

## Board of directors and earnings management: conventional and Islamic banks

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## **Board of Directors and Earnings Management: Conventional and Islamic Banks**

### **Abstract**

This study examines how the board of directors (BOD) of Islamic banks (IBs) might affect earnings management differently, compared to BOD of conventional banks (CBs). Our results indicate that banks in MENA region that promote BOD independence incurs less earnings management. Distinguishing between CBs and IBs, we document higher loans quality and credit policy at IBs. Moreover, smaller BOD size and board independence decrease earnings management at IBs. Findings suggest that the agency theory might not accommodate the agency conflicts at IBs, since it neglects stakeholders' behavioural patterns. Thus, these results suggest the need to shape directors' financial acumen at IBs.

**Keywords: Board of Directors, Board Independence, Board size, Earnings Management, Islamic and conventional Banks.**

## 1. Introduction

Regulators, academics, and bank stakeholders alike consider the board of directors (BOD) size and composition as novel corporate governance mechanisms that monitor and control the opportunistic behaviour of bank managers. Though, earnings management,<sup>1</sup> as one of opportunistic behaviour, exacerbates agency conflicts and information asymmetry problems between bank managers and other stakeholders. As a result, the opportunistic earnings management has not only casted doubts on the credibility of banks' financial information, but also has undermined the ability of BOD to monitor management opportunism, which has been prevailed especially after the latest financial crisis.

Among other banking segments, the aforementioned crisis has stimulated interest on different idiosyncratic aspects of Islamic banks (IBs) since they have been less affected. Prior literature attributes this resilience to the adherence of IBs to the Islamic law (*Sharia*)<sup>2</sup> (e.g. Abdelsalam et al., 2016), using the profit and losses sharing (PLS) principle on their financial products (Bourkhis & Nabi, 2013), and the existence of *Sharia* supervisory board (SSB) (Quttainah, Song, & Wu, 2013).

However, although the unique attributes of IBs may have an impact on the effect of the BOD on earnings management, there is still some uncertainty about how this relationship might be different within the IBs context compared to the conventional banks (CBs). Haniffa & Hudaib (2007) among few studies, find that IBs are less likely to disclose its BOD size and composition. More recently, Abdelsalam et al. (2016) find that the independent directors negatively affect earnings management. Understanding a regular BOD role in mitigating earnings management may expand our knowledge of how the banking sector in Middle East and North Africa (MENA) has been less affected during the financial crisis, especially IBs. *Sharia* governs a Muslim's life, promotes fairness, welfare, and worship for God (Haniffa & Hudaib, 2007). Therefore, at the plus side, IBs are expected to follow *Sharia* rules, fulfil their fiduciary duties

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<sup>1</sup> Earnings management refers to the use of managers' judgment in financial reporting and in structuring transactions to alter financial reports with the objective of either misleading stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on the reported accounting numbers (Healy & Wahlen, 1999).

<sup>2</sup> "*Sharia* is the legal framework within which the public and private aspects of life are regulated for those living in a legal system based on *fiqh* (Islamic principles of jurisprudence) and for Muslims living outside the domain" (Beck et al., 2013; footnote 5, p 434).

toward depositors<sup>3</sup> and shareholders, and less likely to manage earnings (Haniffa & Hudaib, 2007; McGuire, Omer, & Sharp, 2012). On the other side, while IBs realize their priority over CBs in a Muslim masses who prefer them on the religiosity basis (Haniffa & Hudaib, 2007), they might be less aware of the quality of earnings and engage more in earnings management (Safieddine, 2009).

According to the prevailing economic conditions, both CBs and IBs use discretion in accruals estimation and timing, such as loan loss provisions (LLP) and/or realized securities gains and losses (RSGL). However, the distinctive characteristics of IBs have raised a question about to what extent, if any, the regular BOD mitigates or deters earnings management, and whether the role of BOD in constraining earnings management is different between listed IBs and CBs.

This paper examines the role of BOD size and composition in mitigating earnings management within the context of IBs and CBs in MENA for the period from 2006 till 2014. By using robust OLS regression on all available data of 78 CBs and 26 IBs from 12 countries, our findings are presented in two levels. First, we find for the whole MENA banking sector that independent directors and affiliated directors play a significant role in mitigating earnings management. In addition, unlike the extant literature on developed countries, BOD size and duality have no significant effect on earnings management. Second, distinguishing between CBs and IBs, we find that a larger BOD and affiliated directors are positively and significantly associated with earnings management at IBs. We also find that the existence of independent directors at IBs has more negative effect on earnings management than independent directors at CBs.

This study contributes to the extant literature on the relationship between BOD characteristics and earnings management in many ways. First, it builds on the extant literature that documents the importance of independent directors in mitigating earnings management in developed countries, and extends these findings to an emerging countries contexts, the MENA region. Second, our study shows that the effect of independent directors spills to subsectors, especially

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<sup>3</sup> Depositors in Islamic banks are called investment accounts holders (IAHs). These accounts are fully under the control of IB managers. Safieddine (2009) decomposes IAHs to restricted investment accounts holders (RIAHs) and unrestricted investment accounts holders (URIAHs). In the case of RIAHs, investments are restricted upon depositor preferences rather than IBs. Thus, it is highly secured and returns are relatively safe, which mitigates the agency problems. The contrary view is regarded to the URIAHs, wherein deposits are not secured and IBs managers have complete latitude to use these funds, and therefore owners do not have the ability to participate in managing their own funds, which aggravates agency problem.

to IBs. Third, our study also corroborates prior studies that highlight the prominence of IBs loans quality and credit policy (Abdelsalam et al., 2016; Elnahass, Izzeldin, & Abdelsalam, 2014; Quttainah et al., 2013). Fourth, our study gives evidence that confirms the use of earnings management by IBs and CBs. Fifth, this study attempts to explain how the role of independent and affiliated directors might differ in constraining earnings management behaviour. Finally, this study accentuates the importance of religious social norms in addressing agency problems and fostering the others' interests.

The remainder of the paper is organized as follows. Section 2 describes literature review and hypotheses. Section 3 describes data and methodology. Section 4 presents the results and discussions. And section 5 presents conclusions.

## **2. Literature review and hypotheses development**

### **2.1. Board of directors size**

A larger BOD is an important governance characteristic that enables allocating more duties to a larger number of directors, allows them to specialize, and be more able to handle more complex matters, which ultimately leads to better monitoring to the discretionary decisions of bank managers (Ahmed & Duellman, 2007; Boone, Casares Field, Karpoff, & Raheja, 2007). On the other hand, a larger BOD may plummet the coordination, exacerbate the free riding problem, and increase decision-making time (Jensen, 1993). However, for any entity, in order to maximize the value of BOD size, a balance between effectiveness (monitoring and advising) and efficiency (coordination, control, and decision making) must be considered (Andres & Vallelado, 2008). In addition, BOD size is determined according to the functioning of its directors in dealing with different (non)pecuniary decisions, the level of information asymmetry, and the level of regulators monitoring. Along with these deep-seated aspects in banks, they usually have more subsidiaries and/or overseas branches. This per se entails banks to integrate more representatives to coordinate and monitor its subsidiaries and/or branches (Adams & Mehran, 2012). For instance, Coles, Daniel, & Naveen (2008) find that larger BOD are more beneficial in more complex firms (i.e. banks). Thus, the idiosyncratic nature of banks perhaps calls for larger BOD.

In the MENA banks, however, a board chairman is usually one of an influential tribe (e.g. royal families) or bank's founders families (Chahine, 2007). This is likely to increase the number of directors that might be hired based on personal relationships rather than their efficiency in

monitoring earnings management. In addition, the chairman and/or founders families usually have control of five percent or more of outstanding shares, which enables them to hire representatives on bank BOD. Those representatives directors may work in the best interests of those controlling shareholders rather than monitoring and controlling earnings management. Within this system, the symbolic directors may dominate the BOD, which in turn increases the BOD size, but on the other hand, lessens their ability to monitor earnings management. So, we propose the following:

*H1a: The BOD size positively affects earnings management in MENA banks.*

From an agency theory perspective, the main role of a BOD is to ensure that manager behaviour is aligned with the shareholders' best interests (Cuevas-Rodríguez, Gomez-Mejia, & Wiseman, 2012). In IBs this relationship is more complicated than in CBs (Beck, Demirgüç-Kunt, & Merrouche, 2013; Safieddine, 2009) for many reasons. First, the equity-like nature of IAHs calls the BOD to exercise more scrutiny over manager decisions, since those investors have no right to manage their funds. Second, IBs are confronted with additional risk that is termed displaced commercial risk (DCR).<sup>4</sup> This risk shifts part of shareholders' earnings to IAHs to mimic interest rate thresholds by CBs, and to prevent an aggressive deposits withdrawals (Daher, Masih, & Ibrahim, 2015). Third, IBs set aside profit equalization reserves (PER) to smooth out profits distribution to IAHs from good to bad performance periods (Mollah & Zaman, 2015). In the case of imminent financial turmoil, PER is fully under IB managers control, which might be another way of earnings management (Archer & Abdel Karim, 2006). Thus, we expect larger BOD at IBs to be less effective in monitoring earnings management, and thus we hypothesize:

*H1b: The predicted positive effect of larger BOD on earnings management is higher for IBs than CBs.*

## **2.2. Board of directors independence**

The extent to which directors intervene in monitoring earnings management largely depends on their level of independence from management. Independent directors are less likely to have conflicts of interests with management (Andres & Vallelado, 2008), and therefore are more able

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<sup>4</sup> Displaced commercial risk (DCR): "refers to the risk arising from assets managed on behalf of IAH which is effectively transferred to the IBs own capital because the IBs follows the practice of foregoing part or all of its *Mudarib* share of profit on such funds, when it considers this necessary as a result of commercial pressure in order to increase the return that would otherwise be payable to the IAH" (Islamic Financial Services Board, 2005 p.19).

to control managers' accrual decisions. Davidson, Goodwin-Stewart, & Kent (2005, p. 244) define BOD independence as "the extent to which a board is comprised of non-executive directors who have no relationship with the firm beyond the role of board director". While many regulatory and standards-setters clearly define independent directors characteristics (e.g. NYSE 303A.02), numerous literature contravenes the conditions set forth to curtail the definition to the affiliated directors. Those might currently have no current executive position but may have another relationship with the company

However, independent directors are less controlled by management, more diversified in term of expertise, more able to appeal external resources through their connections with external environment (Peng, 2004), and their reputation is more prone to a severe impact in case of financial failure (Srinivasan, 2005). The extant literature on developed countries has documented the negative relationship between earnings management and the independent directors (Xie, Davidson, & Dadalt, 2003). Even in less developed countries, Chen, Elder, & Hsieh (2011) find that Taiwanese firms employ less earnings management after corporate governance reforms, especially independent directors.

Ex ante we believe that the above arguments spill to the banking sector, but it is worth mentioning that the BOD independence for banks is more complicated than for non-financial firms. First, unlike non-financial firms, banks normally nominate or represent best customers as BOD members (Adams & Mehran, 2012). While this practice according to the Sarbanes Oxley Act (SOX) 2002 may impede the independence of those directors, it is argued that this might be a beneficial practice for the banking sector (Adams & Mehran, 2012). Second, since the strict regulatory oversight over the banking sector may control earnings management, the independent directors' effect on earnings management might be minimal (Booth, Cornett, & Tehranian, 2002).

In the MENA region, the prominent traditional values and norms (e.g. political ties, influential tribes, Sheikhdome system. etc.) might influence BOD independence (Chahine & Tohmé, 2009). In addition, independent directors are usually executives or CEOs in other firms and/or banks. From upper echelons theory perspective, those directors may facilitate earnings management of their fellow managers (He & Yang, 2014). Within such system, it is difficult to predict how independent directors affect earnings management. Yet, in these economies, reputation of independent directors is the sine qua non of holding multiple directorship in other entities. Stakeholders as well prefer such prudent directors to supplant the weak regulatory framework

(Chahine & Tohmé, 2009). So, we propose the following:

*H2a: BOD independence negatively affects earnings management in MENA banks.*

CBs and IBs are highly leveraged; that is, bank assets are mainly financed by debt rather than equity. Debt levels might spur bank managers to reduce discretion decisions, such as earnings management (Agrawal & Knoeber, 1996; Jensen, 1986). Bankruptcy also is likely to increase with increased debt, which hinders overconfident discretionary decisions (Arping & Sautner, 2010). Recent evidence suggests that effective corporate governance structure (e.g. BOD independence) may substitute debt as a mechanism of monitoring managers. He & Yang (2014) as well find that firms with well-designed corporate governance have lower debt and in turn lower earnings management.

Debt structure at IBs is quite different from debt structure at CBs. For instance, PLS contracts are used as a source of funds rather than interests-based deposits. These contracts offer sharing profits or losses between financiers (IAHs) and entrepreneurs (IBs). Profits, or even losses, are adjustable based on bank performance (Abedifar, Molyneux, & Tarazi, 2013). IBs according to *Sharia* are forbidden to trade conventional debt instruments such as fixed rate bonds and certificate of deposits (CDs), which constrains debt levels (Elnahass et al., 2014). These debt attributes at IBs indicate that they are less leveraged than CBs. Thus, we expect that independent directors at IBs are more motivated to monitor earnings management in order to make up for the lower levels of leverage which might control the discretionary decisions. This leads to the following hypothesis:

*H2b: The predicted negative effect of BOD independence on earnings management is higher for IBs than CBs.*

### **2.3. Affiliated directors**

Recall from the previous section, that affiliated directors are those who currently have no current executive positions, but their role at the bank extends the role as board directors, such as bank's lawyer, family relationship with executives, interlocking board memberships, etc. (Peng, 2004). Distinguishing whether directors are affiliated or independent is complex and depends mainly on the classification of each respective bank. While the former are mainly in charge to monitor bank manager decisions, the latter might have another role such as a political role. Moreover, affiliated directors might sound beneficial to the BOD since they are more familiar with and actively involved in bank operations, especially if they previously were



executives and/or having strong relationships with the current internal employees. This kind of relationships, on the other hand, may spur affiliated directors to facilitate opportunistic earnings management of their fellow CEOs to exploit bank resources to self-serving interests. This conflict of interests may exacerbate the information asymmetry and control the contents and the timing flow of information to other directors. Given these complexities, Booth et al. (2002) find that the monitoring role of affiliated directors is minimal in regulated sectors such as utilities and banking sectors. They attribute these findings to the strict regulatory oversight which may supplant the monitoring role of BOD.

The banking sector in the MENA region is no exception as well. The strong relationship with influential families and political parties is prominent in an environment where the tribal customs prevail. As such, more affiliated and symbolic directors are expected to sit in the BOD, while they are less effective in monitoring earnings management. Thus, we hypothesize as follows:

*H3a: Affiliated directors positively affect earnings management in MENA banks.*

While the above mentioned argument might be generalized to the affiliated directors at CBs, affiliated directors at IBs might make a choice so as to conform to the Islamic tenet and thus promote religious social norms that are prevailed in IBs. The moral accountability plays a crucial role in the corporate governance framework at IBs. Sanctions for failure or misconduct of individuals in such environment are largely coming from the prevailed social networks (e.g. religion) rather than the legal system (Cialdini & Goldstein, 2004). Thus we hypothesize as follows:

*H3b: The predicted positive effect of affiliated directors in earnings management is higher in CBs than IBs*

## **2.4. CEO duality**

Agency theory predicts that CEO duality exacerbates agency problems since it facilitates manager's opportunism (Chahine & Tohmé, 2009). Consistent with the agency theory, many corporate governance guidelines (e.g. OECD principles of corporate governance 2004) assume that a BOD is less likely to monitor CEO's decisions when duality exists.

In this context, the MENA region is no exception, but we augment that the anecdotal evidence indicates that the bailout policies at MENA countries are influenced by political conditions, such as repayment of insolvent debts by the government as royal grants. These policies might

be viewed as a deliberate attempt to payback of loans to banks which are clandestinely controlled by royal or other influential families. Additionally, the hierarchical authority stewardship style in the MENA region induces CEOs to experience nepotism when selecting senior levels management (Chahine & Tohmé, 2009). Hubris theory states that a CEO who also serves as a chairperson is more likely to be overconfident in the discretionary decisions (Li & Tang, 2010). Thus we hypothesize as follows:

*H4: CEO duality increases earnings management in both CBs and IBs.*<sup>5</sup>

### **3. Data and methodology**

#### **3.1. Data**

In order to test our hypotheses, we use listed CBs and IBs in stock markets of MENA countries for the period from 2006 till 2014. The initial countries under the study are these listed in the World Bank website under the MENA region,<sup>6</sup> where a majority based IBs are listed. Banks' names and their classifications to CB or IB are obtained from Zawya database. All (non)financial data are hand-collected from the annual reports available on the web site of each respective bank.

Our selection process is based primarily on two criteria. First, the availability of annual reports for the selected banks for at least five years during the study period (2006-2014). Second, during these years the selected banks must follow International Financial Reporting Standards (IFRS). Based on these criteria, our data is available for 12 MENA countries. These data are partitioned into 78 CBs and 26 IBs, yielding 613 unbalanced bank-year observations including outliers. While these outliers may have potential effect on our results, we use Cook's (1977) distance criterion to remove the influential observations.<sup>7</sup> Further, we excluded 342 observations with missing values due to the availability of data on BOD size and composition, leading to a final sample of 271 observations distributed on 77 banks (19 IBs & 58 CBs) across 11 countries. The sample size constitutes a limitation for this study. Yet, it represents all available data of listed CBs and IBs in each MENA country. The final sample distribution is presented in table 1 .

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<sup>5</sup> Due to a few duality observations in IBs, we base our conjecture on the whole sample (H3).

<sup>6</sup> <http://www.worldbank.org/en/region/mena>

<sup>7</sup> The boxplot and normality tests of the main variables show 9 outliers. However, we winsorize all variables at the top and bottom 1% of observations and results are robust to these changes.

**Table 1. sample distribution by country and bank type**

Country	IBs	CBs	Total banks	IBs (%)	CBs (%)	(%) by country
Bahrain	6	7	13	46.20	53.80	12.50
Egypt	0	1	1	0.00	100.00	0.96
Iraq	0	1	1	0.00	100.00	0.96
Jordan	2	13	15	13.30	86.70	14.40
Kuwait	4	6	10	40.00	60.00	9.60
Lebanon	0	9	9	0.00	100.00	8.70
Oman	0	7	7	0.00	100.00	6.70
Palestine	1	4	5	20.00	80.00	4.80
Qatar	3	6	9	33.30	66.70	8.70
Saudi Arabia	5	7	12	41.70	58.30	11.50
Syria	0	3	3	0.00	100.00	2.90
United Arab Emirates	5	14	19	26.30	73.70	18.30
Total	26	78	104	25.00	75.00	100.00

### 3.2. Model

#### 3.2.1. Measures of earnings management

All bank managers unwaveringly use their own latitude in provisioning decisions. Consequently, the challenge is to decompose LLP and RSGL into (non)discretionary components. LLP is created to adjust loan loss reserve (LLR) balance to face expected future loan losses. The highly predicted loan losses represent the potential uncontrollable default risk, the non-discretionary loan loss provisions (NLLP). The drastic surplus/deficit of LLR over/under NLLP is the discretionary loan loss provisions (DLLP), which represents earnings management (Cornett, McNutt, & Tehranian, 2009; Elnahass et al., 2014). However, consistent with Beatty et al. (2002) and Kanagaretnam et al. (2010), our proxies to NLLP are nonperforming loans, net loans charge-off, and different categories of loans portfolio. Specifically, we use the following model:

$$\begin{aligned}
LLP_{it} = & \alpha + \beta_1 BEGLLR_{it} + \beta_2 LASSET_{it} + \beta_3 LCO_{it} + \beta_4 CHLOANS_{it} \\
& + \beta_5 NPL_{it} + \beta_{6-11} L\_CATEGORE_{it} + \varepsilon_{it}
\end{aligned} \tag{1}$$

The variables in the model 1 are operationally defined in table 2. The error term from model 1 represents the DLLP which remains after controlling all (un)expected losses. A positive relationship is expected between LLP, LCO and NPL. Finally, similar to that of Cornett et al. (2009), the error term is standardized by total asset as  $DLLP_{it} = (\varepsilon_{it} \times LOANS_{it}) / ASSETS_{it}$  where LOANS is total loans and ASSETS is total assets.

In addition to LLP, bank managers may resort to RSGL (Cornett et al., 2009). However, in order to find the discretionary realized security gains and losses (DRSGL), we follow Beatty et al. (2002). Specifically, we use the following model:

$$RSGL_{it} = \alpha + \beta_1 LASSET_{it} + \beta_2 URSGL_{it} + \varepsilon_{it} \tag{2}$$

The variables in model 2 are operationally defined in table 2. RSGL can be split into three parts, namely (i) the actual amount of gains or losses the bank reports from a real selling transactions, (ii) the predicted gains or losses from selling the remaining AFS securities that reflects the real level of RSGL, and (iii) the discretionary portion of RSGL which is subject to a discretion of bank managers (i.e. DRSGL). The error term of model 2 is the DRSGL. We expect a positive relationship between RSGL and URSGL. Table 3 depicts the regression results for model 1 and 2 in panel A and B, respectively. Consistent with our expectation, the results in panel A indicate that LLP is significantly and positively related to LCO and NPL. Panel B indicates that RSGL is significantly and positively related to URSGL only for IBs. However, the trade-off between recognizing RSGL and/or LLP identifies the magnitude and direction of earnings management; that is, manage earnings upward by higher levels of earnings management through recognizing more RSGL and less LLP and vice versa (Cornett et al., 2009). Consequently, the earnings management is defined as follow:

$$EM_{it} = DRSGL_{it} - DLLP_{it} \tag{3}$$

Where EM is the discretionary part of LLP and RSGL. DRSGL is the error term from model 2. DLLP is the error term from model 1.

**Table 2. definition of variables used to measure earnings management**

Variable	Definition
LLP	Loan loss provisions account as percentage of total loans.
BEGLLR	Beginning loan loss reserves as percentage of total loans.
LASSET	The natural log of total assets.
LCO	The net loans that have been written-off after deducting any recoveries (net loans charge-off) as percentage of total loans.
CHLOANS	Change in total outstanding loans at the end of year $t$ .
NPL	The loans that are past due for more than 90 days and still accruing interests (nonperforming loans) as percentage of total loans.
L_CATEGORE	The main categories of loans portfolio (viz., individual, other banks, corporate, governmental, and other loans)
RSGL	Realized securities gains and losses as a percentage of total assets (includes realized gains and losses from AFS and HTM securities).
URSGL	Unrealized securities gains and losses as a percentage of total assets (includes only unrealized gains and losses from AFS securities).

**Table 3. regression results to measure earnings management**

Panel A: regression results for variables used to measure DLLP eq. (1).					
	(1) LLP	(2) LLP	(3) LLP	(4) LLP	(5) LLP
BEGLLR	-0.034*** (-3.54)	-0.0461*** (-4.25)	0.0478 (1.25)	-0.0355*** (-3.04)	-0.0392*** (-5.29)
LASSET	0.0027*** (5.21)	0.00312*** (4.94)	0.00108 (0.73)	0.00171*** (2.82)	0.00262*** (8.37)
LCO	0.0950*** (7.58)	0.105* (7.38)	0.115* (1.80)	0.0572*** (3.24)	0.104*** (6.26)
CHLOANS	-0.0022** (-2.15)	-0.00330** (-2.50)	-0.00036 (-0.17)	-0.0037*** (-3.18)	-0.002*** (-2.74)
NPL	0.049*** (9.77)	0.0549*** (9.37)	0.0445*** (3.22)	0.0758*** (11.65)	0.0432*** (14.33)
INDLOANS	0.00268 (0.92)	-0.0324*** (-4.13)	0.00298 (0.53)	-0.0166*** (-3.04)	0.00250 (1.63)
CORPLOANS	0.00282 (1.02)	-0.0295*** (-3.82)	-0.00467 (-1.07)	-0.0153*** (-2.89)	0.00065 (0.46)
BANKLOANS	0.00095 (0.32)	-0.0309*** (-3.87)	-0.00576 (-0.95)	-0.0184*** (-3.34)	0.00083 (0.50)
GOVLOANS	-0.00426 (-1.18)	-0.0373*** (-4.47)	-0.00555 (-1.08)	-0.0211*** (-3.43)	-0.00478** (-2.55)
REALELOAN S	0.00165 (0.50)	-0.0302*** (-3.74)	-0.00117 (-0.24)	-0.0207*** (-3.57)	0.00279 (1.58)
OTHERLOAN S	0.00206 (0.51)	-0.0259*** (-2.83)	-0.00323 (-0.56)	-0.0145** (-2.14)	0.00113 (0.50)
Year and Country	Yes	Yes	Yes	Yes	Yes
N	560	436	123	273	285
F-stat	26.490***	21.640***	7.870***	37.770***	40.560***
R <sup>2</sup>	0.338	0.328	0.499	0.578	0.599

This table presents our OLS robust regression results to measure DLLP. For the variables definitions see table 2. In column 1 we present the regression results for all banks. Column 2 and 3 depict the results for CBs & IBs respectively. Column 4 presents the results for all banks when the residuals (DLLP) are above zero. Column 5 presents the results for all banks when the residuals (DLLP) are below zero. For each variable, both the beta coefficient and *t* statistics (in parentheses) are reported. \*\*\*, \*\*, \* indicate significance level at the 1%, 5%, and 10% respectively (two-tailed).

Panel B: regression results for variables used to measure DRSGL eq. (3).

	(1) RSGL	(2) RSGL	(3) RSGL	(4) RSGL	(5) RSGL
LASSET	0.0005*** (4.55)	0.0004*** (5.12)	0.00105** (2.04)	0.00001 (0.06)	0.00024*** (8.78)
URSGL	-0.00671 (-1.37)	-0.005 (-1.06)	0.228*** (6.03)	-0.0487*** (-3.35)	-0.0043 (-1.57)
Year and country	Yes	Yes	Yes	Yes	Yes
N	837	634	203	416	420
F-stat	5.690***	5.470***	11.120***	5.850***	11.320***
R <sup>2</sup>	0.043	0.061	0.188	0.112	0.182

This table presents our OLS robust regression results to measure DRSGL. For the variables definitions see table 2. In column 1 we present the regression results for all banks. Column 2 and 3 depict the results for CBs & IBs respectively. Column 4 presents the results for all banks when the residuals (DRSGL) are above zero. Column 5 presents the results for all banks when the residuals (DRSGL) are below zero. For each variable, both the beta coefficient and *t* statistics (in parentheses) are reported. \*\*\*, \*\*, \* indicate significance level at the 1%, 5%, and 10% respectively (two-tailed).

### 3.2.2. Measures of explanatory variables

*BOD size:* We include B\_SIZE to represent the number of BOD members at the end of the fiscal year.

*BOD independence:* To ensure BOD independence, we classify the BOD members into inside, affiliated, and independent directors. The directors who have no material interests with the bank except their current position as BOD member are classified as independent directors. Thus, we add B\_IND as the percentage of total independent directors to the total BOD size to proxy for board independence.

*Affiliated directors:* After considering independent directors, we classify the remaining directors into inside and affiliated. Inside directors are currently working as bank executives. Affiliated directors have no current executive position, but have other relationships or worked as executives. We therefore add NONEXE\_B as the percentage of total affiliated directors to the total BOD size.

*CEO duality:* We include DUAL as a dummy variable that equals 1 if a CEO is also the chairperson of BOD, and 0 otherwise.

*Islamic bank:* Due to the unique attributes of IBs which might impact the relationship between the BOD and earnings management, we add a dummy variable that equals 1 if the bank is an Islamic bank, and 0 otherwise.

### 3.2.3. Control variables <sup>8</sup>

*Regulatory capital management motive:* Ahmed, Takeda, & Thomas (1999) and Shrieves & Dahl (2003) argue that banks may use earnings management to meet the capital requirement (Tier I) without resorting to external financing. Since accruals increase primary capital, we expect a positive relationship between earnings management and tier I capital ratio. Thus, we use the lagged tier I capital ratio to control for regulatory capital management motive.

*Income smoothing motive:* Bank managers may use LLP and/or RSGL to disguise the effect of yearly earnings volatility to sustain a consistent upward pattern of the reported earnings (Burgstahler & Dichev, 1997). We expect a positive relationship between earnings management and current year net income before taxes and discretionary items. Thus, we use the current year net income ( $NI_{it}$ ) before taxes and discretionary items to proxy for the income smoothing motive.

*Signalling motive:* The discretionary items of income statement, balance sheet, and related footnotes can be used as signalling tools to convey private information to investors (Wahlen, 1994). However, since the view that accruals affect the coming years reported information (e.g. LLR and retained earnings), we expect a positive relationship between earnings management and the signalling motive. So, we use  $NI_{it+1}$  and  $NI_{it+2}$  before taxes and accruals as a proxy for the signalling motive.

*Merger and/or acquisition motive:* Many prior studies have examine the effect of M&A transactions on earnings management at acquiring firms (Erickson & Wang, 1999; Jeong & Bae, 2013; Louis, 2004) and at targeted firms (e.g. Anagnostopoulou & Tsekrekos, 2013). Unanimously, these research studies find that the firms who are involved in M&A transactions manage earnings to buttress their financial position. We also expect a positive relationship between the merger motive and earnings management. Given this reasoning, we add MER as a dummy variable that equals 1 if there are M&A transactions in each bank, and 0 otherwise.

*Sharia Supervisory Board:*<sup>9</sup> IBs, unlike CBs, have to establish an additional in-house corporate

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<sup>8</sup> Bank size and big 4 external auditing firms were excluded as control variable, since the banks in our sample are relatively large with a total assets size of more than \$1 billion and all of them are audited by the big 4 audit firms.

<sup>9</sup> We include CBs with Islamic windows only if they have to establish SSB according to the stipulated rules in each respective country.



governance layer, namely, the SSB. This board must be independent and encompasses *Sharia* scholars, imbued with piety and righteousness (Elnahass et al., 2014). This board monitors the adherence of financial transactions to *Sharia* which ipso facto controls earnings management (Quttainah et al., 2013). Thus, we add a dummy variable that equals 1 if SSB exists, and 0 otherwise.

### 3.2.4. Empirical models

To investigate whether the BOD affects earnings management at the MENA banking sector, we regress the earnings management measure on the BOD characteristics as follows:

$$EM_{it} = \alpha + \beta_1 B\_SIZE_{it} + \beta_2 B\_IND_{it} + \beta_3 NONEXE\_B_{it} + \beta_4 DUAL_{it} + \beta_5 TIER1_{it-1} + \beta_6 NI_{it} + \beta_7 NI_{it+1} + \beta_8 NI_{it+2} + \beta_9 MER_{it} + \beta_{10} SSB_{it} + \beta_{11} IB_{it} + \varepsilon_{it} \quad (4a)$$

To examine this relationship within CBs and IBs, we add IB and interaction variables as follows:

$$EM_{it} = \alpha + \beta_1 B\_SIZE_{it} + \beta_2 B\_IND_{it} + \beta_3 NONEXE\_B_{it} + \beta_4 DUAL_{it} + \beta_5 TIER1_{it-1} + \beta_6 NI_{it} + \beta_7 NI_{it+1} + \beta_8 NI_{it+2} + \beta_9 MER_{it} + \beta_{10} SSB_{it} + \beta_{11} IB_{it} + \beta_{12} B\_SIZE_{it} * IB_{it} + \beta_{13} B\_IND_{it} * IB_{it} + \beta_{14} NONEXE\_B_{it} * IB_{it} + \varepsilon_{it} \quad (4b)$$

The variables in Model 4 (a&b) are operationally defined in table 4. Finally, we use robust OLS regression adjusted with Cook's (1977) distance criterion to remove any influential observation from the sample (Cornett et al., 2009). Moreover, we use the robust OLS regression instead of fixed and random effect regressions since the results of  $R^2$  of the former were higher.

**Table 4. Definitions of variables**

Variable	Definition
EM	Is the discretionary part of loan loss provisions and realized securities gains and losses.
B_SIZE	Is the number of BOD members at the end of the fiscal year.
B_IND	Is the percentage of external directors within the BOD.
NONEXE_B	Is the percentage of affiliated directors within the BOD.
DUAL	Is a dummy variable that equals 1 if the CEO/Chairman exists, and 0 otherwise.
TIER1 <sub>it-1</sub>	Is the lagged tier 1 capital ratio to risk weighted assets.
NI <sub>it</sub>	Is the current year net income before taxes and accruals deflated by total assets.
NI <sub>it+1</sub> and NI <sub>it+2</sub>	Are one and two years ahead current year net income before taxes and accruals deflated by total assets.
MER	Is a dummy variable that equals 1 if any M&A has occurred in bank i from 2006 - 2014, and 0 otherwise.
SSB	Is a dummy variable that equals 1 if the SSB exists, and 0 otherwise.
IB	Is a dummy variable that equals 1 if the bank is an Islamic bank, and 0 otherwise.

## 4. Results

### 4.1. Descriptive statistics and correlation

Table 5 presents descriptive statistics for the full sample. In table 6 we present the *t*-test and Wilcoxon (*z-score*) test<sup>10</sup> for differences in mean and median, respectively, between IBs and CBs. Earnings management (EM) mean for the full sample (CBs sample, IBs sample) is 0.1% (0.1%; 0.3%). Interestingly, this variable is positively skewed which indicates that bank managers are generally tilted toward using income-increasing earnings management.

We also present the descriptive statistics for the empirical model variables. B\_SIZE mean for the full sample (CBs sample; IBs sample) is 9.52 (9.46; 9.74), B\_IND is 40.7% across full sample and for both sectors, NONEXE\_B is 55.3% (55.1%; 55.4%), and DUAL 10.9% (12.4%; 5.7%). Except for B\_IND, the *t*-test results for these variables indicate significant differences between IBs and CBs counterparts. The results of the control variables indicate that TIRE<sub>it-1</sub> mean for full sample (CBs sample; IBs sample) is 17.6% (16.2%; 22.4%), NI<sub>it</sub> and NI<sub>it+1</sub> are 2.5% (2.6%; 2.1%), NI<sub>it+2</sub> is 2.3% (2.6%; 1.5%), and MER is 19.1% (16.2%; 28.7%). All these variables are significantly different between CBs and IBs. Table 7 presents Pearson (below the

<sup>10</sup> Our descriptive statistics and related discussions are based on the *t*-test results.

diagonal) and Spearman (above the diagonal) pairwise correlations of the variables included in model 4a. The variable IB on both correlation matrices is positively and significantly correlated with the earnings management variable. This is contrary to the prior literature findings which indicates that IBs employ less earnings management (e.g. Quttainah et al., 2013). This could indicate that IBs might manage earnings to pay comparable returns to IAHs to avoid aggressive deposits withdrawals. We also find that B\_SIZE and NONEXE\_B are negatively and significantly correlated with earnings management. B\_IND and DUAL are correlated insignificantly with earnings management. Correlation values indicate no existence of multicollinearity between variables. Furthermore, we perform the variance inflation factor (VIF) analysis and all scores are below the recommended cut-off of 10 (highest 2.34).

**Table 5. Descriptive statistics**

Variable	N	Mean	Median	Std. dev.	Min.	Max.
EM	613	.001	.000	.011	-.103	.132
B_SIZE	601	9.521	9.00	1.75	5.00	15.00
B_IND	381	.407	.400	.261	.000	1.00
NONEXE_B	469	.553	.571	.313	.000	1.00
DUAL	607	.109	.000	.312	.000	1.00
IB	613	.233	.000	.423	.000	1.00
TIER1 <sub>it-1</sub>	521	.176	.156	.086	.000	1.00
NI <sub>it</sub>	535	.025	.024	.017	-.076	.154
NI <sub>it+1</sub>	611	.025	.023	.014	-.076	.184
NI <sub>it+2</sub>	457	.023	.023	.015	-.034	.183
MER	613	.191	.000	.393	.000	1.00
SSB	613	.382	.000	.486	.000	1.00

This table presents the descriptive statistics results for the full sample of main empirical model variables.

**Table 6. Two samples t-test and z-score results**

	Class	N	Mean	Median	Std. dev	S.E. mean	<i>t</i> -test <i>z</i> -score
EM	IBs	143	0.003	0.001	0.008	0.001	-2.370**
	CBs	470	0.001	-0.000	0.012	0.001	<b>-4.389***</b>
B_SIZE	IBs	140	9.736	9.500	1.360	0.115	-1.950*
	CBs	461	9.456	9.000	1.850	0.086	<b>-1.494</b>
B_IND	IBs	90	0.407	0.444	0.264	0.028	-0.006
	CBs	291	0.407	0.400	0.260	0.015	<b>-0.229</b>
NONEXE_B	IBs	115	0.554	0.545	0.313	0.029	-2.309**
	CBs	354	0.551	0.571	0.329	0.017	<b>-2.251**</b>
DUAL	IBs	140	0.057	0.000	0.233	0.019	2.691***
	CBs	467	0.124	0.000	0.330	0.015	<b>2.234**</b>
TIRE1 <sub>it-1</sub>	IBs	120	0.224	0.185	0.141	0.013	-4.795***
	CBs	401	0.162	0.153	0.053	0.003	<b>-5.280***</b>
NI <sub>it</sub>	IBs	124	0.021	0.018	0.024	0.002	2.199**
	CBs	411	0.026	0.024	0.014	0.001	<b>4.606***</b>
NI <sub>it+1</sub>	IBs	143	0.021	0.019	0.023	0.023	2.597***
	CBs	468	0.026	0.024	0.026	0.014	<b>4.839***</b>
NI <sub>it+2</sub>	IBs	105	0.015	0.017	0.015	0.001	6.307***
	CBs	352	0.026	0.024	0.015	0.001	<b>6.469***</b>
MER	IBs	143	0.287	0.000	0.434	0.038	-3.006***
	CBs	470	0.162	0.000	0.369	0.017	<b>-3.328***</b>

This table present two sample t-test and z-score results. \*\*\*, \*\*, \* indicate significance level at the 1%, 5%, and 10% respectively (two-tailed).

**Table 7. Correlation matrix**

<b>Correlation matrix: Pearson correlations (below the diagonal) and Spearman correlations (above the diagonal)</b>												
Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. EM	<b>1</b>	.01	-.07	-.02	.03	.18**	.07	-.25**	-.11**	-.18**	.06	.10***
2. B_SIZE	-.09**	<b>1</b>	.15**	-.15**	.06	.06	-.08*	-.07	-.09***	-.06	.06	-.01
3. B_IND	-.07	.15***	<b>1</b>	-.67**	.00	.01	-.21**	-.14***	-.11***	-.04	.04	.14**
4. NONEXE_B	-.13***	-.10**	-.69***	<b>1</b>	-.13**	.01	.18**	.21**	.20**	.22**	-.02	-.10***
5. DUAL	-.01	.06	-.01	-.12***	<b>1</b>	-.09***	-.12***	-.18**	-.17**	-.14**	.03	-.12***
6. IB	.14***	.07	.00	.01	-.09**	<b>1</b>	.23**	-.20**	-.20**	-.30**	.12**	.62**
7. TIER1 <sub>it-1</sub>	.13***	-.08*	-.24***	.13***	-.10**	.31***	<b>1</b>	.13***	.06	-.02	.01	.08*
8. NI <sub>it</sub>	-.25***	-.06	-.15***	.16***	-.10**	-.16***	.14***	<b>1</b>	.70**	.61**	-.15**	-.08*
9. NI <sub>it+1</sub>	-.09**	-.09**	-.13***	.15***	-.09*	-.17***	-.01	.64***	<b>1</b>	.72**	-.14**	-.09***
10. NI <sub>it+2</sub>	-.19**	-.06	-.01	.15***	-.09***	-.31***	-.14***	.54***	.67***	<b>1</b>	-.23**	-.14**
11. MER	.06	.05	.04	-.02	.03	.14***	.01	-.16***	-.15***	-.25***	<b>1</b>	.07*
12. SSB	.06	.01	.13**	-.10**	-.12***	.62***	.15***	-.11**	-.12***	-.21***	.07*	<b>1</b>

This table presents correlation matrix Pearson correlations (below the diagonal) and Spearman correlations (above the diagonal).

\*\*\*, \*\*, \* indicate significance level at the 1%, 5%, and 10% respectively (two-tailed).

## 4.2. Robust OLS results, sensitivity analyses, and discussion

### 4.2.1 Robust OLS results

Table 8 presents the results for four robust OLS regressions for the empirical models 4 (a and b). Column 1 includes the regression for the whole banking sector in the MENA region, whereas column 2 split the sample into CBs and IBs. Further, in columns 3 and 4 we split the full sample into income-increasing ( $EM > 0$ ) and income-decreasing ( $EM < 0$ )<sup>11</sup>, respectively. All models are found to be highly significant according to the F-statistic.

In column 1, larger BOD and chairman duality have no significant effect on earnings management, so H1a and H3 are not supported. The results indicate that more independent directors seem to reduce earnings management, ( $\beta = -.0156$ ,  $p < 0.01$ ) which confirms hypothesis H2a. However, the results show that affiliated directors might play a significant role in constraining earnings management, which contradicts H3a. As such, there are perhaps grounds to believe that the presence of affiliated directors may play a key role in monitoring earnings management even in addition to the role that they play or the relationships they have with the bank in the MENA region.

column 2 shows that the coefficient of IB is significantly negative ( $\beta = -.0114$ ,  $p < 0.01$ ), which confirms the findings of Abdelsalam et al. (2016) and Quttainah et al. (2013).<sup>12</sup> Distinguishing between CBs and IBs, the results show that a larger BOD at IBs increases earnings management. That is, a one-unit increase in BOD size increases earnings management by .00125. In contrast, a one-unit increase in BOD size at CBs decreases earnings management by .0003, which confirms H1b for IBs only. Independent directors seem to decrease earnings management only at IBs, while this effect is insignificant at CBs, which partially confirms H2b. More specifically, a one-unit increase in BOD independence decreases earnings management at IBs by .0108. With regard to affiliated directors, our results indicate that affiliated directors are likely to have an insignificant effect on earnings management at CBs, whereas earnings management increases with more affiliated directors at IBs. This contradicts our conjecture in H3b for both subsectors, CBs and IBs; that is, the positive effect of affiliated directors seems

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<sup>11</sup> We use the absolute values of income-decreasing earnings management.

<sup>12</sup> These results contradict our results in correlation matrix, table 7, since these results represent the multivariate regression where each variable affects partially on the dependent variable, while correlation matrix gives univariate relationship.

to be more prominent at IBs even with the Islamic label of these banks.

Since bank managers might be more inclined to manage earnings upward or downward depending on the current and future performance, our results also are extended to an income-increasing and income-decreasing earnings management in columns 3 and 4 respectively. For CBs, the results in both models indicate that independent and/or affiliated directors seem to decrease income-increasing and income-decreasing earnings management, whereas BOD size seems to become insignificant when considering the directions of earnings management. With regard to IBs, the interaction variable  $IB*B\_SIZE$  is significant in columns 3 and 4, but positive and negative respectively, which indicates that the effect of larger BOD on earnings management is likely to be varied according to the intent of managers to increase or decrease income. In contrast, having more independent directors is likely to alleviate earnings management when bank managers intend to manage earnings to increase income, whereas income-decreasing earnings management is likely to increase with more independent directors in the board of IBs. Affiliated directors seem to increase earnings management regardless of the direction of earnings management. Overall, consistent with García-Meca & Sánchez-Ballesta (2009), our results indicate that the sign of the earnings management might have significant effect on the role of corporate governance practices (e.g. BOD) in constraining earnings management.

Finally, with respect to the control variables,  $TIER1_{it-1}$  is significantly positive in column 3, which confirms our conjecture. These results suggest that bank managers may opportunistically use income-increasing earnings management to fulfil the regulatory capital requirements.  $NI_{it}$  also is significant but negative in columns 2 and 3 indicating that banks with increased net income demand a lesser degree of earnings management to smooth out net income.  $NI_{it+1}$  in columns 2 and 4 is correlated positively and significantly with earnings management, which reveals the using of earnings management to convey signals about next year net income, whereas  $NI_{it+2}$  significantly decreases income-increasing earnings management. The MER variable in column 4 is correlated positively with earnings management to decrease net income ( $\beta = .00048, p < 0.1$ ). This is consistent with Jeong & Bae (2013) findings which indicate that earnings management to decrease net income is likely to be used to increase the number of shares to the shareholders of the targeted firm. SSB is not likely to influence earnings management, which confirms Quttainah et al. (2013) findings on the role of SSB.

**Table 8. Regression results**

	(1) EM	(2) EM	(3) EM > 0	(4) AEM < 0
B_SIZE	-0.00048 (-0.90)			
B_IND	-0.0156*** (-2.92)			
NONEXE_B	-0.0167** (-2.57)			
DUAL	0.00179 (1.02)	0.00104 (0.92)	0.00042 (0.33)	0.00076 (1.33)
IB*B_SIZE		0.00125*** (4.88)	0.00074*** (3.23)	-0.00077*** (-2.73)
(1-IB)*B_SIZE		-0.0003** (-2.17)	0.00009 (0.55)	0.00002 (0.03)
IB*B_IND		-0.0108*** (-7.01)	-0.0089*** (-6.48)	0.0116*** (5.30)
(1-IB)* B_IND		-0.00255 (-1.48)	-0.00846*** (-4.56)	-0.00240** (-2.23)
IB*NONEXE_B		0.00330** (2.23)	0.00242* (1.72)	0.0146*** (8.57)
(1-IB)* NONEXE_B		-0.00225 (-1.43)	-0.0112*** (-6.95)	-0.00256** (-2.44)
IB	-0.00163 (-0.70)	-0.0114*** (-3.78)	-0.0112*** (-3.99)	-0.00761* (-1.91)
TIER1 <sub>it-1</sub>	0.00555 (0.59)	0.00316 (1.46)	0.0219*** (10.17)	-0.00054 (-0.35)
NI <sub>it</sub>	-0.0769 (-0.36)	-0.127*** (-7.89)	-0.167*** (-8.28)	0.00517 (0.56)
NI <sub>it+1</sub>	0.0576 (0.46)	0.0283* (1.71)	0.0043 (0.25)	0.0211* (1.77)
NI <sub>it+2</sub>	-0.0331 (-0.35)	0.0179 (1.12)	-0.0701*** (-3.40)	0.00051 (0.07)
MER	-0.00096 (-0.48)	0.00086 (1.63)	-0.00008 (-0.14)	-0.00048* (-1.75)
SSB	-0.0007 (-0.43)	-0.0003 (-0.54)	-0.00042 (-0.70)	0.00019 (0.67)
Country and year	Yes	Yes	Yes	Yes
N	270	270	147	123
F-stat	2.756***	10.290***	16.350***	9.838***
R <sup>2</sup>	0.175	0.234	0.422	0.337

This table presents OLS regression results on earnings management for the empirical model 4a and 4b. Column 1 presents regression results of model 4a. Column 2 presents regression after introducing interaction variables, model 4b. Column 3 presents regression results of model 4b when EM is intended to increase net income. Column 4 presents regression results of model 4b when EM is intended to decrease net income. For each variable, both the beta coefficients and t statistics (in parentheses) are reported. \*\*\*, \*\*, \* indicate significance level at the 1%, 5%, and 10% respectively (two-tailed).



#### 4.2.2. Sensitivity analyses

##### *Using the absolute value of earnings management*

Consistent with prior literature (e.g. Davidson et al., 2005; Quttainah et al., 2013), we repeat our analysis reported in table 8, column 2 by using the absolute value of earnings management (AEM) as dependent variable. Using AEM provides evidence on the earnings management magnitude rather than considering the intentions that might spur bank managers to indulge to this behaviour, which are very important determinants to explain the hypothesized arguments (Warfield, Wild, & Wild, 1995). The results in table 9, column 1 indicate that (1-IB)\*B\_SIZE is no longer significant, whilst (1-IB)\*B\_IND and (1-IB)\*NONE\_XE\_B have become significant. One possible explanation for these changes is that independent and affiliated directors at CBs might concern about the aggregate as well as the sign or direction of earnings management (see: table 8 columns 3 and 4). This result corroborates Amir, Einhorn, & Kama (2014) findings about the intention of managers to distort the absolute value of earnings management by using two components that affect net income in opposite directions. Specifically, they find that the disaggregated financial reporting might be beneficial to stakeholders (e.g. investors, BOD, etc.) when the accounting items are tightly interrelated by their effect on the reported earnings, but vary considerably in their sensitivity to earnings management as well as their signs.

##### *Split earnings management to its components (DLLP and DRSG\_L)*

Clinch & Magliolo (1993) suggest that commingling DLLP and DRSG\_L into one earnings management variable is not appropriate. Accordingly, in table 9, columns 2 and 3, we split the earnings management variable into DRSG\_L and DLLP, respectively. In general, the results indicate that the former is more monitored than the latter from BOD. The rationale behind this result is that RSGL are larger in magnitude, less regulated and selling decisions of these securities are fully under the discretion of bank managers (Cornett et al., 2009). While lower regulatory oversight might spur bank managers to use RSGL to manage earnings, independent and affiliated directors might exercise more vigilant monitoring on recognizing gains (or losses) from these securities rather than LLP which is more regulated even by supranational institutions such as the Basel Committee on Banking Supervision (BCBS). However, it is worth mentioning that IB\*B\_IND variable is changed to a positive effect on earnings management. This change may occur because the independent directors at IBs usually view estimating gains and losses from securities as *Sharia-compliant* transactions, and therefore SSB is in charge to monitor

these transactions, especially to identify and pay the alms giving (Zakah).<sup>13</sup>

**Table 9 robustness analyses**

	(1) AEM	(1) DRSGL	(3) DLLP
DUAL	0.0005 (0.64)	-0.0002 (-0.40)	-0.00009 (-0.11)
IB*B_SIZE	0.00178*** (10.79)	0.00093*** (7.07)	-0.00055 (-1.19)
(1-IB)*B_SIZE	0.00004 (0.40)	-0.00018** (-2.57)	0.00007 (0.50)
IB*B_IND	-0.00588*** (-5.92)	0.00875*** (11.07)	0.00250 (1.43)
(1-IB)*B_IND	-0.00454*** (-4.13)	-0.00204** (-2.33)	-0.00143 (-0.85)
IB*NONEXE_B	0.00778*** (8.18)	-0.00152** (-2.01)	0.00440** (2.55)
(1-IB)*NONEXE_B	-0.00360*** (-3.58)	-0.0024*** (-2.95)	-0.00372** (-2.51)
IB	-0.0217*** (-11.18)	-0.0150*** (-9.73)	0.00019 (0.04)
TIER1 <sub>it-1</sub>	0.00496*** (3.58)	0.00103 (0.94)	0.00151 (0.80)
NI <sub>it</sub>	-0.022** (-2.28)	0.0301*** (3.67)	0.0450*** (3.27)
NI <sub>it+1</sub>	-0.0293*** (-2.76)	-0.022*** (-2.61)	-0.00111 (-0.06)
NI <sub>it+2</sub>	-0.00962 (-0.94)	-0.0143* (-1.75)	0.00741 (0.36)
MER	-0.00016 (-0.46)	-0.00053* (-1.95)	-0.0002 (-0.37)
SSB	0.0005 (1.46)	0.00044 (1.63)	0.00127** (2.43)
Country and year	Yes	Yes	Yes
N	270	270	165
F-stat	8.740***	11.18***	3.123***
R <sup>2</sup>	0.195	0.406	0.237

This table presents our comparative robustness tests. Column 1 presents the main regression model 4b by using the absolute value of EM variable. Column 2 and 3 are the models where the EM variable is separated into DRSGL and DLLP. For each variable, both the beta coefficients and *t* statistics (in parentheses) are reported. \*\*\*, \*\*, \* indicate significance level at the 1%, 5%, and 10% respectively (two-tailed).

<sup>13</sup> Abdel Karim (1995, p 291) defines Zakah as: "Zakah is alms giving and it is a duty on all Muslims to pay it. It is distributed to a group of eight specific classes of the more or less relatively poor. Its amount differs according to the type of business. For example, in trade (which includes Islamic banks) it is levied at the rate of 2.5% while in industry the rate is 10%."

### 4.2.3. Discussion

The purpose of this study is to examine the role of the BOD in mitigating earnings management in the whole MENA banking sector. We examined to what extent, if any, BOD size and composition impact earnings management differently between listed IBs and CBs. We predicted that the idiosyncratic features of the MENA region with the unique mix of the majority based IBs and CBs to reveal different relationships between the BOD characteristics and earnings management of that being documented in developed countries. Before considering the difference between CBs and IBs, our results on the whole banking sector at MENA indicate that although the BOD size is a key factor with an increased level of complexities and information asymmetry, it seems to have an insignificant effect on earnings management at MENA. This stems from the notion that bank specific characteristics might determine the BOD size (Boone et al., 2007) and its effect on earnings management. That is, the size of the BOD is determined based on the trade-off between the firm specific benefits of increased level of monitoring and the cost of such monitoring. Moreover, MENA banks are likely to promote corporate governance practices with more independent BOD. Prior literature also documents the negative effect of independent directors on earnings management (e.g. Chen & Zhang, 2014; Cornett et al., 2009). One obvious explanation is that independent directors might confront more vitriolic criticism in case of financial reporting failure (Srinivasan, 2005). Another explanation is that in emerging economies, independent directors may supplant a weak regulatory framework.

Affiliated directors also seem to constrain earnings management. They are less prone to information asymmetry. Our results echoed García-Meca & Sánchez-Ballesta (2009) findings on the impact of affiliated directors on earnings management, as duality is found to have no significant effect on earnings management in MENA. Our result did not support the findings of Abdelsalam et al. (2016) since they find a positive association between duality and earnings management. The strict regulatory monitoring role which may control CEO/chairman discretionary decisions, especially in a regulated sector as banks, might explain these results.

Distinguishing between CBs and IBs, inefficient larger BOD at IBs may be due to the complexities of agency problems and equity structure (i.e. IAHs). A crucial role of SSB also may lessen directors' appetite to monitor earnings management and exacerbate free-riding problem across both boards.

More importantly, independent directors at IBs are more effective in monitoring earnings management compared to CBs. These findings are consistent with prior literature findings on the negative effect of independent directors on earnings management (e.g. Abdelsalam et al. 2016; Cornett et al., 2009; Xie et al., 2003). According to McGuire et al. (2012), religious social norms might explain individuals' abidance to their duty, which might be applicable to independent directors at IBs. However, affiliated directors who have relationship with IBs might be more aware of the risk that IBs confront, so they might facilitate earnings management.

Our results also have some limitations which are considered interesting avenues for future research. First, although the present paper includes all available data of listed banks from 2006 till 2014, the studied banks are still limited. This may bias our results toward the healthier banks which fulfil disclosure and listing rules. Future studies may include unlisted banks which may have more subtle earnings management. Second, IBs, unlike CBs, have many other ways to manage earnings (e.g. PER, URIAHs) which are less regulated and fully controlled by bank managers. Thus, they may deliberately use these tools instead of LLP and/or RSGL which are regulated and monitored by the BOD. It is therefore interesting for future research to study if these accounts may be used to manage earnings. Third, although prior studies have documented the negative effect of SSB on earnings management, the relationship between this board and the regular BOD is still sparse. So, it is worth to study this relationship and how it may impact earnings management.

## **5. Conclusion**

Earnings management is a widespread issue that impedes the credibility of financial data and its related analyses. It also widens the agency conflicts between agent-principal and controlling-minority shareholders as well. However, the BOD size and composition play a key role in mitigating this behaviour as documented by studies that focus on developed countries. We contribute to this stream of literature by providing evidence that the banking sector in an emerging region, such as MENA, manifests the role of independent directors in circumscribing earnings management behaviour to address agency conflicts.

More importantly, our findings also contribute to the comparative literature between CBs and IBs in many different ways. First, it suggests the importance of independent directors when distinguishing between both subsectors. The idiosyncratic agency conflicts of IBs have shown

that more independent directors with smaller BOD are better to reduce earnings management. Second, our study confirms the prior literature findings with regards to the higher quality of loans and credit policy of IBs (e.g. Abdelsalam et al., 2016). Third, similar to the literature on earnings management within US banks, our study confirms the using of LLP and/or RSGL as earnings management tools by both subsectors. More importantly, our study gives evidence that even IBs, as religiously oriented banks, unwaveringly use earnings management. Fourth, our study helps to explain the differences in the way of influencing earnings management between independent and affiliated directors (see García-Meca & Sánchez-Ballesta, 2009), and how they might affect earnings management differently in CBs and IBs.

Our study has important practical implications. Specifically, it suggests more awareness to the additional agency problems at IBs by representing IAHs in BOD or its subcommittees. This per se will foster IBs development, constraining earnings management, and curtail contagion effect on the whole banking sector. Our study also sheds light on the importance of religious social norms and how it might be utilized to direct individuals and organizations efforts toward maximizing others' interests, which remains a fertile ground for future academic research.

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