Loan Loss Provisioning in OIC Countries: Evidence from Conventional vs. Islamic Banks

Ali, Ashraf and M. Kabir, Hassan and Syed Abul, Basher

29 January 2015

Loan Loss Provisioning in OIC Countries: Evidence from Conventional vs. Islamic Banks

Ali Ashraf, Ph.D.
Assistant Professor of Finance
Department of Marketing & Finance
Frostburg State University
101 Braddock Road, Frostburg, MD 21532
Phone: 301-687-4046
Cell: 704-724-6490
Email: aashraf@frostburg.edu

M. Kabir Hassan, Ph.D.
Professor of Finance
Department of Economics & Finance
University of New Orleans
New Orleans, LA 70148
Email: mhassan@uno.edu
Email: KabirHassan63@gmail.com

Syed Abul Basher, Ph.D.
Senior Research Fellow
Fikra Research & Policy
P.O. Box 2664, Doha, Qatar
Email: syed.basher@gmail.com

This Version of Draft:
August 10, 2014

Loan Loss Provisioning in OIC Countries: Evidence from Conventional vs. Islamic Banks

Ali Ashraf [1], M. Kabir Hassan[2], and Syed Abul Basher[3]

ABSTRACT

Using a sample of 291 banks from 35 OIC (Organization of Islamic Cooperation) member Muslim countries with 2078 bank year observations from 2003 to 2010, we analyze if bank earning management in terms of Loan Loss Provisioning (LLP hereafter) is affected by the banking nature whether Islamic or conventional, by the bank accounting standards whether rule-based local Generally accepted accounting principles (here after local GAAP) or principle-based International Financial Reporting Standards (hereafter IFRS), and by the bank listing status. We argue that Islamic banks may exhibit lower signs of earning management, as the Sharia'h Supervisory Boards (SSB hereafter) in Islamic banks may work as an additional tier into the governance system. On the use of accounting standard, we argue that banks using IFRS standard may exhibit lower evidence of earning management, as IFRS requires managers to disclose more accounting information compared to local GAAP. We report mixed evidence supporting these arguments.

Key Words: International Financial Markets; Banks; Other Depository Institutions; Micro Finance Institutions; Mortgages; Accounting

JEL Classification: G15, G21, M41

---

[1]*Assistant Professor of Finance, Department of Marketing & Finance, Frostburg State University, MD 21532, Email: aashraf@frostburg.edu*

[2] *Corresponding author: Professor of Finance, Department of Economics & Finance, University of New Orleans, New Orleans, LA 70148*

[3] *Senior Research Fellow, Fikra Research & Policy, P.O. Box 2664, Doha, Qatar*

Loan Loss Provisioning in OIC Countries: Evidence from Conventional vs. Islamic Banks

1. INTRODUCTION

Following the financial frauds of Drexel Burnham Lambert in 1990 and later Enron in 2001, managerial discretion in earning management comes under increasing scrutiny from both regulators and researchers. More recently, the collapse of Lehman Brothers in September 2008, makes a strong point that poor management in financial institutions may plant the seed of future financial crisis. Although early bank earning management literature goes back to Wahlen's (1994) seminal paper, following the collapse of Lehman Brothers during the recent global financial crisis, research interest in bank earning management has been rejuvenated in recent years. Existing literature suggests that bank managers may resort to earning management for three commonly cited reasons: a) income smoothing, b) capital management, and c) signaling hypotheses (see: Wahlen, 1994, and Ahmed et al., 1999, for surveys of the literature, and Anandarajan et al., 2003, Bouvatier and Lepetit, 2006, and Das and Ghosh, 2007, for recent contributions). However, the existing empirical evidence mostly focuses on the United States and other selected Organization for Economic Co-operation and Development (hereafter OECD) countries, which is best summarized as inconclusive. It is therefore interesting to revisit the question of bank earning management with a new and a different set of countries.

In addition to the recent increase in research interest in the bank earning management, the comparatively resilient performance of Islamic banks during the 2008 global financial crisis has generated much interest among researchers. Addawe (2012) and Ahmad and Pandey (2010)

suggest that Islamic banks have generally outperformed the conventional banks. In this paper, we argue that, in the presence of Sharia'h Supervisory Board, bank managers in Islamic banks are generally less likely to be involved in earning management than their compatriots are in conventional banks. Furthermore, we investigate whether bank earning management in terms of LLP can be affected by changes in accounting standards, bank listing status and bank specialization in terms of conventional vis-à-vis Islamic banks in a sample of total 291 banks from 35 OIC member countries.

This empirical study on bank earning management in terms of LLP in OIC member countries is motivated by two reasons. First, and as already pointed above, the existing literature mostly focuses on the developed economies. Hence, a cross country analysis focusing on OIC member countries comprising developing and emerging economies may provide additional understanding about the nature of bank earning management in less developed countries. Second, the choice of OIC countries offers a unique opportunity to analyze the difference in bank earning management between Islamic and conventional banks, given the identical religious environment. As Islamic banks generally operate under a similar prudential regulatory framework as their conventional counterparts, the analysis presented below will shed light on the additional governance structure in Islamic banks that may have an impact on their bank earning management. Ghosh (2013) offers a first analysis of banks' earning management using data for six Gulf Cooperation Council (hereafter GCC) countries. Unlike Ghosh (2013), our study comprises a more comprehensive data set covering a large number of Islamic countries and banks with a more recent data observations. Furthermore, we analyze how change in accounting standards may affect bank earning management in terms of LLP.

Core to the motivation of this study, we also analyze if change in accounting standards imparts an impact on bank earning management. Because local GAAP and other prevailing accounting standards are converging to a more principle-based accounting standard, as in IFRS, by the end of 2015, analyzing the impact of different accounting standards may provide different insight to the bank earning management literature. Existing accounting literature shows that the migration from a rule-based to a principal-based accounting standard, such as IFRS, has otherwise reduced managerial discretion in earning managements in non-financial firms during the mandatory migration of accounting standards of 2004-2005 for EU countries (Capkun et al. 2010). We extend this literature by analyzing the impact of accounting standards on earning management by analyzing the banking industry compared to non-financial firms, as in current literature. To our best knowledge, this study is one of the few studies to explicitly analyze the impact of similar migration of accounting standards in the banking industry. A recent study of Fonseca and Gonza´lez (2008) finds that earning managements in listed banks are systematically different than not-listed banks. However, Fonseca and Gonza´lez (2008) consider six Muslim countries only. We complement their study by considering a larger cross-section of Muslim countries, by differentiating between conventional and Islamic banks, and by analyzing whether banks' listing status plays a role in bank earning management manifestation.

Two reasons intertwined with each other commend for a global perspective of analysis on bank earning management in terms of LLP. First, moving from one accounting standard to another involves significant change in regulatory regimes and for any given country, such events are rather infrequent. To analyze the effects of changes, a larger cross section of countries used allows us to utilize more information in analyzing the phenomenon empirically. Second, as OIC countries are generally developing economies, the number of banks in a single country is rather

small; therefore, a cross-country study allows us to bring in more information to form a bigger dataset of bank information. Consistent with the core arguments, this study analyzes three explicit questions: Whether bank earning managements in terms of LLP are different for Islamic banks compared to conventional banks? Whether changes in accounting standards affect managerial discretion over managing earnings in the banking sector? Whether banks' listing status of being listed or not-listed, affects managerial discretion on LLP reporting?

The research questions analyzed in this paper are likely to contribute to the current literature on bank earning management in four different ways. First, we differentiate bank earning management for two different types of banks, Islamic and conventional banks; plus we argue that pertaining difference may be contributed to the additional governance influence imparted by the Sharia'h Supervisory Board (SSB) system. Second, this study is one of the earliest studies to recognize differences in accounting standards as a factor behind bank managerial discretion. Third, we complement other cross country studies on bank earning management that generally focus on developed countries like the United States, EU and OECD member countries, with samples ending around 2004. Fourth, our dataset covers a time period of 8 years from 2003 to 2010 which provides us with reasonably large and recent information, compared to extant studies that generally use a dataset ending in 2004.

The remainder of the study is organized as follows: section two provides a brief overview of extant literature; section three presents the core research questions and related hypotheses in the methodology section; section four provides a brief description of data and plausible econometric techniques to analyze the research questions; section five discusses the empirical evidence; and finally, section six summarizes the key findings.

2. LITERATURE REVIEW

2.1 Loan Loss Provisioning and Bank Earnings Management

Existing literature on bank earning management generally provides three major explanations: a) income smoothing, b) capital management, and c) signaling hypothesis. First, the income smoothing hypothesis argues that bank managers tend to set aside LLP during good times so that they can use them as a buffer during business cycles downturn to cover higher loan delinquencies. Greenawalt and Sinkey (1988), Wahlen (1994) and Beaver and Engel (1996), among others, provide supporting evidence that loan loss provisioning has positive relation with earnings before tax and provisions. However, Beatty et al. (1995), Ahmed et al. (1999), among others, provide contrasting evidence.

Second, the capital management hypothesis argues that bank managers use loss loan provision as a buffer to the bank capital requirement; and when faced with minimum capital requirements they tend to use LLP to cover the capital shortfall. Kim and Kross (1998), Ahmed et al. (1999), Cortavarria et al. (2000), and Das and Ghosh (2007), among others, document a negative relationship between LLP and bank capital supporting the capital management argument. Third, the signaling hypothesis argues that managers can use higher loan loss provisioning as a proxy for financial strength; and accordingly LLP is positively related to the change in earnings. Although, Bouvatier and Lepetit (2006) provide supporting evidence for signaling arguments using banking data of France, UK, Germany and Italy; Anandarajan et al. (2003) document contradictory evidence for a Spanish sample.

A number of studies focuse on multi-country comparisons in managerial discretion in Loan Loss reporting. Leuz et al. (2003) analyze the existence of earning management in non-financial firms in a global setting. Chih and Shen (2005) analyze the earning management phenomenon in the banking industry in 48 countries. Using three alternate measures and controlling for a number of factors, Chih and Shen (2005) document that earnings management is rather a global phenomenon.

2.2 Governance of Islamic Bank vis-à-vis Conventional Bank

Existing literature on Islamic banking and finance suggest that, compared to their conventional counterparts, Islamic banks are subjected to one additional level of governance structure in the form of Sharia'h Supervisory Board (SSB). The governance structure of an Islamic bank may include other regular governance tiers, like Board of Directors, Compensation Committee, Audit Committee and others, which is similar to conventional banks (Karim, 1990, and Ghayad, 2008).

SSB is generally responsible for assuring investors, shareholders and other stakeholders in the Islamic bank concerning the Sharia'h compliance in banking transaction (Warde, 1998). SSB is also responsible for providing clarification on any Sharia'h related issued pertaining to daily operation, ensuring conformity with Sharia'h laws in economic, initiating new financial instruments and implementing Sharia'h compliance. Accordingly, Karim (1990) argues that the governance role of SSB may be viewed as similar to the independent company auditors. Contrary to this notion, we argue that SSB may have unobservable and/or unintended influence on bank managers and may prohibit them to use earning management as a tool for self-interest.

2.3 Accounting Standards and Earnings Management

Changes in accounting standards and the resulting implications for earnings management is a well-researched phenomenon in accounting literature. Earlier accounting literature rather documents the limited abilities of regulatory changes in discouraging or encouraging earnings management (see: Healy and Wahlen, 1999, for a survey). In contrast, some later studies, such as Hung and Subramanyam (2004) and Bartov et al. (2004), document that changes in accounting standards may indeed add value to accounting information, specially, in the developed economy. Following the "Norwalk Agreement" between the Financial Accounting Standards Board (hereafter FASB) and the International Accounting Standards Board (hereafter IASB) to create more principles-based accounting standards for global financial reporting by the end of 2015, a number of recent studies focuse on plausible implication of convergence of accounting standard convergence on bank earning management.

More recently, Beest (2009) analyzes the effects of discretion in accounting standards on both the level and nature of earnings management by presenting manipulations of IAS 32 and IAS 36 as proxies for the rules based and the principles-based setting. His results show that both the rules-based and principles-based treatments lead to comparable levels of earnings management. Such findings are consistent with arguments which suggest that changing discretion in accounting standards can affect the nature of earnings management. Beest (2009) also documents that the probability of earnings management through transaction decisions is higher in a rules-based setting than those in a principles-based setting.

In a contemporary study, Ganguli et al. (2009) analyze whether changes in accounting standards add value to accounting information in China. Comparing the characteristics of

accounting data of IAS-adopting firms vis-à-vis non-adopting firms, they conclude that adopting firms are less likely to smooth earnings in the post-adoption period. Later, Capkun et al. (2010) analyze the use of flexibility of IFRS by 1,635 European Union firms which occurred during the 2004-2005 mandatory transition from local GAAPs to IFRS; their results suggest that firm managers using IFRS accounting standard tend to manage earnings less in contrast to local GAAP counterparts.

To summarize, recent evidences in existing accounting literature are supportive of the arguments that rule-based accounting standards, in general, allow more managerial discretion in managing earnings, compared to principle-based accounting standards for both developed and transitional economies. We contribute to this line of accounting literature by providing empirical evidence for a set of OIC member countries.

2.4 Bank Listing Status and Earning Management

Beatty and Harris (1999) is one of the earliest in the literature to analyze the impact of listing status of firms on earning management. Later, Beatty et al. (2002) show that when publicly traded firms have more outsiders, earnings announcements and financial statements may have a greater signaling effect. Moreover, trading cost for uninformed shareholders in publicly traded firms and managerial self-interest suggest that managers may have higher incentives to manage earnings through income smoothing. However, these studies are based on banking datasets of the United States. Recently, Fonseca and Gonza´lez (2008) extend their argument to a cross-country dataset of banks; they find that listed status of banks may also have similar

implications on earning management behavior. In this paper, we complement Fonseca and Gonza´lez (2008) by incorporating six Muslim countries used in their study.

2.5 Bank Earning Management in Muslim Countries

A recent trend in the bank earning management literature focuses on Muslim countries. Misman and Ahmad (2011) investigate LLP for both Islamic and conventional banks in Malaysia over the 1993–2009 period. They find that both Islamic banks and conventional banks in Malaysia use LLP in earning and capital management.

More recently, Othman and Mersni (2012) analyze the use of discretionary LLP by Islamic and conventional banks in seven Middle East countries including 21 pure Islamic banks, 18 conventional banks with Islamic windows and 33 conventional banks over 2000 to 2008. Their findings are similar to those in Misman and Ahmad (2011) suggesting that that both Islamic and conventional bank managers resort to earning and capital management.

We contribute to this by employing a large dataset of 291 banks from 35 OIC countries totaling 2078 observations over the 2003–2010 period. In our analysis, we control for country-specific macroeconomic variables and country corruption index, in line with previous studies. We expect that including more cross-country variations may allow us to get a better understanding of the LLP and bank earning management in Muslim countries.

3. METHODOLOGY

3.1 Hypothesis Development

Existing literature suggests that bank managers may resort to earning management and LLP for three reasons: a) income smoothing, b) capital management, and c) signaling. *Income Smoothing Hypothesis* suggests that bank managers tend to set aside higher LLP during the good times and accordingly LLP is positively related with EBTP. *Signaling Hypothesis* suggests that managers may use LLP as a signal of higher supervision and hence LLP is positively related with change in CHANGEEBTP. *Capital Management Hypothesis* argues that managers tend to use LLP as part of Tire I capital requirement during capital shortfalls and hence negatively related with TIREONEREGCAP (see: Wahlen, 1994, Ahmed et al., 1999, Anandarajan et al., 2003, Bouvatier and Lepetit, 2006, and Das and Ghosh, 2007).

Our first hypothesis examines whether these three commonly cited explanations of LLP are empirically supported for the OIC member countries. Accordingly, we hypothesize that:

Hypothesis I: *In general, bank earning management in terms of LLP exists in the banking sector of OIC member countries.*

Next, we investigate whether and how the above three LLP motives are affected by bank specialization in terms of being an Islamic or a conventional commercial bank, changes in accounting standards, and bank listing status. Earlier literature on Islamic finance and banking suggests that, Islamic banks are subjected to one additional level of supervision imparted by the Sharia'h Governance board which do not apply to the conventional banks. Since Islamic banks in OIC member countries work under the similar prudential regulatory framework as their conventional banking counterparts, we argue that the existence of Sharia'h Governance Board

may reduce the possibility of bank earning management among Islamic banks. This leads to our second hypothesis:

Hypothesis II: *The nature of bank earnings management in terms of LLP is different for the Islamic banks compared to the conventional banks in OIC countries.*

Empirical literature on accounting standard and earnings management documents that migration from rule-based to principal-based accounting standards can affect managerial discretion in managing earnings in non-financial firms. Between the two types of standards, IFRS or the principal based standard allows for more discretion and at the same requires higher disclosure. Accordingly, firms using IFRS may exhibit higher earning management compared to the local GAAP (Beest, 2009). We extend these findings to banking industry and argue that the difference in accounting standards, whether a rule-based or principal-based, may also affect bank earning management through LLP. Moreover, we argue that banks using IFRS are more prone to bank earning management manifestation. Accordingly, our third hypothesis is:

Hypothesis III: *Bank earning management in terms of LLP is more prominent in banks using IFRS accounting standards, compared to banks using local GAAP and other accounting standards.*

Fonseca and Gonza´lez (2008) document that LLP provisions are significantly different for listed banks compared to the non-listed banks. Managers of listed banks have higher incentive for earning management because banks are under higher regulatory purview and more visible than non-listed banks. We revisit their argument related to the impact of banks listing

status on bank earning management among Islamic and conventional banks in OIC countries. Accordingly our fourth hypothesis is:

Hypothesis IV: *The nature of bank earnings management in terms of LLP is different for the listed banks compared to the not-listed banks in OIC countries.*

3.2 Empirical Specification and Variable Definitions

3.2.1 Country-specific and Bank-specific Control Variables

Empirical studies analyzing bank earning management with multi-country dataset generally control for country-specific variables such as gross domestic product (GDP), per capita GDP, growth rate of per capita GDP, and inflation rates to capture country-specific business cycles (see Chih and Shen (2005), Djankov et. al. (2007), and Fonseca et al. (2008)). Bank asset size and net income are two frequently cited control variables are also used in the bank earning management literature. We include both the bank-specific and country-specific control variables in our analysis. Besides, throughout our analysis, we include yearly fixed effects to account for any systematic differences in LLP across years and country fixed effects to account for potential unobserved heterogeneity. Table 1 provides a brief summary of description of the variables and their sources.

[Insert Table 1 here]

3.2.2 Empirical Specification

Equation (1) presents the generic specification of the empirical model used most frequently in the bank earning literature (Ahmed et al. (1999), Wahlen, J. (1994), and Ghosh (2007), among others). Equation (1) holds loan loss provision (LLP) as the dependent variable:

$$LLP_{i,t} = \gamma_0 + \gamma_1 LLP_{i,(t-1)} + \gamma_2 EBTP_{i,t} + \gamma_3 CRAR_{i,(t-1)} + \gamma_4 \Delta EBTP_{i,(t-1)} + \gamma_5 Bank\ Controls_{i,(t-1)} + \gamma_6 Country\ Controls_{i,(t-1)} + \varepsilon_{it} \quad (1)$$

where i=1,2,…,N and t=1,2,…T are indices of the cross-section and time series dimension, respectively. Bank managers are required to classify delinquent loans in different categories and set aside provisions based on the level of default risk before they can classify and write-off a loan as bad and loss. So, because of the nature of prudential regulations and the risk matrix, LLP is generally auto-correlated and accordingly we use the first lag of LLP as an explanatory variable in Equation (1). Operating profit, measured by earning before tax and provision (EBTP), is expected to have a positive effect on LLP if the income smoothing explanation holds. Tier-II capital requirement (CRAR) captures the capital management motive and is expected to affect LLP negatively. The change in earning before tax and provision (EBTP) is expected to be positive if bank managers implicitly use LLP as a signal of future earnings.

We utilize Equation (1) to test the three hypotheses that are pivotal for our analysis. *In Hypothesis II*, we argue that because of the additional supervision imparted by the Sharia'h Governance, bank earning management in terms of LLP may be less prominent for the Islamic banks compared to the conventional banks. To analyze Hypothesis II, we conduct two separate

estimation of the equation (1); one for conventional bank sub-sample and another for Islamic bank sub-sample.

Hypothesis III argues that for different types accounting standards, i.e., rule versus principal based accounting standards, managerial discretion in terms of LLP may differ. To analyze *Hypothesis III*, we conduct two separate estimation of the equation (1); one for local GAAP bank sub-sample and another for IFRS bank sub-sample.

Hypothesis IV argues that, for different types of listing status, i.e. banks being listed or not-listed, managerial discretion in terms of LLP may vary. To analyze Hypothesis IV, we conduct two separate estimation of the equation (1); one for listed bank sub-sample and another for non-listed bank sub-sample.

3.3 Econometric Techniques

Our final sample comprises an unbalanced panel data with 2078 yearly observations for 291 unique banks from BankScope database for a sample period of eight years from 2003 to 2010. In our model specification, dependent variable is LLP and the model includes first order lag of LLP as one of the explanatory variables. Under these circumstances, the model becomes dynamic and the assumptions of strict erogeneity of the repressors of panel estimations no longer hold. Besides, the Least Square Dummy Variable (LSDV) estimates may no longer be consistent when T is small and N is large as is this dataset. Given these situation, a probable alternative is using the Arellano and Bond (1991) two-stage generalized least squared (GLS) approach of Dynamic Panel GMM estimation which provides unbiased and consistent estimation. We use the Arellano and Bond (1991) approach with White-corrected standard errors.

Besides, we use different combinations of country control variables so that the estimations of interest variables are robust of selection of control variables. We use separate sub-sample estimation for different typology of banks; like: IFRS vs Local GAAP banks, Conventional vs Islamic banks, and listed vs non-listed banks rather using one single nested model to avoid the confusion of interpretation as selecting on single unique base case scenario is difficult as data becomes segmented.

4. DATA AND DESCRIPTIVE STATISTICS

4.1 Sample selection criteria

Initially, we begin with a 16 years sample from 1996 to 2011 with 1574 unique banks from 56 OIC member countries. However, for a bank to be included in our analysis, we require banks to report loan loss provisioning, total asset size, their listing status, areas of specialization being Islamic or conventional, earnings before tax and provision, Tire-I capital ratio. In addition, we collected information on nominal GDP, nominal per capita GDP, and growth in GDP from IMF's World Economic Outlook database. Besides, we also obtained country variables as mentioned in an LLSV (1998) study from the LLSV website for the matching countries. Our final sample comprises 2078 yearly observations for 291 unique banks from BankScope database for a sample period of eight years from 2003 to 2010 covering 35 OIC member countries with matching country variables. Table 2 reports the descriptive statistics of the bank sample.

[Insert Table 02 about here]

4.2 Sample distribution: Bank specialization, accounting practices and listing status

Our sample includes 245 conventional commercial banks and 46 Islamic banks comprising 1,789 and 289 bank year observations, respectively. Panels A and B in Table 2 summarize the bank characteristics of Islamic and conventional banks in terms of accounting practices and bank listing status. Panel A shows that almost half of the banks in both Islamic and conventional banking sample use IFRS accounting standard, while the remaining banks follow local GAAP. More concretely, 154 (52.92%) banks use local GAAP, and the remaining 137 (47.08%) banks use IFRS accounting standard. Distributions of bank years for Islamic and conventional banks in terms of accounting practices are also almost equally divided.

Panel B reports the bank listing status of Islamic and conventional banks. As can be seen, 165 (56.7%) out of 291 banks are listed, while the remaining 126 banks are not-listed. In terms of bank years, the overall contribution of listed bank is 58.08% (1,207 bank years) compared to not-listed banks with 41.92% (871 bank years).

Panel C in Table 2 shows that bank observations are almost evenly distributed across the years. However, the 2003 and 2004 period have a relatively lower number of observations compared to other years. Panel D summarizes the distribution of Islamic and conventional commercial banks across the OIC member countries included in the sample. Out of 35 member countries in the sample, 12 countries (Bahrain, Bangladesh, Jordan, Kuwait, Malaysia, Pakistan, Qatar, Saudi Arabia, Syria, Turkey, the United Arab Emirates and Yemen) have both Islamic banks and conventional banks operating simultaneously. Iran is the only country to have only Islamic banks and no conventional banks at all. However, our sample includes only one bank in Iran that fulfills the data sufficiency requirements. The other 22 OIC member countries included in the sample comprise of only conventional banks.

4.3 Bank characteristics: Bank specialization, accounting practices and listing status

Panel A of Table 3 reports the summary statistics of important bank variables in the overall sample. Panels B, C and D provide more insights on bank characteristics by presenting and comparing descriptive statistics for Islamic versus conventional banks, banks using IFRS versus banks using local GAAP, and listed versus not-listed banks.

[Insert Table 03 about here]

Panel B of Table 3 shows that both Tier-I and total regulatory capital are significantly higher for Islamic banks compared to conventional banks. However, Islamic banks are significantly different and smaller in asset size compared to conventional banks. However, the standard deviation of asset size of conventional banks is more widely dispersed than Islamic banks. Although the LLP ratio is significantly higher for conventional banks, there is no significant difference in any of the three profitability ratios: EBTP to asset ratio, ROAA and ROAE.

Panel C shows that LLP ratio, Tier-1 regulatory capital ratio and total regulatory capital ratios are significantly lower for not-listed banks compared to listed banks. However, listed banks are, on average, larger in asset size and higher in ROAA and ROAE. The results in Panel D suggest that banks using IFRS accounting standards generally have larger total asset size, have higher LLP, regulatory capital ratios and ROAA, but otherwise have lower ROAE.

[Insert Table 5 about here]

In Table 5, we report the Pearson correlation coefficients for the overall sample without differentiating for banks specialization, listing status or the use of accounting standards. The results show that Tier-1 regulatory capital ratio and total regulatory capital ratio are strongly correlated. Accordingly, in our empirical specification we include either of the two variables as a proxy for capital management. Total asset size exhibits a significantly negative correlation with regulatory capital ratios and the LLP ratio; besides, both capital ratios are negatively correlated with LLP ratio.

4.4 Country Macro-economic controls and Financial Controls

Table 4 reports the descriptive statistics of the country control variables for the OIC member countries for the period 2003–2010. We use three macro-economic control variables: a) GDP per capita, b) GDP growth rate and c) inflation. In addition, we include corruption indexes collected from LLSV (1998) as an indicator for governance.

Panel A of Table 4 summarizes the descriptive statistics for the country variables. Among the OIC member countries, there is a large variation in terms of GDP and per capita GDP values. The maximum 730.318 billion USD GDP value is represented by Turkey in 2008, while the lowest GDP figure stands at 0.985 billion USD for Sierra Leone in 2003. Panel B presents more detailed distribution of country GDP figures over the years. The high standard deviation of 136.078 points to the presence of large variation in the sample. Another interesting point to observe from Panel B is the increasing level of dispersion of the GDP figure from 2003 to 2010. Such results support to the assertion that poor countries are failing to catch up with the growth

potentials of other emerging and developing countries. Results from panel C also support such argument.

For other variables, such as, GDP per capita, per capita GDP growth and inflation rate, similar variation is notable. Against a 76,435 USD per capita GDP of Qatar in 2008, the figure is merely 208 USD for Sierra Leone in 2003. Such large variations in country control variables justify the selection of country specific effects in the regression equations as discussed below.

5. EMPIRIC EVIDENCE

5.1 Loan Loss Provisioning in OIC member countries

Table 6 presents the Panel GMM estimation of equation (1) for the overall OIC bank sample without differentiating the bank classification and provides empiric evidence for the banks in general. Among the three core arguments of earning management: *Income Smoothing, Signaling Hypothesis and Capital Management hypothesis*, we fail to find supporting evidence in favor of any of the arguments for the overall OIC bank sample.

Income Smoothing Hypothesis suggests that bank managers tend to set aside higher LLP during the good times and accordingly LLP is positively related with EBTP. For the overall OIC bank sample, we fail to find evidence supporting income smoothing hypothesis as coefficient estimates of EBTP are not significant in any case. *Signaling Hypothesis* suggests that managers may use LLP as a signal of higher supervision and hence LLP is positively related with change in CHANGEEBTP. However, results in Table 6 suggest rather negative but significant coefficient estimates for CHANGEEBTP. *Capital Management Hypothesis* argues that managers tend to use LLP as part of Tire I capital requirement during capital shortfalls and hence

negatively related with TIREONEREGCAP. Although the coefficient of estimates of TIREONEREGCAP are negative as expected but they are statistically insignificant; so we fail to conclude.

[Insert Table 6 about here]

5.2 Bank specialization and LLP: Islamic Banks versus Conventional Banks

Table 07 reports the Arellano and Bond (1991) Panel GMM estimation of equation (1) for the two sub-samples of the overall OIC bank sample: a) a sub-sample comprising conventional banks only, and b) a sub-sample comprising only Islamic banks.

Among the three core arguments of earning management: *Income Smoothing, Signaling Hypothesis and Capital Management hypothesis*, we find supporting evidence in favor of Income smoothing for both conventional banks and Islamic banks as the coefficient estimates for EBTP is generally significant at 5% for most of the specifications for both the conventional and Islamic banks. Besides, we find supporting evidence of signaling argument for the Islamic banks as the CHANGEEBTP coefficients are positively related with LLP and statistically significant at 5%. However, for the conventional banks, there is no significant evidence supporting the signaling argument. For both, conventional and Islamic banks, we find so significant evidence supporting Capital management argument as the coefficient estimates for TIREONEREGCAP are negative and insignificant for conventional banks and positive and significant for the Islamic banks.

[Insert Table 7 about here]

5.3 Accounting Standards and Loan Loss Provisioning

Table 08 reports the Arellano and Bond (1991) Panel GMM estimation of equation (1) for the two sub-samples of the overall OIC bank sample: a) a sub-sample comprising Local GAAP banks only, and b) another sub-sample comprising IFRS banks only.

Among the three core arguments of earning management: *Income Smoothing, Signaling Hypothesis and Capital Management hypothesis*, we find strong supporting evidence in favor of Income smoothing and capital management explanations for banks using IFRS accounting standards as EBTP coefficients are positive and significant and TIREONEREGCAP coefficients are negative and significant for the majority of the specifications.

However, for the local GAAP practicing banks, there are weak evidence in favor of income smoothing and capital management arguments as EBTP coefficients are positive and significant and TIREONEREGCAP coefficients are negative and significant for the majority of the specifications. For both local GAAP and IFRS using bank samples, we find no significant evidence in favor of signaling explanation that argues LLP to be positively related with Change in EBTP.

To summarize, our finds are consistent with the findings by Beest (2009) for non-financial firms in the EU dataset. Results are supportive of the argument that IFRS accounting standard being a more principle-based system requires higher accounting disclosure and allows more managerial discretion.

[Insert Table 8 about here]

5.4 Bank Listing Status and Loan Loss Provisioning

Table 09 reports the Arellano and Bond (1991) Panel GMM estimation of equation (1) for the two sub-samples of the overall OIC bank sample: a) a sub-sample comprising listed banks only, and b) another sub-sample comprising non-listed banks only.

Among the three core arguments of earning management: *Income Smoothing, Signaling Hypothesis and Capital Management hypothesis*, we find strong supporting evidence in favor of Income smoothing for both the listed and non-listed banks as EBTP coefficients are positive and significant. For the other two explanations, we find no significant evidence as change in EBTP is other negative and significant contrary to the signaling argument and TIREONEREGCAP coefficients are negative but significant for both types of banks.

[Insert Table 9 about here]

6. CONCLUSION

Panel regression estimates for the overall sample provides few insights in terms of the bank managers in OIC member countries, in general. However, once the banks in the OIC sample are classified into conventional-vs-Islamic banks, local GAAP-vs-IFRS banks and listed-vs-non-listed banks categories, such classifications provide more insight about managerial motives in earning management in the sample banks.

Among the three core arguments of earning management: *Income Smoothing, Signaling Hypothesis and Capital Management hypothesis*, we find supporting evidence in favor of Income smoothing for both conventional banks and Islamic banks. Besides, we find supporting evidence of signaling argument for the Islamic banks.

In our hypothesis, we argue that bank managers in Islamic banks may be subjected to monitoring by the additional layer of governance structure, the Sharia'h board and accordingly, Islamic banks may exhibit less evidence for earnings management. However, we find contrary evidence as the earning management behaviors are not much different between Islamic and conventional banks. One may argue that such findings can be consistent with the prevailing common regulatory and frameworks in different jurisdiction as few countries provide separate legal and regulatory environment for the Islamic banks only.

We find strong supporting evidence in favor of Income smoothing and capital management explanations for banks using IFRS accounting standards as EBTP coefficients are positive and significant and TIREONEREGCAP coefficients are negative and significant for the majority of the specifications. However, for the local GAAP practicing banks, there are weak evidence in favor of income smoothing and capital management arguments. Results are generally supportive of our arguments and suggest that banks using IFRS may exhibit significant evidence of earnings management.

The impact of bank listing on earning management behavior for the given OIC member country sample is rather ambiguous. While extant literature suggests publicly traded and listed banks exhibiting more signs of earnings management compared to non-listed banks, instead we find conflicting empirical evidence. We find strong supporting evidence in favor of Income smoothing for both the listed and non-listed banks as EBTP coefficients are positive and significant. For the other two explanations, we find no significant evidence as change in EBTP is other negative and significant contrary to the signaling argument and TIREONEREGCAP coefficients are negative but significant for both types of banks.

Although we do not argue or provide any further analysis behind this conflicting result, we acknowledge that there is scope of further research on the impact of bank listing status on earning management behavior in OIC member countries.

REFERENCE

_____, 2011, An AICPA Backgrounder, International Financial Reporting Standards (IFRS), American Institute of CPAs

Ahmad, M. M., and D. Pandey (2010), Are Islamic banks better immunized than Conventional banks in the current economic crisis? 10th Global Conference on Business & Economics, October 15-16, 2010, Rome, Italy

Ahmed, A.S., Takeda, C. and S. Thomas, 1999, Bank loan loss provisions: A reexamination of capital management, earnings management and signaling effects, Journal of Accounting Economics 28, 1-25

Anandarajan, A., Hasan, I and A. Lozano-Vivas, 2003, The role of loan loss provisions in earnings management, capital management, and signaling: The Spanish experience, Advances in International Accounting, 16: 43-63

Addawe, S. (2012), What are the impacts of the global financial crisis on Islamic banking system and how Islamic bank spared from the crisis? Department of Accounting, Aalto University, School of Economics

Balla, E., and A. McKenna, 2009, Dynamic Provisioning: A Countercyclical Tool for Loan Loss Reserves, Economic Quarterly—Volume 95, Number 4—Fall 2009—Pages 383–418

Bartov, E., S. Goldberg, and M. Kim, 2004, Comparative Value Relevance among German, U.S. and International Accounting Standards: A German Stock Market Perspective. Working paper, New York University

Beaver, W. H., and E. E. Engle, 1996, Discretionary behavior with respect to allowance for loan losses and the behavior of securities prices, Journal of Accounting and Economics, 22, August-December, pp. 177-206

Beest, F. V., 2009, Rules-Based and Principles-Based Accounting Standards and Earnings Management, Nijmegen Center for Economics (NiCE) Working Paper 09-114, December 2009, Institute for Management Research, Radboud University Nijmegen, The Netherlands, http://www.ru.nl/nice/workingpapers

Bouvatier, V. and L. Lepetit, 2006, Banks' procyclicality behavior: does positioning matter? Centre d'Economie de la Sorbonne Working Paper 2006.35

Bouvatier, V., and Lepetit, L., 2008, Banks' pro-cyclical behavior: Does provisioning matter? Journal of International Financial Markets, Institutions and Money, Volume 18, Issue 5, December 2008, Pages 513–526

Bouvatier, V., and L. Lepetit, 2010, Effects of loan loss provisions on growth in bank lending: some international comparisons, August 2010

Capkun, V., A. C. Jeny, T. Jeanjean, L. A. Weiss, 2010, Setting the Bar: Earnings Management during a Change in Accounting Standards, Financial Reporting ESSEC-KPMG Centre, Working Paper, September 30, 2010

Chih, H. L., and Shen, C.H., 2005, Investor protection, prospect theory, and earnings management: An international comparison of the banking industry. Journal of Banking and Finance, 29 (2005) 2675–2697

Cortavarria, L., Dziobek, C., Kananya, A., Song, I., 2000. Loan Review, Provisioning, and Macroeconomic Linkages, IMF Working Paper no. 00/195.

Das, A., and S. Ghosh, 2007, Determinants of credit risk in Indian state-owned banks: An empirical investigation" Economic Issues 12, 27-46

Djankov, S., C. McLiesh, and A. Shleifer, Private credit in 129 countries, Journal of Financial Economics 84 (2007) 299–329

Ghayad, R. (2008). ‗Corporate Governance And The Global Performance Of Islamic Banks'.

Humanomics, 24(3), pp. 207-216.

Ghosh, S., 2010, Provisioning, bank behavior and financial crisis: Evidence from GCC banks, working paper.

Greenawalt, M.B. and J.F. Sinkey, 1988, Bank loan-loss provisions and the income-smoothing hypothesis: An empirical analysis, 1976-1984, Journal of Financial Services Research 1, 301-318.

Healy, P.M. and Wahlen, J.M., 1999, A review of the earnings management literature and its implications for standard setting. Accounting Horizons, 13 (4), 365-383.

Hung, M. and K.R. Subramanyam. 2004. Financial Statement Effects of Adopting International Accounting Standards: The Case of Germany, Working paper, University of Southern California

Karim, R.A.A. (1990). ‗The Independence of Religious and External Auditors: The Case Of

Islamic Banks'. Accounting, Auditing and Accountability, 3(3), pp. 34-44.

Kim, M.S. and W. Kross, 1998, The impact of the 1989 change in bank capital standards on loan loss provisions and loan write-offs, Journal of Accounting and Economics 25, 69-99

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 1997, Legal determinants of external finance. Journal of Finance 52, 1131–1150

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 1998, Law and finance. Journal of Political Economy 106, 1113–1155

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 1999, The quality of government. Journal of Law, Economics and Organization 15, 222–279

Leuz, C., Nanda, D., Wysocki, P.D., 2003, Investor protection and earnings management: An international comparison. Journal of Financial Economics 69 (3), 505–527

Misman, F. N. and W. Ahmad (2011), Loan Loss Provisions: Evidence from Malaysian Islamic and Conventional Banks, International Review of Business Research Papers Vol. 7. No.4. July 2011 pp. 94-103

Othman, H. B., and H. Mersni (2012), The use of discretionary loan loss provision by Islamic banks and conventional banks in the Middle East region: A comparative study, International Conference on Excellence in Business, Sharjah, United Arab Emirates, 09-10 May 2012

Pérez, D., V. Salas-Fumás, J. Saurina, 2006, Earnings and Capital Management in Alternative Loan Loss Provision Regulatory Regimes, Bank of Spain Working Paper, February 2006

Pérez, D., V. Salas-Fumás, and J. Saurina, 2011, Do dynamic provisions reduce income smoothing using loan loss provisions? Bank of Spain, Working Paper 1118, 2011, Electronic copy at: http://ssrn.com/abstract=1926668

SECURITIES AND EXCHANGE COMMISSION RELEASE NOS. 33-9109; 34-61578, Commission Statement in Support of Convergence and Global Accounting Standards, sec.gov/rules/other/2010/33-9109.pdf

Shleifer, A., and W. Vishny, 2009, Unstable Banking, Journal of Financial Economics, 97: 306-318.

Wahlen, J., 1994, The nature of information in commercial bank loans loss disclosures, The Accounting Review (July): 455-478

Warde, I. (1998). The Role of Shari'ah Boards: A Survey. San Francisco: IBPC Working

Papers.

Table 1
Variable Description and Data source

	Variable Name	Variable Description	Source	Expected Signs
1. Dependent Variable:				
	LLP	Ratio of Loan Loss Provision over lag total assets	Bank Scope	
2. Bank Characteristics variables				
	LLP (-1) & (-2)	Lags of the dependent variable	”	+ ve
	CRAR	Required Tier I capital	”	- ve for capital management
	EBTP	Earnings Before Tax and Profit normalized to lag total assets	”	+ ve for income smoothing
	ΔEBTP	change in Earnings Before Tax and Provisioning normalized to total assets	”	+ ve for signalling
3. Bank Specialization Variable				
	ISLAMIC	is dummy variable with 1 if a bank is Islamic and zero otherwise for a conventional bank		Opposite/ not significant
	and Interaction of “ISLAMIC” Dummy with interest variables			
4. Accounting Standard Variable				
	IFRS	is dummy variable with 1 if a bank uses a principle based or IFRS accounting standard, zero otherwise		Opposite/ not significant
	and Interaction of PrincipleDummy with interest variables			
5. Bank Listing Status				
	LISTED	is a dummy variable with 1 if a bank is listed and zero otherwise for a not-listed bank		Significant
Country Specific Control Variables				
A. Macro Control variables				
	GDPGR	real growth in per capita GDP	IMF	
	GDP	real GDP in billion dollar	IMF	
	Inflation		IMF	
B. Regulatory control variables				
	DISCLOSURE	accounting disclosure index	*La Porta et al. (1998)*	
	RESTRICT	measure of regulatory restrictions on bank activities	*Barth et al. (2001)*	
	OFFICIAL	measures the power of official bank supervision	”	
	MONITOR	an index of private bank monitoring	”	
	STRUCT	measures market-orientation of the financial system	”	
C. Legal control variables				
	LEGAL	measure of legal enforcement	*La Porta et al. (1998)*	
	ANTIDIRECTOR	measure of protection of minority shareholders	”	
	CREDITOR	measures creditor rights	”	
	LegalDummy	a set of five dummies capturing five country legal origin, as alternate to LEGAL index	”	
Other Fixed Effects				
	Country FE			
	Year FE			
	Bank FE			

La Porta et al. (1998) and Barth et al. (2001) provide points in time estimates of the variables that are generally constant over time. However, La Porta et al (2008) provides an update on La Porta et al (1998) indices.

Table 2
Composition of Sample

Panel A and B of Table 02 summarize the composition of the sample in terms of distribution of banks and bank years; a) by bank specialization and accounting standard; and b) by specialization and listing status. Conventional banks refer to commercial banks and bank holding companies as defined in BankScope database that are not otherwise Islamic banks. Listed banks refers to banks listed with major stock exchange and Not Listed banks include otherwise non-listed and delisted banks. Panel C presents distribution of bank years across sample period 2003 to 2010. Finally, Panel D summarizes the distribution of banks by specialization among the 35 OIC (Organization of Islamic Conference) countries.

Panel A: Sample composition by Bank Specialization and Accounting Standard

Distribution of Banks				Distribution of Bank Years			
	Accounting Standard				Accounting Standard		
Specialization	IFRS	Others	Total	Specialization	IFRS	Others	Total
Conventional Banks	116	129	245	Conventional Banks	847	942	1789
	(39.86%)	(44.33%)	(84.19%)		(40.76%)	(45.33%)	(86.09%)
Islamic Banks	21	25	46	Islamic Banks	140	149	289
	(7.22%)	(8.59%)	(15.81%)		(6.74%)	(7.17%)	(13.91%)
Total	137	154	291	Total	987	1091	2078
	(47.08%)	(52.92%)	(100%)		(47.5%)	(52.5%)	(100%)

Panel B: Sample composition by Bank Specialization and Listing Status

Distribution of Banks				Distribution of Bank Years			
	Listing Status				Listing Status		
Specialization	Listed	Not Listed	Total	Specialization	Listed	Not Listed	Total
Conventional Banks	144	101	245	Conventional Banks	1062	727	1789
	(49.48%)	(34.71%)	(84.19%)		(51.11%)	(34.99%)	(86.09%)
Islamic Banks	21	25	46	Islamic Banks	145	144	289
	(7.22%)	(8.59%)	(15.81%)		(6.98%)	(6.93%)	(13.91%)
Total	165	126	291	Total	1207	871	2078
	(56.7%)	(43.3%)	(100%)		(58.08%)	(41.92%)	(100%)

Table 2
Composition of Sample (*Continued*.)

Panel C: Distribution of Bank Years by Year

Sl.	Year	No. of Banks	% of Total Bank Years
1	2003	200	9.62 %
2	2004	212	10.20 %
3	2005	243	11.69 %
4	2006	275	13.23 %
5	2007	291	14.00 %
6	2008	289	13.91 %
7	2009	290	13.96 %
8	2010	278	13.38 %
	Total	2078	100.00 %

Panel D: Bank Specialization by Countries

Sl.	Country Name	Conventional Banks	Islamic Banks	Total	Sl.	Country Name	Conventional Banks	Islamic Banks	Total
1	Afghanistan	1	0	1	19	Mozambique	2	0	2
2	Algeria	1	0	1	20	Niger	1	0	1
3	Azerbaijan	13	0	13	21	Nigeria	6	0	6
4	Bahrain	8	7	15	22	Oman	6	0	6
5	Bangladesh	17	1	18	23	Pakistan	21	5	26
6	Benin	1	0	1	24	Qatar	5	3	8
7	Bosnia-Herz	2	0	2	25	Saudi Arabia	9	2	11
8	Egypt	1	0	1	26	Sierra LEON	1	0	1
9	Guyana	1	0	1	27	Suriname	1	0	1
10	Indonesia	30	0	30	28	Syria	4	1	5
11	Iran	0	1	1	29	Tajikistan	1	0	1
12	Jordan	10	3	13	30	Togo	1	0	1
13	Kazakhstan	14	0	14	31	Turkey	17	3	20
14	Kuwait	5	3	8	32	Uganda	12	0	12
15	Lebanon	7	0	7	33	United Arab Emirates	13	5	18
16	Malaysia	23	11	34	34	Uzbekistan	5	0	5
17	Maldives	1	0	1	35	Yemen	2	1	3
18	Morocco	3	0	3					
						Total	245	46	291

Table 3

Descriptive Statistics

Panel A of Table 03 reports the descriptive statistics for the overall bank sample for the period of 2003 to 2010. **LLPtoAvgAss** is the Loan Loss Provisioning normalized to Total Asset size, **EBTPtoTotAsstRatio** refers to Earnings before Tax and Provision normalized to Total Asset. **Tier1 RegCapRatio** and **TotRegCapRatioa** are Tire I Regulatory capital and Total Regulatory Capital respectively, both normalized to Risk Weighted Asset. **TotAsstMillUSD** is the Total Asset Size in Million USD. ROA is Return of Average Asset and ROAE is Return on Average Equity.

Later, Panel B, C and D present descriptive statistics for a) Islamic versus Conventional Banks, b) Listed versus Not-Listed Banks, and c) Banks using IFRS Accounting standards versus Banks using Local GAAP, and Welch t-statistics of the difference in mean at the rightmost column. (***), (**) and (*) refer to 1%, 5% and 10% level of significance based on two-tailed test statistics.

Panel A: Overall Sample

	Mean	Std. Dev.	Median	No. Bank Year
LLPtoAvgAss	80.29	145.39	48.53	2078
EBTPtoTotAsstRatio	2.90	2.76	2.67	2078
Tier1 RegCapRatio	18.18	17.80	14.40	2078
TotRegCapRatio	20.74	17.91	16.52	2078
TotAsstMillUSD	7557.52	13337.20	1894.11	2078
ROAA	1.56	4.37	1.58	2078
ROAE	14.17	34.13	14.76	2078

Panel B: Islamic Bank vs. Conventional Bank

	Islamic Banks				Conventional Banks				
	Mean	Std. Dev.	Median	No. Bank Year	Mean	Std. Dev.	Median	No. Bank Year	Welch t-stat
LLPtoA vgAss	57.61	92.97	48.08	289	79.71	149.84	48.83	1789	-3.82
EBTPtoTotAsstRatio	2.64	4.72	2.46	289	2.77	2.34	2.71	1789	-0.45
Tier1RegCapRatio	21.57	30.26	17.29	289	14.64	14.79	14.06	1789	3.82
TotRegCapRatio	22.64	29.87	18.00	289	18.03	15.53	16.28	1789	2.55
TotAsstMillUSD	4836.01	7991.80	2094.70	289	7997.16	13964.88	1836.95	1789	-6.24
ROAA	1.49	7.01	1.50	289	1.56	3.78	1.58	1789	-0.17
ROAE	14.58	56.51	11.29	289	14.04	28.97	15.07	1789	0.16

Table 3

Descriptive Statistics (*Continued.*)

Panel C: Listed Banks vs. Not Listed Banks

	Listed Banks				Not Listed Banks				
	Mean	Std. Dev.	Median	No. Bank Year	Mean	Std. Dev.	Median	No. Bank Year	Welch t-stat
LLPtoAvgAsst	68.88	109.07	45.92	1207	87.53	179.42	52.63	871	-4.32
EBTPtoTotAsstRatio	2.72	2.19	2.76	1207	2.79	3.40	2.46	871	-0.61
Tier1 RegCapRatio	13.51	10.52	13.66	1207	18.50	24.04	15.82	871	-7.17
TotRegCapRatio	16.34	10.73	15.84	1207	21.91	24.59	17.96	871	-6.93
TotAsstMillUSD	9986.57	15221.64	3493.62	1207	4191.43	9173.77	777.97	871	12.58
ROAA	1.65	3.50	1.67	1207	1.42	5.34	1.41	871	1.97
ROAE	14.98	20.49	16.05	1207	12.90	46.77	12.50	871	2.83

Panel D: Banks with IFRS standard vs. Other standards

	Banks with IFRS Standard				Banks with Other Standards				
	Mean	Std. Dev.	Median	No. Bank Year	Mean	Std. Dev.	Median	No. Bank Year	Welch t-stat
LLPtoAvgAss	82.65	155.21	46.04	987	71.31	131.02	51.01	1091	2.10
EBTPtoTotAsstRatio	3.04	3.04	2.87	987	2.49	2.45	2.44	1091	4.47
Tier1 RegCapRatio	16.54	16.49	15.48	987	14.75	18.65	12.80	1091	2.60
TotRegCapRatio	19.40	16.79	17.66	987	18.02	19.20	15.43	1091	1.79
TotAsstMillUSD	8079.94	12575.96	2461.50	987	7084.91	13985.01	1461.78	1091	2.19
ROAA	1.97	4.92	1.92	987	1.18	3.76	1.34	1091	4.92
ROAE	12.80	32.32	14.54	987	15.30	35.57	14.97	1091	-2.22

Table 4

Descriptive Statistics of Country Control Variables

Panel A of Table 04 reports the descriptive statistics for the country control variables for the OIC member countries for the period of 2003 to 2010. We use three macro-economic control variables; a) Per Capita GDP, b) GDP Growth and c) Inflation. However, we also present the descriptive statistics of GDP. Per Capita GDP is in Dollar value, while GDP values are in Billion Dollar in current price. GDP Growth and Inflation are in percentile. Besides that we also use corruption index collected from LLSV website as a control for governance. Panel A of Table 04 reports the descriptive statistics for overall sample. Panel B, C, D and E respectively reports the descriptive statistics for GDP in current price, Per Capita GDP, Per Capita GDP Growth, and Inflation.

	Panel A: Overall				
	GDP	Per Cap GDP	Per Cap GDP Gr	Inflation	corrupt
Max	730.318	76,435.367	57.027	26.757	0.847
Min	0.985	208.204	-35.258	-12.241	-1.277
Mean	92.388	7,218.688	12.150	7.046	-0.348
Std. Dev.	136.078	12,849.586	12.223	5.352	0.572
N	269	269	269	269	269

Table 4

Descriptive Statistics of Country Control Variables

Panel B: GDP in Current Price in Million Dollar

	2003	2004	2005	2006	2007	2008	2009	2010
Max	303.262	392.206	482.685	529.187	649.125	730.318	614.466	729.051
Min	0.985	1.066	1.214	1.423	1.054	1.260	1.307	1.433
Mean	55.454	64.515	72.535	85.679	98.749	119.197	108.212	125.545
Std. Dev.	76.532	91.239	106.573	122.087	144.148	167.550	149.843	179.725
N	30	31	34	34	35	35	35	35

Panel C: Per Capita GDP

	2003	2004	2005	2006	2007	2008	2009	2010
Max	32787.508	41626.129	48443.916	58072.986	65853.896	76435.367	59989.820	74422.604
Min	208.204	216.340	237.636	270.012	306.960	351.066	325.663	324.996
Mean	4817.415	5513.209	6021.512	7093.547	7902.212	9482.648	7684.804	8658.423
Std. Dev.	7884.419	9395.085	10764.023	12914.131	14242.727	16745.354	12937.509	15109.397
N	30	31	34	34	35	35	35	35

Panel D: Per Capita GDP Growth

	2003	2004	2005	2006	2007	2008	2009	2010
Max	28.514	38.736	50.887	57.027	55.670	40.832	19.695	27.210
Min	-8.792	-5.008	0.326	2.184	5.376	9.674	-35.258	-5.003
Mean	11.859	14.563	14.796	15.375	16.675	21.040	-6.022	9.318
Std. Dev.	8.416	8.357	9.736	10.610	9.001	7.416	13.372	8.130
N	30	31	34	34	35	35	35	35

Panel E: Inflation

	2003	2004	2005	2006	2007	2008	2009	2010
Max	25.338	16.693	17.114	15.313	22.500	26.757	13.139	16.514
Min	-1.497	0.282	0.517	0.362	0.942	4.229	-12.241	0.450
Mean	6.243	5.962	6.928	7.105	8.196	11.880	3.890	5.920
Std. Dev.	7.228	4.456	3.911	3.523	5.049	5.689	5.089	3.797
N	30	31	34	34	35	35	35	35

Table 5

Pearson Correlation Analysis

Table 05 presents the Pearson correlation matrix for the major explanatory variables; a) Loan Loss Provisioning normalized to Total Asset (LLP), b) Earnings before Tax and Provision normalized to Total Asset (EBTPtoTOTAssetRatio), c) Tire I Regulatory Capital normalized to Risk-weighted asset (TIREONEREGCAP), d) Total Regulatory Capital normalized to Risked-weighted asset (TOTREGCAPRATIO), and e) Total Asset of Banks (TOTASSTTHOUUSD) as Bank specific control variable. Correlation between the pairs of variables are reported along with their probability i.e. p-values within the parenthesis.

Probability	LLP	EBTPtoTOTAssetRatio	TIREONEREGCAP	TOTREGCAPRATIO	TOTASSTTHOUUSD
LLP	1				

EBTPtoTOTAssetRatio	0.0789	1			
	(0.0013)	-----			
TIREONEREGCAP	-0.1402	0.0800	1		
	(0.0000)	(0.0011)	-----		
TOTREGCAPRATIO	-0.1193	0.0971	0.978841	1	
	(0.0000)	(0.0001)	(0.0000)	-----	
TOTASSTTHOUUSD	-0.0835	-0.0454	-0.13048	-0.12124	1
	(0.0007)	(0.0641)	(0.0000)	(0.0000)	-----

Table 6
Panel Regression on LLP for Overall OIC Sample

Table 06 reports Panel Regression results on LLP for the following model for the overall sample:

$$LLP_{i,t} = \gamma_0 + \gamma_1 LLP_{i,(t-1)} + \gamma_2 EBTP_{i,t} + \gamma_3 CRAR_{i,(t-1)} + \gamma_4 \Delta EBTP_{i,(t-1)} + \gamma_5 Bank\ Controls_{i,(t-1)} + \gamma_6 Country\ Controls_{i,(t-1)} + \varepsilon_{it} \quad (1)$$

where, **LLP** is Loan Loss Provisioning normalized to Total Asset, **EBTP** is Earnings before Tax and Provision normalized to Total Asset and **TIREONEREGCAP** is Tire I Regulatory Capital normalized to Risk-weighted asset. CHANGEEBTP is percentage change in EBTP. **TOTASST** is Total Asset of the sample Banks (in thousand dollars) used as Bank specific control variable. **PERCAPGDP**, **PERCAPITAGDPGROWTH** and **INFLATION** are the per capita GDP (Gross Domestic Product) in US Dollar of the country under the sample, their growth in per capita GDP (in percentage) and Inflation rate (in percentage), used as country control variables.

Sample period is 2003 to 2010 with 291 Banks and number of Bank Years. Colum (1) reports Pooled OLS regression with no period or cross-section fixed effects. All estimates are based on Arellano and Bond (1991) dynamic panel GMM procedure with the White-corrected diagonal errors. In column (1) and (4) estimations all three country control variables are included. However, in (2) and (5) percapgdp and inflation are included and in (3) and (6) percapgdp and inflation are included. For each variable, first row represent the coefficient estimate and the latter value in parenthesis represents the p-value.

	(1)	(2)	(3)
	Coefficient	Coefficient	Coefficient
LLP(-1)	0.128	0.085	0.114
	(0.003)	(0.003)	(0.000)
EBTP	0.632	0.969	3.708
	(0.924)	(0.867)	(0.459)
CHANGEEBTP	-1.430	-1.376	-1.405
	(0.000)	(0.000)	(0.000)
TIREONEREGCAP	**-0.822**	**-0.850**	**-0.803**
	(0.139)	**(0.142)**	**(0.137)**

Table 6
Panel Regression on LLP for Overall OIC Sample (*Continued*.)

	(1)	(2)	(3)
	Coefficient	Coefficient	Coefficient
Bank and country controls			
LOG(TOTASST)	8.813	19.984	11.747
	(0.321)	(0.004)	(0.084)
PERCAPGDP	-0.002	-0.003	-0.002
	(0.045)	(0.000)	(0.027)
PERCAPITAGDPGROWTH	-0.841	-	-0.719
	(0.006)	-	(0.003)
INFLATION	0.911	-0.253	-
	(0.396)	(0.773)	-
Year dummies			
Year 2005 dummy	7.541	15.547	8.130
	(0.393)	(0.060)	(0.349)
Year 2006 dummy	9.213	12.155	10.595
	(0.261)	(0.127)	(0.183)
Year 2007 dummy	21.940	20.410	21.842
	(0.033)	(0.043)	(0.029)
Year 2008 dummy	4.811	0.908	3.620
	(0.669)	(0.934)	(0.736)
Year 2009 dummy	-2.110	6.618	0.653
	(0.839)	(0.520)	(0.950)
Year 2010 dummy	-5.145	-1.190	-2.741
	(0.662)	(0.919)	(0.816)
Effects Specification			
Cross-section fixed (first differences) in each equation			
Period fixed (dummy variables) in each equation			
S.E. of regression	169.028	165.205	166.773
J-statistic	23.547	29.891	24.142

Table 7
Panel Regression on LLP: Islamic versus Conventional Banks

Table 07 reports Panel Regression results on LLP for the following model for two sub-sample: one sample comprising conventional banks only and other sample comprising Islamic banks only:

$$LLP_{i,t} = \gamma_0 + \gamma_1 LLP_{i,(t-1)} + \gamma_2 EBTP_{i,t} + \gamma_3 CRAR_{i,(t-1)} + \gamma_4 \Delta EBTP_{i,(t-1)} + \gamma_5 Bank\ Controls_{i,(t-1)} + \gamma_6 Country\ Controls_{i,(t-1)} + \varepsilon_{it} \quad (1)$$

where, **LLP** is Loan Loss Provisioning normalized to Total Asset, **EBTP** is Earnings before Tax and Provision normalized to Total Asset and **TIREONEREGCAP** is Tire I Regulatory Capital normalized to Risk-weighted asset. CHANGEEBTP is percentage change in EBTP. **TOTASST** is Total Asset of the sample Banks (in thousand dollars) used as Bank specific control variable. **PERCAPGDP**, **PERCAPITAGDPGROWTH** and **INFLATION** are the per capita GDP (Gross Domestic Product) in US Dollar of the country under the sample, their growth in per capita GDP (in percentage) and Inflation rate (in percentage), used as country control variables.

All estimates are based on Arellano and Bond (1991) dynamic panel GMM procedure with the White-corrected diagonal errors. For each variable, first row represent the coefficient estimate and the latter value in parenthesis represents the p-value.

	Convent.			Islamic		
	(1)	(2)	(3)	(4)	(5)	(6)
	Co-eff.	Co-eff.	Co-eff.	Co-eff.	Co-eff.	Co-eff.
LLP(-1)	-0.143	-0.139	-0.138	0.191	0.197	0.194
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
EBTP	7.743	**13.869**	**9.844**	**3.110**	**2.634**	**3.142**
	(0.129)	**(0.004)**	**(0.026)**	**(0.007)**	**(0.019)**	**(0.012)**
CHANGEEBTP	-1.513	-1.453	-1.473	**9.612**	**7.599**	**9.867**
	(0.000)	(0.000)	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**
TIREONEREGCAP	-0.444	-0.515	-0.527	**0.217**	**0.245**	**0.222**
	(0.413)	(0.326)	(0.314)	**(0.023)**	**(0.025)**	**(0.018)**

Table 7

Panel Regression on LLP: Islamic versus Conventional Banks (*Continued*.)

	Convent.			Islamic		
	(1)	(2)	(3)	(4)	(5)	(6)
	Co-eff.	Co-eff.	Co-eff.	Co-eff.	Co-eff.	Co-eff.
Bank and country controls						
LOG(TOTASST)	5.601	5.762	5.675	4.201	4.310	4.060
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
PERCAPGDP	-0.001	-0.002	-0.001	-0.001	-0.001	-0.001
	(0.164)	(0.019)	(0.160)	(0.002)	(0.000)	(0.002)
PERCAPITAGDPGROWTH	-1.085	-	-1.014	-0.828	-	-0.878
	(0.000)	-	(0.000)	(0.000)	-	(0.000)
INFLATION	0.780	-0.882	-	-0.350	-1.580	-
	(0.322)	(0.163)	-	(0.058)	(0.000)	-
Year Dummies						
Year 2005 dummy	-8.479	-5.385	-8.653	0.024	0.382	-0.027
	(0.116)	(0.339)	(0.112)	(0.968)	(0.498)	(0.965)
Year 2006 dummy	0.583	0.173	1.447	0.553	0.421	0.585
	(0.914)	(0.975)	(0.787)	(0.180)	(0.196)	(0.168)
Year 2007 dummy	5.444	8.499	4.307	0.657	0.452	0.653
	(0.339)	(0.152)	(0.445)	(0.305)	(0.412)	(0.307)
Year 2008 dummy	-1.717	-2.846	-2.017	0.068	0.476	0.103
	(0.779)	(0.650)	(0.741)	(0.924)	(0.512)	(0.892)
Year 2009 dummy	-0.267	8.687	2.196	-0.250	0.006	-0.272
	(0.965)	(0.112)	(0.684)	(0.689)	(0.992)	(0.718)
Year 2010 dummy	11.048	7.508	10.998	-0.161	0.028	-0.221
	(0.014)	(0.114)	(0.015)	(0.480)	(0.880)	(0.361)
Effects Specification						
Cross-section fixed (first differences)						
Period fixed (dummy variables)						
S.E. of regression	150.045	149.859	149.651	25.806	25.945	25.831
J-statistic	38.393	52.945	39.726	29.777	31.547	29.664

Table 8
Panel Regression on LLP: IFRS Accounting Standard vs. Local GAAP

Table 08 reports Panel Regression results on LLP for the following model for two sub-sample: one sample comprising local GAAP banks only and other sample comprising IFRS banks only:

$$LLP_{i,t} = \gamma_0 + \gamma_1 LLP_{i,(t-1)} + \gamma_2 EBTP_{i,t} + \gamma_3 CRAR_{i,(t-1)} + \gamma_4 \Delta EBTP_{i,(t-1)} + \gamma_5 Bank\ Controls_{i,(t-1)} + \gamma_6 Country\ Controls_{i,(t-1)} + \varepsilon_{it} \quad (1)$$

where, **LLP** is Loan Loss Provisioning normalized to Total Asset, **EBTP** is Earnings before Tax and Provision normalized to Total Asset and **TIREONEREGCAP** is Tire I Regulatory Capital normalized to Risk-weighted asset. CHANGEEBTP is percentage change in EBTP. **TOTASST** is Total Asset of the sample Banks (in thousand dollars) used as Bank specific control variable. **PERCAPGDP**, **PERCAPITAGDPGROWTH** and **INFLATION** are the per capita GDP (Gross Domestic Product) in US Dollar of the country under the sample, their growth in per capita GDP (in percentage) and Inflation rate (in percentage), used as country control variables.

All estimates are based on Arellano and Bond (1991) dynamic panel GMM procedure with the White-corrected diagonal errors. For each variable, first row represent the coefficient estimate and the latter value in parenthesis represents the p-value.

	GAP			IFRS		
	(1)	(2)	(3)	(4)	(5)	(6)
	Co-eff.	Co-eff.	Co-eff.	Co-eff.	Co-eff.	Co-eff.
LLP(-1)	-0.163	-0.156	-0.159	-0.075	-0.087	-0.091
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
EBTP	8.403	7.072	**9.318**	**5.949**	**6.464**	**7.131**
	(0.059)	(0.088)	**(0.039)**	**(0.036)**	**(0.024)**	**(0.014)**
CHANGEEBTP	-1.411	-1.349	-1.376	3.738	1.244	2.155
	(0.000)	(0.000)	(0.000)	(0.086)	(0.468)	(0.254)
TIREONEREGCAP	-0.948	**-1.253**	-0.904	**-0.506**	-0.247	**-0.378**
	(0.055)	**(0.013)**	(0.065)	**(0.406)**	(0.635)	**(0.491)**

Table 8
Panel Regression on LLP: IFRS Accounting Standard vs. Local GAAP (*Continued*.)

	GAP			IFRS		
	(1)	(2)	(3)	(4)	(5)	(6)
	Co-eff.	Co-eff.	Co-eff.	Co-eff.	Co-eff.	Co-eff.
Firm Control and Country Control Variables						
LOG(TOTASST)	4.947	5.883	4.463	4.016	4.695	4.475
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)
PERCAPGDP	-0.001	-0.001	-0.001	0.000	-0.001	0.000
	(0.005)	(0.000)	(0.004)	(0.979)	(0.001)	(0.895)
PERCAPITAGDPGROWTH	-0.521		-0.602	-1.379		-1.246
	(0.052)		(0.002)	(0.000)		(0.000)
INFLATION	-0.851	-1.489		1.585	-0.572	
	(0.473)	(0.029)		(0.030)	(0.364)	
Year Dummies						
Year 2005 dummy	-0.183	2.055	-1.502	0.593	-1.312	-1.925
	(0.955)	(0.497)	(0.608)	(0.878)	(0.729)	(0.592)
Year 2006 dummy	-4.037	-3.918	-3.833	1.468	3.403	3.037
	(0.212)	(0.222)	(0.233)	(0.622)	(0.214)	(0.315)
Year 2007 dummy	5.697	4.505	5.775	4.356	2.461	2.393
	(0.126)	(0.205)	(0.109)	(0.180)	(0.465)	(0.436)
Year 2008 dummy	7.750	7.688	7.436	-1.318	-1.264	0.339
	(0.102)	(0.082)	(0.097)	(0.634)	(0.625)	(0.897)
Year 2009 dummy	-2.658	1.013	-1.452	-3.956	2.368	-2.330
	(0.457)	(0.767)	(0.685)	(0.307)	(0.510)	(0.513)
Year 2010 dummy	2.281	-1.415	2.672	5.387	1.025	4.264
	(0.434)	(0.571)	(0.287)	(0.108)	(0.748)	(0.187)
Effects Specification						
Cross-section fixed (first differences)						
Period fixed (dummy variables)						
S.E. of regression	119.750	119.442	120.033	94.324	95.975	94.101
J-statistic	35.791	45.099	32.545	37.304	45.931	40.285

Table 9

Panel Regression on LLP: Listed versus Non-Listed Banks

Table 09 reports Panel Regression results on LLP for the following model for two sub-sample: one sample comprising conventional banks only and other sample comprising Islamic banks only:

$$LLP_{i,t} = \gamma_0 + \gamma_1 LLP_{i,(t-1)} + \gamma_2 EBTP_{i,t} + \gamma_3 CRAR_{i,(t-1)} + \gamma_4 \Delta EBTP_{i,(t-1)} + \gamma_5 Bank\ Controls_{i,(t-1)} + \gamma_6 Country\ Controls_{i,(t-1)} + \varepsilon_{it} \quad (1)$$

where, **LLP** is Loan Loss Provisioning normalized to Total Asset, **EBTP** is Earnings before Tax and Provision normalized to Total Asset and **TIREONEREGCAP** is Tire I Regulatory Capital normalized to Risk-weighted asset. CHANGEEBTP is percentage change in EBTP. **TOTASST** is Total Asset of the sample Banks (in thousand dollars) used as Bank specific control variable. **PERCAPGDP**, **PERCAPITAGDPGROWTH** and **INFLATION** are the per capita GDP (Gross Domestic Product) in US Dollar of the country under the sample, their growth in per capita GDP (in percentage) and Inflation rate (in percentage), used as country control variables.

All estimates are based on Arellano and Bond (1991) dynamic panel GMM procedure with the White-corrected diagonal errors. For each variable, first row represent the coefficient estimate and the latter value in parenthesis represents the p-value.

	Listed			Nonlisted		
	(1)	(2)	(3)	(4)	(5)	(6)
	Co-eff.	Co-eff.	Co-eff.	Co-eff.	Co-eff.	Co-eff.
LLP(-1)	-0.097	-0.100	-0.088	-0.162	-0.164	-0.159
	(0.008)	(0.005)	(0.014)	(0.000)	(0.000)	(0.000)
EBTP	**5.793**	**5.834**	5.083	**12.983**	**13.417**	**12.984**
	(0.036)	**(0.037)**	(0.064)	**(0.013)**	**(0.007)**	**(0.007)**
CHANGEEBTP	**-10.475**	**-9.505**	**-10.338**	**-1.370**	**-1.364**	**-1.351**
	(0.032)	**(0.047)**	**(0.031)**	**(0.000)**	**(0.000)**	**(0.000)**
TIREONEREGCAP	-0.681	-0.418	-0.763	-0.320	-0.312	-0.400
	(0.442)	(0.578)	(0.414)	(0.383)	(0.381)	(0.249)

Table 9
Panel Regression on LLP: Listed versus Non-Listed Banks (Continued)

	Listed			Nonlisted		
	(1)	(2)	(3)	(4)	(5)	(6)
	Co-eff.	Co-eff.	Co-eff.	Co-eff.	Co-eff.	Co-eff.
Firm Control and Country Control Variables						
LOG(TOTASST)	5.577	5.798	5.521	4.224	3.909	3.959
	(0.000)	(0.000)	(0.000)	(0.016)	(0.022)	(0.023)
PERCAPGDP	-0.001	-0.001	-0.001	-0.002	-0.002	-0.002
	(0.148)	(0.003)	(0.151)	(0.077)	(0.077)	(0.104)
PERCAPITAGDPGROWTH	-0.878	-	-0.959	-0.760	-	-0.790
	(0.000)	-	(0.000)	(0.001)	-	(0.000)
INFLATION	-0.746	-1.892	-	-0.165	-1.140	-
	(0.186)	(0.000)	-	(0.838)	(0.115)	-
Year Dummies						
Year 2005 dummy	-4.294	-3.844	-3.872	0.334	0.375	-0.299
	(0.177)	(0.243)	(0.213)	(0.909)	(0.898)	(0.916)
Year 2006 dummy	3.555	1.936	3.524	2.383	2.356	1.367
	(0.252)	(0.525)	(0.253)	(0.457)	(0.449)	(0.668)
Year 2007 dummy	3.979	5.436	4.222	8.432	8.244	7.406
	(0.209)	(0.091)	(0.183)	(0.030)	(0.033)	(0.043)
Year 2008 dummy	-0.024	0.864	-0.135	-1.939	-1.773	-1.958
	(0.995)	(0.818)	(0.970)	(0.607)	(0.638)	(0.596)
Year 2009 dummy	-3.606	-1.466	-4.190	2.235	3.144	3.053
	(0.309)	(0.684)	(0.227)	(0.497)	(0.339)	(0.332)
Year 2010 dummy	4.611	1.475	4.492	-0.345	-1.146	0.081
	(0.139)	(0.634)	(0.150)	(0.891)	(0.644)	(0.974)
Effects Specification						
Cross-section fixed (first differences)						
Period fixed (dummy variables)						
S.E. of regression	82.985	83.504	83.060	124.956	124.767	125.027
J-statistic	56.328	59.727	57.223	39.943	44.415	38.938