>
<td>1</td>
</tr>
<tr>
<td>Thai</td>
<td>1</td>
</tr>
</tbody>
</table>
3.2 Baseline Model

The authors developed a baseline model on the foundation of the macroeconomics approach by following prior research (Albertazzi & Gambacorta, 2010; Carbo Valverde & Rodriguez Fernandez, 2007; Evjen et al., 2005; Gerlach, Peng, & Shu, 2005; Yusuf & Derus, 2013) and in line with the suggestion of Peng and Luo (2000) and Bashir (2003) who linked macro variables with the level of an organization’s performance.

Firstly, the authors of this paper introduced inflation, economic growth, and GDP as the commonly used variables in the baseline model, which they adopted from previous research such as Albertazzi and Gambacorta (2006) and Valverde and Fernandez (2007). Another variable, the legal origin, was added to the baseline model as previous research (Luo & Chen, 1997; Peng, 2000) recommended that an organization’s performance is different in each country due to the differences in the legal system. The legal system or legal origin is a binary value, where it ranges from 1 to 5 according to the type of legal origin each country follows. This approach is recommended by Högberg and Bjuggren (2010). Therefore, the authors of this paper determined four predictors for their baseline model: inflation; economic growth; GDP; and the legal origin. To make it more robust,
size of bank was controlled in the baseline model to ascertain whether different bank sizes would result in different levels of performance.

The formula for the baseline model is provided as follows:

**Model 1:**

\[
\text{Performance} = f(\text{Inflation, Economic Growth, GDP, Legal Origin, Size of Islamic Bank})
\]

The way in which to measure the performance of Islamic banking is the subject of much debate. Several researchers (Benin et al., 2005; Kwan, 2004; News, 2014) recommended utilizing conventional performance measurements as a proxy. They used return on assets (ROA), return on equity (ROE), or profit margin (PM) to measure Islamic banking performance. However, others such as Yusuf and Derus (2013) argued that the Sharia-based measurement of Zakat ought to be a proxy for performance. This paper adopts both conventional and Sharia measurements as the performance measurement (dependent variable) to tackle this issue. Hence, to estimate the above model empirically, the authors of this paper pooled all the sample banks and estimates by adopting the regression model under GLS panel regression.

**Regression Model 2:**

\[
ROA_{i,t} = \alpha_{i,t} + \beta_1 \text{INFLATION}_{i,t} + \beta_2 \text{GROWTH}_{i,t} + \beta_3 \text{GDP}_{i,t} + \beta_4 \text{LEGAL}_{i,t} + \beta_5 \text{SIZE}_{i,t} + \epsilon_{i,t}
\]

**Regression Model 3:**

\[
\text{ZAKAT}_{i,t} = \alpha_{i,t} + \beta_1 \text{INFLATION}_{i,t} + \beta_2 \text{GROWTH}_{i,t} + \beta_3 \text{GDP}_{i,t} + \beta_4 \text{LEGAL}_{i,t} + \beta_5 \text{SIZE}_{i,t} + \epsilon_{i,t}
\]

### 3.3 Financial Crisis Impact Model
Previous literature indicates that the financial crisis did not have a huge impact on Islamic banking (Beck et al., 2013; Hasan & Dridi, 2011). To a certain extent, the influence of the financial crisis was related to the problem of external variables, that is, the macroeconomic factors. As a result, it is important to introduce a financial crisis variable in the model as the main variable, which is another contribution the present study makes in the examination of the performance of Islamic banking in developing countries. By adding the financial crisis to the baseline model, the regression model is given as follows:

**Regression Model 4:**

\[ \text{ROA}_{it} = \alpha_{i} + \beta_{1}\text{INFLATION}_{i,t} + \beta_{2}\text{GROWTH}_{i,t} + \beta_{3}\text{GDP}_{i,t} + \beta_{4}\text{LEGAL}_{i,t} + \beta_{5}\text{SIZE}_{i,t} + \beta_{6}\text{CRISIS}_{i,t} + \varepsilon_{i,t} \]

**Regression Model 5:**

\[ \text{ZAKAT}_{i,t} = \alpha_{i} + \beta_{1}\text{INFLATION}_{i,t} + \beta_{2}\text{GROWTH}_{i,t} + \beta_{3}\text{GDP}_{i,t} + \beta_{4}\text{LEGAL}_{i,t} + \beta_{5}\text{SIZE}_{i,t} + \beta_{6}\text{CRISIS}_{i,t} + \varepsilon_{i,t} \]

4. **Results**

4.1 **Descriptive Results**

Islamic banks operate under different conditions in different countries with variables such as the inflation rate environment, GDP, and GDPG to contend with. These differences are intensified by the different legal systems as noted in Table 1.2. The bank size (BS) is represented by total assets which range from 14 percent to 21 percent whereas GDP ranges from 20 percent to 24 percent, the inflation rate (IR) from -4 percent to 5 percent. The result shows a clear indication that the samples pose the kind of sample
variance which may help to draw an image of the overall status of Islamic banking performance in developing countries.

Table 1.1 Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>BS</th>
<th>LO</th>
<th>FCD</th>
<th>IR</th>
<th>GDPG</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>21.77</td>
<td>0.72</td>
<td>0.25</td>
<td>5.59</td>
<td>5.45</td>
<td>24.98</td>
</tr>
<tr>
<td>Median</td>
<td>21.33</td>
<td>1.00</td>
<td>0.00</td>
<td>3.40</td>
<td>6.10</td>
<td>25.49</td>
</tr>
<tr>
<td>Maximum</td>
<td>30.26</td>
<td>1.00</td>
<td>1.00</td>
<td>20.30</td>
<td>26.80</td>
<td>26.88</td>
</tr>
<tr>
<td>Minimum</td>
<td>14.81</td>
<td>0.00</td>
<td>0.00</td>
<td>-4.90</td>
<td>-2.30</td>
<td>20.93</td>
</tr>
</tbody>
</table>

BS= Bank Size, LO= Legal Origin, FCD= Financial crisis Dummy, IR=Inflation Rate GDP =Gross Domestic Product, GDP = Gross Domestic Production Growth Rate

Table 1.2 Regression analyses for Model 4 and 5

<table>
<thead>
<tr>
<th></th>
<th>C</th>
<th>BS</th>
<th>LO</th>
<th>FCD</th>
<th>IR</th>
<th>GDPG</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA:</td>
<td>Coefficient</td>
<td>2.688</td>
<td>-0.001</td>
<td>0.256</td>
<td>-0.037</td>
<td>0.022</td>
<td>0.207</td>
</tr>
<tr>
<td>t-value</td>
<td>4.834</td>
<td>-0.118</td>
<td>3.438</td>
<td>-4.961</td>
<td>2.775</td>
<td>2.836</td>
<td>3.545</td>
</tr>
<tr>
<td>Probability</td>
<td>0.000</td>
<td>0.906</td>
<td>0.001</td>
<td>0.000</td>
<td>0.006</td>
<td>0.005</td>
<td>0.001</td>
</tr>
</tbody>
</table>

|       | ZAKAT | Coefficient | 0.733 | 0.012 | -0.101 | -0.003 | 0.003 | 0.007 | 0.029 |
| t-value | 1.392 | 2.010 | -1.460 | -0.864 | 0.630 | 0.308 | 1.637 |
| Probability | 0.166 | 0.047 | 0.147 | 0.389 | 0.530 | 0.759 | 0.104 |

ROA= Return on Assets, Zakat = Amount spent on Zakat per annum

4.2 Macroeconomics Factors and Conventional Performance Measurements in Islamic Banking

The return on assets is mostly used in the conventional banking literature as one of the main indicators to measure banking performance as it assists in determining the level
of management’s efficiency in using its assets to generate income. Table 1.2 also presents the pooled regression results for Regression Model 4. This Model measures Islamic banking performance from the conventional perspective, which is the return on assets (ROA). For this paper, the authors commenced with the external determinants (macro factors): IR, GDP, and GDPG. All the three macro factors are found to contribute positively to Islamic banks’ ROA and statistically significant at the level of 1 per cent. By controlling the size of Islamic banks and legal system, the findings show that the legal system contributes to the ROA of Islamic banks and is statistically significant at the level of 1 per cent. However, the findings indicate that no matter how big the size of the Islamic bank by way of its total assets, the size of the bank does not have any effect on Islamic banking performance.

The estimation of the main variable of the financial crisis is found to have a significant contribution to ROA of Islamic banking at the level of 1 per cent. The beta coefficient of -0.037 mean that when the financial crisis occurred, the ROA of Islamic banks decreased. The finding is consistent with previous studies such as Yudistira (2004), Cihak and Esse (2010), and Hasan and Dridi (2011).

4.3 Macroeconomics Factors and Sharia Performance Measurement in Islamic Banking

Table 1.2 also reports the estimates of the effect of the financial crisis on Islamic banking from the perspective of the Sharia measurement of Zakat. Zakat is an amount usually deducted from a bank’s annual net profit, and this ratio is proposed by Islamic
banking literature as an alternative ratio to measure Islamic banking performance based on its ability to reflect profitability (Dangulbi, 2012; Ibrahim, 2004).

The findings document that the IR, GDP, and GDPG have no effect on Zakat, which means that the conventional macroeconomic approach is difficult to link with Sharia-based measures as Sharia-based businesses have essentially different business transactions (Zaher & Hassan, 2001). Further, the legal system or legal origin is found to be statistically not significant in its association with Zakat. Regarding bank size, the result is surprisingly different from Model 4. The authors found that size contributes to Zakat positively and is statistically significant at the level of 5 percent. Consistent with previous research (Chapra, 2008; Hassan & Bashir, 2003), the bigger the size of Islamic bank by way of its assets, the higher the Zakat could be.

For Model 5, the authors proceeded with adopting the financial crisis dummy to investigate whether the financial crisis had an effect on Zakat of Islamic banking. Table 1.2 shows a surprising result where the financial crisis was not statistically significantly associated with Zakat. According to Hasan and Bashir (2003), Islamic banking has a different flow of a business model in comparison to conventional banking. Had the authors measured Islamic banking by using conventional methods, the Islamic banks’ performance could have deteriorated due to the financial crisis. However, if the Islamic banking performance was measured using the Sharia-based method, then the financial crisis had no effect on Islamic banking. This finding can explain why some studies found that the financial crisis had an effect on Islamic banking while others did not find any effect at all. These findings also explain why The Express Tribune at the time reported
that Islamic banking might be caught in the trap of financial crisis even though the recent article from the *New York Times* challenged this view.

4.4 Analysis

In this paper, the examination reveals that even though it has a significant effect on the conventional economy, the financial crisis and its macro factor does not significantly affect Islamic banking performance. Even the controlling variable such as the legal system is not found to have any significant effect on Zakat of Islamic banking. However, the size of Islamic banks as a control variable is found to be statistically significant in relation to Zakat but not to ROA. The result is in line with previous literature and the value of Islam that signifies that the more profit an Islamic bank generates, the more it pays Zakat. Thus, Zakat acts like a typical indicator to reflect the health of an Islamic bank as an organization.

This research contributes in an important way in that it distinguishes the measurement of performance between conventional and Sharia-based banking. Accordingly, the Islamic banking business model is different from the conventional model. Importantly, the Islamic banking business model does not place emphasis on the value of return, and it is more reliant on the value of Islam where it places more weight on justice in human society. According to the Qur’an (57: 25), a society where there is no justice will ultimately head towards decline and destruction. Justice requires a set of rules or moral values that everyone accepts and faithfully complies. According to Chapra (2009), the perspective of the financial system has to be comprehensively viewed so that we can distinguish between the Sharia-based practices and the conventional methods.
Furthermore, Chapra advocated for the injection of a moral dimension that is not apparent in the conventional banking. Hence, unlike previous research on Islamic banking performance, this research introduces Zakat as another measurement of performance. The value of Islam changes the objectives of banking as the purpose of Zakat is to enhance justice and wealth of the society. The Qur’an says, “and be steadfast in prayer; practice regular charity; and bow down your heads with those who bow down (in worship)” (2: 43). Zakat, in relation to the business world, is to avoid greed and prevent human behavior that places risk to a business entity. This is why this paper presents Zakat as another measurement of performance as it has a different goal in comparison to the conventional banking.

5. Conclusion

The main objective of the paper is to examine the relationship between the macroeconomic factors including the legal system and the recent financial crisis on the performance of Islamic banks in developing countries during the period from 2007 to 2010. The present research has examined conventional and Sharia-based performance indicators to measure performance. It is found that the macroeconomic factors reflected in GDP, GDPG and IR have a significant and positive relationship with ROA. In addition, a significant negative relationship is found between the financial crisis and Islamic banking performance in developing countries. However, the present study fails to find evidence of a relationship between the macroeconomic factors and performance including the legal system and the financial crisis when the performance is measured by the Zakat ratio. The result suggests that the financial crisis had an impact on the
performance of Islamic banks in developing countries when viewed from the conventional banking perspective. The financial crisis played a role in reducing the profitability of Islamic banks, a finding that is consistent with that reported by Hasan and Dridi (2011). It is worth noting that in view of Islamic performance indicators, not only the financial crisis did not have any effect on Islamic banking performance, but also the macro factors. In short, this paper provides insufficient evidence to conclude the impact of financial crisis on Islamic banking in an emerging market.

This article extends the existing studies of Islamic banking performance. The authors have used two different measures of performance, namely, return on assets (ROA) and Zakat. Our results have implications for a conceptualized framework and the empirical evidence in the Islamic banking literature by addressing two important issues. Firstly, the literature is enriched by addressing the notion that the performance of Islamic banks ought to be viewed from the Sharia perspective. Secondly, a financial crisis might affect Islamic banking if the conventional perspective is used. However, if Islamic banking is viewed from the Sharia perspective, it is not affected by the financial crisis. Another contributing aspect of this research endeavor is to draw attention to the policymakers that Islamic banking is not only safer than conventional banking, but it can safeguard the national economy during a period of crisis. It also highlights the shortcomings of the conventional banking, especially in light of economic volatility as Sharia-based banking could help protect developing countries with emerging markets. Even so, further research is needed to validate these findings, for instance, by examining other industries.
The finding of the present research is consistent with Beck et al. (2013) who showed that the conventional and Islamic banking models have significant differences. They found that Islamic banks are less efficient, but have higher intermediation ratios, have higher asset quality, and are better capitalized than conventional banks. They also provided evidence that Islamic banks performed better during a financial crisis regarding asset quality and capitalization. Surprisingly, based on zakat ratio as performance measurement, there is insufficient evidence to conclude on the influence of financial crisis on banking performance.

REFERENCES


