THE RELATIONSHIP BETWEEN EARNINGS MANAGEMENT AND VOLUNTARY DISCLOSURE QUALITY IN ISLAMIC AND NON-ISLAMIC BANKS: THE CASE OF MENA REGION

By

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Abstract

The aim of the current study is to investigate the relationship between earnings management (EM) and voluntary disclosure quality (VDQ) on Islamic and non-Islamic banks (IBs and NIBs) listed in Middle East and North African (MENA) countries during the period from 2006 to 2015.

In accordance with the empirical work of Kanagaretnam et al., (2004) and Yasuda et al., (2004), the two-stage and modified Jones models were employed as major and alternative models respectively to measure EM practices. The multidimensional method of Beretta & Bozzolan (2008) was developed in order to measure VDQ. The panel regression analysis was utilised for the regression model used in the current study.

The findings show that the VDQ has a negative and significant impact on EM in both IBs and NIBs, which are in line with the perspectives of both signalling and agency theories. In addition, this result remains unchanged after robustness and several additional tests. Furthermore, the findings of the multivariate analysis show that IBs and NIBs behave differently in terms of both EM practices and VDQ. This result was supported by several alternative tests.

Overall, the methodological contribution of this study is the further development of the multidimensional framework of Beretta & Bozzolan, (2008) in order to measure VDQ. It is also the first empirical research, to the best of the researcher's knowledge, on the relationship between EM and VDQ in the banking industry, especially in Islamic banking. Additionally, it provides empirical evidence on the differences between IBs and NIBs that are listed in MENA countries in terms of EM and VDQ.

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Brief Table of Contents

Table of Contents

List of Tables

List of Figures

Abbreviations

2SLS	Two-Stage Regression
AAOIFI	Accounting and Auditing Organization for Islamic Financial Institutions
ACEX	Audit committee expertise
ACG	Audit committee gender diversity
ACM	Audit committee meetings
ACZ	Audit committee size
AIMR	Association for Investment Management and Research
Bank-type	Bank Type
Bank-Z	Bank Size
BDEX	Board of director's expertise
BGD	Board Gender Diversity
BH	Block holders
Big4	Audit firms
BM	Board Meeting
BPE	Bank's premises and equipment
BPE	Bank's premises and equipment
BZ	Board Size
CEO	Chief Executive Officer
CON	Concentration of information
COV	Coverage of information
CSRD	Corporate social responsibility disclosure
Depth	Depth of information
DLLPs	Discretionary loan loss provisions

DU	Duality
EM	Earnings management
ε	Residual Values
FASB	Financial Accounting Standards Board
FIFO	First- in-first-out
GAAP	Generally accepted accounting principles
GAINS	Realized gains and losses on securities
Growth	Bank's Growth
IAC	Independence of Audit Committee
IAS	International accounting standard
IASB	International Accounting Standards Board
IBD	Independence of Board of Directors
IBs	Islamic banks
IFRS	International Financial Reporting Standard
LCO	Written-off loans
LEVER	Bank Leverage
LIFO	Last- in-first-out
LIQ	Bank Liquidity
LLA	Loan loss allowances
LLPs	Loan loss provisions
MENA	Middle East and North Africa
MOS	Managerial Ownership
NDLLPs	Non-discretionary loan loss provisions
NI	Net income
NIBs	Non-Islamic banks

NPLs	Non-performing loans
OCF	Operation cash flows
OI	Operating income
OIC	Organization of Islamic Conference member
OLS	Ordinary Least Squares
PROFT	Profitability
PT	Political Turmoil
Q-Q plot	Quantile-Quantile Test
R&D	Research and Development costs
RICH	Richness of information
ROA	Return on assets
SEC	Securities Exchange Commission
SSB	Shari'ah Supervisory Boards
STATA	Statistical Analysis Package
TA	Total assets
TAC	Total accruals
UGAINS	Unrealized security gains and losses
VDQ	Voluntary disclosure quality
VIF	Variance inflation factor
WID	Width of information

Chapter One: Introduction

1.1 Research Background

The recent global financial crisis has shown that information disclosed in the banking industry is insufficient and information asymmetry problems are very high [1] (Grougiou et al., 2014). For instance, the incidence of bankruptcy among Bear Stearns and Lehman Brothers was attributed to poor quality financial reporting, which misled users into making inaccurate decisions (Jones & Finley, 2011). However, managers can take deliberate procedures through the process of generally accepted accounting principles (GAAP) and utilise their judgement and knowledge to select reporting methods, estimates and disclosures that reflect the underlying economic conditions of the firm to reach the desired levels of profits (Beneish, 2001).

The conflict of interest may occur between managers and shareholders when the former use discretion over accounting profits either to gain some private benefits at the expense of shareholders or to mislead stockholders about the company's financial performance (Lambert, 2001). This opportunistic behaviour allows bank managers greater freedom to manipulate earnings (Black & Shevlin, 1999), resulting in a negative influence on the reliability and quality of the company's financial reports, which in turn affects shareholders' decisions and confidence in the reported information (Chen et al., 2010).

[1] Banks in MENA countries have been impacted by the recent global financial crisis because of their higher exposure to real estate and their limited reliance on risk sharing or equity based transactions (Bourkhis and Nabi., 2013). This, in turn, might have an influence on both EM and VDQ. Thus, it is vital to include the period of financial crisis in this study.

Recently, two different strategies of EM behaviour have been discussed by EM literature: (1) Accrual[2] based EM, which involves the flexibility to choose from a set of accounting methods or to change accounting estimates. (2) Real EM, which involves the timing of the recognition of events such as (expenditure, sales, investment and financing decisions) in the period that is most advantageous to management (Zang, 2011). Since the financial reports are considered as the main source for investors to obtain reliable and relevant information, it is important to disclose relevant and credible information, which helps the investors in making investment decisions (Healy, Hutton & Palepu, 1999).

On the other hand, the purpose of disclosure is to provide high quality information in the annual report, which will benefit different stakeholders by enabling them to evaluate the organisation and to make the right decision (Grossman, 1981; Kasznik & McNichols, 2002; Milgrom, 1981). Additionally, relevant and high quality disclosure mitigates the investor's estimation risk, suggesting that high quality information is considered as a valuable resource, which could assist more informed trading decisions (Coles et al., 1995). Corporate disclosure is a vital instrument for bridging the information asymmetry gap between manager and stakeholders and thus reduces EM practices (Ahmed & Courtis, 1999; Healy & Palepu, 2001; Schipper, 1989). Consequently, voluntary disclosure quality (VDQ) is one of the most important monitoring instruments that control the opportunistic behaviour of managers (Bushman & Smith, 2001). The literature on the association between EM and VDQ found that high VDQ is useful in reducing EM practices and controls managers' opportunistic behaviour (Hunton et al., 2006; Iatridis & Kadorinis, 2009; Katmun, 2012; Lobo & Zhou, 2001; Tariverdi et al., 2012). These studies argue that firms that

[2] Accruals are the incurred expenses and earned revenues which have an overall influence on both income statement and balance sheets (Hribar and Collins., 2002).

disclose high level of information extensively are less likely to engage in EM, which implies a negative relationship between VDQ and EM.

Based on the literature, there are two points of view with regard to the association between EM and VDQ; these are long-term perspectives and managerial opportunism. The long-term perspective indicates that the main concern of firms that provide great voluntary disclosure is not only to raise current profits and executives' wealth but also to enhance and build a robust future relationship with their stockholders. With this regard, Qu et al., (2015) suggested that voluntary disclosure provides stockholders and other outside users with credible and relevant information, which, in turn, facilitates them to make more accurate and informed decisions. Since the asymmetry costs is borne by the company's manager, signalling theory suggests that managers will behave in a responsible manner when voluntarily signalling truthful information. The long-term perspective is consistent with previous studies (Hunton et al., 2006; Iatridis & Kadorinis, 2009; Katmun, 2012; Lobo & Zhou, 2001; Tariverdi et al., 2012), which indicated that voluntary disclosure is negatively linked to EM behaviour.

On the other hand, the perspective of managerial opportunism suggests that company managers may disclose more information voluntarily in order to lid their opportunistic behaviour of EM (Li et al., 2012). This perspective is in line with the agency theory, which suggests that actions of individual are strongly linked to their self-interest and each individual will increase their wealth by behaving in an opportunistic manner (Jensen & Meckling, 1976). In this regard, managers employ poor voluntary disclosure as an important tool to cover their opportunistic behaviour and to protect themselves against any possible reaction and attention from stockholders. This argument is supported by Martínez-Ferrero, et al., (2015); Francis et al., (2008), who

indicated that the relationship between EM and voluntary disclosure could be substitutive in the sense that firms might report poor- quality voluntary disclosure as a mechanism of legitimacy to substitute the lack of good disclosure. The perspective of managerial opportunism is consistent with several studies (Kasznik, 1999; Muttakin et al., 2015; Patten & Trompeter, 2003; Prior et al., 2008), which indicated that voluntary disclosure is positively related to EM behaviour.

It is worth mentioning that EM and VDQ studies have used several methods to measure VDQ. One such method is the Association for Investment Management and Research (AIMR) rating, which is available only for specific firms in the US, was used by Lobo and Zhau (2001) as proxy for VDQ, while other research focused on disclosure indices that measure only the level of information disclosed without paying attention to the richness of this information (Al-Janadi et al., 2013; Alotaibi & Hussainey, 2016; Alturki, 2015; Habbash et al., 2016; Lapointe-Antunes et al., 2006). In addition, empirical researches that specialise on the quality of disclosure measurements have provided general frameworks, which are applicable to several types of information (e.g. Anis, Fraser & Hussainey, 2012; Beattie, McInnes & Fearnley, 2004; Beretta & Bozzolan, 2004; Beretta & Bozzolan, 2008; Braam & van Beest, 2013). These frameworks were based on the dimension of quantity and several other dimensions such as spread, financial orientation, time orientation, quantitative orientation, economic sign, coverage and dispersion of information.

However, Beretta & Bozzolan (2008) argued that disclosure quality is not only linked to the level of information disclosed but also to what is disclosed and the variety of topics disclosed. Additionally, Botosan (2004) argued that the notion of VDQ should be based on the conceptual frameworks created by the standard setters (FASB and

IASB). This reflects a generally accepted interpretation of disclosure quality, and lead to high quality information that is useful for decision-making (IFRS, 2010). Consequently, the current study measure differs from existing measures because it takes into account the recommendations of both Beretta & Bozzolan (2008) and Botosan (2004) by developing a comprehensive framework that considers both the quantity and richness of disclosed information with attention focused on satisfying the conceptual frameworks of both FASB[3] and IASB[4] when measuring VDQ.

The quantity dimension provides users with the relative amount of information disclosed voluntarily (how much is disclosed). However, the richness dimension consists of two sub-dimensions, namely width and depth. The width of disclosure considers the topics included in the disclosure index for the classification and identification of disclosure items. This captures the coverage and concentration of disclosed information. This sub-dimension offers investors a more general overview of the business alongside its aim of focusing on relevant issues. On the other hand, the sub-dimension of depth takes into account the information's usefulness to users as defined in the conceptual framework of the IASB (2010). For information to be useful, it must be relevant, understandable, comparable and faithfully represent what it purports to represent (IASB, 2010).

Several empirical studies have investigated the impact of voluntary disclosure level on EM practices (Bagnoli & Watts, 2010; Bauer & Boritz, 2013; Hunton etal., 2006; Iatridis & Kadorinis, 2009; Jo & Kim, 2007; Kasznik, 1999; Kwag & Small, 2007; Lapointe-Antunes et al., 2006; Lobo & Zhou, 2001; MeilaniPurwanti, 2013; Riahi & Ben Arab, 2011; Shaw, 2003; Tariverdi et al., 2012). In addition, some other

[3] - **FASB** requirements: **A)** identifies the aspects of the company's business that are especially important to the company's success. These are the critical success factors for the company. **B)** Identifies management's strategies and plans for managing those critical success factors in the past and going forward. **(Width means that the wider the variety of topics disclosed the better).**

[4] **IASB** frameworks (understandability, relevance, reliability, comparability and timelines).

empirical studies have only focused on the influence of a part of voluntary disclosure level (such as corporate social responsibility or forward-looking information) on EM practices (e.g. Belgacem & Omri, 2015; Bozanic et al., 2013; Burgstahler & Eames, 2006; Chan et al., 2007; Kiattikulwattana, 2014; Muttakin et al., 2015; Patten & Trompeter, 2003; Prior et al., 2007; Rahman et al., 2007; Sun et al., 2010; Yip et al., 2011). Based on the above, it can be seen that empirical studies on EM and voluntary disclosure have only focused on the impact of voluntary disclosure level on EM without paying attention to the quality of this information. Consequently, the current study bridge this gap in the literature by examining the relationship between EM and VDQ.

Furthermore, organisations that are compliant with Islamic law "Shari'ah" behave justly when dealing with their client and forbid riba, ambiguity and manipulation in their transactions (EM) (Hossain et al., 2014). They are also required to conform to the concept of full disclosure (Abdulrahman, Anam & Fatima, 2010). Thus, the researcher was motivated to examine the relationship between EM and VDQ by using data from both IBs and NIBs.

Additionally, EM and VDQ literature provides evidence on the impact of corporate governance mechanisms in influencing VDQ and mitigating EM practices (e.g. Katmun, 2012; Riahi & Ben Arab, 2011). Although a few empirical studies have been applied to some of the corporate governance mechanisms[5] and control their effect on both EM and voluntary disclosure (Katmun, 2012; Prior, Surroca & Tribó, 2008; Riahi & Ben Arab, 2011; Shaw, 2003), the majority of EM and voluntary disclosure literature has failed to include corporate governance as a control variable when investigating the influence of voluntary disclosure on EM practices (Hunton et al.,

[5] Board and audit committee independence, meeting, size and Big4.

2006; Iatridis & Kadorinis, 2009; Muttakin, Khan & Azim, 2015; Tariverdi et al., 2012). Therefore, this study employed several proxies of corporate governance in order to control their effect on both EM and VDQ.

The economic conditions have a significant influence on the firm's performance, which may increase managers' motivation to practice EM. Furthermore, it has been argued that managers may manipulate earnings to raise the confidence of stockholders about the company's performance during and after the economic crisis (Berndt & Offenhammer, 2010; Filip & Raffournier, 2014). Considering this, the current study has utilised a period of 10 years (2006 to 2015), which includes the financial crisis of 2008.

1.2 Research Motivation

Corporate disclosure is considered as a powerful monitoring tool, since an appropriate monitoring system of the company's managers and ownership will have a significant effect in reducing EM. Corporate disclosure is used by several bodies, such as investors and regulators, as a monitoring system, as it aims to minimise the asymmetric information between managers and shareholders. This, in turn, decreases the agency cost (Huang & Zhang, 2011). In this sense, delivering high quality information to investors will lessen the conflict of interests, increase investors' confidence about the company's performance and enable them to detect EM (Sun et al., 2010; Jo and Kim 2007). Therefore, EM is expected to be lower in banks that disclose high quality information.

In order to explain the link between VDQ reporting and EM, the literature suggested two perspectives: the long-term perspective and the legitimacy approach. According to the long-term perspective, firms signal VDQ to reduce asymmetric information,

mitigate the uncertainty risk, and improve financial decisions in the capital markets (Uyar, Kilic, & Bayyurt, 2013). Given that managers are more likely to engage in EM when there is high information asymmetry, voluntary disclosure is assumed by signalling theory as a means for mitigating the information asymmetry between management personnel and stakeholders. On the other hand, the legitimacy approach assumes that firms' managers may disclose more information voluntarily in order to cover their opportunistic behaviour and to protect themselves against any possible reaction from stockholders (Li, Mangena, & Pike, 2012). According to this perspective, the relationship between EM and VDQ could be substitutive in the sense that firms might report poor VDQ as a mechanism of legitimacy to substitute for the lack of good VDQ (Francis et al, 2008; Martínez-Ferrero et a, 2015).

To the best of the researcher's knowledge, no study has examined the association between EM and the VDQ in the banking industry, especially in IBs, which has made the relationship between both elements obscure until now. Thus, the current study is motivated to fill this gap in the literature by using data from both IBs and NIBs that operate in MENA countries. This will add a different point of view to the literature and thus make a unique contribution in the field of EM and disclosure in general. The justification for excluding other Islamic institutions from the full sample (e.g. Islamic investment companies and Islamic insurance companies) is that capital structure and accountancy requirements for these Islamic institutions are substantially different from those of IBs and NIBs (Islamic Financial Services Board, 2005).

Furthermore, the reason for choosing MENA is that $2.5 trillion of worldwide assets are owned by IBs, and the majority of developed IBs are found in MENA countries (Ernst and Young, 2015; Nazim & Bennie, 2012). In addition, both IBs and NIBs in

MENA countries adopt the same accounting standards (IAS, IFRS), which allows the researcher to outline a comparative study between them (Maha & Hakim, 2013).

Furthermore, in most disclosure studies, a measure of the level of disclosed information is utilised as a quality of disclosure (Aljifri & Hussainey, 2007; Alotaibi & Hussainey, 2016; Aribi & Gao, 2010; Menicucci, 2013; Salama, 2009; Urquiza et al., 2009). However, Beretta & Bozzolan (2008) argued that disclosure quality is not only linked to the level of information disclosed but also to what is disclosed and the variety of topics disclosed. Additionally, Botosan (2004) argued that the notion of VDQ should be based on the conceptual frameworks created by the standard setters (FASB and IASB). Consequently, to measure VDQ, the current study is motivated to develop a comprehensive framework that considers both the quantity and richness of disclosed information with the attention on satisfying the conceptual frameworks of both FASB[6] and IASB[7].

In spite of the extensive literature on disclosure, researchers have generally paid less attention to the quality of voluntary disclosure of financial institutions (e.g. Ahmed Haji & Anum Mohd Ghazali, 2013; Alotaibi & Hussainey, 2016; Beattie et al., 2004; Beretta & Bozzolan, 2008; Chakroun & Hussainey, 2014; Elzahar et al., 2015; Maali et al., 2006; Qu et al., 2015). The majority of these studies have not focused on the banking sector, especially IBs. Furthermore, to the best of the author's knowledge, IBs listed in MENA countries have not yet been the focus of any study regarding VDQ. Therefore, this study sheds more light on VDQ in both IBs and NIBs listed in MENA countries.

[6] - **FASB** requirements: **A)** identifies the aspects of the company's business that are especially important to the company's success. These are the critical success factors for the company. **B)** Identifies management's strategies and plans for managing those critical success factors in the past and going forward. (Width means that the wider the variety of topics disclosed the better).

[7] **IASB** frameworks (understandability, relevance, reliability, comparability and timelines).

Regardless of the efforts that are made by the regulatory bodies for banks to mitigate EM practices, the opportunistic behaviour of EM still exists and continues to concern related parties such as standard setters, regulators and practitioners (Beaudoin et al., 2015). The banking collapse of 2008 has raised attention among financial information users about the quality and reliability of the information provided, which in turn made the opportunistic behaviour of EM as one of the constituting factors (Cohen et al., 2014). Furthermore, it is important to compare EM practices of IBs and NIBs because opportunistic behaviour is prohibited and immoral in IBs, and is condemned by Islam (Hamdi & Zarai, 2013), whereas opportunistic behaviour may be more likely in NIBs (Naughton & Naughton, 2000). For instance, the IBs are guided by the Shari'ah law, which establishes the ethical codes for appropriate behaviour and conduct in order to ensure fairness (Hamdi and Zarai, 2013). The absence of such control among NIBs may allow social inequity and unfair wealth distribution, such as remuneration packages paid to encourage managers to indiscriminately ensure profit maximisation (Naughton & Naughton, 2000). Therefore, the current study is strongly motivated to investigate and compare EM practices in both IBs and NIBs listed in MENA countries.

1.3 Research Aim and Objectives

This study aims to investigate the relationship between EM and VDQ in the banking sector in MENA countries. In order to address this aim, three objectives are determined:

1- To investigate and compare EM practices in both IBs and NIBs listed in MENA countries during the period from 2006 to 2015.

Managers of institutions with religious affiliation usually follow certain socially acceptable norms, which are related to anti-manipulative behaviour (Dyreng et al., 2012). Since IBs must adhere to Islamic Law (Shari'ah), and the majority of IBs employ AAOIFI standards; these may mitigate EM practices. Furthermore, beyond the general monitoring system for all banks, IBs are also monitored by another supervisory board, the Shari'ah Supervisory Board (SSB). Thus, it is essential to examine whether there is any difference in EM practices between IBs and NIBs.

2- To investigate and compare the VDQ in both IBs and NIBs listed in MENA countries during the period from 2006 to 2015.

Alongside the Islamic ethical values, Shari'ah, AAOIFI standards and the SSB, IBs are required to adopt the full disclosure concepts and accountability, which are not demanded by NIBs (Ashraf et al., 2014). This entails that IBs need to report more information than NIBs (AAOIFI, 2005). Therefore, taking into account to all these obligations, it is essential to examine whether there is any difference in VDQ between IBs and NIBs.

3- To investigate the relationship between EM and VDQ in both IBs and NIBs listed in MENA countries during the period from 2006 to 2015.

Examining the impact of VDQ on EM contributes to the knowledge in several ways. It bridges the gap in the literature, since the empirical studies have only focused on the relationship between EM and voluntary disclosure levels without paying attention to the quality of this information. It also sheds more light on VDQ in both IBs and NIBs listed in MENA countries.

1.4 Overview of the Study Methods

The following is a brief description of the methods that are utilised in the present study. Additional details, specification and justification for the chosen methods and methodology are presented in chapter 4. In accordance with the empirical work of Kanagaretnam et al., (2004) and Yasuda et al., (2004), two-stage model and modified Jones were employed as major and alternative models to measure EM practices[8], respectively. Besides using the descriptive analysis and univariate analysis based on the t-test to determine whether the EM level is different in IBs and NIBs. Additional analyses were employed to assure the main results. The Orbis Bank Focus database, OSIRIS database and Bloomberg database were used as primary sources of EM data for a sample of 106 banks listed in MENA countries, which are divided into 29 IBs and 77 NIBs over a 10-year period from 2006 to 2015. The first objective of EM is addressed in chapter 5.

With regard to the second objective, the multidimensional framework of Beretta & Bozzolan, (2008) is developed to capture VDQ. The current study employed content analysis and disclosure index method to measure VDQ. Banks' annual reports were utilised as primary sources for VDQ data because they provide the most comprehensive pertinent data on an annual basis and are considered to be a major source of voluntary disclosure to users (Neu et al., 1998; Salama et al., 2012). Following voluntary disclosure studies (Aribi & Gao, 2010; Campbell, 2004; Zeghal & Ahmed, 1990), the current study has selected words as a recording unit in order to measure the VDQ from the banks' annual reports over the period from 2006 to 2015.

[8] LLPs represent the largest portion, and are considered to be the primary source, of accruals in the banking system, which creates the conditions for potential accounting manipulations. They play a major role in managers' decisions with regards to accounting manipulation (Abdelsalam et al., 2016; Belal et al., 2015). Other EM measurements models, such as Kothari et al.'s (2005) model, are not suitable to capture EM in the banking industry because they do not take into account the LLPs in their model.

This study applied the method used by Botosan (1997) in order to validate the study's categories and items and to ensure that this study covered most of the items used in voluntary disclosure literature. Descriptive analysis and univariate analysis based on the t-test are used to determine whether the VDQ is different in IBs and NIBs. The second objective of VDQ is addressed in chapter 6.

With respect to the third objective, this study has employed both univariate and multivariate analyses to examine the relationship between EM and VDQ in IBs and NIBs. The univariate analysis includes: descriptive statistics and both correlation coefficients matrix and variance inflation factor (VIF), which were used in order to check the existence of collinearity issues between study variables. Besides univariate analysis, the present study has used multivariate analysis using a panel regression of 1,060 firm-year observations of both IBs and NIBs listed in MENA countries during the period from 2006 to 2015. Several additional analyses were adopted to ensure the validity and robustness of the primary findings. In order to examine whether the finding of the association between EM and VDQ is affected by an endogeneity problem, the current study has examined this issue through employing (2SLS) regression analysis and applying instrumental variables. The third objective of the relationship between EM and VDQ is addressed in chapter 7.

1.5 Research Key Findings

The current study offers several interesting results. **Firstly**, the descriptive analysis provided in chapter 5 illustrates that the mean values of EMLLPs and EMDA[9] for the entire sample are 0.1115 and 0.0155. Across years, the descriptive analysis indicates that the highest mean values of EMLLPs and EMDA were in the years 2006 and 2011

[9] EMLLPs and EMDA represent the EM achieved from the two-stage and modified Jones models, respectively.

respectively, whilst the lowest EMLLPs and EMDA were in 2012. In addition, the average values of EMLLPs across years are higher than those of EMDA. Comparing EM across countries, Iraqi banks reported the highest mean values of EM compared to those of other countries. Based on the univariate analyses (t-test) of EM for IBs in comparison to NIBs, the result indicates that the mean values of EM in IBs are less than in NIBs and the t-test shows a significant difference at a level of 1%. This confirms that IBs are less likely to manipulate earnings than NIBs. Moreover, these findings remain unchanged after several alternative tests.

Secondly, the descriptive analysis provided in chapter 6 illustrates that the mean value of VDQ for the entire sample is 0.5774. Furthermore, the descriptive analysis across years indicates that the highest and lowest mean values of VDQ are 0.6465 and 0.5352 in 2015 and 2012 respectively. Comparing VDQ across countries, banks listed in Kuwait reported the highest mean value of VDQ, while banks listed in Iraq reported the lowest mean value of VDQ. In addition, the result of univariate analyses (t-test) of VDQ indicates a significant difference between IBs and NIBs at the 1% level, and the mean values of VDQ in IBs markedly higher than those of NIBs. This suggests that VDQ in the banking sector in MENA countries differs based on the bank's type, and confirms that IBs are more likely to disclose high quality information voluntarily than NIBs.

Finally, the prime findings of this study, presented in chapter 7, show that VDQ has a negative influence on EM. This result is in line with the agency and signalling theories, which suggest a negative relationship between EM and VDQ. This study conducted a series of tests in order to ensure the validity of the main results and to maintain consistency with the theories used in this study. For instance, the Jones model, modified for banking institutions, was adopted as an alternative measurement

for EM in order to examine whether the different measure of EM has any influence on the main outcomes. The results confirmed that banks in MENA countries with a high VDQ are less likely to engage in EM. Furthermore, the result obtained by re-running the model using sub-samples of banks with relatively high incentives of EM show a negative and significant relationship between EM and VDQ. In general, these analyses confirm that both IBs and NIBs in MENA countries with high VDQ are less likely to manipulate earnings.

1.6 Research Contributions

The current study has two main contributions, which include a contribution to knowledge and a methodological contribution.

1.6.1 Contribution to Knowledge

The empirical studies have only focused on the relationship between EM and voluntary disclosure level without paying attention to the quality of this information. This has made the relationship between both EM and VDQ obscure until now. Thus, the current study is the first of its kind to investigate this relationship (between EM and VDQ) in both IBs and NIBs in MENA countries.

Furthermore, while several empirical studies have investigated the quality of voluntary disclosure (e.g. Ahmed & Mohd Ghazali, 2013; Alotaibi & Hussainey, 2016; Beattie et al., 2004; Beretta & Bozzolan, 2008; Chakroun & Hussainey, 2014; Elzahar et al., 2015; Qu et al., 2015), none of these studies have focused on the banking sector, especially IBs. To the best of the author's knowledge, IBs listed in MENA countries have not yet been the focus of any study regarding VDQ. Therefore, this study sheds more light on VDQ in both IBs and NIBs listed in MENA countries.

Additionally, corporate governance mechanisms provide evidence on the joint impact of VDQ in mitigating EM practices. Although few empirical studies have applied one or two proxies of corporate governance mechanisms[10] to control their effect on both EM and voluntary disclosure (Katmun, 2012; Prior, Surroca & Tribó, 2008; Riahi & Ben Arab, 2011; Shaw, 2003), none of these studies have employed many proxies of corporate governance in order to control their effect on both EM and VDQ. Therefore, the present study is the first (so far) that takes into account several corporate governance mechanisms in the study model when examining the relationship between EM and VDQ.

1.6.2 Methodological Contribution

In addition to the above contributions, the present study provides a methodological contribution by developing a multidimensional framework to measure VDQ. The empirical studies on EM and voluntary disclosure have used several other methods to measure VDQ (i.e. AIMR rating and disclosure indices), without paying attention to the richness of the information disclosed voluntarily (e.g. Lobo and Zhau 2001; Al-Janadi et al., 2013; Habbash et al., 2016). However, the current study measure takes into account the recommendations of both Beretta & Bozzolan (2008) and Botosan (2004)[11] by developing a comprehensive framework that considers both the quantity and richness of disclosed information with attention to satisfying the conceptual frameworks of IASB[12] when measuring VDQ.

[10] Board and audit committee independence, meeting, size and Big4 usage.

[11] Beretta & Bozzolan (2008) argued that disclosure quality is not only linked to the level of information disclosed but also to what is disclosed and the variety of topics disclosed. Whereas, Botosan (2004) argued that the notion of VDQ should be based on the conceptual frameworks created by the standard setters.

[12] **IASB** frameworks (understandability, relevance, reliability, comparability and timelines).

1.7 Structure of the Study

This section provides the structure of this research, which is divided into eight chapters and is organised as follows: Chapter 1 is an introduction for the thesis, which includes: research background, research motivation, aims, objectives, methods, key findings and contribution.

Chapter 2 presents EM definitions, motivations, and techniques. It provides the EM practices from Islamic perspective. It also covers EM measurements and a detailed review of EM literature in the banking sector.

Chapter 3 introduces the main concepts that are related to voluntary disclosure quality (VDQ)[13], which include definitions of voluntary disclosure, benefits of voluntary disclosure to both investors and companies and determinants of voluntary disclosure. It also provides disclosure from Islamic perspective, the theoretical framework, reviews the empirical studies on the association between VDQ and EM, and summery of the chapter.

Chapter 4 outlines the development of the research hypotheses, methodology, philosophy, strategy and approach used in this research. It describes the sample and data collection. Measurements of variables and the model used for data analysis were provided. It also provides the procedures of data analysis and summary of the chapter.

Chapter 5 reports the analysis and summarises the results regarding the study's first objective, namely "to investigate and compare EM practices in IBs and NIBs in MENA countries". Two empirical research models were utilised to investigate EM in both IBs and NIBs. It introduced the findings through a descriptive analysis of EM for the entire sample, across years and across countries. It presents the results of

[13] For the purpose of this study, VDQ is defined, following Beretta & Bozzolan (2008) and Botosan (2004), as the quantity and richness of information disclosed voluntarily with the intention of satisfying the conceptual framework of IASB.

univariate analyses (t-test) of EM level for IBs in comparison to NIBs. Additional and robustness analyses were provided in order to support the primary findings.

Chapter 6 shows the results regarding the study's second objective, namely; "To investigate and compare the VDQ in IBs and NIBs in MENA countries". The multidimensional framework of Beretta & Bozzolan, (2008) was developed to measure VDQ. The results were shown through descriptive statistics based on the entire sample, across years and across countries. Univariate analyses (t-test) of VDQ for IBs in comparison to NIBs were provided. Finally, the validity of multidimensional framework was shown.

Chapter 7 provides the analysis and discussion about the current study's main objective, which is "to investigate the relationship between EM and VDQ in both IBs and NIBs listed in MENA countries during the period from 2006 to 2015". This chapter shows the findings of the third objective by using several types of analysis including descriptive statistics, variance inflation factors, a correlation matrix and a multivariate analysis. Robustness test and additional analysis were provided. Lastly, the endogeneity problem was checked through (2SLS) regression technique and VDQ was used as an instrumental variable.

Chapter 8 provides the summary of the primary results, outlines the implications of this study and provides suggestions for future research and improvements.

Chapter Two: Literature Review on Earnings Management

2.1 Introduction

Based on the study's first objective, which is to investigate and compare earnings management (EM) in IBs and NIBs in MENA countries over the period from 2006 to 2015, this chapter is allocated to understand and to review the related literature on EM practice. This chapter is structured as follows: Section 2.2 presents the EM definitions. Section 2.3 illustrates EM motivations. Section 2.4 presents EM techniques. Section 2.5 covers EM measurements in the banking sector, section 2.6 provides a literature review on EM in the banks sector. Section 2.7 demonstrates EM practices from Islamic perspective, whilst section 2.8 presents a summary of this chapter.

2.2 EM Definitions

Beneish (2001) defines EM as a deliberate intervention in the preparation of financial reports for private gain through the process of generally accepted accounting principles (GAAP). It could be said that managers can be involved in EM for the purpose of reaching the profits that reflect the management's target, yet not the profits that reflect the actual financial performance of the entity.

EM is considered to be one of the modern subjects that attracted the interest of researchers and investors, and also one of the most crucial ethical financial reporting issues (Armstrong, 1993). EM literature has defined EM severally. Healy and Wahlen (1999) argue that EM takes place when managers utilise discretion in order to manipulate the information provided in the annual reports "either to mislead some

shareholders regarding the company's economic performance or to effect contractual outcomes which rely on published financial figures" (Healy and Wahlen1999, p. 7).

The majority of EM literature shows that EM involves managerial judgment or support (Levitt Jr, 1998, Mulford and Comiskey, 2005, Dechow and Skinner, 2000, Beneish, 2001, Issa, 2008, Mohammady, 2010). For instance, Levitt Jr (1998, p. 27) describes EM as "a grey area in which the accounting is being manipulated, where disclosed earnings does not reflect the underlying company's financial performance but it reflects the manager's desire, and where managers are cutting corners".

Furthermore, Schipper (1989) describes EM as management disclosure, arguing that through EM, managers purposefully intervene in the process of external financial reporting in order to gain some particular benefits. Also, Ronen and Yaari (2008) explain that EM is a set of management decisions that lead to the non-disclosure of the true financial performance of the company, which affects the company's financial report.

In addition, Jordan et al., (2008) indicated that, despite the lack of a particular definition for EM, there is an essential character for EM that is a process of manipulating earnings for personal gains. Likewise, Rahman et al., (2013) defined EM as the managers' ability to control discretionary accruals and change earnings in order to meet their expectations, under pressure from both the constraints of GAAP and the owners. In other words, Al-Khabash and Al-Thuneibat, (2009) indicated that accounting standards give managers a wide range of alternative techniques to address the same event or financial transaction.

EM studies (e.g, Beneish, 2001; Jiraporn et al., 2008; Lo, 2008) suggest that there are two conceptions of EM, which are informative and opportunistic. The aim of the

informative perspective is to disclose more related information on the company to investors, while the opportunistic perspective attempts to mislead investors or to secure the manager's reputation and compensation. In this respect, Parfet (2000) argued that EM could be a good behaviour if suitable and rational EM practice is utilised in a well-managed firm and if it conveys information of good value to investors.

On the other side, Lo (2008) argued that opportunistic EM has many victims, for instance creditors, unions, equity investors, suppliers and regulators; thus, distinguishing between EM practices as either opportunistic or beneficial is still contentious. In this regard, Dechow and Skinner, (2000) indicated that EM practice is categorised in two groups: practicing EM within the GAAP and practicing EM outside the range of GAAP. Merchant, (1987) suggests that accounting practice that falls within the GAAP is considered to be legal if managers can provide reasonable economic justification for their accounting choices, for instance excessive recognition of provisions and reserves, overstatement of restructuring, asset write-offs and earnings that result from a neutral operation of the process.

Conversely, the accounting practices that fall outside the GAAP are considered as fraud. This includes altering or falsifying documents, deleting transactions from records, fabricating false invoices and concealing significant information (Merchant, 1987; Stolowy & Breton, 2004). On the other hand, Ronen and Yaari (2008) distinguish three categories of EM practices: black, grey and white. The black area is the practice of using tricks to reduce or misrepresent transparency of the financial reports (Healy & Wahlen, 1999), while the grey area is choosing an accounting treatment that is either opportunistic (increasing managers' private benefits only) or economically efficient (Roychowdhury, 2006). The white area of EM is taking

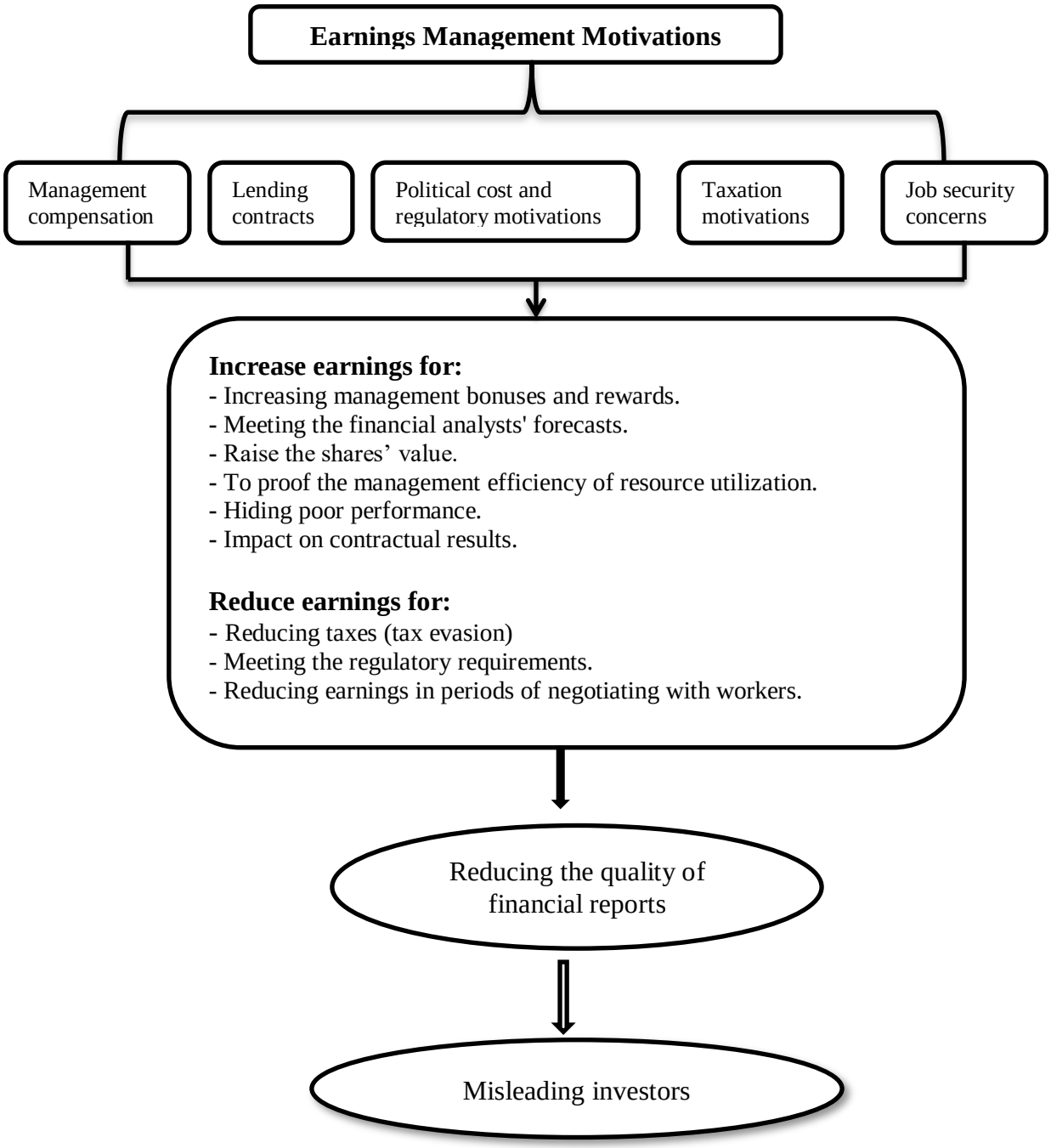
advantage of flexibility available in the accounting standard to signal the manager's private information on future cash flows (Beneish, 2001).

2.3 EM Motivations

Bank managers tend to manipulate earnings with the purpose of avoiding the penalties of non-compliance with the minimum capital requirements and minimising the political costs (Elleuch, 2015; Healy & Wahlen, 1999). Incentives for EM illustrate the rational basis for EM practice. Healy and Wahlen (1999) argued that identifying a manager's incentives for managing earnings could help in reducing EM practices. EM literature identified several incentives for managers to engage in EM, such as managers' desire to achieve personal gain or to reduce losses, to impact on contractual results, to mislead investors, to have a positive effect on the stock prices, to meet the financial analysts' expectations, and/or to impact on the taxes owed (Healy and Wahlen, 1999, Gaa and Dunmore, 2007, Noronha et al., 2008, Lo, 2008, Madhogarhia et al., 2009, Shafer and Wang, 2011). For instance, Noronha et al., (2008) identified five types of incentives: (a) Capital market motivations, (b) Management compensation contract motivations, (c) Lending contract motivations, (d) Regulatory motivations and (e) Political cost motivations. Other similar EM incentives have been suggested by Kamel and Elbanna (2009), such as enhancing the company's financial reports to obtain bank loans, maintaining a certain level of profitability, avoidance of loss announcement, an overall increase in the firm's value, mitigation of certain threats, stability of dividend etc. Habbash et al., (2015) pointed out that four main incentives for EM in Saudi Arabia are (1) to increase the amount of compensations, (2) to disclose acceptable earnings, and to avoid loss, (3) to gain a bank loan, and (4) to raise the share prices. Many studies on EM incentives found that

the most commonly reported intention is to mislead stakeholders concerning a bank's financial performance (Gaa and Dunmore, 2007, Noronha et al., 2008, He et al., 2010), and this occurs when the management has more information than the investors. According to the EM literature (Gaa & Dunmore, 2007; Habbash et al., 2015; He et al., 2010; Noronha et al., 2008), this section extends the difference in managerial motivations for manipulating earnings, which are classified into five categories (see figure 2.1); (1) Management compensation (2) Lending contracts, (3) Political cost and regulatory motivations, (4) Taxation motivations, and (5) Job security concerns.

Figure 2. 1 Earnings Management Motivations



Source: the researcher's development

2.3.1 Management Compensation (Contract Motivations)

A compensation contract between a firm's manager and its owners is written explicitly and specifies the compensation of the former. However, Deegan (2013) indicated that there are two types of contracts; (1) fixed contract and (2) a contract that is tied at least in part to the performance of the company. Managers under a fixed contract won't take considerable risks, as they would not share any potential gains, whereas a performance-related contract will motivate managers to take risks in order to receive any potential rewards (Deegan, 2013). In this regard, putting a cash bonus scheme in place will align the interests of both the principals and the agents, and both parties will receive benefits if the company performs well. Accounting profits are usually used to calculate the payoff given to managers, since this is the most accurate way of measuring managerial performance, compared to other measurements such as realised cash flows and stock prices (Healy, 1985). The reason behind this is that market factors that are outside the control of management have a vital impact on stock prices.

Furthermore, using realised cash flows, managerial actions are not accounted for at the point these actions have a possibility of increasing firms' values. Hence, both stock price and realised cash flows are inaccurate tools for measuring performance resulting from managerial actions (Dechow, 1994; Sloan, 1993). Accounting profits, therefore, are considered as an accurate measurement for performance and have a major impact in determining the punishment and reward of performance. In this regard, a manager will be more likely to use the flexibility in the accounting standard to increase the current period reported income. This is especially if managers are rewarded based on accounting profits, which on the other hand will increase managers' bonus (Scott, 2003, p. 275). Several studies have investigated the impact of

management compensation on earnings management practices. For instance, measuring discretionary accruals by both Jones and modified Jones models, Dye (1991) suggested that adopting accounting profits in calculating managers' compensation contracts is considered an essential internal motivation for managers to engage in EM practices. Thus, managers tend to involve in EM practices in order to enhance and increase their compensation, since their bonuses are attached to the firm's profits. Similarly, a study conducted by Keating and Zimmerman (1999) stated that companies would choose to manipulate earnings by changing depreciation methods for all assets if they exhibited bad financial performance. It provides evidence that companies which change their method of depreciation to all assets are likely to increase managers' compensation. Furthermore, Shrieves and Gao (2002) suggests that discretionary accruals have a positive relationship with bonuses, and the intensity of EM was linked to whether pre-managed earnings were close to specified goals.

In Japan, Shuto (2007) found that those who are not awarded bonuses tend to use income-decreasing accruals and negative extraordinary items. Conversely, managers who have bonus plans are more likely to use discretionary accruals to manipulate earnings and increase management compensation, suggesting that Japanese managers were rewarded based on the persistence of earnings. A study by Kurniawan, (2013) has examined the influence of EM and voluntary disclosures on asymmetric information using 37 Indonesian listed companies. The study emphasised that managers of companies with a bonus plan are more likely increase their own compensation by shifting future earnings into an actual period to raise their current profit.

In summary, a manager's compensation is closely linked to the company's performance. Therefore, managers tend to engage in EM by adopting different

methods, such as changing the depreciation method for all assets or shifting earnings from the future to the current period in order to boost their compensation and bonus (Keating & Zimmerman, 1999; Kurniawan, 2013).

2.3.2 Lending Contracts

The association between both the lender and the managers is an agency relationship. Lenders usually expect that company managers (borrowers) make the right decisions, which protect their interests. Having received the funds from lenders, borrowers are more likely to undertake activities, which minimise the possibility that the funds will be repaid, such as investing in very high-risk projects or paying excessive dividends (Deegan, 2013, p. 237). Aljifri (2007) indicated that company managers (borrowers) are more likely to be contractually motivated to shift wealth from debt-holders to shareholders.

With regards to the perspective of debt covenants, Habbash and Alghamdi (2015) indicated that creditors are more likely to impose several restrictions on the issue of future loans, dividend payments and share buybacks in order to secure the repayment of the firm's loan. In this regard, Dichev and Skinner (2002) stated that managers of companies with great financial leverage ratio are motivated to manage earnings in order to protect their debt covenant. A study by Dechow et al., (1996) has compared a sample with a high leverage ratio and more debt covenant violations. They found that highly leveraged companies were heavily involved in EM practices in order to avoid violation of debt covenant constraints. Jaggi and Lee (2002) indicated that more financially distressed companies are likely to utilise income decreasing (EM), where a debt restructuring or renegotiation took place in order to convince shareholders that they are unable to repay their debt. In addition, Rodríguez-Pérez and van Hemmen

(2010) have investigated a sample of listed Spanish companies on the association between earnings management and debt. Their result proves that marginal increases in lending motivate managers to engage in EM.

In respect to credit rating agencies that deem volatility in earnings as an important indicator of credit risk, managers would have a great stimulant to smooth earnings through (increasing / decreasing) accounting accruals in order to maintain or enhance their credit ratings, thereby convincing rating agencies of their credit worthiness (Jung et al., 2013). Jung et al., (2013) used 11,943 firm-year observations of bond issuers from 1990 to 2008 in their investigation and provide evidence that earnings smoothing activities increased the probability of a subsequent rating upgrade, suggesting that bond issuers practice EM in an attempt to influence the cost of future borrowing.

In summary, external contracts, such as debt covenants, are considered to be a vital factor that motivates managers to engage in income- smoothing (EM) in order to meet the contract requirements.

2.3.3 Political Cost and Regulatory Motivations

Companies are usually under scrutiny by different parties, for instance, the government, regulators, employees and investors (Watts & Zimmerman, 1978). Managers of politically sensitive companies are more likely to use accounting methods to minimise the likelihood of any unfavourable political attention and its related costs, such as increased wage claims or lower government interference (Watts & Zimmerman, 1990). Additionally, political pressure may stimulate managers to manipulate earnings, reporting high earnings in order to avoid any public attention, and therefore, decreasing the influence of adverse political actions and lessen

expected cost (Watts & Zimmerman, 1986). Kurniawan, (2013) suggests that managers of big companies with greater political costs are likely to postpone reporting of the current period's earnings, and intentionally disclose these earnings in future, to minimise reported earnings during the actual period. The reason behind this is that profitability increases the interest of both media and consumers, thereby maximizing the political cost. Furthermore, Monem (2003) indicated that managers of Australian firms manipulate earnings through decreasing income in order to minimise political costs. A recent study by Hsiao et al., (2016) revealed that U.S oil companies were involved in income- decreasing EM in order to reduce potential political costs and minimise public scrutiny.

With regards to regulatory motivations, companies that are listed in the stock market are often monitored for compliance with regulations that are linked to accounting figures (Hsiao et al., 2016). These regulations stimulate managers to manipulate earnings in order to meet their requirements and to minimise the political exposure risk (Habbash et al., 2015). In this respect, Christensen et al., (1999) have examined the relationship between the regulatory standards and EM on 47 insurance companies over a 3-year period, from 1989 to 1992. Their results emphasised that managers are more likely to manage earnings in order to meet regulatory standards. Furthermore, they suggested that meeting regulatory standards and the informativeness of earnings are the most important factors that influence managers to engage in EM. Haw et al., (2005) examined the association between income-increasing (EM) and the reaction to new statutory regulations of 10% ROA for firms that are seeking to issue new bonds or offer shares, using a sample of Chinese firms from 1996 to1998. Their result emphasised that these new regulations generated powerful stimulus for managers to manage earnings.

In conclusion, to minimise possible political costs, which may be produced by unfavourable political activities such as regulations, policies and government antitrust, managers are more likely to report lower earnings (income decreasing). Additionally, statutory regulations place strong pressure on company managers leading them to manipulate earnings upwards or downwards with the aim of meeting and complying with the regulations. Hsiao et al., (2016) show that companies that are facing high adverse political or regulatory pressures are highly motivated to engage in EM practices and report low profits in order to minimise potential political exposure. In contrast, Lim et al., (2007) indicated that managers of companies that decided to go public are more likely to manipulate earnings upwards (income increasing), in order to raise their share price.

2.3.4 Taxation Motivations

The tendency to involve in EM is attributed to changes in tax policy, which motivates managers to practice EM in order to avoid paying tax (Tang & Firth, 2011). In this regard, Tang and Firth, (2011) indicated that there are usually three strategies used by managers to avoid tax payment. These are; (1) managing taxable income and book income in an opposite direction; for instance, reporting lower taxable income and higher earnings. (2) Managing taxable income whilst keeping book income constant; for example, reducing or smoothing taxes. (3) Managing book income whilst keeping taxable income constant; for instance increasing earnings or taking a big bath. In addition, Adhikari et al., (2005) show that since the tax calculation is based on accounting figures and ratios, tax avoidance is considered as the most powerful incentive for managers to involve in EM. Keating et al., (1999) investigated the use of changes in depreciation methods and depreciation estimates in order to minimise

taxes and manage earnings. Their study suggested that companies would make more depreciation revision estimates and apply depreciation method changes on new assets only in order to manage their earnings. Additionally, Keating et al., (1999) have suggested that revisions of estimates increased after 1981, since they provided managers with the flexibility to manage accounting earnings without affecting their tax liability. Frank et al., (2009) developed a method of measuring manipulation of tax reporting and employed discretionary accruals as an EM measure. Their findings suggest that non-conformity between tax law and financial reporting standards allowed companies to manage book income upwards and taxable income downwards in the same reporting period. In addition, Rahman et al., (2013) documented that government regulation, shareholders' decisions and tax laws are considered to be the most powerful motivations that lead managers to manipulate earning and financial statement figures.

In conclusion, tax cost is considered as a strong motivation for managers to engage in EM, particularly if managers' goals are to increase the value of the company and minimise the tax cost. This will encourage them to manage taxable income. Managers could achieve tax savings through involving in income decreasing (EM).

2.3.5 Job Security Concerns

Company profitability is considered as one of the major concerns for managers. This is because it signals the quality of their decisions to shareholders (Cheng, Lee & Shevlin, 2015). Company manager seeks to act in the owners' best interests at any cost to ensure that their decisions are in line with the owners' target and to guarantee their position in the company (Matsunaga & Park, 2001). In this regard, Elliot and Shaw (1988) found that when there is a change in the company's management, such

as CEO, a material write-off is recognised in the same year that change has happened, suggesting that new managers are more likely to use this opportunity to report low earnings and blame the previous management on this low performance. Such action allows new managers to save earnings for the coming years in order to guarantee their position in the company.

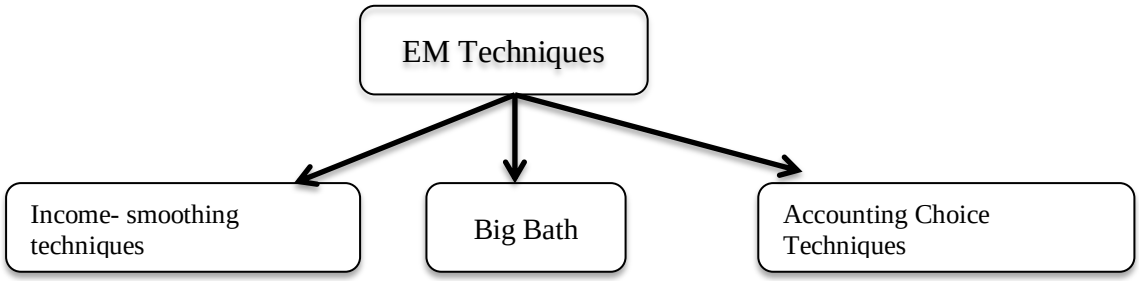
In addition, Murphy and Zimmerman, (1993) examined a sample of poorly performing companies, and found that for job security reasons the CEOs did not increase income, but they also noted that these CEOs thereafter left the company. It also suggested that the new CEOs of these companies have acted to minimise their income. These findings are in line with managerial incentives to secure earnings for the coming years, which are driven by job security concerns. Wells (2002) proved that new CEO's are more likely to engage in income decreasing (EM) in the same year that the CEO is changed. Therefore, taking over the previous CEO's position allows the current CEO to decrease earnings (EM), as they would not be criticised for past decisions and a downward trend in the current year earnings.

In conclusion, job security is an important motivation for EM. Managers tend to manipulate earnings to meet owners' interest at any cost in order to secure their position in the company.

2.4 EM Techniques

The management relies on different ways of practicing earnings management, through which they planned to increase or decrease their disclosed earnings. This study addresses the most important forms of earnings management practices. Overall, EM techniques can be classified into three groups: Income- smoothing, big bath and accounting choice (see figure 2.2).

Figure 2. 2 EM Techniques



Source: the researcher's development

2.4.1 Income Smoothing

The income smoothing technique is considered to be the most important earnings management method. It is a type of EM technique used by the company through the formation of reserves to reduce profits in good years, especially when the profits are high, so as to use them to increase profits in the bad years when profits are low (Vinten et al., 2005). The idea of income smoothing relies on the basis of achieving stability in the income figures by reducing volatility in the figures between different accounting periods. The management will reduce saved profits in a good period "in which profits rise significantly", and increase it during the bad period. The management indulges in income smoothing because investors are willing to pay a premium for shares with stable predicted earnings (Arya et al., 1998, Demski, 1998).

Hejazi et al., (2011) have identified income smoothing as a set of methods used by management to reduce the volatility of income, by managing real or artificial earnings in order to reach the required level of income. Martinez and Castro (2011) identified income smoothing as a deliberate control of income in order to achieve certain results, such as to reduce or increase the published earrings to reach a certain level as desired by the management. The management engage in income smoothing due to the belief

that earnings volatility is one of the elements by which its performance is assessed, and to ensure that financial analysts and investors will not concentrate on a variation in income figures as a measure of the risk posed to the company.

There are two basic types of income smoothing; the first one is called normal accrual. It is caused by the nature of the entity's production and operations. It is estimated by using the statistical model based on the company's assets, property, plant, and equipment, and change in sales. The second type is abnormal accruals, which is a result of the accounting manipulation undertaken by management in order to reduce income fluctuations, and it is the residual amount between the actual and the predicted accruals. In line with EM literature, this study will argue that income smoothing is a method used by the management to reduce or increase income, in order to maintain a certain level of profits from one year to another.

Lobo and Yang (2001) and Pinho and Martins (2009) have demonstrated that bank managers with high variability will have more powerful incentives to smooth earnings by manipulating loan loss provisions (LLPs). Similarly, Kwak et al., (2009) stated that bank managers could shift earnings from one period to another through LLPs to smooth earnings over time.

2.4.2 Big Bath Accounting

The way the Big Bath technique works is that when a firm is suffering badly and definitely will incur and disclose losses, it may overstate the losses to the greatest extent possible. This technique is used to inflate the losses and reported bad news linked with poor earnings into the current financial year, which will allow the boosting of earnings in the coming financial years (McKee, 2005). Big bath accounting is defined by Mulford and Comiskey (2002, p. 15) as “A wholesale write-

down of assets and accrual of liabilities in an effort to make the balance sheet particularly conservative so that there will be fewer expenses to serve as a drag on earnings in future years".

Covering up all losses in bad years or in periods where the company suffered a significant drop in profits may be considered by the management. Thus, the company will resort to increase in the value of losses in the current period, in which it can achieve earnings in subsequent periods (Jordan and Clark, 2011). The management might use exaggerated estimates for doubtful debts or postpone some of the revenue to a future date instead of showing it in the current period. Sometimes, the management resorts to using this method when the company changes the executive administration and then appoints a new one in order to place the blame on the previous administration.

Kirschenheiter and Melumad, (2002) indicated that managers are more likely to engage in income- decreasing (EM) so as to use the savings in the coming year, if the firm is unable to meet its target and current earnings are below expectation. Furthermore, McNichols and Wilson, (1988) documented that managers may engage in EM practices through recognising future expenses in a given period when they know that the current earnings are inappropriate to meet earnings forecasts. Moore (1973) and Pourciau (1993) investigated the association between discretionary accrual choices and CEO change. Their results indicated that new CEOs would have more motivation to decrease earnings in the current year to enhance reported earnings in the coming years, comparing them unfavourably with former CEOs' results. This gives the new CEOs the opportunity to blame the former CEOs for the previous bad year.

2.4.3 Accounting Choice Technique

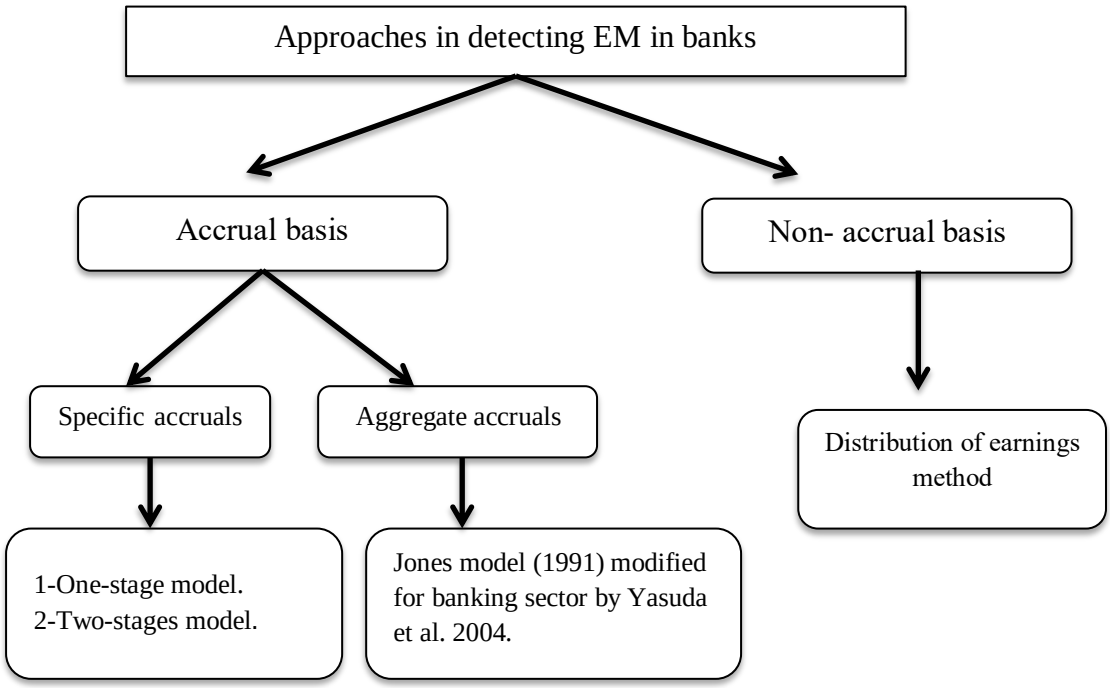
Company managers may abuse or exploit the flexibility available in accounting standards by choosing appropriate methods, such as depreciating expenses, revenue recognition, investments and leases or changing from First- in-first-out (FIFO) to Last- in-first-out (LIFO) in inventories to estimate accruals and then manipulate earnings to affect financial events (Aljifri, 2007; Healy & Wahlen, 1999). Managers usually use depreciation techniques to manage earnings, for instance double-declining balance, straight-line and sum-of-the-year's digits. The reason behind using the depreciation techniques in managing earnings is that the straight-line method provides the same amount of annual depreciation expense every year. In comparison, sum-of-the-year's digits and the double-declining balance methods increase the first year's depreciation expense over the assets' useful life (low income) and, in the final year, offers the least amount of depreciation (higher income). Similarly, using a sample of 44 Singaporean public firms, Poitras et al., (2002) found that firms exploited the flexibility available in GAAP and used the assets depreciation method and sales revenue in order to manipulate earnings. In addition, Bergstresser and Philippon (2006) have proven that managers could manage earnings through assuming a lower or higher rate of depreciation, which influences cash flow figures and reported earnings.

2.5 Literature Review on EM Measurements

EM can be described as being invisible, intangible and difficult to discover (Beneish, 2001). Accordingly, EM studies attempted to find a simple approach to measure EM practices through utilising statistical methods. Generally, in the accounting literature, several methods have emerged such as specific accruals (McNichols & Wilson,

1988), aggregate accruals (Dechow et al., 1995), and distribution of earnings (Burgstahler & Dichev, 1997). Aggregate and specific accruals are considered under the accrual basis, whilst distribution of earnings is seen as being under the non-accruals basis (Zendersky, 2005) (see figure 2.3). The following section provides more details about each method.

Figure 2. 3 Approaches in Detecting EM in the Banking Sector.



Source: the researcher's development

2.5.1 Specific Accrual Models in Measuring EM in the Banking Sector

The banking sector is considered as a critical environment for studies on EM, which expose serious concerns about the possibility that banks might conceal risks endangering their financial strength (De Medeiros et al., 2012). In this respect, Beatty et al., (2002); Anandarajan et al., (2007) and Leventis and Dimitropoulos, (2011)

indicated that LLPs and realised security gains and losses are subject to managerial decisions, suggesting that managers are potentially able to avoid reporting a small decline in earnings through underestimating the LLPs, realising fewer security losses or more security gains. In this regard, Cheng et al., (2011) and Kanagaretnam, Krishnan, & Lobo, (2010) have indicated that LLPs are an expense item on the income statement, which reflects the management's current assessment of the likely level of future losses from defaults of outstanding loans. Recording LLPs reduces net income.

In the banking system, regulators view accumulated LLPs of statement of financial position as a type of capital, which is used by the firm to absorb losses. Banks use higher LLPs to absorb unexpected losses (Ali et al., 2015; Elnahass et al., 2014; Kanagaretnam, Lobo & Mathieu, 2004; Kanagaretnam et al., 2007). LLPs represent the largest portion of accruals in the banking system and are considered to be the primary source, which creates the conditions for potential accounting manipulations (Abdelsalam et al., 2016; Alali & Jaggi, 2011; Belal et al., 2015; Gray & Clarke, 2004; Kanagaretnam et al., 2004; Kwak et al., 2009).

In addition, LLP plays a major role in the manager's decision with regards to accounting manipulation (Beaver & Engel, 1996; Kanagaretnam, Krishnan & Lobo, 2009). In this respect, bank managers have to create reserves for loan losses during the good periods in order to use it in bad periods. Therefore, bank managers can raise their reserves by boosting LLPs during a good financial year in order to overcome any problems related to loan losses, meeting the regulation requirements, capital adequacy requirements and EM (Ben Othman & Mersni, 2014; Bushman & Williams, 2007; Misman & Ahmad, 2011).

Other EM studies investigated EM practices among IBs and NIBs in developed and developing countries illustrated that LLPs are considered to be an essential instrument for a bank manager to manipulate earnings (Abdelsalam et al., 2016; Ali et al., 2015; Beaver & Engel, 1996; Elnahass et al., 2014; Healy & Wahlen, 1999; Leventis et al., 2012; Liu & Lu, 2007; Misman & Ahmad, 2011; Wahlen, 1994; Zoubi & Al-Khazali, 2007).

2.5.1.1 Models Utilised in Measuring Discretionary Through LLPs

There are two kinds of procedure, which can be adopted when modelling specific accruals for the identification of EM practices. These are one-stage and two-stage models. Empirical EM studies suggested that, in using the one-stage or two- stage model, LLPs are utilised as a proxy to capture EM (e.g. Ahmed et al., 1999; Alali & Jaggi, 2011; Beaver & Engel, 1996; Cheng et al., 2011; Kanagaretnam, Lobo & Yang, 2005; Kanagaretnam et al., 2010). The choice of procedure relies on the researchers' objectives. For instance, Kim and Kross (1998); Lobo and Yang (2001); Goulart (2007); Kanagaretnam, Lim, and Lobo (2010); Alali and Jaggi (2011); and Misman and Ahmad (2011) utilised one-stage models in their studies as they were seeking the association between LLPs and the variables of interest in order to identify its possible use in income smoothing. On the other hand, Beaver and Engel (1996); Zendersky (2005); Marcondes (2008); Kanagaretnam, Krishnan and Lobo (2010); Kanagaretnam, Lim and Lobo (2010); Cheng, Warfield and Ye (2011); Ben Othman et al., (2014); and Abdelsalam et al., (2016), employed the two-stage model, which separates the non-discretionary and discretionary accruals, thus allowing the researchers to use the discretionary portion as a dependent variable in the second stage. This was done in order to assess its association with regressors, explaining the

management's opportunist actions. In most cases, the control variables of the one-stage model are compatible with the two-stage model. With regard to the two-stage model, non-performing loans, written-off loans, loan loss allowances and volumes of loan portfolios are utilised as explanatory variables in order to estimate the non-discretionary LLPs (De Medeiros et al., 2012).

Table 2.1 shows the most used explanatory variables in empirical EM studies with regards to the two-stage model. The assumption of using variables related to the loan portfolio, such as LOAN and ΔLOAN, is that the higher the volume of loans, the greater the provision to be made to offset eventual losses (Kanagaretnam et al., 2010). In addition, the assumption of employing variables linked to the volume of overdue debts, such as NPL and ΔNPL, is that they represent the risk of losses with the bank's receivables and have a clear association with the level of LLPs.

With regards to written-off loans, the argument for using the value of LCO is that it represents the incarnation of loss itself, which must have an association with LLPs. Loan loss allowance (LLA) is used as an explanatory variable because the expectations of losses already written off is an indicator of the quality (or lack thereof) of the loan portfolio, which should entail further adjustments in LLP. Kanagaretnam et al., (2010) argue that different types of loans and financing (TYP) operations have different influences on LLP requirements. Moreover, controlling for changing periods (PER), which has been contemplated in four more recent studies, is aimed at capturing changes in the economic scenario over time.

In addition, Marcondes (2008) argued that portfolios with higher interest rates are those posing greater risk and, consequently, requiring greater LLP. Thus, the interest rate charged in credit operations (INT) might have a serious impact on LLPs. However, Kanagaretnam et al., (2004) model employs non-performing loans (NPL),

the change in non-performing loan (Δ NPL), and change in total loans (Δ TL), which is useful in studying IBs and NIBs in MENA countries. Other studies include written-off loans (Beaver & Engel, 1996; Cheng et al., 2011; Kanagaretnam et al., 2009; Kanagaretnam et al., 2010; Zendersky, 2005), which are not provided by the majority of IBs in MENA countries.

Furthermore, Elleuch (2015) also pointed out the weaknesses in applying LLPs models that are used in estimating the provision for a developed country, such as with American banks. For instance, written-off loans that are considered as fundamental for the estimation of the discretionary LLPs in American banks are not relevant for banks in developing countries (Ben, Othman & Mersni, 2014). Consequently, the current study employed Kanagaretnam et al., (2004) model among other LLPs models in order to measure EM.

Table 2. 1 Two-stage Models Used in Empirical EM Studies

Model	LOAN	Δ LOAN	NPL (-1)	NPL	ΔNPL	ΔNPL (+1)	LCO	LLA	LLA (-1)	INT	TYP	PER	Other
1		√			√	√	√						
2					√			√					√
3		√	√		√								
4		√	√		√								
5		√	√		√		√		√				
6	√	√	√		√		√		√	√		√	
7		√	√		√		√		√			√	√
8	√	√	√		√		√		√		√	√	
9	√	√		√			√		√		√	√	√
10		√			√	√	√						

LOAN= value of total loans, Δ**LOAN**= change in the value of total loans, **NPL (-1)=** the volume of lagged nonperforming loans, **NPL=** the volume of nonperforming loans, Δ**NPL=** the change in the volume of nonperforming loans, Δ**NPL (+1)=** change in the volume of led nonperforming loans, **LCO=** the net volume of written-off loans**, LLA (-1)=** the lagged of loan loss allowance, **INT=** the implicit interest rate charged by banks in their loan portfolio, **TYP=** the vector of control variables representing the type of loan included in the portfolio; **PER=** a dummy variable controlling for time periods. **Models: (1)** Beaver and Engel (1996), **(2)** Beatty, Ke & Petroni, (2002), **(3)** Kanagaretnam, Lobo and Mathieu (2003), **(4)** Kanagaretnam, Lobo and Mathieu (2004), **(5)** Zendersky (2005), **(6)** Marcondes (2008), **(7)** Kanagaretnam, Krishnan and Lobo (2009), **(8)** Kanagaretnam, Krishnan and Lobo (2010), **(9)** Kanagaretnam, Lim and Lobo (2010), **(10)** Cheng, Warfield and Ye (2011).

2.5.1.2 Realised Security Gains and Losses Model

Gains and losses emanating from firms' securities can only be achieved through investment sales, which is calculated from the variation of book values and securities' market after excluding any sales taxes and commissions. Although the manager's year-end adjustment underlies securities gains and losses, the extent of its adjustment is limited by the investment portfolios' unrealised gains and losses (Beatty et al., 1995; Moyer, 1990). Security gains and losses are not regulated and audited discretionary choices (Beatty et al., 2002). Therefore, realised security gains and losses appear to be an alternative method that managers might use to manage earnings. In this respect, Cohen, Cornett, Marcus & Tehranian, (2014) have reported that EM in banks is accrued through LLPs and realisation of gains and losses on securities, because both allow for great management discretion. In addition, the Financial Accounting Standards (FAS) statement no. 5 that relates to "Accounting for Contingencies", includes losses on loan portfolio. It requires managers to provide estimable and probable judgments on accrual of losses. However, the model that has been used to detect discretionary accrual through realisations of gains and losses on securities by several studies (Beatty et al., 1995; Cornett et al., 2009; Leventis et al., 2012; Moyer, 1990) is as follows;

$$GAINS_{it} = a + \beta_1 LNASSET_{it} + \beta_2 UGAINS_{it} + \varepsilon_{it}$$

Where;

GAINS = realised gains and losses on securities as a fraction of beginning-of- year total assets (includes realised gains and losses from available- for-sale securities and held-to-maturity securities),

LNASSET = the natural log of beginning-of-year total assets;

UGAINS = unrealised security gains and losses (includes only unrealised gains and losses from available-for-sale securities) as a fraction of total assets at the beginning of the year;

ε = error term (residual).

2.5.2 Aggregate Accruals in Measuring EM in the Banking Sector

Aggregate accruals attempt to identify discretionary accruals using the relationship between total accruals and explanatory factors. This implies that the aggregate accruals approach employs discretionary accruals as EM proxy. Total accrual (TA) is made up of discretionary accruals (DA) and nondiscretionary accruals (NDA). Thus, discretionary accruals can be achieved from the difference between TA and NDA. In respect to the banking sector, Yasuda et al., (2004) argued that as the accruals are measured through the difference between net income and operating cash flows, which cover depreciation, impairments and revaluations, the Jones model (1991) modified for the banking sector can capture EM in a comprehensive manner. Therefore, in order to achieve the discretionary portion from the total accruals, the residual from equation (A) is indicated as the discretionary accrual portion (DA) of total accruals, which relies on management discretion. With a view to reducing heteroscedasticity, all variables in this equation were divided by the lagged total assets (Abdelsalam et al., 2016; Leventis et al., 2012; Yasuda et al., 2004).

$$(TAC_{it} / TA_{t-1}) = \beta_0 \ (1/TA_{t-1}) + \beta_1 (\Delta OI_{it}/TA_{t-1}) + \beta_2 \ (BPE_{it} / TA_{t-1}) + \varepsilon_{it} \qquad \textbf{(A)}$$

Where:

TAC = is the total accruals that is estimated from the difference between net income and operation cash flows.

TA= Total assets.

Δ OI= Change in operating income between t-1 to t.

BPE= Bank's premises and equipment.

2.5.3 Distribution of Earnings Approach

EM research suggests that managers tend to manipulate accounting figures to obtain certain earnings targets (Burgstahler & Dichev, 1997; Dechow et al., 2010; Hamdi & Zarai, 2012). It has been emphasised that managers are practising EM for three different purposes (benchmarks) [14]: (1) to avoid losses, (2) to avoid earnings decreases, (3) to beat analysts' expectations (Burgstahler & Dichev, 1997). Managers tend to meet earnings benchmarks for several reasons (Graham et al., 2005): (A) to build strong credibility with the capital market, (B) to increase or maintain share price, (C) to enhance the company's external reputation, and (D) to convey future growth prospects. Managers also assume that missing a benchmark creates doubt about the company's prospects and increases the probability that deeper issues are being hidden (Graham et al., 2005). The distribution of earnings approach differs from other approaches as it endeavours to measure EM through the earnings distribution. Thus, this approach is considered as an innovative method for examining EM without the need for estimating discretionary accruals (Yu et al., 2006). Other empirical studies have investigated the evidence of EM practices through examining the reported distribution of earnings (Burgstahler & Dichev, 1997; Dechow et al., 2010; Degeorge et al., 1999; Hamdi & Zarai, 2012; Yu et al., 2006). For instance, Degeorge et al., (1999) indicate that this method is based on the assumption that, in a

[14] The distribution of **ROA** and Δ**ROA** in the interval between (0, 0.005) or (0, 0.01) is used as a benchmark to investigate whether EM to avoid losses and to avoid earnings decline exists. In addition, a graphical test is utilised to examine the distribution of reported earnings around the benchmark and to observe discontinuities in the distribution. If the bank manager is trying to avoid losses, the graphical test will present unusually small observations immediately to the left of zero and an unusually great number of observations immediately to the right of zero.

situation where EM does not exist, the distribution at the benchmark should be symmetric (smooth). On the other hand, EM exists when the frequency of small positive earnings presented by banks is unexpectedly high and when the frequencey of small negative earnings presented by the bank is disproportionately low. By using the earnings distribution method on a sample of 125 IBs over the period from 2000 to 2009, Hamdi & Zarai, (2012) suggested that IBs are more likely to manage earnings in order to avoid earnings decreases and losses. Thus, managers of IBs are highly motivated to manage reported earnings in order to exceed a benchmark.

Although the distribution earnings approach is assumed to be efficient in identifying EM practices (Xiong 2006). Healy and Wahlen (1999) argue that the level of EM cannot be achieved through the distribution earnings approach and that it is unable to provide the volume of EM. In the same vein, Durtschi and Easton (2005) disputed the shapes of earnings distribution pattern used as an evidence of EM practices, and influenced by choosing sampling criteria or changes in observational features to the left and right of zero. They conclude that the shapes of distribution pattern are insufficient proof of EM because the magnitude of EM is not captured by this technique (Healy and Wahlen 1999). Thus, there is insufficient evidence to suggest that an EM practice is as a result of the pervasive discontinuity of discretionary accruals at zero.

In conclusion, it can be clearly seen that the specific accrual approach and aggregate approach are more accurate and beneficial in detecting the value of EM. However, the current study has employed the two-stage model and modified Jones model in accordance with the empirical work of Kanagaretnam et al., (2004) and Yasuda et al., (2004), as a main and alternative models respectively, to measure EM. In general, these models are the most suitable models to capture the value of discretionary

accruals in the banking industry (Abdelsalam et al., 2016; Elnahass et al., 2014; Kwak et al., 2009).

2.6 EM Literature Review in the Banking Sector

EM studies in the banking sector can be dated back to Scheiner (1978) who investigated income smoothing in the banking industry. Since then, various authors have conducted studies on earnings manipulations by banks (Abdelsalam et al., 2016; Ahmed et al., 1999; Alali & Jaggi, 2011; Ali et al., 2015; Anandarajan et al., 2003; Anandarajan et al., 2007; Beaver & Engel, 1996; Ben Othman & Mersni, 2014; Cheng et al., 2011; Elnahass et al., 2014; Kanagaretnam et al., 2005; Kanagaretnam et al., 2010; Kwak et al., 2009; Leventis et al., 2011). Table 2.2 provides summary of these studies.

Grougiou et al., (2014) argued that the banking sector is more inclined to EM practices than the non-financial sector, because of its wide range of financial products and complicated operations that lead to information opacity and increasing information asymmetry (Levine, 2004; Mülbert, 2009). In addition, banks are representing a considerable attribution of total companies listed in stock markets, suggesting that banks have an effective part in the capital market (Kanagaretnam et al., 2010). In this respect, Taktak et al., (2010), argued that bank managers can sustain the bank's image and robust financial position, leading to its compliance with legal requirements through EM practices. In addition, Bhat (1996) indicated that bank managers used income-smoothing practices in order to avoid earnings volatility. In the same vein, Leventis et al., (2011) stated that bank managers are more likely to involve in EM practices compared to other managers in different sectors.

With regards to the empirical studies on EM for IBs in comparison to NIBs, Zoubi and Al-Khazali, (2007) investigated the use of total LLPs in both IBs and NIBs in the Gulf Cooperation Council (GCC) region from 2000 to 2003. They revealed that managers of both types of banks utilised total LLPs to smooth their earnings. Misman and Ahmad, (2011) have examined LLPs for both Islamic and non-Islamic banks in Malaysia from 1993 to 2009, and concluded that both IBs and NIBs used LLPs as a proxy for EM. However, IBs and NIBs were found to be acting differently with regards to the use of LLPs.

Quttainah, et al., (2013) have investigated the practice of EM in 164 banks in total, which are divided equally into 82 IBs and 82 NIBs from 11 Arab countries from 1994 to 2008. This study also examined other variables such as Shari'ah Supervisory Boards (SSB), its characteristics (e.g. size and composition) and their influence on EM. Their outcomes indicated that IBs are less likely to engage in EM compared with NIBs. Furthermore, whether or not banks have an SSB would appear to make no significant difference with regards to EM. In addition, size, Auditing Organization for Islamic Financial Intuitions (AAOIFI) and outside board members have a significant impact on EM for IBs with SSBs.

Additionally, Ben Othman and Mersni, (2014) have analysed the use of discretionary LLPs by IBs and NIBs in seven Middle East countries. Their study sample contains 21 IBs, 18 NIBs with Islamic windows and 33 NIBs for a 9-year period, from 2000 to 2008. Their results were similar to the findings of Misman and Ahmad (2011), which show that both types of banks are engaged in EM. Elnahass et al., (2014) investigated the use of LLPs by investors in their valuations of both IBs and NIBs during a period from 2006 to 2011. Their findings show that there is a positive value relevance to investors in both IBs and NIBs. However, investors are more likely to price the

discretionary element relatively lower in IBs compared to NIBs, which they attributed to the variation in products, the religious perception of IBs and to governance structures. In addition, Ali and Syed Abul, (2015) examined a sample of 291 banks from 35 Organisation of Islamic Conference members (OIC), with 2078 bank-year observations, for a 6-year period, from 2003 to 2008. They indicated that managers of OIC banks use LLPs as a tool to manipulate earnings. More recently, Abdelsalam et al., (2016), examined the effect of organisational religiosity on the quality of earnings in both IBs and NIBs during 2008-2013. They found that IBs are less likely to manipulate earnings and employ high conservative accounting policies compared with NIBs. Table 2.2 provides summary of these studies.

Table 2. 2 Review of the Empirical Studies on EM for IBs in comparison to NIBs

Year	Data	Authors	Objectives	Results
2000 - 2003	47 banks operate in GCC countries	Zoubi and Al-Khazali, (2007)	Examine the factors that influence LLPs in both IBs and NIBs to manage earnings.	Both IBs and NIBs utilised total LLPs to smooth their earnings.
1993-2009	16 IBs and 22 NIBs listed in Malaysian stock market	Misman and Ahmad, (2011)	Exploring the treatment of LLPs as a tool in managing earnings and capital	IBs and NIBs used LLPs as a proxy for EM and are acting differently regards to the use of LLPs.
1994-2008	82 IBs and 82 NIBs from 11 Arab countries	Quttainah, et al., (2013)	Investigating whether IBs are less likely to manage earnings compared to NIBs and the effect of other variables such as Shari'ah Supervisory Boards (SSB) on EM.	IBs are less likely to engage in EM compared with NIBs
2000- 2008	21 IBs, 18 NIBs with Islamic windows and 33 NIB operate in Middle East region	Ben Othman and Mersni, (2014)	Investigating the differences and factors that may influence managers of IBs to use discretion in reporting LLPs.	Both types of banks are engaged in EM
2006- 2011	34 IBs and 72 NIBs listed in MENA countries	Elnahass et al., (2014)	Examining the use of LLPs by investors in their valuations of both IBs and NIBs	Investors are more likely to price the discretionary element relatively lower in IBs compared to NIBs
2003- 2010	46 IBs and 245 NIBs from 35 OIC member countries	Ali and Syed Abul, (2015)	Investigating whether EM practice is influenced by the banking nature whether Islamic or non-Islamic.	Bank managers of both IBs and NIBs use LLPs as a tool to manipulate earnings
2008- 2013	24 IBs and 76 NIBs operate in 12 MENA countries.	Abdelsalam et al., (2016)	Examined the impact of organizational religiosity on the EM.	IBs are less likely to manipulate earnings and employ high conservative accounting policies compared with NIBs.

2.7 EM Practices from Islamic Perspective

Islamic law attributes unethical behaviour, such as fraud and irregularities in the financial reports, to the failures of ethics (Staubus, 2005). One of the common unethical behaviour examples under accounting and finance topics is EM (Du et al., 2015). Organisations that are compliance with Islamic law “Shari’ah” are based on justice between clients, which forbids riba, ambiguity and manipulation in their transactions. In addition, Islamic law has organised the financial relations between people in accordance with the terms and conditions of reservation of the right of each party. The Islamic Bank gains its legitimacy through the embodiment of the principles of Islamic law "Shari’ah", and therefore it is fully committed to applying these principles in every transaction (Abdelsalam et al., 2016). Adhering to the ethics and culture of Islam leads to guarantees for the bank to continue growing, expanding their business and achieving an appropriate level of profits.

According to the EM definition of Healy and Wahlen (1999, p. 27), which is “emphasises manager’s use of accruals in order to mislead shareholders or to influence the contractual results that rely on disclosed accounting figures”, the expressions "to mislead shareholders" and "to influence the contractual results" stress the opportunistic behaviour of managers. This behaviour is considered immoral and is prohibited in Islam (Abdelsalam & El-Komi, 2016; Hamdi & Zarai, 2013; Hossain et al., 2014). Shari’ah laws demand Muslims to apply instructions of Islam in every part of their lives and business (Hamdi & Zarai, 2013). Under Shari’ah law, basic principles are covered and involve how various business-related issues should be treated in line with the Islamic framework.

Managers of IBs are responsible to their shareholders as well as to *Allah* in the hereafter life; thus, they must ensure accountability, suggesting that Muslim managers are required to carefully manage firms' resources and property, which they are responsible for. They should also ensure these properties and resources are used with integrity and in an efficient way that serves the interest of the community and owners (Alkdai & Hanefah, 2012). Overall, it is obvious that EM practices are considered to be opportunistic behaviour; thus, opportunism is forbidden in Islam (Rahman et al., 2005).

The objective of both IBs and NIBs is to obtain deposits and to reinvest those deposits in the market to make a profit. IBs invest deposits jointly with customers and investors through Murabah, Mudarabah, and Musharakah[15], whereas NIBs invest deposits in loans and securities (Zoubi & Al-Khazali, 2007). Though the majority of EM studies focus on NIBs, a huge body of literature suggests that the current practices of IBs differ only in 'form' but not in substance from that of the NIBs (e.g. Chong & Liu, 2009; Dar & Presley, 2000).

Since IBs focus on the principle of sharing both risk and profit modes (e.g. Musharaka and Mudarabah), these Islamic products entail risk, and threaten the bank's stability. For instance, risk will occur when the partner fails to pay the bank's share, leading to an increase in the bank's risk (Boulila Taktak, 2011; Elgari, 2003; Siddiqui, 2008). On the other hand, NIBs' risk would be as a result of the inability of their customers to repay their obligations (loans) to the bank. International Financial Reporting Standard (IAS) and the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) both allow bank managers to establish an allowance for loan loss provision (LLP) to absorb any losses in the future (Boulila Taktak,

[15] **Mudarabah**, **Musharakah** and **Murabahah** are forms of Islamic trade finance. Murabaha is based upon letters of credit. Mudaribah is usually provides management expertise which is treated as a form of capital, whereas, Musharakah is essentially a sharing model.

2011). Therefore, managers need to estimate the amount of expected losses for loans that might not be collected in the future by using an accrual basis. Hence, managers use this flexibility to manipulate accounting figures to obtain and reach their earnings target (Zouari et al., 2012). IBs must adhere to Islamic Law (Shari'ah) that provides religious guidelines, and the majority of IBs also employ AAOIFI standards. IBs are monitored by another supervisory board beyond the general monitoring system for all banks: the Shari'ah Supervisory Board (SSB). Thus, adhering to all these obligations, IBs are expected to be less engaged in EM compared to their competitors (NIBs).

With regards to comparability, the majority of MENA countries require banks under their financial authority to adopt the International Financial Reporting Standards and International Accounting Standard (IFRS, IAS) (Ghannouci & Radic, 2011; Haidar, 2007; Hussain et al., 2002; Maha & Hakim, 2013), thus allowing the researcher to compare between IBs and NIBs.

2.8 Summary of the Chapter

Chapter 2 presents a wide range of EM definitions, which explain in detail the factors that motivated bank managers to manage their reported earnings. In order to meet the regulatory requirements, such as capital adequacy and contract requirements, bank managers may engage in EM practices through different accounting techniques within GAAP. This chapter also illustrates the most common EM motivations, techniques and measurements in the banking industry.

Although EM is difficult to ascertain, the literature provided evidence of the three commonly used approaches in detecting EM practices, including aggregate accruals, specific accruals, and distribution of earnings. Under these approaches there are several models used to measure EM. Both aggregate accruals and specific accruals work on the derivation of the discretionary accruals from the total accruals, as this is the main source for managers to manipulate earnings.

Since this research focusses on the opportunistic side of EM, where managers use accounting choice or accruals, the current study has employed two-stage model and modified Jones in accordance with the empirical work of Kanagaretnam et al., (2004) and Yasuda et al., (2004) respectively, to measure EM. In general, these models are the most suitable models to capture the value of discretionary accruals in the banking industry (Kwak et al., 2009; Elnahass et al., 2014) owing to their ability to separate the total accruals into discretionary and non-discretionary accruals. This allows the researcher to examine the relationship between EM (discretionary accruals) and voluntary disclosure quality in both IBs and NIBs in MENA countries.

Chapter Three: Literature Review on Voluntary Disclosure Quality

3.1 Introduction

This chapter outlines the main concepts that are related to voluntary disclosure. It is organised as follows. Section 3.2; definitions of voluntary disclosure. Section 3.3 provides the benefits of voluntary disclosure to both investors and company. Section 3.4 illustrates the determinants of voluntary disclosure. In section 3.5 covers the reviews of the empirical studies on the relationship between voluntary disclosure and EM. In sections 3.6 and 3.7 the theoretical framework and disclosure from Islamic perspective are presented respectively. Section 3.8 provides summary of the chapter.

3.2 Definitions of Voluntary Disclosure Quality

Voluntary disclosure is described as "disclosure made beyond the financial statements, which is not explicitly required by the Generally Accepted Accounting Principles (GAAP), the Securities Exchange Commission (SEC) rules, and the Financial Accounting Standard Board" (Board, 2001, p15). Voluntary disclosure quality (VDQ) is not only limited to general information, as companies might release a variety of information such as qualitative or quantitative information and financial or non-financial information through different channels, either formally or informally (Gibbins, Richardson & Waterhouse, 1990, p. 122). VDQ is also defined as "accuracy, reliability and completeness" (Singhvi & Desai, 1971, p. 131). In addition, VDQ has been defined by Brown and Hillegeist (2007, p. 5) as "the accuracy, quantity of information provided, and timeliness". In the same manner, Kent and Stewart (2008, p. 651) indicated that "more extensive disclosures are more likely to

be informative compared to the brief disclosures which in turn is considered as indicator of greater transparency". Although voluntary disclosure studies (Beretta & Bozzolan, 2008; Brown & Hillegeist, 2007; Gibbins et al., 1990; Singhvi & Desai, 1971) have described VDQ by using several important key words such as accuracy, completeness, reliability and timeliness, which are basically derived from the underlying theoretical assumptions adopted in research, and therefore, there is no one comprehensive definition which could be used (Debreceny & Rahman, 2005). Different research methodologies, disclosure themes and variable constructs employed in VDQ research has led to various VDQ definitions. This claim has been supported by Beretta and Bozzolan (2008, p. 341) who stated that VDQ is "impossible to be defined".

Following Beretta and Bozzolan (2008), Beattie et al., (2004) and Singhvi and Desai (1971) the current study defines VDQ as "the quantity and richness of the information provided that meet the conceptual framework of IASB". Consequently, the current study considers the information as high quality when it provides users with the relative amount of information (how much is disclosed), and offers a general overview of the business alongside its aim of focusing on relevant issues with The intention of satisfying the conceptual framework of IASB (2010)[16].

With respect to safeguarding shareholder value, both agency and signalling theories presume that useful, reliable and complete disclosure should mitigate asymmetric information and minimise agency cost (Morris, 1987; Riahi & Mounira, 2011; Subramaniam, 2006). Emphasising that the definition of VDQ of Singhvi and Desai (1971) is consistent with the agency theory's aim, which is increasing the value of shareholders.

[16] IASB (2010) relevance, understandability, comparability, faithful representation and timeliness.

3.3 The Benefits of Voluntary Disclosure to both Investors and the Company

The existing and expected investors are often seen as those who benefit from voluntary disclosure, because they depend on this disclosed information to formulate risk-return judgments in order to evaluate the company's performance (Grossman, 1981; Kasznik & McNichols, 2002; Milgrom, 1981). Coles at a1. (1995) indicated that voluntary disclosure mitigates the investor's estimation risk, suggesting that information disclosed voluntarily is considered a valuable resource, which could assist more informed trading decisions. With respect to the benefits of voluntary disclosure to the company, trading decisions for investors have an immediate influence on the market prices with regards to both debt and equity, which impacts the cost at which firms are able to raise capital funds (Healy, Hutton & Palepu, 1999; Healy & Palepu, 2001).

Botosan (1997) and Hughes at al. (2007) argued that the level of asymmetric information has a positive relationship with the cost of capital, suggesting that companies with insufficient information face difficulties in raising capital funds. This is because investors require sufficient information regarding the company's business in order to compensate for uncertainty and information risk. Thus, disclosing more information voluntarily is in the interest of the company in order to mitigate their capital cost. Additionally, Healy & Palepu, (2001) argued that disclosing more information voluntarily not only reduces the cost of capital but also enhances the company's finance and investments decisions. Furthermore, Myers & Mailuf (1984) show that low capital cost is a good motivation for managers to raise funds by issuing new securities in order to capitalise on profitable investment opportunities. Therefore, voluntary disclosure can indirectly influence management decisions to control the company's resources in order to increase overall returns.

3.4 Determinants of Voluntary Disclosure

Several studies have empirically examined the management's incentives behind their voluntary disclosure (Alotaibi & Hussainey, 2016; Aryani & Hussainey 2017; Cerf, 1961; Chakroun & Hussainey, 2014; Habbash et al., 2016; Riahi & Ben Arab, 2011). Healy and Palepu, (2001) argue that corporate disclosure is affected by the firm's characteristics and corporate governance attributes. The following is a discussion about firm characteristics and corporate governance mechanisms effect on voluntary disclosure.

3.4.1 Firm's Characteristics

Several studies (Aryani & Hussainey 2017; Barako et al., 2006; Wallace et al., 1994) indicated that company size, listing status, leverage, liquidity and profitability are the most common features of the firms.

Company size is considered to be a vital determinant of voluntary disclosure. Voluntary disclosure literature suggested that big companies are more likely to disclose a greater amount of information voluntarily compared to small companies (Al-Najjar & Abed, 2014; Aryani & Hussainey 2017; Barako, Hancock & Izan, 2006; Hossain, Perera & Rahman, 1995; Jizi, Salama, Dixon & Stratling, 2014; Qu, Ee, Liu, Wise & Carey, 2015; Salama, Dixon & Habbash, 2012). The reasons behind the positive association between company size and voluntary disclosure could be attributed to the following;

(1) According to the agency theory, big companies are linked to high agency costs, thus, the management of big companies tend to reduce the agency cost through disclosing more information voluntarily (Ruland, Tung & George, 1990). (2) Big companies could afford the preparation costs of voluntary disclosure, whereas small

companies may not be able to afford the high cost of voluntary disclosure (Lang & Lundholm, 1996). (3) Big companies are expected to be under a very intense monitoring system by the regulator bodies; in turn, this pressure leads to disclosing more information voluntarily in an attempt to project a good performance (Cowen et al., 1987).

With respect to the listing status, voluntary disclosure studies (Cooke, 1992; Hope et al., 2013; Malone et al., 1993; Uyar et al., 2013; Wallace et al., 1994) indicated that listed companies attempt to provide more information voluntarily compared to unlisted companies. In addition, Ahmed & Courtis, (1999) have shown that there is a visible relationship between listing status and corporate disclosure. This association could be attributed to the common requirements of stock exchanges, which require companies to meet before they can be considered for listing, such as number of shares issued, earnings for the last three years, suggesting that higher levels of information disclosed voluntarily could be found in listed companies.

With respect to leverage, liquidity and profitability, empirical voluntary disclosure studies have shown that there is a positive association between a company's liquidity and voluntary disclosure (Belkaoui & Kahl, 1978; Cooke, 1989). Furthermore, the ability of companies to meet their immediate financial obligations without being forced to discontinue their operations or divest their longer-term assets is widely regarded by stakeholders to be an important measure of a company’s prospects for survival (Wallace & Naser, 1995). Wallace et al., (1994) indicated that liquidity ratio is considered an essential benchmark for lenders and investors, because low liquidity potentially threatens the continuance of an enterprise. Thus, it is important for companies with a high liquidity ratio to provide information about the companies' viability as a going concern and accentuate their economic sustainability.

As regards to leverage, voluntary disclosure literature have shown that VDQ has a positive association with a company's leverage (Barako et al., 2006; Malone et al., 1993), which could be attributed to the fact that companies with high levels of debt may be restricted by lenders' covenants to disclose more information voluntarily. However, both Chow and Wong-Boren (1987) and Raffournier (1995) have found no association between corporate disclosure and leverage. The different findings of previous studies could be attributed to the difference in the study sample, method used, disclosure items chosen and to the various research methodologies adopted.

In the case of profitability, corporate disclosure literature argued that in highly profitable firms, managers are motivated to disclose information voluntarily because it boosts the confidence of investors and raises managers' compensations (Rouf & Abdur, 2011). Furthermore, Spence (1973) has shown that highly profitable companies would be eager to voluntarily provide more information about their good performance to investors. In this context, Cormier and Magnan, (1999) show that companies in a perfect financial condition tend to disclose information comprehensively, compared to companies in a bad financial condition, in order to provide evidence of their managerial capabilities and consolidate their corporate positions.

3.4.2 Corporate Governance

Corporate governance (CG) is defined by Shleifer and Vishny (1997) as the paths in which suppliers of finance to firms assure themselves of obtaining a return on their investment. Additionally, Gillan and Starks (1998) define CG as the system of rules, factors and laws that control operations at a company. The Cadbury Committee

Report, (1992) defined CG as "the system that controlled and directed listed companies". Furthermore, the OECD (2004, p.11) provides a broader definition of CG by stating that: "Corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined. Good corporate governance should provide proper incentives for the board and management to pursue objectives that are in the interests of the company and its shareholders and should facilitate effective monitoring."

The need for good corporate governance is to avoid corporate failures as well as to protect investors (Balachandran & Bliss, 2004). Corporate governance literature (e.g. Aryani & Hussainey 2017; Akhtaruddin, Hossain, Hossain & Yao, 2009; Andreou, Louca & Panayides, 2014) indicated that the existence of good corporate governance mechanisms would minimise the gap between the agent and principal, which in turn mitigates the agency cost. Furthermore, a good corporate governance mechanism has a major influence on voluntary disclosure (Akhtaruddin et al., 2009; Allegrini & Greco, 2013; Kent & Stewart, 2008; Mohamad et al., 2010; Rouf & Al Harun, 2011; Wang & Hussainey, 2013). In the same manner, Alsaeed, (2006) and Gul and Leung, (2004) have shown that poor corporate governance has led to corporate collapses and bankruptcy. Therefore, the main concern of corporate governance is the effectiveness of corporate control that leads managers to act in the best interest of owners (Allen & Gale, 2000). Diverse mechanisms of corporate governance have been supported in prior literature, including enhancing an effective board of directors, executive compensation, active audit committee and concentrated holdings (Bonazzi & Islam, 2007). With respect to voluntary disclosure, several studies indicated a positive

relationship between voluntary disclosure and the board's independence (Qu et al., 2015). Furthermore, Gandía, (2008) and Jizi et al., (2014) documented that a large board with a variety of backgrounds and board meetings enhances transparency and encourages voluntary disclosure. In addition, Nekhili et al., (2016) and Haniffa & Cooke, (2005) have shown that the audit committee's independence and the audit firm's size (Big 4) decreases the issue of information asymmetry which, in turn, positively affects voluntary disclosure.

With regards to ownership structure, the separation between both agent and principal has increased the monitoring procedures by investors of the performance and decisions of managers, in order to protect their interests. The agency theory context has explained the importance of corporate disclosure to both current and potential investors and the presence of contractual relationships between the agent and the principal (Watts & Zimmerman, 1978). The asymmetric information exists between the management (agent) and the shareholder (principals), when the former has direct access to the information compared with the shareholder (Arnold & De Lange, 2004). Referring to the normative perspective of the accountability model[17], all firms have to report information to both inside and outside users, because it is the firms' responsibility to disclose information (Gray et al., 1996). However, the findings of the empirical studies on the association between ownership structure and corporate disclosure were mixed (Aishah Hashim & Devi, 2008; Barako, 2007; Bokpin & Isshaq, 2009; Bushee & Noe, 2000; Chalaki et al., 2012; Chau & Gray, 2002; Eng & Mak, 2003; Laidroo, 2009; Nekhili et al., 2012; Patelli & Prencipe, 2007; Rouf & Al Harun, 2011). The literature emphasised that the ownership structure has a significant

[17] The normative perspective of the accountability model is defined as the responsibility of the firm to disclose information (Jalila and Devi, 2012). It is based on the premise that every firm must disclose information to anyone who has a direct or indirect interest in the firm, which gives stakeholders, such as creditors, tax departments, suppliers and employees, the right to hold the company accountable (Gray et al., 1996).

and positive relationship with the level of corporate disclosure (Dhaliwal et al., 1982; Raffournier, 1995). Some other studies, however, have found a negative association between the extent of disclosure and ownership structure (Barako, 2007; Patelli & Prencipe, 2007).

3.5 Literature Review on the Relationship Between Voluntary Disclosure and EM

Empirical evidence, however, provides inconclusive results regarding the association between EM and voluntary disclosure. For instance, in accordance with the long-term perspective, Chih et al, (2008); Francis et al, (2008); Hunton et al., (2006); Katmun (2012); Iatridis and Kadorinis (2009); Lobo and Zhou (2001) and Yadollah et al., (2012) reported a negative association between EM and voluntary disclosure. This implies that firms with a higher level of voluntary disclosure are less likely to engage in EM. This is also in line with signalling theory, which suggests that a company's manager will behave in a responsible manner when voluntarily disclosing more credible information.

In contrast, following managerial opportunism perspective, some studies found a positive influence of voluntary disclosure on EM practices (Grougiou et al., 2014; Kasznik 1999; Muttakin et al., 2015; Patten and Trompeter, 2003; Prior et al., 2008). This suggests that company managers disclose more information voluntarily in order to conceal their opportunistic behavior. On the other hand, other studies have failed to find any impact of voluntary disclosure on EM practices (e.g. Kurniawan, 2013 and Sun et al., 2010).

An early study on the association between corporate disclosure and EM was conducted by Richardson (2000) who examined the impact of asymmetric

information (voluntary disclosure was used as a proxy) on EM on all NYSE companies over a period from 1988 to 1992. His findings suggested that a high level of asymmetric information is linked with a high level of EM, signifying that a high level of voluntary information decreases the level of information asymmetry between the agent and principal, and therefore, mitigates EM practices.

A study by Lobo and Zhou (2001) has investigated the association between the quality of corporate disclosure and EM practices on US companies over a five-year period from 1990 to 1995. The AIMR[18] rating was used to measure the quality of disclosure, while the modified Jones model was employed to measure EM practices. Although this study has neglected to use any of the corporate governance mechanisms to control for both disclosure quality and EM, their result revealed that corporate disclosure quality has a negative impact on EM practices, suggesting that US companies that disclose high quality information are less likely to engage in EM practices.

In a similar way, Hunton et al., (2006); Iatridis and Kadorinis (2009); Gray (2013); Lapointe-Antunes et al., (2006); Riahi and Mounira (2011); Shen and Chih (2005) and Yadollah et al., (2012) have investigated the impact of voluntary disclosure level on EM on non-financial companies. Their result suggested that voluntary disclosure has a significant and negative effect on EM, suggesting that non-financial firms that disclose more information voluntarily are less likely to practice EM. In addition, Chih et al., (2008); Choi et al., (2013); Gras-Gil et al., (2016); Kim et al., (2012) and Scholtens and Kang (2013) explored the association between corporate social responsibility disclosure (CSRD) (as proxy for voluntary disclosure) and EM

[18] Association for Investment Management and Research

practices. Their results provided evidence that companies with higher levels of adherence to CSRD are less likely to be motivated to engage in EM.

On the contrary, Kasznik (1999), investigated the influence of voluntary disclosure on EM by using 366 US listed companies over a 5 year period from 1987 to 1991. His result shows that voluntary disclosure has a positive and significant impact on EM, suggesting that managers who overvalued earnings tended to shift published earnings to meet their expectations. In addition, Muttakin et al., (2015); Patten and Trompeter (2003) and Prior et al., (2008) have investigated the relationship between EM practices and the level of corporate social responsibility on non-financial firms. They have found that the level of CSR has a positive and significant impact on EM, suggesting that a high level of CSR increases the manager's motivation to involve in EM behaviour.

Conversely, a study by Sun et al., (2010) investigated the association between EM and corporate environmental disclosure on 245 UK companies over the period from 1 April 2006 to 31 March 2007. The result of this study, however, failed to find any association between EM and corporate environmental disclosure, signifying that managers of UK firms did not use disclosure of environmental information in order to mitigate the possibility that public policy actions might be taken against their companies. In the same manner, Kurniawan (2013) examined the influence of corporate disclosure and EM on asymmetric information on 37 Indonesian listed firms. His findings revealed that although corporate disclosure has a negative influence on asymmetric information, corporate disclosure has no association with EM. Furthermore, a study by Kiattikulwattana, (2014) has also provided empirical evidence by investigating the relationship between EM and voluntary disclosure on 181 companies that were listed on the Stock Exchange of Thailand during 2009. Their

result has shown that there is no association between voluntary disclosure and EM. Table 3.1 presents the results of these empirical studies.

Based on the above, it can be seen that EM and voluntary disclosure literature have only focused on the impact of voluntary disclosure levels on EM without paying attention to the quality of this information. However, Beretta & Bozzolan (2008) argued that disclosure quality is not only linked to the level of information disclosed but also to what is disclosed and the variety of topics disclosed. Additionally, Botosan (2004) argued that the notion of VDQ should be based on the conceptual frameworks created by the standard setters (FASB and IASB). This reflects a generally accepted interpretation of disclosure quality, and lead to high quality information that is useful for decision-making (IFRS, 2010). Consequently, the current study bridge this gap in the literature by examining the relationship between EM and VDQ.

It is worth mentioning that voluntary disclosure studies have used several methods to measure VDQ. For instance, AIMR rating, which is available only for specific firms in the US, was used by Lobo and Zhau (2001) as proxy for VDQ, while other research focussed on disclosure indices that measures only the level of information disclosed without paying attention to the richness of these information. Consequently, to measure VDQ, the current study develops a comprehensive framework that considers both the quantity and richness of disclosed information with the attention on satisfying the conceptual frameworks of both FASB[19] and IASB[20].

Most notably, none of the above-mentioned studies have examined the relationship between EM and VDQ in banking sector, especially IBs. Organisations that are compliant with Islamic law "Shari'ah" behave justly when dealing with their client,

[19] - **FASB** requirements: **A)** identifies the aspects of the company's business that are especially important to the company's success. These are the critical success factors for the company. **B)** Identifies management's strategies and plans for managing those critical success factors in the past and going forward. (Width means that the wider the variety of topics disclosed the better).

[20] **IASB** frameworks (understandability, relevance, reliability, comparability and timelines).

forbids riba, ambiguity and manipulation in their transactions (EM) (Hossain et al., 2014), and are required to full disclosure concept (Abdulrahman, Anam & Fatima, 2010). Furthermore, Islamic law impose further regulation, which may influence both EM practices and the VDQ (Hamdi & Zarai, 2013; Maali 2006). This suggests that the EM practices and VDQ of IBs might vary from those of NIBs, which makes necessary to compare both types of banks in line with the aim of this study. Thus, the current study attempts to fill this gap in the literature by using data from both IBs and NIBs.

Table 3. 1 Review of the Empirical Studies on the Association Between EM and Voluntary Disclosure

Year	Data	Authors	Objectives	Results
1987- 1991	366 US listed companies	Kasznik (1999)	Investigated the influence of voluntary disclosure on EM	Voluntary disclosure has a **positive** and significant impact on EM
1988 - 1992.	All NYSE companies over a period from 1988 to 1992.	Richardson (2000)	Examine the impact of asymmetric information on EM, (voluntary disclosure "VD" was used as a proxy for information asymmetry).	A **negative** association between EM and VD was found.
1990 -1995	1,444 US firm-years observation	Lobo and Zhou (2001)	Investigated the association between the quality of corporate disclosure and EM practices	Corporate disclosure quality has a **negative** impact on EM practices,
1984	40 US companies	Patten and Trompeter (2003)	Investigated that relationship between EM practices and the level of corporate environmental disclosure	The level of environmental disclosure has a **positive** and significant impact on EM
2005	17 US public firms	Hunton et al., (2006)	Examined the impact of transparency of disclosure on EM practices	More transparent companies tend to mitigate EM practices.
1997 - 2001	90 Swiss companies	Lapointe-Antunes et al., (2006)	Studied the relationship between voluntary disclosure and EM	A **negative** association between EM and VDQ was found.
1993-2002	1,653 multinational companies from 46 different countries	Chih et al., (2008)	Explored the association between corporate social responsibility disclosure (CSRD) and EM practices.	Companies with higher level of adherence to CSRD are less likely to be motivated to engage in EM.
2002- 2004	593 firms from 26 different countries	Prior et al., (2008)	Examined that association between corporate social responsibility and EM	Corporate social responsibility is **positively** and significantly related to EM.
2007	239 UK firms	Iatridis and Kadorinis (2009)	Investigated the impact of voluntary disclosure on EM	Voluntary disclosure has a significant and negative effect on EM
2006- 2007	245 UK companies	Sun et al., (2010)	Investigated the association between EM and corporate environmental disclosure	Have failed to find any impact of VDQ on EM practices.
1999- 2008	19 listed firms on Tunisian stock market	Riahi and Mounira (2011)	Examined the effect of voluntary disclosure frequency on EM	High level of voluntary disclosure is linked to lower level of EM
2001-2010	700 Iranian firms	Yadollah et al., (2012)	Explored the association between corporate disclosure quality and EM	High quality of disclosure reduces the level of EM practices.
1991- 2009	18,160 USA firm-year observations	Kim et al., (2012)	Examined the impact of CSRD on the level of EM	The level of CSRD has a negative and significant effect on EM.
2002-2008	2,042 South Korean firm-year observations	Choi et al., (2013)	Examined the effect of CSRD on EM	A **positive** association between EM and CSRD was found.
2008	37 Indonesian listed firms	MeilaniPurwanti (2013)	Examined the influence of corporate disclosure and EM on asymmetric information	Their findings revealed that although corporate disclosure has a negative influence on asymmetric information, corporate disclosure has no association with EM.
2004-2008	139 companies listed in ten different Asian countries.	Scholtens and Kang (2013)	Investigate the association between CSRD as proxy for voluntary disclosure and EM	Asian companies are less likely to practice EM when they provide high level of CSRD.
2005- 2012	100 Spanish companies	Gras-Gil et al., (2016)	Explored the effect of corporate social responsibility on EM	Corporate social responsibility is significantly and negatively linked to EM
2005- 2009	135 firms that are listed on the Dhaka Stock Exchange	Muttakin et al., (2015)	Examined the association between EM quality and CSRD	CSRD is positively and significantly related to EM
2009	181 companies listed on Thailand Stock Exchange of	Kiattikulwattana, (2014)	Investigated the relationship between EM and voluntary disclosure	There is no association between voluntary disclosure and EM.

3.6 Theoretical Framework

In order to test the relationship between EM and VDQ, agency, signalling and stakeholder-legitimacy theories are adopted. Agency and signalling theories are partially similar in concept because they both address the issue of information asymmetry between managers and users (Gallego Alvarez et al., 2008; Morris, 1987). Though these theories appear, from the literature, to be competing theories (Leventis et al., 2012; Morris, 1987), they are very useful in understanding the impact of VDQ on EM

3.6.1 Agency Theory

Agency theory is mainly focused on the relationship between the principal and the agent, particularly in the separation of ownership and management (Morris, 1987). Jensen and Meckling (1976) defined agency conflict as a contract involving one or more parties (the principal(s)) who may engage another party (the agent) to help them carry out some services. This will consists of delegating the authority to make decisions to the agent. The underlying premise of the agency relationship is the assumption that both agent and principal are opportunistically inclined and have the sole intention of maximising their self-interest. This theory is concentrated in resolving the conflict of interest that may occur in an agency relationship. This occurs because the agents have full access to the information in the company, while the principal, who is funding the company, has limited access to this information compared with the agent. Lambert (2001) argues that the conflict of interest between the agent and principal may be as a result of the agent's diversion of efforts, appropriation of resources for personal consumption and risk attitude. In addition,

both opportunistic behaviour and information asymmetry allows bank managers greater freedom to manipulate earnings (Black & Shevlin, 1999). Several studies (Bae et al., 2009; Beatty et al., 1995; Cornett et al., 2009) provided evidence that both agency costs and asymmetric information have an influence on the accounting accruals.

In order to reduce any conflict of interest, the majority of EM and VDQ literature has placed emphasis on control geared towards aligning the interest of the agent with that of the principal (Barnea et al., 1980; Fama & Jensen, 1983; Jensen & Meckling, 1976). However, due to differences in the level and quality of information provided by the manager to the agent, it may be difficult for these conflicting interests to be completely aligned. Healy and Palepu (2001) suggested the use of optimal contracts between agents and principals since such a contract ensures disclosure of relevant information, thereby enabling investors to monitor alignment of interest. The researchers emphasised the use of voluntary disclosure, such as management forecasts, presentations, press releases and conference calls among others in the managing agency relationship.

Agency theory is considered to be a powerful theoretical foundation for understanding the organisational process (Subramaniam, 2006). It contributes to a better understanding of the problem of information asymmetry and has been used widely by researchers when explaining voluntary disclosure (Allegrini & Greco, 2013; Ben-Amar et al., 2017; Frias Aceituno et al., 2013; Ness & Mirza, 1991; Watson et al., 2002). It is also very useful in explaining the financial contracts of Islamic institutions (Shamsuddin & Ismail, 2013).

For the purpose of this work, EM is considered to be a form of agency cost (Fung & Goodwin, 2013), since it causes information asymmetry and decreases the ability of users to understand the company's performance and thus, affects their decisions (Davidson et al., 2004). Managers are more likely to practice EM especially when users are poorly informed and do not have access to the company information (Man and Wong, 2013). Voluntary disclosure is known to be the most appropriate solution in decreasing agency costs (Gisbert and Navallas, 2013). Increasing voluntary disclosure could, therefore, solve the EM problem because it reduces information asymmetry and, thus, decreases EM practices.

3.6.2 Signalling Theory

Signaling theory was advocated as a possible treatment for information asymmetry, whereby a party with more information signals to the other party with lesser information and thus reduces the information gap (Morris, 1987; Riahi & Mounira, 2011). According to An et al., (2011), managers have more information than users with regard to the operation of the company (e.g. expected profits, risk exposure or viability of a project) and should use this information to the firm's advantage through appropriate signaling. However, due to information asymmetry issue, bank managers are motivated to signal some information, not only to avoid showing poor performance of the bank and decrease the probability of being audited by bank regulatory agencies, but also to increase the managers' compensation since it is based on reported earnings.

In this context, bank managers have incentives to engage in EM (Caprio & Levine, 2002; Healy & Wahlen, 1999; Kanagaretnam et al., 2004). Watts and Zimmerman (1978) indicated that managers could lessen or avoid asymmetric information issue

through disclosing (signaling) private information voluntarily to investors and the market. Credible and relevant voluntary disclosure is considered as vital element in decreasing asymmetric information (Hughes, 1989). The signal can take different forms but must indicate quality and be beneficial to the party that sends the signal (An et al., 2011). EM literature (Ahmed et al., 1999; Beaver et al., 1989; Beaver & Engel, 1996; Wahlen, 1994) illustrated that bank managers used LLPs as a signaling device to communicate their private information to shareholders and to give a signal about their financial strength. Signaling theory suggests that bank managers raise LLPs to signal good news about the banks' future earnings. Specifically, great LLPs convey a signal of confidence and conservatism that managers can withstand to earnings (Ahmed & Courtis, 1999). Managers of higher quality companies have a desire to distinguish themselves from poor quality companies through extending reliable information voluntarily (Gray 2005). Managers should use credible (high quality) signals in order to communicate successfully (Eccles et al., 2002).

In addition, Morris (1987, p. 51) claimed that to assure the signalled information by the firm is credible and can effectively decrease asymmetric information, the asymmetry costs "must be borne by the company's manager (agent), so he has an incentive to signal truthfully". This suggests that company's manager will behave in a responsible manner when voluntarily disclosing more credible information. Nevertheless, Abhayawansa and Abeysekera, (2009) argue that there is no guarantee that firms will disclose credible information, because managers' decision to disclose is effected by the marginal benefits to be achieved through decreasing asymmetric information in the market.

Given that managers' ability to disclose information voluntarily will decrease the frequency of EM practices, since credible voluntary disclosure is likely to decrease

information asymmetry (Glosten and Milgrom, 1985), and, thus, reduce EM practices (Trueman and Titman, 1988). This is in line with EM and voluntary disclosure literature which states that voluntary disclosure has a negative relationship with EM practices (e.g. Brown and Hillegeist 2007; Petersen and Plenborg 2006).

3.6.3 Stakeholder Theory

This theory illustrates the association between the disclosed information by the firm and their stakeholders. Hill and Jones, (1992) indicated that managers are considered as the agent of both the owners and other stakeholders. There are two different groups of stakeholders includes; the primary (powerful) group and the secondary group (Clarkson, Kao & Richardson, 1994). Shareholders, suppliers, government, employees and creditors are considered as a powerful group, while media and environmentalists are considered as secondary group. The literature on the stakeholders' theory (e.g. Parmar et al., 2010; Wagner Mainardes, Alves & Raposo, 2011) contended that managers should take into consideration the interest of all stakeholders rather than only the powerful stakeholders.

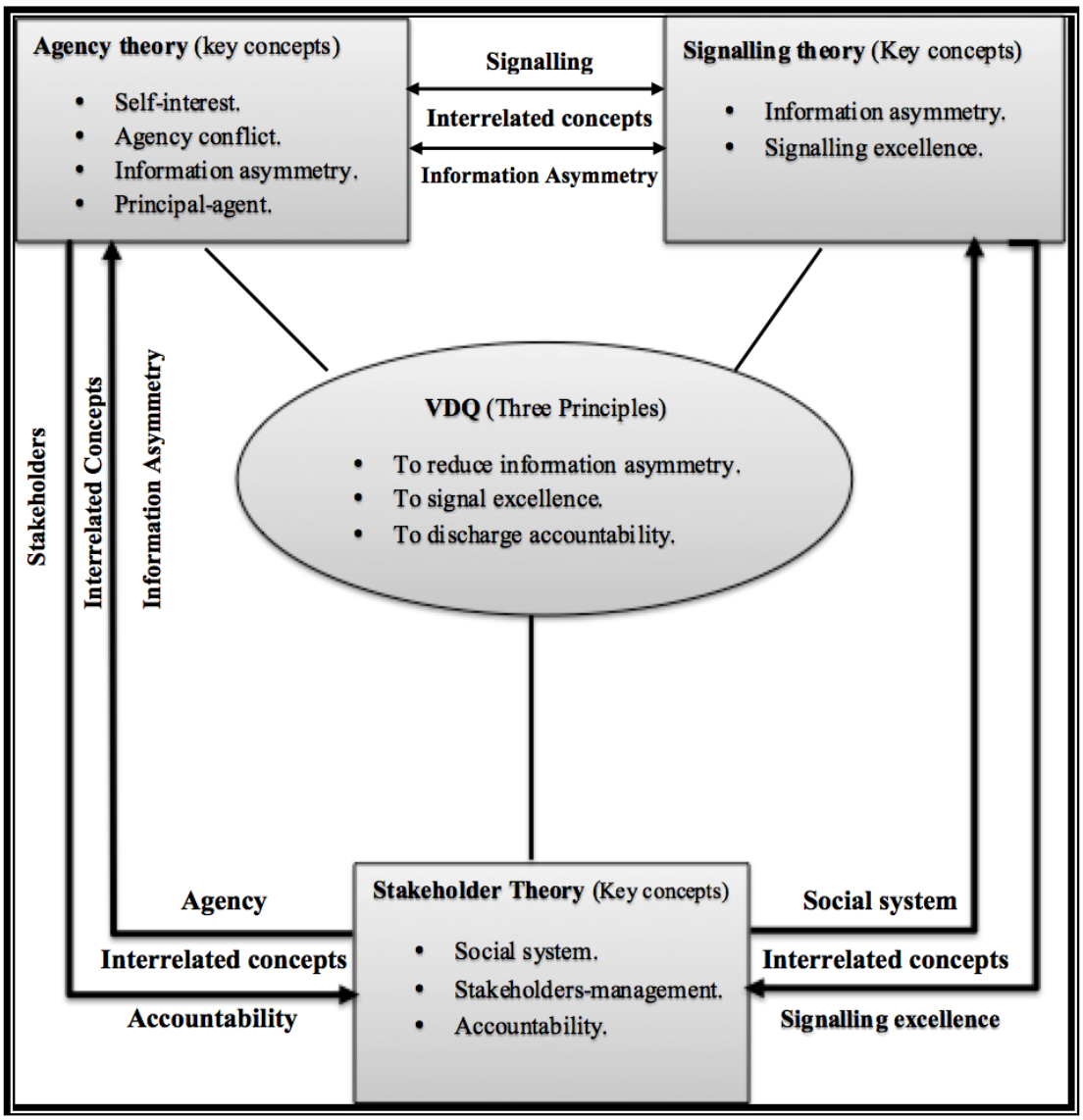
There are three perspectives of stakeholder theory: instrumental power, descriptive accuracy, and managerial perspective (Donaldson & Preston, 1995). The instrumental power and descriptive accuracy perspectives are both in line with the suggestion that the company management should manage the influential stakeholders through categorizing them with the self-interest of the company, whereas the managerial perspective presumes that managers should take into account the interest of all stakeholder groups (Donaldson and Preston,1995). According to the first two perspectives (instrumental power and descriptive accuracy), managers may use voluntary disclosure as an instrument to manage the perception only towards their

own powerful stakeholders who play an influential role in the continuity and survival of the company business, rather than for accountability purposes (Deegan & Blomquist, 2006; Ullmann, 1985). In the same vein, Friedman and Miles, (2002) indicated that powerful stakeholders groups have a stronger impact on companies compared to other minority shareholders. Consequently, managers have strong incentives to employ voluntary disclosure to manipulate stakeholders in order to obtain their approval and support or to distract their opposition and disapproval (Deegan & Blomquist, 2006). In line with this notion, the voluntary disclosure is perceived as a part of the dialogue among the corporation and its powerful stakeholders. On the other hand, managerial perspective focuses on the responsibilities of companies' management to diverse stakeholders, which increases the need for the company to disclose more information voluntarily to relevant stakeholders in order to assure greater accountability (Guay, Kothari & Watts, 1996; Kakabadse, Rozuel & Lee-Davies, 2005). Managerial perspective gives substantial rights to all stakeholders and involves managers in activities that is useful to protect all stakeholders (Deegan & Samkin, 2008).

In general, the perspective of stakeholder theory is that organization should be positively accountable to all stakeholders groups for strategic purposes. The voluntary disclosure can be considered as important path for banks to discharge their accountability, which leads to decrease in asymmetric information and building a good relationship with stakeholders (An, Davey & Eggleton, 2011). Although, managers may have more incentives to utilize their discretion to extend the level of reported information in order to avoid the risk of being dismissed (Sun et al., (2010), voluntary disclosure increases the transparency of information, which in turn strengthen the association between the stakeholders and the business (An et al., 2011).

This discussion leads to voluntary disclosure which endeavours to support the demand for more credibility and transparency, which in turn establishes long-term relationships with stakeholders (Garcia-Meca & Sánchez-Ballesta, 2010). The viewpoint of the long-term relationship is utilised to demonstrate VDQ and recognises the stakeholders' significance in the provision of high financial returns. The current study follows the integrated theoretical framework proposed by An et al. (2011) (See figure 3.1).

Figure 3. 1 The Integrated Theoretical Framework



Source: An et al., (2011, p. 580).

3.7 Disclosure from the Islamic Perspective

The Islamic religion has more impact on the level of corporate disclosure since the perspective of Islam focuses on appropriate disclosure. In this regard, there are two common requirements of Islamic accounting in the Islamic perspective of disclosure: the full disclosure concept and the concept of social accountability (Haniffa & Hudaib, 2002; Abdulrahman, Anam & Fatima, 2010). Voluntary disclosure is affected by managerial decisions; bank managers have more flexibility in reporting additional information than they have when reporting other types of disclosure, such as compulsory disclosure (Wang et al., 2016). Therefore, the current study takes into account VDQ as it is considered to be important on minimising information asymmetry.

Voluntary disclosure is a critical element of the accountability between IBs and their stakeholders. Haniffa & Hudaib, (2007) indicated that IBs are more likely to disclose high level of truthful and comprehensive information voluntarily to meet the needs of their stakeholders, society, and others.

Muslims believe there is only one ultimate creator who has absolute ownership, and human beings are merely trustees of this world. Maali et al., (2006) indicated that Muslims are responsible and accountable for their actions in the hereafter. In addition, Baydoun and Willett, (1998) emphasise that in Islamic accounting, managers are accountable to the society, thus they should disclose information, which can help discharge this accountability. The concept of social accountability has generated the concept of full disclosure, as Muslims and non-Muslim communities have the rights to be informed about the firms' activities and operations in their society. Thus, the conservatism concept of disclosing information in Islamic accounting does not exist

(Alam, 1998). Baydoun and Willett (2000) and Haniffa and Hudaib (2002), argued that full disclosure means to report high quality information in order to assist investors to make the right decision as well as helping managers to fulfil their accountability to society.

Islamic institutions which adopt AAOIFI standards disclose more reliable financial and non-financial information in order to create confidence among investors (Sarea & Hanefah, 2013; Nadzri & Aida, 2009). IBs are required to disclose truthful information voluntarily, irrespective of their local standards, due to the importance of accountability in Islamic society (Maali et al., 2003). This entails disclosing all necessary information regarding their activities to assist prospective investors and to make sure that these activities are in line with Islamic principles, which NIBs are not required to report (AAOIFI, 2005; Baydoun & Willett, 2000; Haniffa & Hudaib, 2002; Maali et al., 2006). Additionally, voluntary disclosure literature emphasises that Islamic institutions report high level of credible (high quality) information, which embodies the Islamic principles of full disclosure and accountability, when compared to NIBs (Abdul Rahman, 2012; Aribi and Gao 2010). Therefore, voluntary disclosure quality (VDQ) is expected to be higher in IBs than NIBs.

3.8 Summary of the Chapter

This chapter provides a literature review, which indicated that, as yet, there is no study has investigated the relationship between EM and VDQ in the banking industry, specifically in Islamic banks. It provides a review of definitions, benefits, and determinants of voluntary disclosure. It also covers theories that explain the relationship between the relevant variables. Two different perspectives on the association between EM and VDQ were provided including: long-term perspectives and managerial opportunism.

The long-term perspective suggests that firms provide voluntary disclosure in order to raise current profits, executives' wealth and to enhance and build a solid future relationship with stockholders. This view is linked to both agency and signaling theories, as they suggest that managers tend to report more information voluntarily to users in order to reduce asymmetric information and boost the confidence of owners about the company's current and future performance (Uyar et al., 2013). This perspective suggests a negative relationship between EM and VDQ (Iatridis & Kadorinis, 2009; Katmun, 2012; Lobo & Zhou, 2001; Tariverdi et al., 2012), whereas managerial opportunism indicates that company managers may disclose more information voluntarily in order to cover their opportunistic behaviour of EM (Li et al., 2012). This view is supported by the legitimacy theory, which suggests that "actions of individual are strongly linked to their self-interest and each individual will increase their wealth by behaving in an opportunistic manner" (Jensen & Meckling, 1976). This perspective suggests a positive association between EM and VDQ (Kasznik, 1999; Muttakin et al., 2015; Patten & Trompeter, 2003; Prior et al., 2008). According to the different perspectives discussed in EM and voluntary disclosure

literature, the current study anticipates that managers of both IBs and NIBs in MENA countries apply the long-term perspective, suggesting a negative impact of VDQ on EM.

Chapter Four: Research Methodology

4.1 Introduction

This chapter aims to provide a brief outline of the research methodology used in this study. It shows the research philosophy, strategy and approaches adopted to answer the research questions, and is organised as follows. Section 4.2 presents the hypothesis development. Section 4.3 illuminates the methodology underlying the research, while section 4.4 describes the sample and data collection. In sections 4.5 and 4.6 the study dependent and independent variables' measurements are presented. Section 4.7 presents the control variables used in this research. Section 4.8 provides the empirical research model to be used in this study, section 4.9 deals with the practical research procedures for data analysis and, finally, section 4.10 summarises the chapter.

4.2 Hypothesis Development

This section discusses the study hypothesis development with the aim of addressing three main research questions. To obtain the first objective, the following research question is as follows:

Q1: Is there any difference in EM practices between IBs and NIBs?
Signalling theory suggests that bank managers used LLPs as a signalling device to communicate their private information to shareholders and to give a signal about their financial strength (Ahmed et al., 1999; Beaver et al., 1989; Beaver & Engel, 1996; Wahlen, 1994). This theory illustrates that bank managers raise LLPs to signal good news about a banks' future earnings. Specifically, high LLPs may convey a signal of confidence and conservatism (Ahmed & Courtis, 1999). Banks with low performance

may engage in EM through decreasing LLPs in order to increase their earnings. This, in turn, will minimise the possibility of being audited by regulatory agencies and increase the management compensation, as it is often based on disclosed earnings. These arguments suggest that bank managers might signal false information regarding increased / decreased LLPs in order to meet their target (Ashraf et al., 2014; Ahmed et al., 1999).

However, EM practice is considered as an opportunistic behaviour of managers to mislead shareholders and influence the contractual outcomes (Healy & Wahlen, 1999; Siregar & Utama, 2008). This opportunistic behaviour is prohibited and immoral in IBs, and is condemned by Islam (Hamdi & Zarai, 2013). In this sense, Shari'ah law establishes the ethical codes for appropriate behaviour and conduct in order to ensure fairness (Hamdi and Zarai, 2013), whereas opportunistic behaviour may be more likely in NIBs (Missman and Ahmed 2011). However, managers of institutions with religious affiliation usually follow certain socially acceptable norms, which are related to anti-manipulative behaviour. Thus, religion is seen as an institutionalised mechanism of control that influences individual and corporate attitudes (Dyreng et al., 2012). A study by McGuire et al., (2011) stated that there is a considerable relationship between companies with religious affiliation and lower irregularities in financial reporting. They are also less likely to engage in EM or grant excessive compensation packages to their managers. Moreover, McCullough and Willoughby (2009) and Vitell (2009) discovered that managers who have strong religious values are more likely to refuse business decisions that are morally questionable.

More importantly, Taktak et al. (2010), and Farouk et al. (2012), illustrate that IBs and NIBs follow different provisioning practices. The AAOIFI standard that is

employed by most IBs demands the utilisation of dynamic provisioning. This is a macro-prudential instrument applied to minimise the procyclicality of IBs' default (Ben Othman et al., 2014). This dynamic provisioning principle is based on long-run anticipated yearly losses, which is made each financial year. The AAOIFI's standard (11) identifies provisions as "setting aside certain amount from income as expenses to revaluate receivables, financing and investment assets". The AAOIFI's standard (11) calls for the recognition of both specific and general provisions. The specific provisions are recorded when the bank's assets are impaired to reduce its amount to its net realisable value, whereas, general provisions in IBs are recognised to cover potential losses that are related to bank assets. These features of provisioning policy, which are applied by IBs, are more developed compared to NIBs, as it takes into account both the actual and expected future losses (Ben Othman et al., 2014; Quttainah, 2011).

Additionally, IBs must adhere to Islamic Law (Shari'ah), which provides the religious guidelines that are considered as the primary source of ethical behaviour for Islamic banks. Beside the Shari'ah and AAOIFI standards, IBs are monitored by another supervisory board beyond the general monitoring system for all banks, which is the Shari'ah Supervisory Board (SSB). This SSB works as a further tier of the governance system (Ashraf et al., 2014). EM literature on IBs suggests that IBs may show lower signs of EM, because they are subjected to Shari'ah Supervisory Boards (SSB), which do not apply to NIBs (e.g. Ashraf et al., 2014; Missman and Ahmed 2011). Therefore, adhering to all these obligations may mitigate the level of risk taking and prevent managers from manipulating earnings. Thus, we expect that managers of IBs are less involved in EM practices compared with their competitors, the NIBs, due to the moral and ethical values that Islamic law Shari'ah places upon

them. Accordingly, this study hypothesises that:

H1: EM practice differs among IBs and NIBs, and it is expected to be lower in IBs compared to NIBs.

The second objective of this study is to investigate VDQ in both IBs and NIBs in MENA countries. To achieve the second objective, the following question is employed:

Q2: Is there any difference in terms of VDQ between IBs and NIBs?

Management disclosure decisions rely on several factors, such as disclosure related costs, proprietary costs (Ali et al., 1994; Verrecchia, 1983) information asymmetries (Hughes, 1989) and agency costs (Wei & Chunyan, 2010). Corporate disclosure is considered as an important control mechanism that makes capital markets more efficient and protects shareholders (Chakroun & Hussainey, 2014). The most influential factors, which enable investors to make the right decision are the relevant, accurate and appropriately disclosed information. Enhanced disclosure quality plays a crucial part in reducing asymmetric information and lowering its capital cost, because greater transparency improves the stock market's liquidity and decreases costs of transactions for the company's stock (Chakroun & Hussainey, 2014; Francis et al., 2008; Leuz & Verrecchia, 2000).

The underlying premise of the agency relationship is the assumption that both agent and principal are opportunistically inclined and have the sole intention of maximising their self-interest. This theory concentrates on resolving the conflict of interest that may occur in an agency relationship. This occurs because the agents have full access to the information in the company, while the principal, who is funding the company,

has limited access to this information compared to the agent. From the agency theory perspective, bank managers are encouraged to report more information voluntarily to convince stakeholder's that they are behaving optimally on the stakeholder's behalf. Voluntary disclosure is known to be the most appropriate solution in decreasing agency costs (Gisbert and Navallas, 2013). Increasing voluntary disclosure could, therefore, solve the issue of information asymmetry.

In addition, signalling theory was advocated as a possible treatment for information asymmetry, whereby a party with more information signals to the other party with lesser information and thus reduces the information gap (Morris, 1987; Riahi & Mounira, 2011). However, due to the information asymmetry issue, bank managers are motivated to signal some information to avoid showing the bank is performing poorly. Watts and Zimmerman (1978) indicated that managers could lessen or avoid the asymmetric information issue through disclosing (signalling) private information voluntarily to investors and the market. On the other hand, stakeholder theory demonstrates the managers' decisions as to whether or not to report certain information voluntarily. This theory indicated that managers would not report more information voluntarily if those who demand such information were not considered as powerful and influential stakeholders by the organisation (Wagner Mainardes et al., 2011).

In the IBs context, Islamic ethical values are in line with the adoption of Islamic law: Justice, public interest, accountability and transparency. These ethical values theoretically distinguish IBs from NIBs. The Islamic law acts as an internal control over IBs, which makes IBs more sensitive towards VDQ and promotes greater economic equity compared to their competitors, the NIBs (Maali, et al, 2006).

Therefore, IBs are expected to disclose more information voluntarily compared to NIBs, as IBs' activities are in line with the purpose of Islamic law (Aribi & Arun, 2014; Maali, et al, 2006).

Islamic institutions that adopt AAOIFI standards disclose more reliable financial and non-financial information in order to create confidence among investors (Sarea & Hanefah, 2013; Nadzri & Aida, 2009). In addition, the perspective of disclosure in IBs is based on both the concept of accountability and the full disclosure. This entails disclosing all necessary information regarding their activities to assist expected investors and to make sure that these activities are in line with Islamic principles (Baydoun & Willett, 2000; Haniffa & Hudaib, 2002; Maali et al., 2006). IBs are required to disclose truthful information voluntarily, irrespective of their local standards, due to the importance of accountability in Islamic society (Maali et al., 2003).

In addition, the ethical values of IBs as well as AAOIFI standards ensure that all disclosed information should be reliable and relevant in their annual reports (Hamdi and Zarai, 2013; Maali et al., 2006). In this context, Martínez-Ferrero et al., (2015) indicated that ethical firms have incentives to be more conservative and their financial reports tends to be of high quality. Additionally, Aribi and Gao (2010) and Anuar et al., (2004) provided evidence, which supports the perspective that Islamic law has an impact on financial reporting. They found that Islamic institutions report higher level of social and environmental information compared to non-Islamic institutions. This emphasis that Islamic institutions report credible (high quality) information, which embodies the Islamic principles of full disclosure and accountability compared to their competitors (Abdul Rahman, 2012; Aribi and Gao 2010). Beside the Islamic

ethical values, Shari'ah, AAOIFI standards and the SSB, IBs are required to follow the full disclosure concepts and accountability, which are not demanded of NIBs (Ashraf et al., 2014). Therefore, adhering to all these obligations, the voluntary disclosure quality (VDQ) is expected to be higher in IBs compared to NIBs.

H2: The VDQ in annual reports differs among IBs and NIBs, and it is expected to be greater in IBs compared to NIBs.

The final objective of the present study, is to investigate whether VDQ affects EM practices in IBs and NIBs in MENA countries. The final research question is as follows:

Q3: What is the effect of the VDQ on EM practices in both IBs and NIBs in MENA countries?

Manager's responsibility is to make useful decisions on behalf of shareholders in order to increase the shareholders wealth (Jensen & Meckling, 1976). Nevertheless, regarding managers' and shareholders' separation in an agency relationship, as well as the existence of asymmetric information, the possibility of managerial opportunism and their self-centered behaviour will be greater (Prior et al., 2008). Thus, managers tend to practice EM to maximise their benefits and to disadvantage other stakeholders (Healy & Wahlen, 1999). EM is viewed in the literature as a type of agency cost, since bank managers attempt to maximise their personal interests through LLPs, which does not give an accurate image of the bank's circumstances (Abdelsalam et al., 2016; Prior et al., 2008). On the other hand, corporate disclosure is seen as monitoring tool, which assists investors and other stakeholders to reduce the information asymmetry issue (Huang & Zhang, 2011). Voluntary disclosure literature shows that voluntary disclosure is inversely related to asymmetric information

(Brown et al., 2004; Brown & Hillegeist, 2007; Coller & Yohn, 1997; Heflin et al., 2005; Welker, 1995). In this context, VDQ is considered as important path for banks to discharge their accountability, which leads to decrease in asymmetric information and raise the confidence of stockholders (An, Davey & Eggleton, 2011).

Based on the literature, there are two points of view with regards to the association between EM and VDQ: these are long-term perspectives and managerial opportunism. The long-term perspective indicates that the main concern of firms that provide great voluntary disclosure is not only to raise current profits and executives' wealth but also to enhance and build a robust future relationship with their stockholders. With this regard, Qu et al., (2015) suggested that voluntary disclosure provides stockholders and other outside users with credible and relevant information, which, in turn, facilitates them to make more accurate and informed decisions. Since the asymmetry costs is borne by the company's manager, signalling theory suggests that managers will behave in a responsible manner when voluntarily signalling truthful information. The long-term perspective is consistent with the EM and voluntary disclosure literature (Hunton et al., 2006; Iatridis & Kadorinis, 2009; Katmun, 2012; Lobo & Zhou, 2001; Tariverdi et al., 2012), which indicated that voluntary disclosure is negatively linked to EM behaviour.

From another viewpoint, the perspective of managerial opportunism suggests that company managers may disclose more information voluntarily in order to lid their opportunistic behaviour of EM (Li et al., 2012). This perspective is in line with the legitimacy theory, which suggests that “actions of individual are strongly linked to their self-interest and each individual will increase their wealth by behaving in an opportunistic manner” (Jensen & Meckling, 1976). In this regard, managers employ

poor voluntary disclosure as an important tool to cover their opportunistic behaviour and to protect themselves against any possible reaction and attention from stockholders. This argument is supported by Martínez-Ferrero, et al., (2015) and Francis et al., (2008), who indicated that the relationship between EM and VDQ could be substitutive in the sense that firms might report poor- quality voluntary disclosure as a mechanism of legitimacy to substitute the lack of good VDQ. The perspective of managerial opportunism is consistent with several studies (Kasznik, 1999; Muttakin et al., 2015; Patten & Trompeter, 2003; Prior et al., 2008), which indicated that voluntary disclosure is positively related to EM behaviour.

In this regard, both agency and signaling theories suggest that managers tend to report more information voluntarily to concerned groups in order to reduce asymmetric information and boost the confidence of owners about the company's current and future performance (Uyar et al., 2013). In the same vein, firms that report high VDQ tend to be more conservative in their accounting and less inclined to carry out unethical practices (EM) (Eng & Mak, 2003; Lang & Lundholm, 2000; Martínez-Ferrero et al., 2015). This research expects a negative association between VDQ and EM practices in both IBs and NIBs in MENA countries. The following hypothesis is developed:

H3: There is a negative relationship between VDQ and EM practices.

4.3 Research Methodology

The terms ‘‘method’’ and ‘‘methodology” are often confusing (Mingers, 2001, p. 242). ‘Methodology’ is defined as the “overall approach to the research process, from the theoretical underpinning to the collection and analysis of the data” (Collis and

Hussey 2013, p. 55), while Saunders et al., (2007, p. 2) have explained the methodology as "the theory of how research should be undertaken". Silverman (2006) indicated that methodology is related to the case study selected made by the researcher, data collection methods and procedures of the data analysis etc. Fisher (2010) described research methodology as a study of methods that raises philosophical questions about what the researchers want to know, and how valid their assertions about knowledge might be. In this context, the main point of methodology can be described as how a particular problem can be studied (Eriksson & Kovalainen, 2008).

On the other hand, Hussey and Hussey, (1997, p. 54) describe the term 'methods' as the procedures of how data can be gathered and analysed. Moreover, Silverman (2006, p. 15) describes 'methods' as particular research techniques that contain quantitative and qualitative methods like (statistical correlation and interviewing and audio recording). The phrase "methods" can be defined as techniques and instruments employed in order to achieve and analyse the data of the study (Saunders, 2003, p. 2). In addition, Jankowicz (2000, p. 209) argues that method should be systematic and orderly in relation to data collection and analysis, in order to obtain useful information from the research data. In this regard, both phrases, "methodology" and "method", are often used to refer to different meanings or interchangeably by some scholars (Collis & Hussey, 2013; Hussey & Hussey, 1997). It may, therefore, be difficult to accurately determine boundaries between methodology and method (Mingers, 2001, p. 242).

In regards to the research methodology context, a positivist or interpretivist paradigm can be employed in order to achieve the study aims and objectives. Thus, choosing an

appropriate research methodology relies on the research assumption and the nature of the study that is conducted by the researcher. Punch (2013) suggested that an appropriate research approach has to be established to examine a particular study's issues. Prior literature (Babbie, 2015; Berg et al., 2004; Burns, 2000; Collis & Hussey, 2013b; Kumar, 2005; Punch, 2013) shows that there are two kinds of approach, which are the qualitative "interpretivism" and quantitative "positivism" approaches. Berg et al., (2004) proposed that the qualitative approach is a 'non-numeric descriptive method' for collecting related data to assist in realising the phenomenon. Babbie (2015) argued that the qualitative approach is extremely beneficial for studying slight nuances in both behaviour and attitude, and is a flexible way to examine changes in social processes over time. However, the qualitative method has disadvantages, which are as follows: (1) it will not explain the whole population (study sample) and mostly uses a small sample size (Hakim, 1987) (2) Its absence of reliability and transparency (Berg et al., 2004) makes it impossible to generalise its results. (3) It might not be efficient in obtaining satisfactory explanations since it is very time-consuming (Berg et al., 2004).

On the other hand, quantitative analysis covers several statistical analysis forms, which improve the accuracy and reliability during the measurement of research variables, but also, the ability to generalise the research findings (Berg et al., 2004; Bryman, 2015; Collis & Hussey, 2013). In addition, Berg et al., (2004) stated that using the quantitative method would enhance the generalisability of the study results by employing a longer period and larger sample size. It is also able to produce causality statements, through the use of controlled experiments.

The current research adopts the positivist's approach as it is not only considered an

appropriate method for the establishment of the study's hypotheses, but also enables the researcher to evaluate the outcomes without personal value judgments. Qualitative research is considered inappropriate for the current study. This is due to the difficulties of gathering the study data through interviews with different banks in different countries, and the possibility of getting a low rate of response from these banks, which will hinder the accuracy and generalisation of the study's findings. Correspondingly, the positivism "quantitative" approach seeks to explore the EM practices in both IBs and NIBs. In the study design, the causal relationship between EM practices and VDQ, in both IBs and NIBs that are listed in MENA countries, is explored. These MENA countries have been chosen in order to enhance the observation and causality analysis. Therefore, the deductive method is considered more suitable for the current research. This method starts with a general premise then builds to a more specific one based on the empirical evidences (Collis & Hussey, 2013).

4.4 Sample and Data Collection

In this section, the sample size and data collection method, which is used for the purpose of this study, will be discussed.

4.4.1 Sample Size

In this study, the whole population of all 149 listed IBs and NIBs in MENA countries over a 10-year period (from 2006 to 2015) is used as the initial sample size to ensure full representation. MENA consists of 20 countries (The World Bank Group, 2013). Due to the exclusion of banks established after 2006 and missing data, this study used the final sample of 106 (see table 4.1).

Table 4. 1 Sample Size

	IBs	NIBs	Total	Percentage
Initial sample	42	107	149	%100
Excluded:				
Banks established after 2006	(8)	(4)	(12)	%8
Missing annual reports	(5)	(26)	(31)	%21
Final sample	**29**	**77**	**106**	**%71**

Source: Bank Focus and OSIRIS databases.

The study adopted a 10-year period to ensure adequate and consistent observation. The study started from 2006 because of the limited number of IBs founded before that year, and also because of the adoption of IFRS by IBs in 2006 (Elnahass et al., 2014). The reason for choosing MENA is that $1.3 trillion of worldwide assets are owned by IBs, and the majority of developed IBs are found in MENA countries (Nazim & Bennie, 2012). In addition, both IBs and NIBs in MENA countries adopt the same accounting standards; this allows the researcher to outline a comparative study between them (Maha & Hakim, 2013). Table 4.2 illustrates the banks' specialisation by countries. The countries for which data are not available are excluded, for example Algeria, Djibouti, and Libya. This left a final sample of 29 IBs and 77 NIBs from 17 MENA countries. United Arab Emirates, Bahrain, and Jordan registered the highest percentage of banks' numbers listed in their market overall in the study sample; 17% 12%, and 11% respectively. Yemen, Iraq, Iran, and Lebanon, represent the lowest portion of banks' number listed in their market with 1%, 2%, 2%, and 2% respectively. On the other hand, Bahrain represents the highest percentage of IBs (8) listed in their market. Additionally, all IBs in the study sample apply the AAOIFI

standards except for four banks, which employ the IFRS instead (see table 4.2). Furthermore, figure 4.1 shows the regulatory frameworks for both IBs and NIBs which operate in the MENA region.

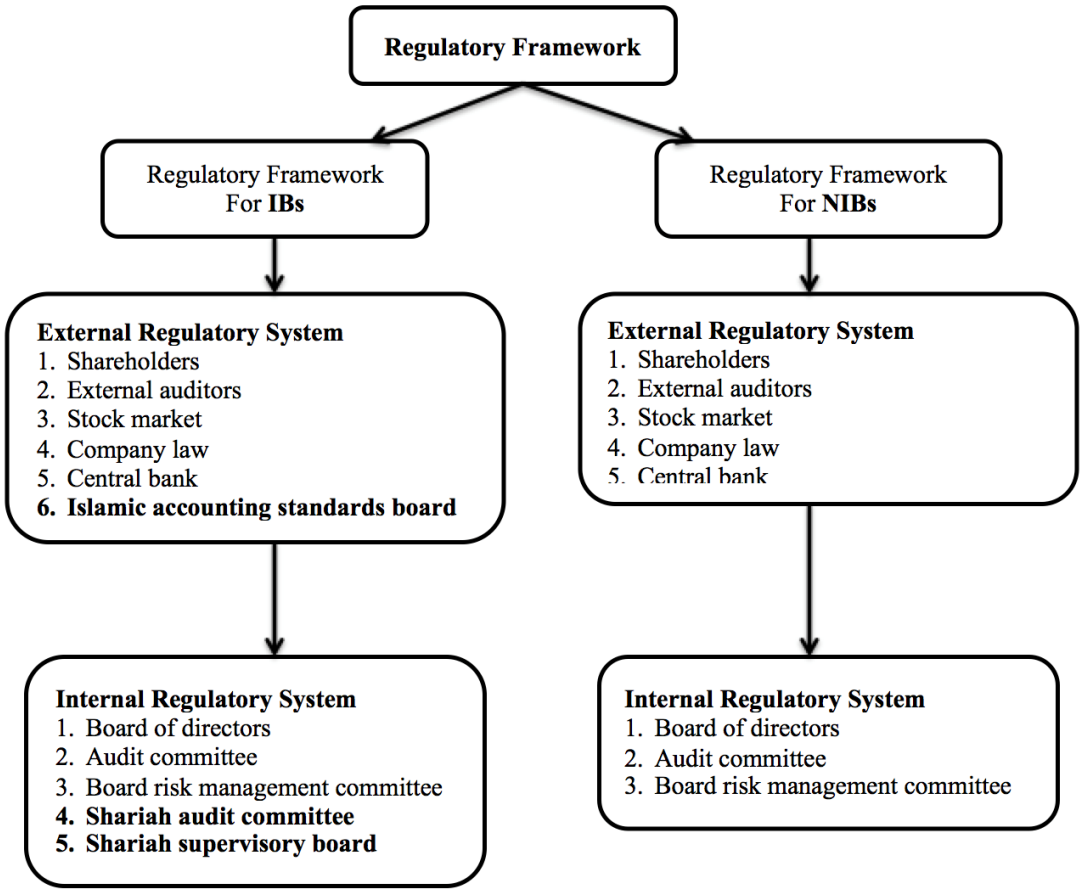
Table 4. 2 Banks' Specialisation by Countries

No	Country	IBs		NIBs		Total number of banks	%
		No	Accounting standard	No	Accounting standard		
1	Algeria	0		0		0	%0.00
2	Bahrain	8	AAOIFI	5	IFRS	13	%12.3
3	Djibouti	0		0		0	%0.00
4	Egypt	1	AAOIFI	4	IFRS	5	%4.7
5	Iraq	0		2	IFRS	2	%1.9
6	Iran	2	AAOIFI	0		2	%1.9
7	Israel	0		3	IFRS	3	%2.8
8	Jordan	2	AAOIFI	10	IFRS	12	%11.3
9	Kuwait	4	AAOIFI	4	IFRS	8	%7.6
10	Lebanon	0		2	IFRS	2	%1.9
11	Libya	0		0		0	%0.00
12	Morocco	0		4	IFRS	4	%3.7
13	Oman	0		4	IFRS	4	%3.7
14	Qatar	1	AAOIFI	5	IFRS	6	%5.7
15	Saudi Arabia	4	2 IFRS / 2 AAOIFI	5	IFRS	9	%8.5
16	Syria	0		6	IFRS	6	%5.7
17	Tunisia	0		7	IFRS	7	%6.6
18	UEA	4	2 IFRS / 2 AAOIFI	14	IFRS	18	%17
19	West Bank and Gaza	2	AAOIFI	2	IFRS	4	%3.7
20	Yemen	1	IFRS	0		1	%1
	Total	**29**		**77**		**106**	**%100**

AAOIFI= Accounting and Auditing Organization for Islamic Financial Institutions, **IFRS**= International Financial Reporting Standard.

Source: Bank Focus and OSIRIS databases.

Figure 4. 1 Regulatory Framework in IBs and NIBs



Source: The researcher's development

4.4.2 Data Collection

To explore the current context, this study requires both quantitative and qualitative data. This is because quantitative data is related to EM, whereas qualitative data is connected to VDQ. This study uses secondary data based on banks' annual reports for the qualitative data because it provides the most comprehensive, pertinent data on an annual basis. Moreover, annual reports are considered to be a major source of voluntary disclosure to users (Neu et al., 1998). EM data was collected from the Orbis Bank Focus database, OSIRIS database and Bloomberg database.

4.5. Measurement of Dependent Variable (EM)

The current study has employed two-stage model and modified Jones model in accordance with the empirical work of Kanagaretnam et al., (2004) and Yasuda et al., (2004), respectively to measure EM. The former is employed as a major model while the latter is used as an alternative model to capture EM. In general, these models are the most suitable models for capturing the value of discretionary accruals in the banking industry (Abdelsalam et al., 2016; Elnahass et al., 2014; Kwak et al., 2009). The justifications of choosing these models, among all measurements models mentioned in EM literature, are as follows:

1. Adopting more than one method to measure the EM will ensure the robustness and validity of the study results (Beattie et al., 2004).
2. These models enable the researchers to differentiate between discretionary accruals (DLLPs) and non-discretionary accruals (NDLLPs).
3. Employing the two-stage model will provide valid evidence of EM practices in both IBs and NIBs (Elnahass et al., 2014), because the main variable in this model is LLPs, which represents the largest portion of accruals in the banking industry (Beatty et al., 2002; Lobo & Zhou, 2001). They play a major role in the manager's decision with regards to accounting manipulation (Beaver & Engel, 1996), provide more direct evidence of EM (Beatty et al., 2002; Lobo & Zhou, 2001), and increase the reliability of the empirical analyses (Kanagaretnam et al., 2010).

4.5.1 Two-stage Model

The two-stage model of Kanagaretnam et al., (2004) works with variables that explain the non-discretionary behaviour of LLPs, which is estimated in the first stage. The non-discretionary element of LLPs is a part of total accruals, which is detectable, through changes in a bank's business situation, due to the impossibility of capturing NDLLPs directly. The estimation is achievable using variables that reflect the level of loan loss portfolio. In a similar manner, Kanagaretnam et al., (2004) and Kwal et al., (2009) have estimated the element of NDLLPs through a set of informational variables. These informational variables include changes in non-performing loans, total loans and non-performing loans. NDLLP is estimated using equation (1) and was evaluated using the predicted coefficient (β_0 β_1 β_2 β_3) from equation (1). The DLLPs, however, are made up of the LLPs' estimation error predicted through the residual gained from equation (1).

The final step is to calculate the DLLPs through the difference between total LLPs and the estimated NDLLP. Beatty et al., (2002) and Grougiou et al., (2014) indicated that the DLLP is relevant for decisions about the possibility of over-estimation of earnings through underestimation of LLPs. In this manner, the DLLPs constitute measurements of, what is pointed out by EM literature on non-financial companies as, "abnormal accruals". Thus, DLLP represents EM (Grougiou et al., 2014).

Empirical Two-stage Model

$$LLPs_{it} = \beta_0 + \beta_1 NPL_{it-1} + \beta_2 \Delta NPL_{it} + \beta_3 \Delta TL_{it} + \varepsilon_{it} \quad (1)$$

$$NDLLPit = \beta_0\hat{} + \beta_1\hat{} NPL_{it} -1 + \beta_2\hat{} \Delta NPL_{it} + \beta_3\hat{} \Delta TL_{it} \quad (2)$$

$$DLLP_{it} = LLP_{it} - NDLLP_{it.} \quad (3)$$

Where:

$LLPs_{it}$ = Total loan loss provisions for bank i at the year t, divided by beginning total loans.

NPL_{it-1} = the beginning balance of non-performing loan for bank i at the year t divided by beginning total loans.

ΔNPL_{it} = Change in the value of non-performing loan for bank i at the year t, divided by beginning total loans.

ΔTL_{it} = Change in the value of total loan, for bank i at the year t, divided by beginning total loans.

$NDLLP_{it}$ = Non-discretionary loan loss provisions, for bank i at the year t.

$DLLP_{it}$ = Discretionary loan loss provisions, for bank i at the year t.

4.5.2 Modified Jones Model

This research uses the Jones model (1991) that was modified by Yasuda et al., (2004) for financial sectors, as an alternative model to measure EM. Following Yasuda et al. (2004) and Abdelsalam et al., (2016) this research describes total accruals (TAC) as the difference between net income and operation cash flows.

$$TAC_{it} = NI_{it} - OCF_{it}$$

Following EM studies (Abdelsalam et al., 2016; DeFond & Jiambalvo, 1994; Subramanyam, 1996; Yasuda et al., 2004), the current study employed cross-sectional variations of the adjusted Jones model. The cross-sectional variation is estimated using data from banks matched by year, which controls the influence of the year and type of industry classification. Yasuda et al., (2004) suggest that the non-discretionary accruals are captured through the changes in bank business conditions (operating

income) and non-discretionary depreciation expense of premises and equipment. Therefore, in order to achieve the discretionary portion from the total accruals for both IBs and NIBs, the residual from equation (A) is indicated as the discretionary accrual portion (DA) of total accruals, which relies on management discretion. This portion of DA is the primary variable of interest in this research. To reduce heteroscedasticity, all variables in this equation are divided by lagged total assets (Abdelsalam et al., 2016; Yasuda et al., 2004).

$$(TAC_{it} / TA_{t-1}) = \beta_0 (1 / TA_{t-1}) + \beta_1 (\Delta OI_{it} / TA_{t-1}) + \beta_2 (BPE_{it} / TA_{t-1}) + \varepsilon_{it} \quad \textbf{(A)}$$

Where:

TAC = is the total accruals that estimated from the difference between net income and operation cash flows.

TA= Total assets.

Δ OI= Change in operating income between t-1 to t.

BPE= Bank's premises and equipment.

4.6 Measurement of Independent Variable VDQ

Empirical studies have used several methods to measure VDQ. For instance, AIMR rating, which is available only for specific firms in the US, was used by Lobo and Zhau (2001) as proxy for VDQ, while other research focussed on disclosure indices that measures only the level of information disclosed without paying attention to the richness of these information (Al-Janadi et al., 2013; Alotaibi & Hussainey, 2016; Alturki, 2015; Habbash et al., 2016; Lapointe-Antunes et al., 2006). In addition, voluntary disclosure empirical researches, which specialise on the quality of disclosure measurements, have provided general frameworks, which are applicable to several types of information (e.g. Anis, Fraser & Hussainey, 2012; Beattie, McInnes

& Fearnley, 2004; Beretta & Bozzolan, 2004; Beretta & Bozzolan, 2008; Braam & van Beest, 2013). These frameworks were based on the dimension of quantity and other several dimensions such as spread, financial orientation, time orientation, quantitative orientation, economic sign, coverage and dispersion of information. However, Beretta & Bozzolan (2008) argued that disclosure quality is not only linked to the level of information disclosed but also to what is disclosed and the variety of topics disclosed. Additionally, Botosan (2004) argued that the notion of VDQ should be based on the conceptual frameworks created by the standard setters (FASB and IASB). This reflects a generally accepted interpretation of disclosure quality, and lead to high quality information that is useful for decision-making (IFRS, 2010).

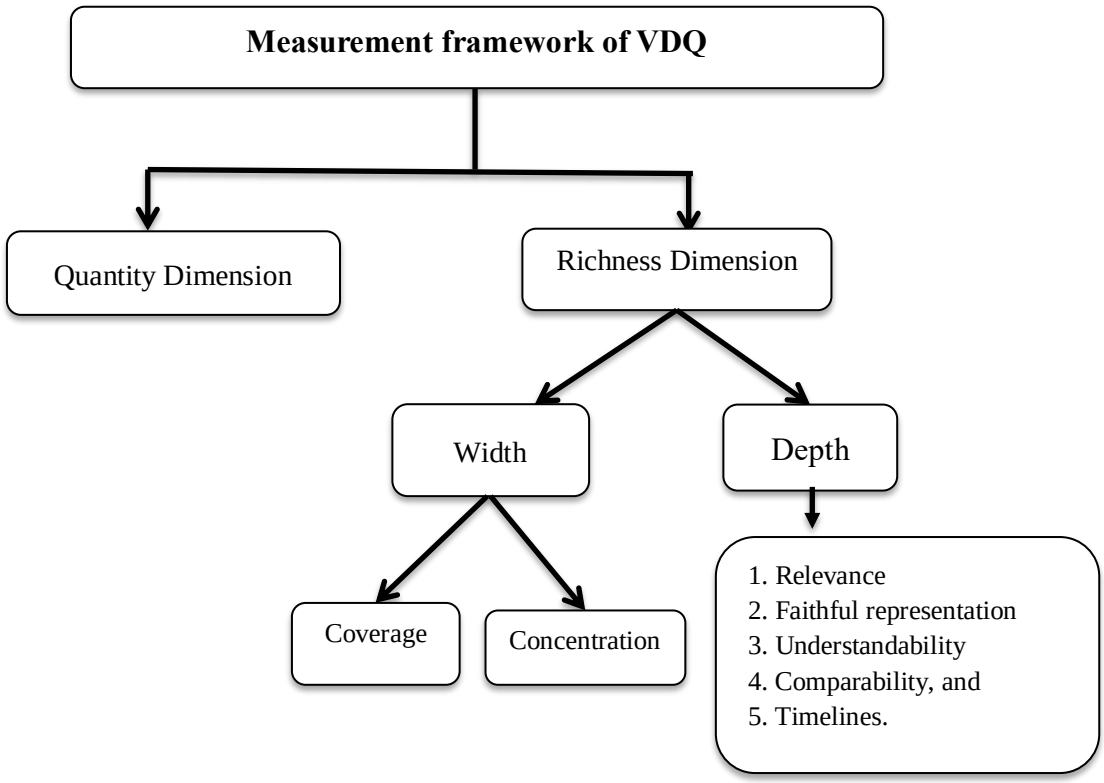
Consequently, the current study measure differs from existing measures because it takes into account the recommendations of both Beretta & Bozzolan (2008) and Botosan (2004). It does this by developing a comprehensive framework that considers both the quantity and richness of disclosed information, with a focus on satisfying the conceptual frameworks of both FASB[21] and IASB[22] when measuring VDQ. The quantity dimension provides users with the relative amount of information disclosed voluntarily (how much is disclosed). However, the richness dimension consists of two sub-dimensions, which are the width and depth. The width of disclosure considers the topics included in the disclosure index for the classification and identification of disclosure items. The width captures the coverage and concentration of disclosed information. This sub-dimension offers investors more general overview of the business alongside its aim to focus on relevant issues. On the other hand, the sub-dimension of depth takes into account the information usefulness to users as defined

[21] - **FASB** requirements: **A)** identifies the aspects of the company's business that are especially important to the company's success. These are the critical success factors for the company. **B)** Identify management's strategies and plans for managing those critical success factors in the past and going forward. **(Width means that the wider and variety of topics disclosed the better).**

[22] **IASB** frameworks (understandability, relevance, reliability, comparability and timelines).

in the conceptual framework of the IASB (2010). For information to be useful, it must be relevant, understandable, comparable and faithfully represent what it purports to represent (IASB, 2010). Figure 4.1 illustrates the dimensions utilized in the framework. As a result, two different disclosure indices were used in this frame to measure VDQ. The first index is utilised to measure the main quantity dimension and the sub-dimension of width (see appendix 4.1), whereas the second index is used to measure the sub-dimension of depth (see appendix 4.2).

Figure 4. 2 Measurement Framework of Voluntary Disclosure Quality.



Source: The researcher's development

Following voluntary disclosure literature, the present study adopted both content analysis and disclosure index methods to capture VDQ (e.g. Aljifri, 2007; Alotaibi & Hussainey, 2016; Aribi & Gao, 2010; Beattie et al., 2004; Braam & van Beest, 2013;

Grassa et al., 2017; Hassan & Syafri Harahap, 2010; Aribi & Gao, 2011; Mathuva, 2012; Menicucci, 2013; Salama, 2009; Weber, 1990). These methods are used widely in voluntary disclosure literature as a powerful instrument for analysing corporate disclosures, they allow both qualitative and quantitative analyses, and they are simple to apply (Aribi & Gao, 2011). They give the researcher another point of view from which to analyse the content, and thus provide beneficial historical insights (Aribi & Gao, 2010). They also consider the main aspect of VDQ while concentrating on texts (Hussainey et al., 2011; Mathuva, 2012). Content analysis is a replicable and systematic method that allows researchers to codify many words of text into a low number of content groups, based on clear principles of coding (Stemler, 2001; Weber, 1990). Content analysis and disclosure index techniques require employing several steps in order to measure VDQ (Krippendorff, 1980; Wolfe, 1991). These steps are as follows:

1. **Choice of Document(s) to be Analysed:**

The choice of document(s) which should be analysed is considered an essential phase (Krippendorff, 1980). The current study uses a secondary data based on banks' annual reports for the qualitative data because, not only are they providing the most comprehensive pertinent data on an annual basis (Abd-Elsalam, 1999), but they are also considered to be a major source of voluntary disclosure to users (Abd-Elsalam, 1999; Aribi & Gao, 2010; Aribi & Gao, 2011; Maali et al., 2006; Neu et al., 1998). Furthermore, banks' annual reports are publicly published as a response to the requirements stated by regulatory bodies (Stanton & Stanton, 2002). However, the present study analysed the narrative sections that are related only to voluntary disclosure in each bank's annual reports.

2. Selection of Disclosure Indexes Categories and Items

A study by Urquiza et al., (2009) states that there is no common theory or consensus regarding the categories and items that should be selected to investigate the level of disclosure. Furthermore, Hossain & Hammami, (2009) indicate that how disclosure items are selected may be based on a subjective judgment. It relies on the context and the nature of the industry and country context. Thus, the main disclosure categories and items were chosen based on VDQ literature (Abd-Elsalam, 1999; Aribi & Gao, 2010; Aribi & Gao, 2011; Maali et al., 2006; Menicucci, 2013; Neu et al., 1998).

3. Selection of Recorded Units

The second phase is required to employ a selection of recorded units, which refers to "certain part of content that has the characteristic of being placed into a certain category" (Holsti, 1969, p. 116). Haniffa et al., (2005) and Khan, (2010) have indicated that the selection of recording units and categories are considered to be a vital part of this approach. Additionally, Unerman (2000) states that content analysis is required to employ a selection of recorded units: these include words, sentences, numbers of lines, pages, or a mix of these units. The current study has selected words as a recording unit in order to measure the VDQ. The justification of using words as a recording unit is as follows:

1 Words are considered to be the smallest recording unit and the most robust method of assessing the VDQ (Campbell, 2004; Zeghal & Ahmed, 1990).

2 Using words as a recording unit will increase the reliability of content analysis (Aribi & Gao, 2010).

3 Utilising words as a recording unit enables researchers to record the volume of quality disclosure in more detail (Deegan & Gordon, 1996).

4. Checking the Validity and Reliability

This study applied the method used by Botosan (1997) in order to validate the study's categories and items and to ensure that this study covered most of the items used in VDQ literature. Since MENA countries have not developed a specific set of financial reporting standards, banks in the MENA region follow the IFRSs. Therefore, all banks in MENA countries are committed to employing IFRS 7, which requires disclosure of the information to the market (Abdallah et al., 2015). However, the voluntary disclosure might vary across IBs and NIBs, because the majority of IBs employed AAOIFI standards due to differences in their regulatory frameworks. Therefore, the current study develops a valid and reliable comprehensive framework that measures both the quantity and the richness of information disclosed voluntarily which is applicable to both IBs and NIBs. The following points are used to validate the disclosure items:

1. Reviewing related studies that used content analysis to measure VDQ.
2. Reading a random sample of 20 banks' annual reports (10 related to IBs and 10 for NIBs).
3. Creating an initial list of disclosure items.
4. Some modifications being made to the initial list based on:
    - Eliminating compulsory items and elements that are formally required by AAOIFI to ensure only VDQ items remain (AAOIFI, 2010).
    - Adding other VDQ items from other studies (Hassanein & Hussainey, 2015; Wang & Hussainey, 2013).
    - Reviewing the index with four specialised academics in the area of accounting disclosure and with two professional bank analysts to enhance the index.

According to Krippendorff, (1980) and Weber, (1990) the reliability of VDQ items should be assessed to avoid the ambiguity of meanings of the words. Two kinds of reliability should be evaluated: stability and reproducibility. When the same researcher codes a particular unit more than once, stability can be assured and will ensure ‘stable result of content classification over the time’. Furthermore, reproducibility can be ensured by coding the same unit more than once by more than one researcher, meaning "results should be the same." The following steps have been adopted to secure reliability:

1. Preparing a set of specified and accurate coding tools to reduce contrast and achieve objectivity (Aribi & Gao, 2010).
2. In the assessment of the reproducibility, four financial annual reports have been examined by several coders to guarantee that all coders adopt the same coding procedures, and to ensure the differences between coders are few and are then resolved (Aribi & Gao, 2010; Hussainey, 2004).
3. The results were compared to identify possible disagreements to ensure consistency and to assess reliability.

5. Manual and Computerised Techniques

Empirical VDQ studies (Beattie et al., 2002a; Hussainey et al., 2003; Kothari et al., 2009) indicated that there are different ways, which can be used in order to conduct VDQ, including: manual technique, computerised technique or both techniques (manual and automatic). Since these two techniques are widely used in voluntary disclosure studies (Grassa et al., 2017; Hussainey et al., 2003; La Rosa & Liberatore, 2014; Merkley, 2013; Zeghal et al., 2007), the present study utilised both computerised and manual techniques in order to measure VDQ. QSR NVivo software is used in the current study to manage, classify and make sense of unstructured

information for the quantity index, while the manual technique is used for the depth index. The justifications for using both computerised and manual content analysis are as follows:

1. Computerised content analysis is considered to be more flexible and it is extremely cost-effective compared to manual content analysis (Deumes, 2008)
2. Employing the manual content analysis technique allows the quantitative assessment of achieving reliability and validity, which could better evaluate the meaning of phrases and words within the context (Beattie et al., 2004; Linsley & Shrives, 2006).
3. Computerised content analysis allows the researcher to identify keywords, analyse data, and develop meaningful conclusions about the text (Abed, 2010).

6. Steps for Measuring Each Dimension used in the Frame

a. Quantity Dimension:

The quantity dimension is measured through a number of disclosure items that are adjusted for size and type of industry. Beattie et al., (2001; 2002a; 2002b; 2004) proposed that a good proxy of disclosure quantity can be obtained from the standardised residuals of an "*ordinary least squares (OLS) regression"* where size and type of industry are employed as independent variables. According to Ahmed & Courtis (1999); Cooke (1989; 1992) and Beretta & Bozzolan (2008) pointed out that size and type of industry have a significant effect on disclosure quantity. The following is the standardised STRQI equation:

$$\mathbf{STRQI_{it}} = \quad 1 - \frac{\mathbf{max\ RQI_{it} - RQI_{it}}}{\mathbf{max\ RQI_{it} - min\ RQI_{it}}}$$

Where:

$STRQI_{it}$ = standardised relative quantity index for the company *i* at year *t*.

RQI$_{it}$ = is the relative quantity index, which is the residual for the company *i* at year *t* that obtained after controlling the bank size and type.

b. Richness Dimension (RICH**):**

Following Beretta and Bozzolan, (2008) the current study measures the richness dimension by combining both width **(WID)** and depth **(DEP**) of voluntary disclosure.

1. **Width (WID):**

WID relies on both coverage (COV) and concentration (CON) of voluntary disclosure across different items in the disclosure index.

A. COV is the ratio of the number of items that are disclosed for the bank *i* in year *t* over the total number of disclosure items *"does the bank distribute wider information?"* This part of the frame focuses on whether the bank discloses information at least once on each of the items included in the index. The quality of voluntary disclosure is considered high when the COV is great. The following is the COV equation:

a) $\text{COV} = \frac{1}{\text{NI}} \sum_{j=1}^{NI} \text{INF}$

Where:

INF = a dummy variable that equals 1 if bank *i* discloses information about the item *j* in the annual report, and 0 otherwise.

NI = total number of disclosure index items.

J= disclosure item.

B. The concentration (CON) is a ratio of the focus of disclosed information among disclosure index items "the dispersion of information on items disclosed*"*. The lowest value of CON is 0 when disclosed information is

located in one item of the disclosure index. On the other hand, the greater the value of CON the higher the spread of information disclosed among the index items. Thus, the quality of voluntary disclosure is considered to be high when the value of CON is great and vice versa. Therefore, the CON is measured as follows:

b) CON = $1 - \sum_{j=1}^{n} \quad Pj^2$

Where:

Pj = ratio of disclosed item *i*.

J= disclosure item.

The **width** is the mean of both COV and CON, which is measured as follows:

WID = $\frac{1}{2}$ (COV + CON)

2. Depth:

Following empirical voluntary disclosure studies (e.g. Alotaibi & Hussainey, 2016; Botosan, 2004; Chakroun & Hussainey, 2014; Van Beest et al., 2009), the current study utilised multiple items, which are related to the concept of qualitative characteristics of accounting information "faithful representation, relevance, comparability, timeliness and understandability" in order to measure the depth of voluntary disclosure. Rating scales with five points were used to evaluate each item's scores, except for timeliness, where the natural logarithm was employed in the measurement of timeliness of the number of days between the year-end and the auditors' signature on the report post year-end calculation (see appendix 4.2). The following is the equation of depth:

Depth= $\frac{1}{\mathrm{I}} \sum_{j=1}^{I} (\mathrm{QCS}/5)$

Where:

QCS = Qualitative characteristics (faithful representation, relevance, comparability, timeliness and understandability) score between 1 and 5 if bank *i* discloses information about the qualitative characteristics item j in the annual report.

I = total number of qualitative characteristics index items.

J= disclosure item.

Richness (RICH) is the average value of both WID and depth:

$$\text{RICH} = \frac{1}{2}(\text{WID} + \text{DEP})$$

Finally, the overall voluntary disclosure quality is the average of RICH and the STRQI.

$$\text{The Quality Index i} = \frac{1}{2}(\text{STRQIi} + \text{RICHi})$$

7. Validity of the Multidimensional Framework

Based on IASB, the purpose of VDQ is to provide outsiders with a better understanding of the information contained in the annual reports (Board, 2010; Council, 2007), and thus reduce information asymmetry problems. Disclosing high quality information raises the company's value and lessens the uncertainty regarding the firm's performance, and thus assists investors to make a better valuation of a firm (Al-Maghzom et al., 2016; Beyer et al., 2010; Elzahar et al., 2015; Leuz & Wysocki, 2008). VDQ literature has indicated a positive and significant association between high VDQ and capital market reaction on the information disclosed by the company (Cahan et al., 2016; Jiao, 2011; Nekhili et al., 2017). As a result, the current study argues that information disclosed by both IBs and NIBs is considered to be high quality when it is positively linked to market reaction and vice versa. In order to validate the VDQ framework, the current study investigate the relationship between

VDQ and market reaction, after controlling for factors that might affect information disclosure such as size, leverage, profitability, growth and liquidity (Ahmed & Courtis, 1999). Following prior literature (Battaglia & Gallo, 2015; Sharma at al., 2016; Zaki et al., 2014), this study employs the market-based value (MBV) as an indicator for market reaction, which is measured by using the aggregate of both Tobin's Q and earnings per-share. The former is measured as the market value of equity to book value of equity, whereas, earnings per-share is measured as net income to outstanding ordinary shares[23].

4.7. Measurement of Control Variables

This research has applied a number of control variables in order to be consistent with the EM and VDQ literature and to control for other possible factors that might affect both EM and VDQ. The control variables are divided into bank characteristics and corporate governance. The control variables are summarised as follows:

4.7.1 Independence of the Board

Corporate governance and EM literature notes that the independence of board members is positively correlated with the effectiveness of the company's governance, and there is a negative association with regards to discretionary accruals and fraud (Abdelsalam et al., 2008; Beasley, 1996; Bradbury et al., 2006; Dimitropoulos & Asteriou, 2010; Jaggi et al., 2009; Klein, 2002; Marrakchi Chtourou et al., 2001; Peasnell et al, 2000; Waweru & Riro, 2013). In regards to the boards' independence and firms' voluntary disclosure, several studies (Hossain & Hammami, 2009; O'Sullivan et al., 2008; Qu et al., 2015) documented evidence of a positive

[23] The validity of the multidimensional framework result is presented in chapter 6, section 6.8.

relationship between voluntary disclosure and the independence of the board. In line with corporate governance literature, this research employs the Independence of Board of directors (IBD) as a control variable, which is calculated as the number of independent non-executive directors divided by the total number of the bank's board of directors.

4.7.2 Board Size

From the agency theory perspective, board size has a positive influence on its alertness for agency related issues, since a higher number of experienced directors are able to observe managerial behaviour (Kiel & Nicholson, 2003). In the same vein, Lipton and Lorsch (1992) indicated that a larger board is likely to spend more time and effort in monitoring managers, whereas this level of monitoring may be difficult for smaller board. Thus, the board size may have a reasonable influence on the bank's EM practices. Corporate governance and EM literature (Dâvila & Watkins, 2009; González & García-Meca, 2014; Peasnell et al., 2005) found that larger boards, with a variety of expertise, have a strong relationship with lower levels of EM. On the other hand, the majority of empirical voluntary disclosure studies have emphasised that a larger board with a variety of backgrounds enhances transparency, encourages voluntary disclosure and assures better supervision of managers' behaviour (Adams & Mehran, 2008; Al-Najjar & Abed, 2014; Cheng & Courtenay, 2006; Gandía, 2008; Sartawi et al., 2014). Following corporate governance literature, Board Size is measured by the total number of board members.

4.7.3 Board Experience

Corporate governance literature has suggested that an expert board member has the ability to efficiently communicate financial information to the market participants, to bring independent judgments of how the company should run, and to assist them in acquiring resources (Custódio & Metzger, 2014; Haniffa & Cooke, 2002). In this context, several empirical studies indicated that more experienced and independent directors are positively associated with the quality of companies' financial reporting and earnings quality (Custódio et al., 2013; Custódio & Metzger, 2014; Georgakakis et al., 2016; Gul & Leung, 2004; Trainor & Finnegan, 2013; Westphal & Milton, 2000; Xie et al., 2003). Additionally, Trainor et al., (2013) and Larmou and Vafeas (2010) proposed that the expertise and independence of individual board members are considered to be vital elements in mitigating the tendency of managers to manipulate earnings, and in reducing the information conflicts between inside and outside investors. Following Gul & Leung, (2004); Kosnik, (1987) and Thiruvadi, (2012), this study defined financial expertise as: the board of directors should hold a professional qualification from one of the professional accountancy bodies such as ACCA, CIMA, or have at least 3 years of financial experience (i.e. have experience as a principal financial or accounting officer, or public accountant or auditor) or a membership of one of the accounting institutions. This is because it draws on their expertise in observing the management and their wider experience to be better-performing board members. Following corporate governance studies (e.g. Akhtaruddin et al., 2009; Chiu et al., 2012; Ismail & Rahman, 2011) the current study used a percentage measure to ensure a more comparable method of measurement. Thus, the board of director's expertise is measured as a proportion of experienced board members on the board.

4.7.4 Duality in Position

The chairman's role involves monitoring the chief executive officer (CEO) and other board members. However, if the chairman is, at the same time, the CEO (duality), then the CEO can manipulate the accounting information without the knowledge of other members of the board, which impedes the effectiveness of control (Jensen, 1993). Therefore, the existence of an independent chairman leads to a higher level of managerial monitoring (Dechow et al., 1996). Corporate governance studies argue that effective board monitoring and control of the CEO can be achieved if the chairman is not the same person as the CEO (Abbott et al., 2004; Fama & Jensen, 1983). Consequently, duality in a board position leads to less activity for monitoring purposes, which in turn makes it more likely that the management may engage in EM practices (Abbott et al., 2004; Fama & Jensen, 1983; Visvanathan, 2008). Thus, separating the power of the CEO leads to more efficient monitoring (Cornett et al., 2008). On the other hand, combining both the duties of chairman and the CEO (duality) lowers the level of voluntary disclosure (Donnelly & Mulcahy, 2008), because concentration of power lessens the monitoring effectiveness of the board, and thus reduces the level of transparency and increases the asymmetric information (Allegrini & Greco, 2013; Cerbioni & Parbonetti, 2007; Gul & Leung, 2004). Empirical Voluntary disclosure studies (Allegrini & Greco, 2013; Donnelly & Mulcahy, 2008; Gul & Leung, 2004; Ho & Wong, 2001) found a negative relationship between voluntary disclosure and CEO duality. The current study measures the duality of board directors as a dummy variable, which is equal to one if the CEO has more than a role and zero otherwise.

4.7.5 Board Gender Diversity

Diversity of gender on the board of directors is considered as a vital characteristic that affects the board's effectiveness (Liao et al., 2015; Terjesen et al., 2009). Corporate governance literature (e.g. Carter et al., 2003; Ntim, 2015; Terjesen et al., 2009) suggested that the existence of a female on the board of directors raises the board's independence and enhances the management monitoring process, thus leading to a lower level of EM and a higher level of voluntary disclosure. For instance, Krishnan and Parsons (2008) and Cumming et al., (2015) have indicated that companies with more female directors on the board have lower levels of EM than those with fewer females on their boards. On the other hand, the existence of female board members signifies not only the relevance of board diversity from an ethical perspective, but also leads to improved board effectiveness (Bear et al., 2010), quality of board deliberations and better supervision of the company's disclosures (Liao, Luo & Tang, 2015), which in turn increases the likelihood of voluntary disclosure (Ben-Amar, Chang & McIlkenny, 2017). In addition, Hoang et al., (2016) and Liao, et al., (2016) pointed out that the existence of female directors has a positive effect on voluntary disclosure. Following corporate governance studies (e.g. Terjesen, Couto & Francisco, 2016; Titova & Titova, 2016; Ujunwa, Okoyeuzu & Nwakoby, 2012), the current study measures the board gender diversity as percentage of female directors on the board.

4.7.6 Board Meetings

Board meetings is considered to be a vital element in assessing the effectiveness of the board, since the frequency of meetings will allow the board members to discuss in detail various issues that the company is facing (Carcello & Neal, 2000; Letendre,

2004; Vafeas, 1999). Active boards improve the level of monitoring, resulting in enhanced financial reporting quality. In line with the frequency of board meetings, the board may show effective monitoring through adequate preparation before meetings, attentiveness and participation during meetings and post-meeting follow-up (Beasley et al., 2000). Sun et al., (2010) and Qu et al., (2015), pointed out that, through regular meetings, the boards have greater opportunities to perform their duty to protect the interests of stockholders, which enables them to control EM practices, conflicts of interest and raise the integrity of financial reporting. Additionally, Lara et al., (2009) and González et al., (2014) indicated that the active board (one which meets regularly) is considered as a good proxy for directors' effective monitoring to safeguard the quality of financial information, which in turn reduces EM practices. On the other hand, Kanagaretnam et al., (2007) and Lipton and Lorsch (1992) indicated that board of directors need to meet frequently to enable them perform their duties effectively, which leads them to show greater interest in reporting information and thus keep investors informed of their efforts. In the same context, several studies found a positive association between voluntary disclosure and board meetings (Jizi et al., 2014; Kent & Stewart, 2008a; Kent & Stewart, 2008). Following corporate literature (Beasley et al., 2000; Carcello & Neal, 2000; Vafeas, 1999), the present study measures board meetings as the number of meetings held in each financial year by a firm’s board of directors.

4.7.7 Independence of the Audit Committee

The independence of the audit committee from the company's management enables them to examine the integrity of financial reports, which reduces the opportunistic behaviour of managers. The low level of audit committee independence may have a

negative effect on the credibility and quality of financial reports (Siddiqui & Podder, 2002). Choi et al., (2004) and Vicknair et al., (1993) argued that the audit committee's independence ensures the effectiveness of their control and enhances their duty of preventing managerial EM practices. Corporate governance and EM literature documented evidence that audit committee independence is linked to high audit quality and negatively affects EM practices (Beasley, 1996; Bradbury et al., 2006; DeFond & Jiambalvo, 1991; Peasnell et al., 2005). On the other hand, Madi et al., (2014) and Nekhili et al., (2016) indicated that audit committee independence is considered one of the most important corporate governance mechanisms that positively affect the quality of voluntary disclosure. In line with the corporate governance literature, the audit committee size varies from one company to another, a percentage measure ensures a more comparable method of measurement (Nekhili et al., 2016). Thus, the current study measures the independence of audit committee as the number of independent non-executive directors on the audit committee divided by the total number of audit committee members.

4.7.8 Audit Committee Size

A considerable number of audit committee members can increase its power and status within the institution and can lead to a higher quality of auditing (Kalbers & Fogarty, 1993). A larger audit committee size would enable directors of the committee to discover potential issues and to enhance their monitoring process through an increase in resources. Bédard et al., (2004) suggested that it is essential to establish a large enough audit committee in order to achieve effective observation, but not so large as to negatively affect the process of decision-making. Corporate governance and EM literature provides mixed results of the influence of audit committee size on EM

practices. Abbott et al., (2004); Xie et al., (2003); and Bédard et al., (2004), for instance, indicated that there is no significant relationship between audit committee size and EM practices, whereas Lin and Yang (2006) found a significant and negative relationship between audit committee size and EM practices. In respect to corporate disclosure, Madi et al., (2014) and Li et al., (2011) found that audit committee size, is more likely to positively affect voluntary disclosure. In line with the corporate governance literature, the audit committee size (ACS) is measured by the current study as the total number of audit committee members.

4.7.9 Audit Committee Meetings

Being an active committee is essential for monitoring the auditing and reporting process effectively. Thus, the frequency of meetings is considered to a sign of an active and effective audit committee (Menon & Williams, 1994). An active audit committee will decrease the chance of EM practices (Beasley et al., 2000; DeZoort & Salterio, 2001). The increased frequency of audit committee meetings has negative association with EM practices, which signifies the effective monitoring of an active audit committees (Xie, 2001). In addition, Abbott et al., (2000); Ebrahim (2007) and Lin et al., (2006) found that EM practices have not only a negative association with the independence of both the board and the audit committee, but also with more active audit committees. Regarding voluntary disclosure, both Allegrini and Greco (2013) and Li et al., (2012) documented that active audit committees that meet at least four times a year have a significant and positive influence on voluntary disclosure. Following corporate governance studies, audit committee meetings (ACM) is measured by the number of audit committee meetings held during the year.

4.7.10 Audit Committee Expertise

Corporate governance studies (e.g. Davidson et al., 2004; DeFond et al., 2005; Raghunandan et al., 2001) indicated that members of the audit committee who are financially knowledgeable could perform their monitoring roles more effectively in reporting the financial performance of the company "detecting material misstatements". In contrast, members who lack financial expertise may be unable to guarantee the quality of the audit (DeZoort & Salterio, 2001; Knapp, 1987; Turley & Zaman, 2004). Dhaliwal et al., (2010) indicated that the presence of expert member in the audit committee is essential to enhance their monitoring role, which in turn promote the quality of corporate disclosure. In the same vein, Bedard et al., (2004) and Mangena and Pike, (2005), found that higher quality financial reporting is positively linked to the expertise of audit committee members and negatively associated with EM practices. Following Gul & Leung, (2004) and Thiruvadi, (2012), this study defined financial expertise as, the audit committee member should have a professional qualification, a membership with one of the accounting institutions, or having at least 3 years of financial experience. This research controls for the effect of audit committee expertise on both EM and VDQ. In line with Harjoto, Laksmana & Lee, (2015) and Thiruvadi, (2012), audit committee expertise (ACEX) is measured as proportion of experienced audit members on the total members of audit committee.

4.7.11 Audit Firms (Big 4)

Audit firm (Big 4) plays a major role in deterrence of EM practices (Cotter, 2012). It is considered a good indicator when banks use the services of one of the Big 4 auditing firms, since this improves the financial reporting quality (Gul et al., 2006; Park & Pincus, 2001). It is argued that banks audited by the Big 4 audit firms have

higher levels of LLPs relative to NPLs, which indicates a higher level of conservatism (Leventis et al., 2013). Furthermore, Frankel et al., (2002) and Sun and Liu (2012) indicated that the audit firm's size (Big4) has a negative influence on EM practices. Becker et al., (1998) found that EM practices are higher in companies that are not audited by Big 6 audit firms and vice versa. In respect to voluntary disclosure, it is widely known that companies need one of the audit firms to certify that the information disclosed in the companies' annual report is valid (Adelopo, 2011). The audit firm's size (Big 4) is expected to affect the role of the external auditor in decreasing the issue of information asymmetry (Haniffa & Cooke, 2005). Owusu-Ansah, (1998) and Uang et al., (2006) have suggested that Big 4 firms have enough experience and superior resources, thus, they are less likely to be sensitive to pressure from clients in conflict situations. Consequently, a positive association has been reported between companies that are audited by Big 4 firms and voluntary disclosure (Adelopo, 2011; Ahmed & Nicholls, 1994; Jallow et al., 2012; Kent & Stewart, 2008; McNally et al., 1982; Omar & Simon, 2011; Waweru, 2014). In line with corporate governance studies, the current study measured the Big 4 as a dummy variable that takes the value of 1 if the bank is audited by Big 4 and 0 if otherwise.

4.7.12 Audit Committee Gender Diversity

It has been argued that a firm's external governance and its auditing practice could be strengthened through increased gender diversity among audit committee members (Thiruvadi & Huang, 2011). In the same vein, Burgess and Tharenou (2002) and Grosvold et al., (2007) found that the presence of females on the audit committee decreases corporate failure and greatly benefits all shareholders. EM empirical studies provide evidence that companies with female members in their audit committee are

less likely to involve in EM practices compared to those without female members (Barua et al., 2010; Shawver et al., 2006; Yu et al., 2010). On the other hand, voluntary disclosure literature demonstrate that the presence of female audit committee members promotes voluntary disclosure (Bear et al., 2010; Frias-Aceituno et al., 2013; Webb, 2004). Following Harjoto, Laksmana & Lee, (2015) and Thiruvadi, (2012), the current study measures the audit committee gender diversity as the percentage of female members on the audit committee.

4.7.13 Managerial Ownership

From the perspective of agency theory, if managers do not own a great proportion of the company, their behaviour will be affected by self-interest and not oriented to maximise the company's value, which may lead to their involvement in EM practices (Jensen & Meckling, 1976). In contrast, if managers own a considerable percentage of the company shares that they manage, they are more likely to harmonise their shares with those of other investors (Mehran, 1995). Therefore, managerial ownership is considered as a major incentive mechanism and instrument to reduce EM practices. Several studies suggested that, when a substantial number of shares are owned by inside directors, it leads to a suitable alignment of interest between managers and other shareholders (e.g. Peasnell et al., 2005; Warfield et al., 1995), and provides managers with high levels of incentives to maximise the performance of the company (Jensen & Meckling, 1976).

In the same vein, empirical corporate governance and EM studies have found that, as managerial ownership increases, company performance rises and EM practices decrease monotonically (e.g. Darrough et al., 1998; Lennox, 2005; Teshima & Shuto, 2008). On the other hand, companies with a greater level of managerial ownership are

more likely to report additional valuable information to investors in order to maximise the company value (Warfield et al., 1995). Empirical Corporate governance and voluntary disclosure studies (e.g. Botosan & Plumlee, 2002; Gelb & Zarowin, 2002; Sengupta, 1998) have found that the level of managerial holdings is positively related to voluntary disclosure. Thus, this study employed the managerial ownership to control for its impact on both EM and VDQ. The current study measures managerial ownership as a percentage of the total number of shares held by managers to the total number of outstanding shares.

4.7.14 Ownership Concentration (Blockholders)

One of the important forms of ownership includes individual investors, fund managers, private equity firms, mutual funds, banks and trusts and pension funds (Cronqvist & Fahlenbrach, 2009; Habbash, 2010). Person, (2006) and Zhong et al., (2007) stated that blockholders can observe and voice their objections and concerns since they have a large voting rights, and thus, they influences the composition of board of directors. Shleifer and Vishny, (1986) indicated that the concentration of ownership could increase the monitoring mechanisms and, thus, decrease opportunistic activities. Corporate governance and EM literature (Iqbal & Strong, 2010; Jensen, 1993; Persons, 2006; Shleifer & Vishny, 1986) found that there is a negative relationship between large blockholders and EM practices.

In the same context, Iqbal et al., (2006) found that companies with more than 10 per cent of share ownership are unlikely to manipulate earnings. In regards to blockholders and their relationship with voluntary disclosure, the literature provided mixed results. For instance, McKinnon and Dalimunthe (1993); Mitchell et al., (1995); Schadewitz and Blevins (1998) showed a negative relationship between

blockholders and voluntary disclosure, whereas, Huafang and Jianguo (2007) and O'Sullivan et al., (2008) have found that blockholders have a positive relationship with VDQ. However, ownership concentration is known as the proportion of the firm's equity held by substantial shareholders. This proportion is identified as 5% or more (Eng & Mak, 2003; Huafang & Jianguo, 2007). Thus, the current study measured blockholders (BH) as the ratio of outside stockholders owning 5% or more of the outstanding shares.

4.7.15 Bank Size

EM and voluntary disclosure literature found that company size is considered a relevant explanatory variable in explaining both EM practices and voluntary disclosure (Al-Najjar & Abed, 2014; Becker et al., 1998; Hussainey & Al-Najjar, 2011; Lobo & Zhou, 2001; Pincus & Rajgopal, 2002; Salama et al., 2012; Sun & Rath, 2010; Watts & Zimmerman, 1986; Xie et al., 2003). However, a mixed result has been reported regarding the relationship between company size and EM practices. For instance, Kim et al., (2012); Pyo & Lee, (2013) and Leventis and Dimitropoulos, (2012), indicated that large banks are subjected to higher market pressure because larger banks are closely monitored by financial analysts and owners (i.e shareholders), and are thus less likely to involve in EM practices.

In contrast, Pincus and Rajgopal (2002) suggested that political cost is more likely to be higher in larger companies that often engage in EM practices. Therefore, large companies tend to use the flexibility available in the GAAP to manipulate earnings. With regards to voluntary disclosures, the majority of voluntary disclosure studies have often provided evidence of a positive relationship between the voluntary disclosure level and company size (Al-Najjar & Abed, 2014; Barako et al., 2006;

Cooke, 1989; Depoers, 2000; Hossain et al., 1995; Jizi et al., 2014; McNally et al., 1982; Qu et al., 2015; Raffournier, 1995; Salama et al., 2012; Watson et al., 2002). In contrast, studies by Nor et al., (2010) and Nekhili et al., (2016) indicated that a negative relationship between company size and R&D voluntary disclosure exists. Other empirical studies found an insignificant relationship between them (Entwistle, 1999; Jones, 2007; Mak, 1991). In line with empirical EM and VDQ studies (Gul et al., 2013; Leventis et al., 2012; Sartawi et al., 2014), bank size is measured as the natural logarithm of total assets at the year-end.

4.7.16 Bank Growth

Empirical EM and voluntary disclosure studies have considered company growth as an influential factor in both EM practices and voluntary disclosure. For example, Carcello et al., (2004); Abbott et al., (2004) and Dimitropoulos and Asteriou, (2010) indicated that controlling the company's developmental pace is fundamental, because of the company's experience of pressure either to maintain or to exceed expected growth rate, during a fast growth period. This pressure may create an incentive for managerial EM practices (Carcello & Nagy, 2004). Skinner and Sloan (2002) found that companies that grow rapidly have greater incentives to avoid negative earnings surprises. In addition, Haniffa et al., (2006); Huang et al., (2009) and Dimitropoulos and Asteriou (2010) document that fast growing companies are more likely to involve in EM.

In respect to voluntary disclosure, it is argued that higher growth companies are predicted to have higher asymmetric information between managers and investors, which stimulate them to report more information voluntarily to decrease this gap (Gaver & Gaver, 1993; Gul & Leung, 2004; Smith & Watts, 1992). Companies tend

to increase voluntary disclosure to enhance their ability to access financing at a lower cost and attract more investors (Collett & Hrasky, 2005; Hossain, Ahmed & Godfrey, 2005; Khurana et al., 2006). Several empirical studies provided evidence that companies with higher growth opportunities are more likely to disclose information voluntarily compared to low growth companies due to their need for external finance (Hyytinen & Pajarinen, 2005; Laidroo, 2009; Ntim & Soobaroyen, 2013; Ntim & Soobaroyen, 2013). Following EM and VDQ studies (Pilotte, 1992; Yu, 2008), bank growth is measured as the change of total assets divided by the lagged total assets.

4.7.17 Bank Leverage

Leverage is used in numerous studies as a proxy for debt covenant violation, because it shows the financial structure of the company and is used in evaluating its financial risk (Dimitropoulos & Asteriou, 2010; Elayan et al., 2008). Leventis and Dimitropoulos, (2012) indicated that riskier banks may boost their earnings to meet the capital adequacy requirements and regulatory scrutiny. Management may overstate assets or understate liabilities in order to avoid debt covenant violations (Gavious et al., 2012). EM empirical studies (Ali et al., 2010; Habbash et al., 2014; Jiang et al., 2008; Wasiuzzaman et al., 2015) have argued that managers are more motivated to manipulate accounting earnings if their company has a high debt ratio, in order to satisfy covenant debt criteria; thus, a positive association between leverage and EM practices were found.

With regards to voluntary disclosure, it is suggested that firms with greater leverage ratios are facing higher monitoring costs (Huafang & Jianguo, 2007), and, therefore, managers are willing to utilise voluntary disclosure as an instrument in order to decrease the monitoring costs for creditors (Depoers, 2000; García-Meca & Sánchez-

Ballesta, 2009; Raffournier, 1995). In addition, managers of highly leveraged firms are likely to disclose more information voluntarily in order to send a signal to creditors that the company is capable of meeting its debt requirements as well as attracting investors (Elzahar & Hussainey, 2012). Several studies have proven that leverage has a positive effect on voluntary disclosure (Ahmed & Courtis, 1999; Al-Najjar & Abed, 2014; Basiddiq & Hussainey, 2012; Merkley, 2013). Following Du et al., (2015) and Ming-Feng & Shiow-Ying, (2015), Leverage (LEV) is measured as the total liabilities divided by total asset.

4.7.18 Profitability

Companies attempt to manipulate earnings when the actual profitability is high/ low, in order to decrease/ increase (smooth) their income and give a signal to the investors about their earnings growth (Prencipe, Markarian & Pozza, 2008). EM literature documented that companies with greater profitability are less inclined to manipulate their accounting earnings (Kiattikulwattana, 2014; Wu et al., 2016). For instance, Yang et al., (2013); Boulila Taktak and Mbarki (2014); Kiattikulwattana (2014); Sun et al., (2014) have documented a negative and significant association between a company's profitability and EM practices. However, a few studies have found that a company's profitability has a positive influence on EM practices (Gavious et al., 2012; Hsiao et al., 2016).

In respect to voluntary disclosure, it is argued that, in highly profitable firms, managers are motivated to disclose information voluntarily. This is because it boosts the confidence of investors and raises managers' compensations (Rouf & Al Harun, 2011). In this context, Cormier and Magnan, (1999) show that companies in a perfect financial condition tend to disclose information comprehensively compared to

companies in a bad financial condition. However, empirical EM and VDQ studies measure profitability by using return on assets “ROA” as an indicator of a firm’s profitability, because ROA is highly significant in explaining the company's value (Carter et al., 2003; Kothari et al., 2005). Following empirical EM and VDQ studies (Doukakis, 2014; Filip & Raffournier, 2014), the current study uses “ROA” to control for the effect of banks’ financial profitability on EM and VDQ. Profitability “ROA” is measured by net income divided by lagged total assets.

4.7.19 Liquidity

Liquidity ratio is an important factor that motivates bank managers to manipulate earnings in order to prove their ability to meet the bank’s current obligations (Ascioglu et al., 2012; Elzahar & Hussainey, 2012). In the same context, Iatridis & Kadorinis (2009) and Lambert (2001) found that company managers are more likely to manipulate earnings figures in an effort to enhance their liquidity and profitability, as well as to strengthen their financial market picture. Several empirical studies (e.g. Ascioglu et al., 2012; Chung et al., 2009; Van Tendeloo & Vanstraelen, 2005) found that banks that involve in EM are more likely to suffer from a lower liquidity ratio. With regards to voluntary disclosure, Elzahar & Hussainey, (2012) and Wallace and Naser, (1994) found that firms with high liquidity ratios are more willing to voluntarily disclose information, as evidence of their ability to meet their short-term obligations, compared to their competitors with poor liquidity ratios.

VDQ literature provided mixed results with regards to the relationship between voluntary disclosure and liquidity ratio. Owusu-Ansah, (2005) and Alsaeed, (2006), for instance, show that corporate disclosure level is positively associated to liquidity. Wallace et al., (1994), however, document a negative and significant relationship

between disclosure level and liquidity. Notably, Nor et al., (2010) fail to find a significant relationship between voluntary disclosure level and liquidity. The current study uses the bank liquidity to control for its effect on EM and VDQ. Following empirical EM and VDQ studies, the bank liquidity position is measured as the ratio of current assets divided by current liabilities at the end of the financial year.

4.8 Empirical Research Model

In order to achieve the aim and objectives of the current study, the following regression model is used (Key in table 4.3)[24];

1. $EMLLP_{it} = \beta_0 + \beta_1 VDQ_{it} + \beta_2 IBD_{it} + \beta_3 BZ_{it} + \beta_4 BDEX_{it} + \beta_5 DU_{it} + \beta_6 BGD_{it} + \beta_7 BM_{it} + \beta_8 IAC_{it} + \beta_9 ACZ_{it} + \beta_{10} ACM_{it} + \beta_{11} ACEX_{it} + \beta_{12} Big4_{it} + \beta_{13} ACG_{it} + \beta_{14} MOS_{it} + \beta_{15} BH_{it} + \beta_{16} Bank\text{-}Z_{it} + \beta_{17} Growth_{it} + \beta_{18} LEVER_{it} + \beta_{19} PROFT_{it} + \beta_{20} LIQ_{it} + \varepsilon_{it}$

[24] The differences in economic growth, accounting rules and bank-specific variables among countries are more likely to have a potential effect on managers' ability to manipulate earnings and disclosure (Leuz et al., 2003 and Abdelsalam et al., 2016). For instance, a few IBs listed in MENA countries such, as Egypt and Kuwait do not apply the AAOIFI's standards. In this context, IBs have to follow the accounting standards applicable in the country of operation and that can be different from the AAOIFI standards (Sarea, 2012). Therefore, it becomes necessary to examine the effect of employing AAOIFI standards and country specific variables on both EM and VDQ. However, in order to avoid multicollinearity problems, the current study omitted the AAOIFI standards and country specific variables, since they have a high level of correlation and low level of tolerance with an insignificant association with the dependent variable.
Furthermore, due to unavailability of data, other certain bank-specific variables, which may influence the model, were excluded (e.g. cost-income ratio, cash-deposit ratio).

Table 4. 3 Study Variables' Definitions and Measurements.

Label	Variable	Description
Dependent Variables		
EMLLPs	Earnings management	The absolute value of discretionary accruals estimated using: Two-stage model (Kanagaretnam et al., 2004).
EMDA		The absolute value of discretionary accruals estimated using modified Jones model by Yasuda et al., (2004).
Independent Variables		
VDQ	Voluntary Disclosure Quality	The voluntary disclosure quality is measured by developing a multidimensional framework of Beretta & Bozzolan, (2008).
Control Variables		
1- Corporate Governance (Board of directors characteristics)		
IBD	Independence of Board of Directors	Measured as the number of independent non-executive directors divided by total number of bank board of directors.
BZ	Board Size	Measured as the total numbers of board members
BDEX	Board of director's expertise	Measured as the proportion of experienced board members on the board.
DU	Duality	A dummy variable that takes the value 1 if the Chief executive officer has more than one role and zero otherwise.
BGD	Board Gender Diversity	Measured as the percentage of female directors on the board.
BM	Board Meeting	Measured as the number of meetings held in each financial year by the firm's board of directors.
2- Corporate Governance (Audit committee characteristics)		
IAC	Independence of Audit Committee	Measured as the number of independent non-executive directors on the audit committee divided by the total number of audit committee members
ACZ	Audit committee size	Measured by the total numbers of audit committee members.
ACM	Audit committee meetings	Measured by the number of audit committee meetings held during the year.
ACEX	Audit committee expertise	Measured as proportion of experienced audit members on the audit committee.
Big4	External Audit committee	A dummy variable that takes the value of 1 if the bank is audited by Big 4 and 0 if otherwise.
ACG	Audit committee gender diversity	Measured as the percentage of female members on the audit committee.
3- Corporate Governance (Ownership Structure)		
MOS	Managerial Ownership	Measured as a percentage of the total number of shares held by managers to total number of outstanding shares.

BH	Block holders	Measured by the ratio of outside stockholders owning 5% or more of outstanding shares within the bank.
4- Bank characteristics		
Bank-Z	Bank Size	Measured by the Logarithm of total assets at the year-end.
Growth	Bank's Growth	Measured as the change of total assets divided by the lagged of total assets.
LEVER	Bank Leverage	Measured by total liabilities to total assets at the end of the financial year.
PROFT	Profitability (ROA= Return on Assets)	Measured by net income to lagged total assets at the end of the financial year.
LIQ	Bank Liquidity	Measured by current assets divided by current liabilities at the end of the financial year.

4.9 Empirical Procedures of Data Analysis

In this section three phases of data analysis used in this study, the preliminary analysis, the multivariate analysis and robustness tests are illustrated.

4.9.1 Preliminary Analysis

Preliminary analysis is divided into two-analysis techniques, which are descriptive statistics and correlation matrix. The Descriptive statistical technique is adopted in order to illustrate and summarise the used data in terms of shape of distribution for each variable and to test central tendency. It describes the mean, median, minimum and maximum values of each variable, and also the standard deviation. With a view to explaining the correlation level between explanatory variables used in the current study, the correlation matrix test and the Variance Inflation Factor (VIF) method are employed (Gujarati & Porter, 2011). The empirical studies emphasised that the higher the level of correlation coefficients between explanatory variables, the greater the multicollinearity problem (Grewal et al., 2004; Gujarati, 2008; Harris & Raviv, 2008). A small correlation coefficient indicates the absence of multicollinearity and vice versa. Although different measures to study multicollinearity have been suggested by several studies, Gujarati (2008) and Harris and Raviv (2008) indicated that ± 80% is the cut-off point of a serious multicollinearity problem that would influence the regression outcomes. Additionally, Gujarati, (2009) and Echambadi and Hess, (2007) stated that a multicollinearity issue exists if the VIF value is greater than 10.

4.9.2 Multivariate Analysis

The Multivariate analysis technique is classified in two groups, parametric and non-parametric methods. With regards to the current study, the choice of analysis

technique is based on the characteristics and nature of the sample. However, there are three essential assumptions to be examined before selecting the type of multivariate analysis technique, which are normality, linearity and heteroscedasticity (Gujarati, 2003).

Normality assumes that the data set distribution is normal. Linearity presumes that there is a linear relationship between the explanatory variables and the dependent variable, whereas, heteroscedasticity is based on the assumption that no constant change exists in the dependent variables. Therefore, to choose between the parametric or non-parametric tests and decide which is more appropriate to be utilised in the current study, these different tests have been adopted. Firstly, in order to check the normality problem, the histogram test is used. Secondly, the Quantile-Quantile (Q-Q plot) test is used to examine the linearity problem. Finally, in order to test the heteroscedasticity, Breusch-Pagan / Cook- Weisberg and White's general tests are utilised.

4.9.2.1 Panel Data Regression Analysis

In order to achieve a positivist understanding of how the methodological process should be conducted, the current study utilised regression analysis as a primary instrument to examine the study hypotheses (Näslund & Hafsa, 2016). It is presumed that a single metric variable of the study is related to more than one independent variable, which is included in the research problem (Hair, 2007). However, two types of regressions could be applied to this study, which are panel data regression and pooled regression. The main difference between panel and pooled regression is that panel regression can distinguish between the cross-sectional and time series. This allows researchers to remove any unobservable heterogeneity in the sample, thus it is

a significant technique to examine the linear information. In contrast, the pooled regression cannot distinguish between the various companies and times (Himmelberg et al., 1999). Moreover, panel data regression has considerable advantages in measuring non-observable individual effects, which decreases the reliability problem of independent variables to explain the dependent variable (Serrasqueiro & Nunes, 2008). Haniffa & Cooke, (2002); Chih et al., (2008) and Sun et al., (2010) indicated that panel data regression covers a great number of observations, which enhances the efficiency of the statistics and boosts the degree of freedom.

In addition to the above-mentioned benefits of panel data regression, there are several other advantages, which are as follows: (1) if the source of information is different, panel data is considered as the primary method of longitudinal data analysis, since panel data regression provides diverse procedures that may assist in examining variations over time when considering certain cross-sectional unit types. (2) Through combining cross-sectional and time-series in panel data analysis, more instructive information concerning the data and extra variability is provided. Furthermore, this combination provides a greater degree of effectiveness and flexibility, and decreases co-linearity between variables. (3) It is capable of measuring and distinguishing non-observable effects when utilising the analysis of time-series or cross-sectional data. (4) Panel data is able to analyse behavioural models that are seen as complicated models and likely to be achieved by using both cross-sectional and time-series. In line with EM and VDQ studies, the current study uses panel data in its regression analysis in order to examine the relationship among its variables due to the above- mentioned advantages (Abdelsalam et al., 2016; Ali et al., 2015; Ben Othman & Mersni, 2014; Chih et al., 2008; Haniffa & Cooke, 2002; Sun et al., 2010; Wang & Hussainey, 2013).

4.9.3 Robustness Tests

In order to confirm the robustness of the study outcomes to diverse estimators and measurements, this study conducted further sensitivity analysis. For instance, EM was measured by adopting an alternative model, which is the Jones' Model, modified by Yasuda et al., (2004) for banking institutions. Nevertheless, the current study used a lagged value of VDQ as instrumental variables to control for the endogeneity problem. In addition, several tests have been adopted to support the primary findings, such as re-running the t-test using different sub-samples of banks to understand EM and VDQ incentives.

4.10 Summary of the Chapter

In this chapter, the research hypothesis developments, approaches and methods of the current study were demonstrated and justified in relation to the study objectives. The two-stage model and Jones model, modified by Yasuda et al., (2004), are used as major and alternative models to measure EM, respectively. The current study develops the multidimensional framework of Beretta & Bozzolan, (2008) and uses it to measure VDQ in both IBs and NIBs. In addition, several proxies of corporate governance and bank characteristics are employed as control variables.

Three essential assumptions were investigated before selecting the type of multivariate analysis technique, which are normality, linearity and heteroscedasticity. In addition, the data analysis is achieved through panel data regression (random effect models), on 1,060 company-year observations (29 IBs and 77 NIBs over a 10-year period, from 2006 to 2015).

The following chapters will highlight and analyse the influence of VDQ on EM practices in both IBs and NIBs in MENA countries. Chapter five will provide an empirical result on EM in both types of banks. Chapter six will present the findings of VDQ in both types of banks. Finally, chapter seven will provide the analysis and discussion of the results for the main aim of the current study, which is the relationship between EM and VDQ in IBs and NIBs in MENA countries.

Chapter Five: Results and Discussion of EM in Islamic and non-Islamic Banks operating in MENA Countries

5.1 Introduction

This chapter illustrates the analyses that are performed to achieve the first research objective, which is "to investigate and compare EM practices in IBs and NIBs in MENA countries". In order to fairly analyse the data, two empirical research models were utilised to investigate EM in both IBs and NIBs (see chapter 4). This chapter is structured as follows. Section 5.2 shows the descriptive statistics of EM level based on the entire sample, across years and across countries, respectively. Section 5.3 presents the descriptive statistics and t-teat analyses of EM level for IBs in comparison to NIBs. While sections 5.4 and 5.5 present the additional and robustness analyses of EM level, respectively. Section 5.6 provides the chapter's summary.

5.2 Descriptive Analysis of EM Level Based on the Entire Sample, Across Years and Across Countries

This section provides summary statistics for EM level over a10-year period, from 2006 to 2015. EMLLPs[25] and EMDA[26] represent the EM achieved from the two-stage and modified Jones models, respectively. The followings are the descriptive statistics for EM level based on the entire sample, across years and across countries, respectively.

[25] EMLLPs represent the earnings management that was obtained from the two-stage model of Kanagaretnam et al. (2004).

[26] EMDA represents the earnings management, which was obtained from the Jones model (1991) that was modified by Yasuda et al. (2004) for financial sectors.

5.2.1 EM Level Based on the Entire Sample

Table 5.1 illustrates that the mean values of EMLLPs for the entire sample is 0.1115 with minimum and maximum values of 0.0004 and 0.9970 respectively. In addition, the median value of EMLLPs is 0.1025 with a standard deviation of 0.1299. This finding indicates that the average absolute value of EMLLP in all banks listed in MENA countries is 11.15 per cent with a large rate of dispersion. This result is similar to the findings of De Medeiros et al., (2012) and Iannotta and Kwan, (2013), who found that the mean absolute values of EM among US and Brazilian banks are around 9.6 and 16.8 per cent, respectively. Nevertheless, this outcome indicates that the value of EMLLP in all banks listed in MENA countries may be greater than those reported by Abdelsalam et al., (2016), who show that banks in MENA countries have an average EM value of 0.002. This may be attributed to the difference in measuring the EM (discretionary accruals). This study used the absolute value of EM, whereas Abdelsalam et al., (2016) utilised the signed value of discretionary accruals achieved from the difference between the discretionary elements of both LLPs and realised security gains and losses.

It has been shown that the mean value of EMDA is 0.0155 with minimum and maximum values of 0 and 0.5020 respectively. This result suggests that the average absolute value of EMDA is 1.5 per cent in both IBs and NIBs in MENA countries with a high degree of dispersion. Additionally, the median value of EMDA is 0.0026 with a standard deviation of 0.0507. This result is consistent with the findings of Cohen et al., (2014) who reported that the average value of EM in US banks between the periods 1997 to 2009 is around 1.4 per cent. Nevertheless, the aforementioned results are below the findings of Elleuch et al., (2015), who demonstrated that the average value of EM among Tunisian banks from1998 to 2007 is 1.08 per cent. The

findings indicate that both types of banks engage in EM and are in line with both agency and signalling theories.

The agency theory suggested that actions of individuals are strongly linked to their self-interest, and each individual will increase their wealth by behaving in an opportunistic manner (Jensen & Meckling, 1976). Therefore, bank managers tend to manipulate earnings by using accounting choice or accruals in order to reach their earnings target (e.g. avoiding earnings volatility, showing good performance, decreasing the probability of being audited by regulatory agencies and meeting the minimum capital requirements) (Collins et al., 1995; Leventis et al., 2011). This opportunistic behaviour allows bank managers greater freedom to manipulate earnings (Black & Shevlin, 1999). On the other hand, the signalling theory proposes that bank managers may involve in EM practices to transmit signals to the market to conceal undesirable value-related information, to convey a good signal of the bank's financial strength and, thus, to maintain the financial stability of the economy (Ronen and Yaari, 2008).

Table 5. 1: Descriptive Analysis of EM for the Entire Sample

	Obs	EMLLPs	EMDA
Mean	1060	0.1115	0.0155
Median	1060	0.1025	0.0026
S.D	1060	0.1299	0.0507
Min	1060	0.0004	0
Max	1060	0.9970	0.5020

Note: **EMLLPs**= earnings management obtained from two-stage model, **EMDA=** earnings management achieved from modified Jones model

5.2.2 EM Level for the Entire Sample Across Years

Table 5.2 illustrates the descriptive statistics of EM for the entire sample (IBs and NIBs) across years, starting from 2006 to 2015. Based on EMLLPs, table 5.2 shows

that the highest mean value of EMLLPs was in 2006, which is 0.1181 with minimum and maximum values of 0.0039 and 0.9800 respectively. In addition, the median value of EMLLPs in 2006 is 0.1045 with a standard deviation of 0.1486. Furthermore, the lowest mean value of EMLLPs was 0.1004 in 2012 with median, minimum and maximum values of 0.1027, 0.0034 and 0.9914 respectively.

Table 5.2, on the other hand, illustrates that the greatest mean value of EMDA, which is 0.0230, was in 2011, with median, minimum and maximum values of 0.0057, 0 and 0.4736 respectively. However, the lowest average value of EMDA was 0.0079 in 2012 with considerable dispersion. Furthermore, the median of EMDA in 2012 is 0.0015 with a standard deviation of 0.0153. Comparing the average value of both EMLLPs and EMDA across years, table 5.2 shows that the average values of EMLLPs across years are higher than those of EMDA. This result indicates that bank managers are more likely to manipulate earnings through LLPs. This is consistent with the arguments of several studies, that LLPs represent the largest portion of accruals in the banking system and are considered to be the primary source, which creates the conditions for potential accounting manipulations (Abdelsalam et al., 2016; Alali & Jaggi, 2011; Belal et al., 2015; Gray & Clarke, 2004; Kanagaretnam et al., 2004; Kwak et al., 2009).

Table 5. 2: Descriptive Analysis of EM for the Entire Sample Across Years

	EMLLPs					EMDA				
	Obs	**Mean**	**Median**	**S.D**	**Min**	**Max**	**Mean**	**Median**	**S.D**	**Min**	**Max**
2006	106	0.1181	0.1045	0.1486	0.0039	0.9800	0.0191	0.0048	0.0560	0	0.4500
2007	106	0.1100	0.1009	0.1271	0.0044	0.9882	0.0118	0.0019	0.0477	0	0.4500
2008	106	0.1172	0.1025	0.1294	0.0096	0.9890	0.0124	0.0029	0.0202	0	0.0925
2009	106	0.1125	0.0989	0.1485	0.0013	0.9905	0.0220	0.0078	0.0614	0	0.4892
2010	106	0.1175	0.1009	0.1528	0.0016	0.9905	0.0168	0.0037	0.0462	0	0.3806
2011	106	0.1096	0.1030	0.1264	0.0004	0.9958	0.0230	0.0057	0.0606	0	0.4736
2012	106	0.1004	0.1027	0.0913	0.0034	0.9914	0.0079	0.0015	0.0153	0	0.0970
2013	106	0.1096	0.1030	0.1264	0.0099	0.9970	0.0124	0.0023	0.0595	0	0.5020
2014	106	0.1102	0.1038	0.1237	0.0105	0.9905	0.0108	0.0015	0.0430	0	0.3901
2015	106	0.1100	0.1038	0.1201	0.0100	0.9800	0.0194	0.0001	0.0701	0	0.3922

Note: **EMLLPs**= earnings management obtained from two-stage model, **EMDA=** earnings management achieved from modified Jones model

5.2.3 EM Level for the Entire Sample Across Countries

This section provides a descriptive statistic of EM for the entire sample (IBs and NIBs) across MENA countries over a 10-year period from 2006 to 2015. Based on both EMLLPs and EMDA, table 5.3 illustrates that the highest mean values of EMLLPs and EMDA were 0.5360 and 0.1515 respectively in banks listed on the Iraqi stock market, with a high degree of dispersion. This result suggests that banks that operate in Iraq are more likely to engage in EM compared to those banks listed in other MENA countries, which could be attributed to their early stage of economic development and the economic vulnerability due to political instability (El-Chaarani, 2014; Issa, Hussein, & Hussein, 2015; Piesse, Strange & Toonsi, 2012). This result is in line with Hassan (2017) who found that companies listed on the Iraqi stock market reported the highest mean value of EM, signifying that Iraqi firms have poor earnings quality.

The lowest mean values of EMLLPs were 0.0617, 0.0700, 0.0901, 0.0958 and 0.0993, which are reported by banks listed in Kuwait, Bahrain, Jordan, Oman and the UAE, respectively. In addition, the smallest average values of EMDA were 0.0037 and 0.0049, which were reported by banks operating in both Bahrain and Kuwait respectively. This result implies that the majority of banks operating in Gulf cooperation council countries (GCC) have lower level of EM compared to those of other countries within the MENA region. This result could be attributed to the enhanced corporate governance system that is applied in these countries compared to other countries in the MENA region (Baydoun, Maguire, Ryan & Willett, 2012).

In respect to other countries in the MENA region, the mean values of both EMLLPs and EMDA fluctuated between 0.1010 to 0.4799 and 0.0054 to 0.0268 respectively,

suggesting a considerable variation in mean of both EMLLPs and EMDA across countries.

Table 5. 3: Descriptive Analysis of EM for the Entire Sample Across Countries

Countries	EMLLPs						EMDA			
	Obs	Mean	Median	S.D	Min	Max	Mean	Median	S.D	Min	Max
Bahrain	130	0.0700	0.0771	0.0594	0.0004	0.5939	0.0037	0.0022	0.0052	0	0.0293
Egypt	50	0.1018	0.1053	0 .0073	0.0875	0.1264	0.0126	0.0015	0.0487	0	0.2934
Iran	20	0.1071	0.1071	1.71e-07	0.1071	0.1281	0.0054	0.0035	0.0056	0	0.0212
Iraq	20	0.5360	0.5003	0.4501	0.0928	0.9970	0.1515	0.0348	0.0910	0	0.3589
Israel	30	0.1010	0.1056	0.0069	0.0886	0.1067	0.0068	0.0024	0.0104	0	0.0360
Jordan	120	0.0901	0.0923	0.0177	0.0066	0.1246	0.0147	0.0065	0.0480	0	0.4892
Kuwait	80	0.0617	0.0593	0.0399	0.0016	0.2083	0.0049	0.0030	0.0046	0	0.0206
Lebanon	20	0.4799	0.1040	0.4660	0.0034	0.9958	0.0743	0.0108	0.1937	0	0.5020
Morocco	40	0.1162	0.1039	0.1442	0.0200	0.9655	0.0127	0.0041	0.0239	0	0.1736
Oman	40	0.0958	0.0966	0.0157	0.0504	0.1518	0.0099	0.0011	0.0218	0	0.1235
Palestinian Territories	40	0.1070	0.1071	0.0136	0.0756	0.1553	0.0138	0.0041	0.0244	0	0.1125
Qatar	60	0.1061	0.1064	0.0015	0.0979	0.1090	0.0056	0.0013	0.0247	0	0.1920
Saudi Arabia	90	0.1048	0.1057	0.0026	0.0935	0.1100	0.0074	0.0019	0.0286	0	0.239
Syrian Arab Republic	60	0.1354	0.1070	0.1601	0.0846	0.9905	0.0268	0.0071	0.0720	0	0.4500
Tunisia	70	0.1011	0.1010	0.0117	0.0549	0.1592	0.0191	0.0071	0.0422	0	0.3000
United Arab Emirates	180	0.0993	0.1029	0.0136	0.0039	0.1095	0.0104	0.0018	0.0412	0	0.4500
Yemen	10	0.1070	0.1070	0.0001	0.1068	0.1071	0.0054	0.0024	0.0084	0	0.0283

Note: **EMLLPs**= earnings management obtained from two-stage model, **EMDA=** earnings management achieved from modified Jones model

5.3 EM for IBs in Comparison to NIBs

This section attempts to provide wider understanding of EM level for IBs in comparison to NIBs that operate in MENA countries. A descriptive statistic and t-test analyses of EM are presented.

5.3.1 Descriptive Analysis of EM for IBs in Comparison to NIBs

This section focuses on comparing the mean values of EM between both IBs and NIBs listed in MENA countries. Table 5.4 shows that the mean values of EMLLPs and EMDA in IBs are 0.0938 and 0.0099 respectively, with a high degree of dispersion. This result indicates that EMLLPs are higher than EMDA by 8%, which signifies that IBs use discretionary accruals from LLPs more considerably to manipulate earnings, compared to the discretionary accruals from net income and operating cash flow. The result of EMLLPs is close to the findings of De Medeiros et al., (2012) who found that the mean absolute value of discretionary accruals among US banks is around 9.6 per cent. For EMDA, the result is similar to that of Abdelsalam et al., (2016) who show that the average value of discretionary accruals in IBs is 0.002.

The mean values of EMLLPs and EMDA in NIBs are 0.1181 and 0.0176 respectively, with a high degree of dispersion. This suggests that NIBs have, likewise, used more discretionary accruals from LLPs to manipulate earnings compared to the discretionary accruals from net income and operating cash flow. This result is close to the findings of Cohen et al., (2014), who reported that the mean value of EM in US banks from 1997 to 2009 is around 0.014. Nevertheless, the aforementioned results are below the findings of Elleuch et al., (2015) who demonstrated that the mean value

of EM among Tunisian banks over a 9-year period, from 1998 to 2007, is 1.08. In addition, table 5.4 shows that the average values of both EMLLP and EMDA in IBs are lower than those provided by NIBs, suggesting that IBs are less likely to be involved in EM compared to NIBs.

Table 5. 4: Descriptive Analysis of EM Across Bank Types (IBs and NIBs)

	Obs		EMLLPs		EMDA	
Bank-type	**IBs**	**NIBs**	**IBs**	**NIBs**	**IBs**	**NIBs**
Mean	290	770	0.0938	0.1181	0.0099	0.0176
Median	290	770	0.1030	0.1023	0.0042	0.0023
S.D	290	770	0.0387	0.1500	0.0237	0.0576
Min	290	770	0.0117	0.0004	0	0
Max	290	770	0.5939	0.9970	0.3000	0.5020

Note: **EMLLPs**= earnings management obtained from two-stage model, **EMDA=** earnings management achieved from modified Jones model

5.3.2 Analyses of EM for IBs in Comparison to NIBs

A more detailed account of EM is given in this section, which examines whether the level of EM obtained from both the two-stage model and adjusted Jones model by Yasuda et al., (2004) differ significantly in IBs and NIBs across individual years (from 2006 to 2015) and entire sample. The current study divided the sample into two sub-samples of data with regards to bank types (IBs and NIBs) for each year separately. The t-test is employed in order to investigate whether the mean values of EM for each year is significantly different in IBs and NIBs. Table 5.5 illustrates the t-test results of EM levels based on each year and bank type for both models. Furthermore, bar charts of the mean values of EM across bank types are provided in order to support the t-test result (see figures 5.1 and 5.2).

Based on the EMLLPs, it can be seen that in the years 2006, 2007, 2008, 2009, 2010 the mean values of EMLLPs in IBs and NIBs are 0.0946-0.1410, 0.0967- 0.1261,

0.1134- 0.1451, 0.0856-0.1028 and 0.0859-0.1096 respectively. Besides the lower mean values of EMLLPs in IBs compared to NIBs during these years (from 2006 to 2010), the t-test reveals that there is a significant difference in EMLLPs reported between IBs and NIBs at 5%, 10%, 10%, 10%, and 5% level respectively. This signifies that the level of EMLLPs in the banking sector in MENA countries is different based on the bank type, and EMLLPs in IBs is low compared to NIBs. Table 5.5 illustrates that the average values of EMLLPs during 2011, 2012, 2013, 2014 and 2015 in both IBs and NIBs are 0.0930-0.1158, 0.0906-0.1042, 0.0884-0.1075, 0.0946-0.1162 and 0.0947- 0.1160 respectively. Although the t-test does not show any significant differences in mean values with regards to EMLLPs during these years (2011 to 2015), the mean values of EMLLPs in IBs are still lower than those of NIBs, which implies that IBs are less likely to engage in EM compared to NIBs.

In respect to EMDA, table 5.5 demonstrates that the mean values of EMDA during 2006, 2007, 2008, 2009 and 2011 in both IBs and NIBs are 0.0104-0.0281, 0.0045-0.0190, 0.0171- 0.0221, 0.0115-0.0390, and 0.0077-0.0286 respectively. The t-test reveals that there is a significant difference in terms of EMDA between IBs and NIBs at 10%, 10%, 10%, 5%, and 5% level respectively, with lower mean values of EMDA in IBs compared to NIBs during these years. This result implies that IBs and NIBs behave differently in terms of EMDA in these five years, and IBs are less likely to involve in EMDA compared with NIBs. Furthermore, table 5.5 shows that the average values of EMDA during 2010, 2012, 2013, 2014 and 2015 in both IBs and NIBs are 0.0110-0.0191, 0.0102-0.0069, 0.0059-0.0090, 0.0100-0.0111 and 0.0106-0.0224 respectively. The t-test does not show any significant differences in mean values with regards to EMDA during the above-mentioned years. Nevertheless, the mean values of EMDA in IBs are lower than those of NIBs, except for the year 2012.

With regards to the entire sample, table 5.5 reports that the mean values of EMLLPs and EMDA in IBs and NIBs are 0.0938-0.1181 and 0.0099-0.0176 respectively. The t-test shows that there is a high significant difference in terms of EMLLPs and EMDA between IBs and NIBs at 1% level; these findings imply that IBs and NIBs do not behave in the same manner when dealing with EM. These results are consistent with those obtained by Misman and Ahmed (2011) and Elnahass et al., (2014) and Farooq and AbdelBari (2015) who reported that both IBs and NIBs are engaged in EM and IBs seemed more controlled and engaged less in EM compared to NIBs.

Besides the statistical test, the current study utilised a graphic approach to provide visual evidence of EM practices. McNichols (2001) indicated that a graphic approach could strongly assist researchers to predict the frequency of earnings realisations, which is likely to be linked to discretionary accruals. Consequently, both figures (5.1 and 5.2) show that the mean value of EM is noticeably different in IBs compared to NIBs, which indicates that NIBs are more likely to engage in EM compared to IBs. These findings are in line with the primary results provided previously in table 5.5.

In light of the above, the findings of the t-test across the entire sample confirms the significant difference between IBs and NIBs with regards to EM practices. This suggests that IBs behave differently and they are less involved in EM compared to NIBs. These findings support the first hypothesis (**H1).**

Table 5. 5 Univariate test of EM Level

Year	Two-stage model (EMLLPs)					Jones model (EMDA)			
	Obs		Bank type		T-test	Bank type			T-test
	IBs	NIBs	IBs	NIBs		IBs	NIBs		
			Mean			Mean			
2006	29	77	0.0946	0.1410	0.0468**	0.0104	0.0281	0.0930*	
2007	29	77	0.0967	0.1261	0.0604*	0.0045	0.0190	0.0918*	
2008	29	77	0.1134	0.1451	0.0693*	0.0171	0.0221	0.0610*	
2009	29	77	0.0856	0.1028	0.0737*	0.0115	0.0390	0.0350**	
2010	29	77	0.0859	0.1096	0.0419**	0.0110	0.0191	0.2079	
2011	29	77	0.0930	0.1158	0.1926	0.0077	0.0286	0.0134**	
2012	29	77	0.0906	0.1042	0.2910	0.0102	0.0069	0.3602	
2013	29	77	0.0884	0.1075	0.1119	0.0059	0.0090	0.2685	
2014	29	77	0.0946	0.1162	0.2129	0.0100	0.0111	0.9001	
2015	29	77	0.0947	0.1160	0.2116	0.0106	0.0224	0.3789	
Entire sample	**290**	**770**	0.0938	0.1181	0.001***	0.0099	0.0176	0.002***	

******, **and * indicates the significance of difference at 0.01, 0.05, and 0.10 levels respectively.*** **Note**: **EMLLPs**= earnings management obtained from two-stage model, **EMDA=** earnings management achieved from modified Jones model.

Figure 5. 1 EM Based on the Two- stage Model (EMLLP)[27] Across Bank Types.

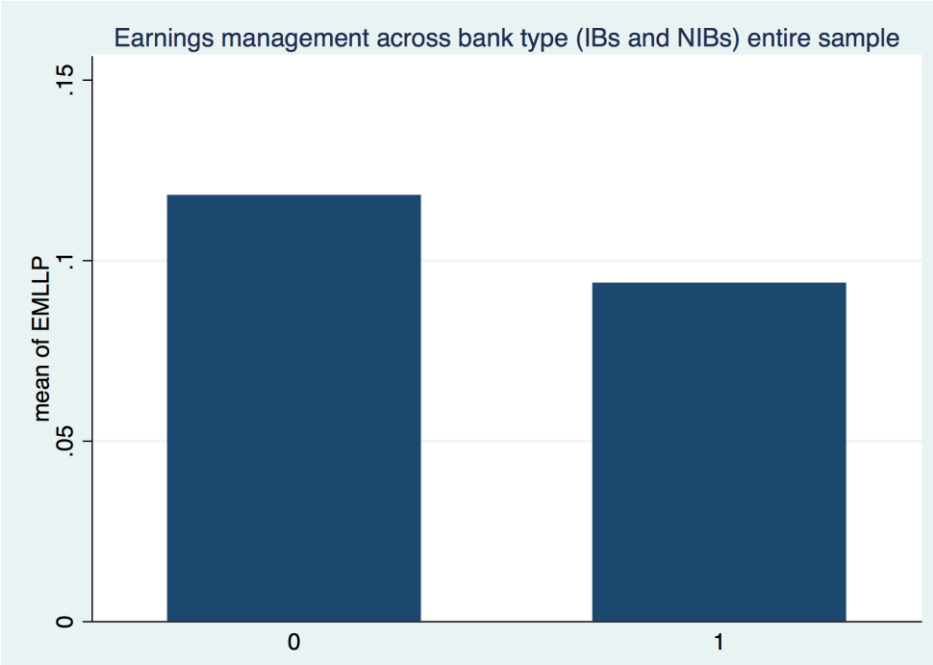
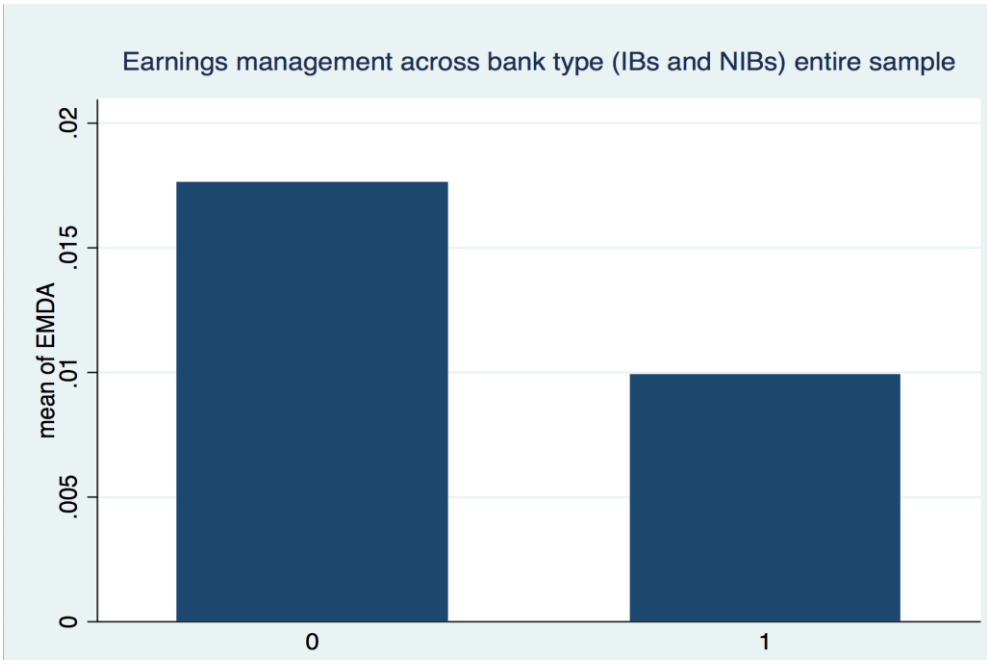


Figure 5. 2 EM Based on the Modified Jones Model (EMDA)[28] Across Bank Types.



[27] EMLLPs represent the earnings management that was obtained from the two-stage model of Kanagaretnam et al., (2004).

[28] EMDA represent the earnings management, which was obtained from the Jones model (1991) that was modified by Yasuda et al. (2004) for financial sectors. **(0 and 1)** A dummy variable that takes the value 1 if the bank is Islamic and 0 if it is Non-Islamic bank.

5.4 Additional Analysis

In order to support the above results, and examine EM practices of IBs in comparison to NIBs over a 10-year period from 2006 to 2015, the current study follows Yoon (2005) by employing a regression analysis that included the main explanatory variables with a dummy variable of bank type. A statistically significant coefficient for the dummy represents the difference in EM practices between IBs and NIBs. Since the operation cash flows (OCF) and Earnings before taxes and provisions (EBTP) are considered as vital explanatory variables that affect accruals for both the Jones model and the two-stage model respectively (Ben Othman & Mersni, 2014; Misman & Ahmad, 2011; Yoon, 2005), with leverage and growth assumed to have a strong influence on the choice of accounting policies (Dimitropoulos & Asteriou, 2010; Huang, Zhang, Deis & Moffitt, 2009), the current study uses the following regression models to examine EM practices of IBs in comparison to NIBs;

$$EMLLP_{it} = \beta_0 + \beta_1 EBTP_{it} + \beta_2 Growth_{it} + \beta_3 LEVER_{it} + \beta_4 Bank\text{-}type_{it} + \varepsilon_{it} \quad (1).$$

$$EMDA_{it} = \beta_0 + \beta_1 OCF_{it} + \beta_2 Growth_{it} + \beta_3 LEVER_{it} + \beta_4 Bank\text{-}type_{it} + \varepsilon_{it} \quad (2).$$

Table 5.6 shows that the coefficients of bank type are negatively and significantly linked to both EMLLPs and EMDA at 10% and 1% levels respectively. This result confirms the outcomes provided in table 5.5, which is that IBs and NIBs behave differently when involving in earnings manipulation and is consistent with the findings of Yoon (2005), and Misman and Ahmed (2011). Besides the above-mentioned results, table 5.6 illustrates that the coefficient of EBTP has a positive and significant relationship with discretionary accruals (EMLLP) at a level of 10%. This result emphasised that LLPs are increased by bank managers in a good financial year to use it as available reserves for the coming bad years, suggesting that both IBs and NIBs are involved in EM practices. This result is in line with the results of Zoubi and

Al-Khazali (2007); Taktak et al., (2010). In addition, the coefficient of OCF has a negative and significant relationship with EMDA at a level of 1%. This finding implies that OCF has a great impact on discretionary accruals, which could be used by bank managers to manipulate earnings. This result is similar to those reported by Yoon, (2005).

Table 5. 6 The Regression Result of EM Practices of IBs in Comparison to NIBs

Two-stage model (EMLLPs) **Panel A**						**Jones model (EMDA)** **Panel B**					
	Obs	Coef.	Std. Err	t	P>|t|		Obs	Coef.	Std. Err.	t	P>|t|
EBTP	1060	0.0017	0.0010	1.71	0.08*	OCF	1060	-1.30e-0	1.61e-0	-8.08	0.001***
Growth	1060	-0.1626	0.0416	-3.91	0.00***	Growth	1060	0.0093	0.0159	0.59	0.550
LEVER	1060	0.0196	0.0354	0.55	0.58	LEVER	1060	-0.0170	0.0135	-1.26	0.201
Bank-type	1060	-0.0146	0.0090	-1.61	0.10*	Bank-type	1060	-0.0089	0.0034	-2.59	0.010***
_Cons	1060	0.1221	0.0340	3.59	0.001	_Cons	1060	0.0310	0.0130	2.39	0.011
Random-effect method GLS regression, R-sq: 0.2801, Prob > Chi2: 0.0001						**Random-effect method GLS regression, R-sq: 0.2505, Prob > Chi2: 0.0001**					

*****, ****and ***** indicate the significance of coefficient at **0.01, 0.05**, and **0.10** levels respectively.
EBTP= Earnings before taxes and provisions normalised by total assets, **Growth**= Measured by the growth in total assets from the beginning to the end of year t, **LEVER**= Measured by total liabilities to total assets at the end of the financial year, **Bank-type**= A dummy variable encoded 1 if the bank is Islamic, and 0 otherwise.

5.5 Robustness Analysis of EM Levels

In order to ensure that the main results provided in table 5.5 are robust, the current study re-runs the t-test using different sub-samples of banks with relatively strong incentives to engage in EM. Following empirical EM studies (Abdelsalam et al., 2016; Doukakis, 2014; Ipino & Parbonetti, 2017), several sub-samples were examined by using the t-test to investigate whether there is any difference of EM level between IBs and NIBs in each sub-sample separately.

Following Abdelsalam (2016), who argues that political problems are more prevalent in particular MENA countries, including these countries in the study sample may have a wider impact on other MENA countries. Thus, the current study controlled for the influence of the political issues that occurred in some MENA countries and examined whether its wider effect on other stable countries in the same region was more pronounced. Therefore, the current study re-runs the t-test on four samples based on period and countries[29]. Table 5.7 illustrates that there is a significant difference in EM levels between IBs and NIBs at a level of 1% after controlling for both period and countries that have political issues. This confirms that IBs are less involved in EM compared to NIBs. These results support the primary findings in table 5.5.

According to the argument of empirical EM studies, it is very difficult for big companies to manipulate earnings because they are more closely followed by investors and regulators than small companies (Albrecht & Richardson, 1990; Bhattacharya, 2001; Lee & Choi, 2002; Siregar & Utama, 2008). Furthermore, small companies are inclined to engage in EM more frequently to avoid losses compared to big companies (Albrecht & Richardson, 1990b; Lee & Choi, 2002). Consequently, the

[29] **Period:** before the occurrence of political issues (2006-2010), and after the political issues was occurred (2011-2015). **Countries**: banks listed in countries that have political issues and banks listed in countries that are politically stable.

current study re-runs the t-test for the observation of small-sized banks by using the median as a cut-off point. Table 5.7 shows that there is a significant difference at 1% level between IBs and NIBs in terms of EM. This result is in line with the primary findings in table 5.5.

Based on the argument of EM research that managers tend to manipulate accounting figures to avoid earnings losses and to avoid earnings decreases (Burgstahler & Dichev, 1997; Dechow, Ge & Schrand, 2010; Hamdi & Zarai, 2012), the current study re-runs the t-test on two sub-samples, based on banks with strong levels of incentives to avoid earnings losses and decreases[30]. The outcomes in table 5.7 provided similar findings to those presented in table 5.5, suggesting that IBs are less likely to manipulate earnings compared to NIBs.

According to the argument that managers of companies with high leverage have strong incentives to manipulate earnings to avoid debt covenant violation (Doukakis, 2014; Wongsunwai, 2013), the current study re-runs the t-test on highly leveraged banks, defined as banks-years that are above the median ratio of total liabilities to the total assets. The findings in table 5.7 confirmed the main results presented in table 5.5, which supports the hypothesis that there is a significant difference at 1% level between IBs and NIBs in terms of EM. It also proves that IBs are less likely to engage in EM compared to their counterparts.

Empirical EM studies argued that managers of low growth companies have more incentives to use discretionary accruals in order to increase the appearance of sustainable growth, shares value and attract more investors to meet their capital needs (e.g. Collins, Pungaliya & Vijh, 2012; Summers & Sweeney, 1998; Zang, 2011). The current study, therefore, re-runs the t-test on low growth banks, defined as banks-

[30] The **first** sub-sample include bank-years with net income over lagged total assets (ROA) in the interval between (0, 0.005), while the **second** sub-sample include bank-years with change in net income over lagged total assets (CROA) in the interval between (0, 0.005).

years that are below the median ratio of the change of total assets divided by the lagged total assets. The result is consistent with the main findings provided in table 5.5.

In conclusion, it can be seen that the above results support the first hypothesis (**H1**) that IBs behave differently with regards to EM compared to NIBs. It also confirmed that IBs are less likely to engage in EM compared to their competitors.

Table 5. 7 Robustness Analysis of EM Level

	Two-stage model (EMLLPs)					Jones model (EMDA)		
	Obs		Bank type			Bank type		
Sub-sample	IBs	NIBs	IBs	NIBs	T-test	IBs	NIBs	T-test
			Mean			Mean		
BPT	530	530	0.0952	0.1224	0.003***	0.0108	0.0184	0.015***
APT	530	530	0.0923	0.1138	0.035***	0.0089	0.0167	0.0471**
PTC	20	191	0.1058	0.1621	0.001***	0.0039	0.0238	0.001***
NPTC	270	579	0.0929	0.1036	0.0440**	0.0103	0.0155	0.0532**
SBZ	125	405	0.1041	0.1486	0.001***	0.0050	0.0229	0.001***
ROA	188	624	0.0973	0.1138	0.01***	0.0080	0.0189	0.001***
CROA	130	461	0.0952	0.1147	0.005***	0.0066	0.0179	0.001***
H-leverage	139	391	0.0923	0.1409	0.01***	0.0063	0.0193	0.002***
L-GRO	131	399	0.0924	0.1378	0.001***	0.0074	0.0178	0.001***

******, **and * indicates the significance of difference at 0.01, 0.05, and 0.10 levels respectively.*** **Note: NGCC**= subsample for all banks listed in non Gulf cooperation Council, **BPT=** subsample for all banks before the occurrence of the political issues in some MENA countries (2006-2010), **APT**= subsample for all banks after the occurrence of the political issues in some MENA countries (2011-2015), **PTC**=subsample for banks listed in countries that have political issues (Egypt, Syria, Tunisia, Yemen and Iraq), **NPTC**= subsample for banks listed in countries that are politically stable, **SBZ**= subsample for small banks size, **ROA**= subsample for banks with return on assets in the interval between (0, 0.005), **CROA**= subsample for banks with change in return on assets in the interval between (0, 0.005) **H-leverage**= subsample for banks with high leverage, **L-GRO**= subsamples for banks with low growth.

5.6 Summary of the Chapter

This chapter aims to measure EM in both types of banks (IBs and NIBs) in MENA countries by using two different models: the two-stage model and the modified Jones model. The former is employed as a major model while the latter used as an alternative model to capture EM. It also aims to examine whether the level of EM differs significantly between IBs and NIBs. This chapter provides a descriptive analysis of EM for the entire sample, across years and across countries for 106 banks listed in MENA countries over a 10-year period, from 2006 to 2015. The descriptive analysis illustrates that the mean values of EMLLPs and EMDA for the entire sample are 0.1115 and 0.0155. These findings are in line with both agency and signalling theories, since both theories support the argument that bank managers engage in EM by using accounting choice or accruals in order to transmit signals to the market about their financial strength and to reach their earnings target.

Furthermore, the descriptive analysis across years indicates that the highest mean values of EMLLPs and EMDA were in the years 2006 and 2011 respectively, whilst the lowest EMLLPs and EMDA were in 2012. In addition, the average values of EMLLPs across years are higher than those of EMDA. Comparing EM across countries, Iraqi banks reported the highest mean values of EM compared to those of other MENA countries.

Based on the descriptive analysis and univariate analyses (t-test) of EM for IBs in comparison to NIBs, the result indicates that IBs and NIBs are significantly different with regards to EM levels in the years 2006, 2007, 2008, 2009, 2010 and 2011. These findings indicate that IBs are less likely to engage in EM compared to NIBs. In the years 2012, 2013, 2014 and 2015, however, the t-test shows insignificant differences between IBs and NIBs with regards to EM. Although the t-test provides mixed results

on the difference in EM practices of IBs and NIBs based on years, the full sample confirms that the mean values of EM in IBs are less than in NIBs and the t-test shows a significant difference at 1% level. This confirms that IBs are behaving differently compared to NIBs with regards to EM and IBs are less likely to manipulate earnings compared to NIBs. Moreover, the additional test has supported these findings by using a regression analysis of four explanatory variables of EM including bank type.

The robustness analysis is additionally employed in this chapter in order to examine whether the primary findings are in line with the main results. Thus, the current study re-investigated several sub-samples of banks with relatively strong incentives to engage in EM. The results of all sub-samples provided similar findings to the primary results.

Chapter Six: Results and Discussion of VDQ in Islamic and non-Islamic Banks Operating in MENA Countries

6.1 Introduction

The main purpose of this chapter is to obtain the study's second objective, namely; "to investigate and compare the VDQ in IBs and NIBs in MENA countries over a ten–year period from 2006 to 2015". The multidimensional framework was developed to measure VDQ. This chapter is organised as follows: Section 6.2 shows the descriptive statistics of the multidimensional framework based on the entire sample, across years and across countries, respectively. Section 6.3 presents the descriptive statistics and t-teat analyses of VDQ for IBs in comparison to NIBs. In sections 6.4 and 6.5, the validity of the multidimensional framework and the summary of the chapter are provided.

6.2 Descriptive Statistics of Multidimensional Framework Based on the Entire Sample, Across Years and Across Countries

This section provides a boarder discussion of the multidimensional framework that developed by the current study to measure VDQ in both IBs and NIBs. The descriptive statistics for the main dimensions (STRQI[31], RICHNESS[32]) are presented based on the entire sample, across years and across countries.

[31] The **quantity dimension (STRQI)** provides users with the relative amount of information disclosed voluntarily (how much is disclosed).

[32] **Richness dimension** consists of two sub-dimensions, which are the **width** and **depth**. The **width** of disclosure considers the topics included in the disclosure index for the classification and identification of disclosure items, which offers investors more general overview of the business alongside its aim to focus on relevant issues. The sub-dimension of **depth** takes into account the information usefulness to users as defined in the conceptual framework of the IASB (2010).

6.2.1 VDQ Based on the Entire Sample

This section provides summary statistics for the dimensions used in the VDQ' framework over a 10-year period, from 2006 to 2015. Table 6.1 shows the mean, median, standard deviation, minimum and maximum values of STRQI, RICHNESS and VDQ, which represent the main dimensions of the framework.

Table 6.1 illustrates that the mean value of VDQ for the entire sample is 0.5774 with minimum and maximum values of 0.2380 and 0.7679 respectively. This result is slightly higher than that of Beretta and Bozzolan (2008), and Urquiza et al., (2009), who found that the mean values of forward-looking information quality are 44% and 45% respectively. This comparison indicates that both IBs and NIBs listed in MENA countries have a greater level of VDQ compared to companies, which are listed in the Spanish and Italian stock markets. The high level of VDQ found in the current study could be attributed to the difference in measuring the depth of disclosed information as well as the use of different sectors. This finding is in line with that of Lim et al., (2017) and Michelon et al., (2015), who found that the average value of voluntary disclosure quality in companies listed in Australian and UK stock markets are about 57% and 56% respectively.

These findings are in line with agency, signalling and stakeholder theories which suggest that VDQ is the most appropriate solution in decreasing agency costs as it takes into consideration the interests of all stakeholders rather than only the more powerful ones (Alves & Raposo, 2011; Gisbert and Navallas, 2013). Increasing VDQ could, therefore, solve the problem of information asymmetry. Additionally, bank managers could lessen or avoid asymmetric information through disclosing (signalling) private information voluntarily to investors and the market. Credible and

relevant voluntary disclosure is considered to be a vital element in decreasing asymmetric information (Hughes, 1989).

In addition, table 6.1 shows that the mean value of the quantity dimension of disclosure, which is represented by STRQI, is 0.6382 with median, minimum and maximum values of 0.6951, 0 and 1 respectively. This result implies that the mean value of quantity disclosure for the entire sample is 63%, which is higher than that of Beretta and Bozzolan, (2008), who reported that the mean value of STRQI among 85 Italian non-financial firms from 1999 to 2001 is about 50%. This may be attributed to the difference in items included in the disclosure index compared to the one used in this study, low observation and type of firms investigated. In addition, their study is limited to the quality of forward-looking information only, whereas this study focuses on voluntary disclosure quality in general.

In respect of the Richness dimension, which is represented the average of the sub-dimensions of both Width and Depth[33]. Table 6.1 illustrates that the average value of RICHNESS is 0.5575 with minimum and maximum values of 0.3566 and 0.7283 respectively. This finding indicates that the average value of combining both WID and DEPTH together in both types of banks is about 56%, suggesting that banks in MENA countries disclosed variety of information voluntarily that match the qualitative characteristics of corporate disclosure suggested by the IFRS (relevance, faithful representation, understandability, comparability and timeliness). This result is in line with Beretta et al., (2008) who show that the average value of DEPTH is 55%.

[33] The **width** of disclosure considers the topics included in the disclosure index for the classification and identification of disclosure items, which offers investors more general overview of the business alongside its aim to focus on relevant issues. The sub-dimension of **depth** takes into account the information usefulness to users as defined in the conceptual framework of the IASB (2010).

Table 6. 1 Descriptive Analyses of Multidimensional Framework for the Entire Sample

	Obs	STRQI	RICHNESS	VDQ
Mean	1060	0.6382	0.5575	0.5774
Median	1060	0.6951	0.5513	0.5759
S.D	1060	0.2048	0.0678	0.0530
Min	1060	0	0.3566	0.2380
Max	1060	1	0.7283	0.7679

Note: **STRQI**= standardised relative quantity index, **RICHNESS=** is the average value of both WID and depth, **VDQ**= is the voluntary disclosure quality ratio (measured as the average value of both STRQI and RICHNESS).

6.2.2 VDQ for the Entire Sample Across Years

This section attempts to show the VDQ trend during the study period. The descriptive statistics of the multidimensional framework for the entire sample (IBs and NIBs) across years, from 2006 to 2015 is presented in table 6.2. With regards to the VDQ, table 6.2 demonstrates that the highest and lowest mean values of VDQ are 0.6465 and 0.5352 in 2015 and 2012 respectively. In addition, the mean value of VDQ was not consistent as it increases and decreases over the study period; this could be attributed to the fluctuation in the STRQI as the quantity dimension represents half (50%) of VDQ.

Based on the STRQI dimension, table 6.2 shows that the highest mean value of STRQI, which is 0.7822 was in 2006, with minimum and maximum values of 0.6015 and 1 respectively. In addition, the median value of STRQI in the year 2006 is 0.7887 with a standard deviation of 0.0858. The lowest mean value of STRQI, however, was 0.5221 in the year 2014 with median, minimum and maximum values of 0.6846, 0 and 0.8102 respectively. In addition, it can be seen that the level of mean values of

STRQI started decreasing dramatically from 0.7822 in 2006 to 0.5928 in 2009. The decline in the level of the information disclosed voluntarily by banks listed in MENA countries may be attributed to the financial crisis that occurred during the same period. In respect of the Richness dimension, table 6.2 illustrates that the greatest and smallest average values of RICHNESS are 0.6072 and 0.5031 in 2015 and 2006 respectively. According to the findings presented in table 6.2, the average value of combining both WID and DEPTH together in both types of banks listed in MENA countries increased significantly over the study period, suggesting that those banks are disclosing more valuable information voluntarily each year.

Table 6. 2 Descriptive Statistics of the Multidimensional Framework for the Entire Sample Across Years

Dimensions		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
STRQI	Obs	106	106	106	106	106	106	106	106	106	106
	Mean	0.7822	0.7216	0.6643	0.5928	0.6457	0.6183	0.5316	0.5399	0.5221	0.7637
	Median	0.7887	0.7407	0.7782	0.6401	0.7002	0.6951	0.5972	0.6929	0.6846	0.8392
	S.D	0.0858	0.0904	0.2241	0.1418	0.1307	0.1928	0.1462	0.2791	0.2909	0.1302
	Min	0.6015	0.5066	0.1702	0.0458	0.1129	0.1022	0.2573	0.0032	0	0.2624
	Max	1	0.9006	0.8848	0.8528	0.8352	0.8878	0.7399	0.8158	0.8102	0.8625
RICHNESS	Mean	0.5031	0.5101	0.5224	0.5417	0.5532	0.5649	0.5781	0.5901	0.6040	0.6072
	Median	0.4944	0.5091	0.5210	0.5386	0.5480	0.5632	0.5794	0.5921	0.6053	0.6116
	S.D	0.0573	0.0534	0.0545	0.0529	0.0527	0.0550	0.0608	0.0611	0.0635	0.0646
	Min	0.3566	0.3637	0.3710	0.4303	0.4397	0.4406	0.4202	0.4479	0.4485	0.4507
	Max	0.6365	0.6438	0.6599	0.6621	0.6863	0.6932	0.7000	0.7184	0.7230	0.7283
VDQ	Mean	0.5958	0.5739	0.5874	0.5400	0.5696	0.5747	0.5352	0.5751	0.5759	0.6465
	Median	0.5889	0.5696	0.5866	0.5396	0.5689	0.5732	0.5372	0.5817	0.5792	0.6491
	S.D	0.0456	0.0419	0.0308	0.0576	0.0468	0.0493	0.0341	0.0447	0.0455	0.0432
	Min	0.5317	0.5146	0.4714	0.2380	0.2735	0.2726	0.4520	0.2898	0.2902	0.3634
	Max	0.7679	0.7679	0.6940	0.6876	0.7398	0.7339	0.6414	0.6505	0.6502	0.7679

Note: **STRQI**= standardised relative quantity index, **RICHNESS=** is the average value of both WID and depth, **VDQ**= is the voluntary disclosure quality ratio (measured as the average value of both STRQI and RICHNESS).

6.2.3 VDQ for the Entire Sample Across Countries

This section provides an overview of the VDQ and its main dimensions among different MENA countries. The descriptive statistics of the multidimensional framework for the entire sample (IBs and NIBs) across countries is demonstrated in table 6.3. With regards to VDQ, table 6.3 illustrates that the highest mean value of VDQ is 0.6063 in banks listed in Kuwait, with minimum and maximum values of 0.4491 and 0.7679 respectively, whereas the lowest mean value of VDQ is 0.5278 in banks listed in Iraq, with minimum and maximum values of 0.2380 and 0.6665 respectively. This result suggests that banks operating in the Kuwaiti stock market provide more valuable and high quality information compared to those operating in other MENA countries' stock markets. In addition, banks listed in Kuwait stock market, however, have higher VDQ and Iraqi banks have lower VDQ among all banks in the study sample. This result could be attributed to the enhanced corporate governance system that is applied in Kuwait compared to other countries in the MENA region (Baydoun, Maguire, Ryan & Willett, 2012). Whereas, Iraq is in very early stages of economic development with stock markets still at a rudimentary stage and economically vulnerable due to political instability (Barth, Caprio Jr & Levine, 2013; Piesse, Strange & Toonsi, 2012). Additionally, this result could lead the researcher to expect a negative association between EM and VDQ as banks that report high quality information voluntarily are less likely to engage in EM.

Based on the STRQI dimension, table 6.3 shows that the highest mean value of STRQI is 0.8018 in banks listed in Oman with minimum and maximum values of 0.6790 and 0.9314 respectively. The lowest mean value of STRQI is 0.3195 in banks listed in Iran, however, with minimum and maximum values of 0.0032 and 0.6015 respectively. This result may be attributed to the appropriate economic and financial policies employed in

Oman, which enhances the efficiency of the banking sector. Oman and other GCC plan to transform their economies into international financial and trade centres (Al-Musalli & Ismail, 2012; Al-Obaidan, 2008). While, the low mean value of STRQI in Iranian banks may be due to the stock market volatility (Zanjirdar & Kabiribalajadeh, 2011).

According to the RICHNESS dimension, table 6.3 demonstrates that the highest and lowest mean values are 0.6119 and 0.4783 in banks operating in Bahrain and Palestine respectively. This result implies that banks listed in Bahrain stock market are more likely to disclose variety of information voluntarily that match the qualitative characteristics of corporate disclosure suggested by the IFRS compared to other banks listed in different MENA countries. This result could be attributed to that Bahrain is a hub for the financial sector in MENA region. It provides global best-practice standards and a good business environment that makes investors feel more secured by investing in transparent, safe and consistent market (Najjar, 2012).

Table 6. 3 Descriptive Statistics of the Multidimensional Framework for the Entire Sample Across Countries

Countries	Obs	Dimensions	Mean	Median	S.D	Min	Max
Bahrain	130	**STRQI**	0.5635	0.6035	0.2386	0.0319	0.9230
		RICHNESS	0.6119	0.6166	0.0631	0.4766	0.7283
		VDQ	0.5985	0.5902	0.0497	0.4810	0.7679
Egypt	50	**STRQI**	0.6325	0. 6860	0.1876	0.0161	0.8383
		RICHNESS	0.5717	0. 5636	0.0486	0.4771	0.6803
		VDQ	0.5777	0. 5743	0.0348	0.5155	0.6635
Iran	20	**STRQI**	0.3195	0.3321	0.1999	0.0032	0.6015
		RICHNESS	0.5970	0.5818	0.0451	0.5351	0.6803
		VDQ	0.5814	0.5775	0.0416	0.5114	0.6894
Iraq	20	**STRQI**	0.5686	0.6470	0.2363	0.0543	0.8593
		RICHNESS	0.5198	0.5150	0.0377	0.4607	0.5949
		VDQ	0.5278	0.5601	0.1085	0.2380	0.6665
Israel	30	**STRQI**	0.7173	0.6992	0.0695	0.5969	0.8396
		RICHNESS	0.5442	0.5494	0.0499	0.4159	0.6288
		VDQ	0.5597	0.5559	0.0376	0.4924	0.6605
Jordan	120	**STRQI**	0.6954	0.7324	0.1672	0.0595	0.8771
		RICHNESS	0.5423	0.5443	0.0644	0.3566	0.6816
		VDQ	0.5791	0.5768	0.0425	0.4831	0.6715
Kuwait	80	**STRQI**	0.6738	0.7865	0.2418	0	1
		RICHNESS	0.5744	0.5778	0.0662	0.3594	0.7049
		VDQ	0.6063	0.5920	0.0620	0.4491	0.7679
Lebanon	20	**STRQI**	0.5550	0.7198	0.2996	0.0458	0.8450
		RICHNESS	0.4970	0.4974	0.0336	0.4430	0.5465
		VDQ	0.5551	0.5459	0.0476	0.4746	0.6718
Morocco	40	**STRQI**	0.7082	0.6898	0.0707	0.5893	0.8381
		RICHNESS	0.4792	0.4800	0.0282	0.4217	0.5164
		VDQ	0.5937	0.5922	0.0360	0.5169	0.6894
Oman	40	**STRQI**	0.8018	0.7993	0.0602	0.6790	0.9314
		RICHNESS	0.5200	0.5161	0.0263	0.4761	0.5782
		VDQ	0.5582	0.5528	0.0419	0.4686	0.6439
Palestinian	40	**STRQI**	0.7024	0.6846	0.0727	0.5841	0.8371
		RICHNESS	0.4783	0.4779	0.0289	0.4269	0.5369
		VDQ	0.5495	0.5535	0.0349	0.4831	0.6240
Qatar	60	**STRQI**	0.6541	0.6950	0.1738	0.0339	0.8398
		RICHNESS	0.5789	0.5808	0.0583	0.4723	0.6860
		VDQ	0.5864	0.5912	0.0362	0.5006	0.6790
Saudi Arabia	90	**STRQI**	0.5502	0.6361	0.2345	0.0292	0.8398
		RICHNESS	0.5634	0.5683	0.0660	0.4016	0.6945
		VDQ	0.5649	0.5652	0.0379	0.4801	0.6630
Syrian	60	**STRQI**	0.6930	0.6848	0.1104	0.0461	0.8371
		RICHNESS	0.4981	0.4987	0.0404	0.4202	0.5724

Arab Rep		**VDQ**	0.5506	0.5530	0.0407	0.4520	0.6423
Tunisia	70	**STRQI**	0.7230	0.7066	0.0677	0.6039	0.8405
		RICHNESS	0.5058	0.5182	0.0390	0.4227	0.5909
		VDQ	0.5576	0.5548	0.0353	0.4900	0.6623
UAE	180	**STRQI**	0.6330	0.6936	0.1912	0.0305	0.8397
		RICHNESS	0.5972	0.5958	0.0593	0.4277	0.7230
		VDQ	0.5866	0.5850	0.0499	0.2499	0.6917
Yemen	10	**STRQI**	0.3200	0.3325	0.2054	0.0039	0.6020
		RICHNESS	0.5821	0.5867	0.0472	0.5124	0.6526
		VDQ	0.5991	0.6125	0.1221	0.4178	0.7679

Note: **STRQI**= standardised relative quantity index, **RICHNESS=** is the average value of both WID and depth, **VDQ**= is the voluntary disclosure quality ratio (measured as the average value of both **STRQI** and **RICHNESS**).

6.3 VDQ for IBs in Comparison to NIBs

This section concentrate on the VDQ and its dimensions based on the bank type (IBs and NIBs). It provides broader understanding of VDQ in comparison between both IBs and NIBs. Therefore, descriptive statistics and t-test analyses of VDQ for IBs in comparison to NIBs are provided.

6.3.1 The Descriptive Statistics of VDQ for IBs in Comparison to NIBs

The descriptive statistics of the multidimensional framework for IBs in comparison to NIBs is presented in table 6.4. The mean and median values of VDQ in both IBs and NIBs are 0.5878- 0.5793 and 0.5735- 0.5333 respectively. In addition, the maximum values of VDQ in IBs and NIBs are 0.7679 and 0.6917, respectively. Taking the median values of VDQ as a cut-off point, the VDQ in IBs is 5% higher compared to NIBs. This result is consistent with the findings of Nugraheni and Azlan Anuar, (2014), who found that Shari'ah- and non–Shari'ah compliant companies differ significantly concerning their voluntary disclosure quality, and Shari'ah compliant companies are more likely to provide high voluntary disclosure quality compared with its competitors. The high VDQ in IBs may be attributed to that, IBs increased VDQ in an attempt to raise the level of investors' confidence and reduce the asymmetric information gap, as IBs are expected to be more transparent. Therefore, reporting wider variety of information voluntarily that match the qualitative characteristics of corporate disclosure could have been used as a tool to reduce information asymmetry and raise investors' confidence (Nugraheni & Azlan Anuar, 2014).

With regards to the STRQI dimension, table 6.4 shows that the mean value of STRQI in IBs is 49%, whereas, the mean value of STRQI in NIBs is 73%. This result indicates that NIBs are more likely to disclose a greater quantity of information compared to IBs.

In respect to the RICHNESS dimension, table 6.4 documents that the mean values of RICHNESS in IBs and NIBs are 61% and 53% respectively. This result implies that IBs are more likely to disclose valuable information voluntarily compared to NIBs.

Table 6. 4 Descriptive Statistics of the Multidimensional Framework for IBs in comparison to NIBs

	IBs	NIBs	IBs			NIBs		
	Obs		STRQI	RICHNESS	VDQ	STRQI	RICHNESS	VDQ
Mean	290	770	0.4919	0.6111	0.5878	0.7310	0.5373	0.5735
Median	290	770	0.4214	0.6126	0.5793	0.7276	0.5316	0.5333
S.D	290	770	0.2118	0.0615	0.0575	0.0969	0.0584	0.0507
Min	290	770	0	0.3571	0.4178	0.0458	0.3566	0.2380
Max	290	770	0.8646	0.7283	0.7679	1	0.6926	0.6917

Note: STRQI= standardised relative quantity index, RICHNESS= is the average value of both WID and depth, VDQ= is the voluntary disclosure quality ratio (measured as the average value of both STRQI and RICHNESS).

6.3.2 Analyses of VDQ for IBs in Comparison to NIBs

The comparison of multidimensional framework dimensions across years and bank type will be explained in the following section. The present study divided the sample into two separate sub-samples of data with regards to bank types (IBs and NIBs) each year. The t-test is employed in order to investigate whether the mean values of VDQ and each dimension (STRQI and RICHNESS), which are separately included in the multidimensional framework for each year, significantly differ in IBs and NIBs. Table 6.5 illustrates the t-test results of each dimension based on each year and bank type. Furthermore, bar charts of the mean values of each dimension across bank types are provided in order to support the primary results of the t-test (see figures 6.1, 6.2 and 6.3).

Table 6.5 shows that the mean values of VDQ for the entire sample in both IBs and NIBs are 0.5878 and 0.5735 respectively. In addition, the t-test indicates that there is a significant difference at the 1% level. Since the mean values of VDQ in IBs is higher than NIBs, These outcomes imply that IBs and NIBs do not behave in the same manner in terms of VDQ, confirming the second hypothesis that VDQ is greater in IBs than NIBs. Consequently, the current study accepts the second hypothesis (**H2**). These findings are consistent with that reported by Albassam et al., (2017) and Nugraheni and Azlan Anuar, (2014), who found that the quality of voluntary disclosure is statistically and significantly different between Shariah- and non–Shariah compliant firms listed in Saudi and Indonesia stock exchange respectively. Furthermore, Shariah compliant firms are more likely to provide high VDQ compared with its competitors.

This finding could be attributed to that IBs increased VDQ in an attempt to meet the requirements of Islamic accounting in the Islamic perspective of disclosure, which are the full disclosure concept and the concept of social accountability (Haniffa & Hudaib,

2002; Abdulrahman, Anam & Fatima, 2010). Therefore, IBs are expected to be more transparent by reporting relevant, reliable and variety of information voluntarily, which in turn raise the level of investors' confidence and reduce the asymmetric information gap as well as helping managers to fulfil their accountability to society (Haniffa & Hudaib, 2002; Nugraheni & Azlan Anuar, 2014).

With respect to the VDQ during each year, table 6.5 illustrates the t-test result of the difference in mean values of VDQ in both IBs and NIBs during the study period. Although the t-tests during 2006, 2008, 2013 and 2014 demonstrate insignificant difference between IBs and NIBs, the mean values of VDQ in IBs are higher compared to NIBs. On the other hand, during 2007, 2009, 2010, 2011, 2012 and 2015 the mean values of VDQ in IBs are also greater compared to NIBs. In addition, the t-test shows that there is a significant difference in means concerning VDQ during these years, between both IBs and NIBs, at 10%, 5%, 5%, 10%, 10%, 1% levels respectively. This result indicated that VDQ in the banking sector in MENA countries is different based on the bank's type, confirming that IBs are more likely to disclose high quality information voluntarily compared with NIBs.

With respect to the STRQI dimension, table 6.5 documents that the mean values of STRQI in NIBs are higher than those of IBs in every year during the study period. Moreover, the t-test shows that there is a significant difference at the 1% level. As regards to the entire sample, the mean values of STRQI in both IBs and NIBs are 0.4919 and 0.7310 respectively. In addition, the t-test shows that there is a significant difference between IBs and NIBs in terms of STRQI at the 1% level. These results signify that NIBs disclose greater quantity information compared to IBs and behave differently in terms of the quantity of information disclosed.

Regarding the RICHNESS dimension, table 6.5 illustrates that the mean values of RICHNESS in IBs across years and for the entire sample are greater compared to NIBs. In addition, the t-test shows significant differences between IBs and NIBs at the 1% level across years and for the entire sample, suggesting that IBs are disclosing more valuable and reliable information voluntarily compared with NIBs.

Conversely, the bar charts of the mean values of each dimension for the entire sample support the above findings (see figures 6.1, 6.2 and 6.3). For instance, it can be seen that figure 6.1 shows a slight difference between VDQ in both types of banks, and IBs are disclosing high quality information voluntarily compared to NIBs. Figure 6.2 shows that NIBs disclose a greater quantity of information compared to IBs. In addition, RICHNESS dimension confirm the significant difference between IBs and NIBs and that IBs are more likely to disclose varied and reliable information voluntarily compared with their competitors.

Table 6. 5 Univariate Test of Multidimensional Framework Dimensions (Comparison Across Years and Bank Types)

			VDQ			STRQI			RICHNESS		
	Obs		IBs	NIBs	T-test	IBs	NIBs	T-test	IBs	NIBs	T-test
	IBs	NIBs	Mean			Mean			Mean		
2006	29	77	0.6086	0.5909	0.1652	0 .6849	0 .8188	0.01***	0.5487	0.4860	0.01***
2007	29	77	0 .5893	0.5681	0.084*	0.6124	0.7628	0.01***	0.5528	0.4940	0.01***
2008	29	77	0.5924	0.5855	0.4257	0.3207	0.7937	0.01***	0.5730	0.5033	0.01***
2009	29	77	0.5559	0.5341	0.05**	0.4257	0.6557	0.01***	0.5904	0.5233	0.01***
2010	29	77	0.5866	0.5632	0.03**	0.4689	0 .7123	0.01***	0.6026	0.5346	0.01***
2011	29	77	0.5881	0.5700	0.09*	0.3603	0.7155	0.01***	0.6170	0.5453	0.01***
2012	29	77	0.5452	0.5314	0.08*	0.3027	0.6178	0.01***	0.6357	0.5564	0.01***
2013	29	77	0.5752	0.5750	0.9878	0.1663	0.7032	0.01***	0.6474	0.5685	0.01***
2014	29	77	0.5766	5740	0.7890	0.6627	0.6951	0.01***	0.6692	0.5795	0.01***
2015	29	77	0.6638	0.6401	0.01***	0.6627	0.6945	0.01***	0.6682	0.5765	0.01***
Entire sample	290	770	0.5878	0.5735	0.01***	0.4919	0.7310	0.01***	0.6111	0.5373	0.01***

******, **and * indicate the significance of difference at 0.01, 0.05, and 0.10 levels respectively.***

Figure 6. 1 VDQ[34] for IBs in Comparison to NIBs

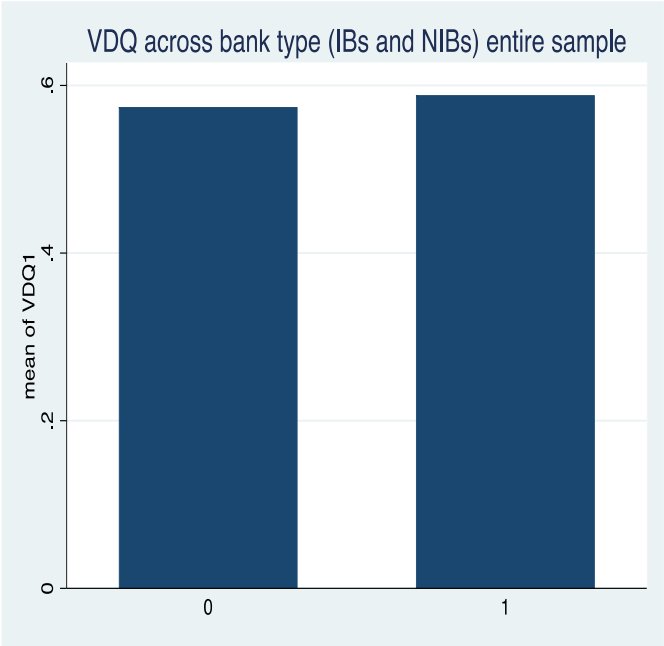
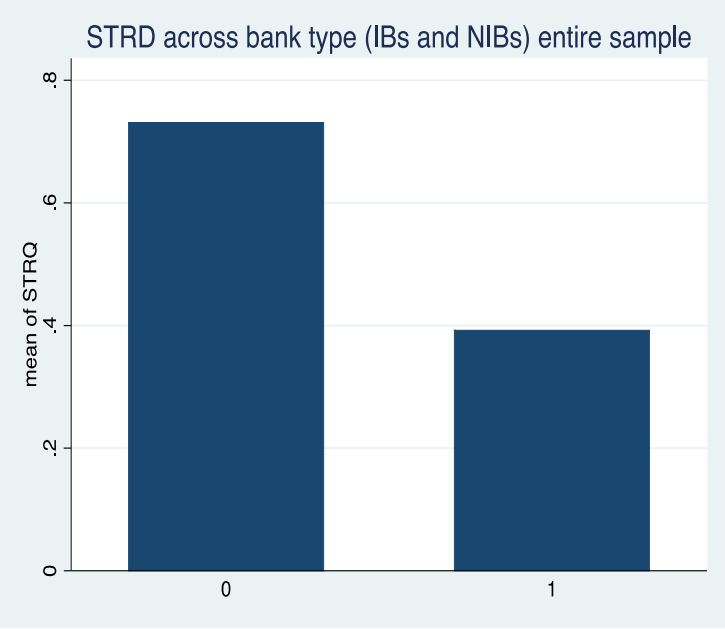


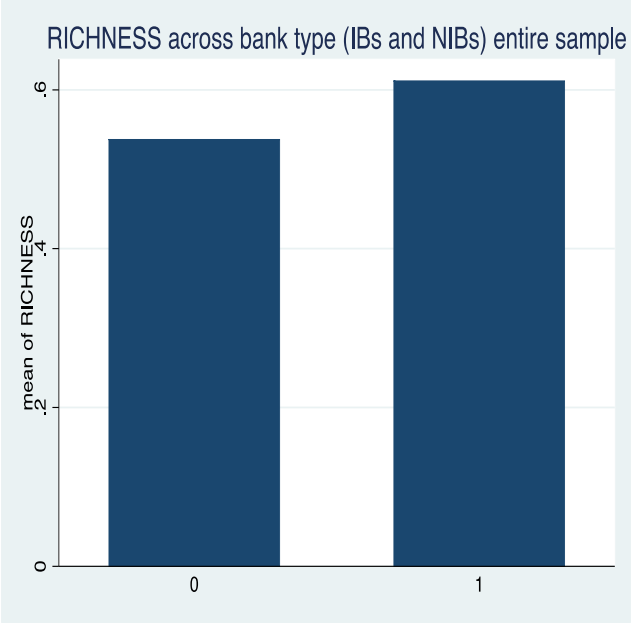
Figure 6. 2 STRD[35] for IBs in comparison to NIBs



[34] **VDQ**: voluntary disclosure quality. **(0 and 1)** A dummy variable that takes the value 1 if the bank is Islamic and 0 if it is Non-Islamic bank.

[35] **STRQI: is** the **quantity dimension**, which provides users with the relative amount of information disclosed voluntarily (how much is disclosed).

Figure 6. 3 RICHNESS[36] for IBs in Comparison to NIBs



[36] **Richness** is the second dimension of the VDQ framework and consists of two sub-dimensions: **width** and **depth**. The **width** of disclosure considers the topics included in the disclosure index for the classification and identification of disclosure items, which offers investors a more general overview of the business alongside its aim to focus on relevant issues. The sub-dimension of **depth** takes into account the information's usefulness to users as defined in the conceptual framework of the IASB (2010). **(0 and 1)** A dummy variable that takes the value 1 if the bank is Islamic and 0 if it is Non-Islamic bank.

6.4 Validity of the Multidimensional Framework

According to IASB, the purpose of VDQ is to provide investors with a better understanding of the information contained in the annual reports (Board, 2010; Council, 2007), and thus reduce information asymmetry problems. Disclosing high quality information raises the company's value and lessens the uncertainty regarding the firm's performance, and thus assists investors to make a better valuation of a firm (Al-Maghzom et al., 2016; Beyer, Cohen, Lys & Walther, 2010; Elzahar, Hussainey, Mazzi & Tsalavoutas, 2015; Leuz & Wysocki, 2008). Several empirical studies have indicated a positive and significant association between high VDQ and capital market reaction on the information disclosed by the company (Cahan, De Villiers, Jeter, Naiker & Van Staden, 2016; Jiao, 2011; Nekhili, Nagati, Chtioui & Rebolledo, 2017). Consequently, the current study argues that information disclosed by both IBs and NIBs is considered to be high quality when it is positively linked to market reaction and vice versa. In order to validate the VDQ framework, the current study investigate the relationship between VDQ and market reaction, after controlling for factors that might affect information disclosure such as size, leverage, profitability, growth and liquidity (Ahmed & Courtis, 1999).

Following prior literature (Battaglia & Gallo, 2015; Sharma, Shebalkov & Yukhanaev, 2016; Zaki, Sholihin & Barokah, 2014), this study employs the market-based value (MBV) as an indicator for market reaction, which is measured by using the aggregate of both Tobin's Q and earnings per-share. The former is measured as the market value of equity to book value of equity, whereas, earnings per-share is measured as net income to outstanding ordinary shares. Consequently, the current study used MBV and VDQ as dependent and independent variables respectively,

while size, leverage, profitability, growth and liquidity are utilised as control variables (Ahmed & Courtis, 1999; Beretta & Bozzolan, 2008).

Before proceeding to examine the association between MBV and VDQ based on panel data analysis, the correlation coefficients matrix test was employed in order to check for the existence of collinearity problems. Tables 6.6 and 6.7 provide the level of correlation in both IBs and NIBs. The highest level of correlation was 36% and 38% between growth and leverage in IBs and NIBs respectively. Based on the argument of Alghamdi and Ali, (2012) and Harris and Raviv, (2008) that the cut-off points of high levels of correlation between the explanatory variables in the correlation coefficients matrix is ±80%. This suggests that there are low correlation coefficients among the independent variables.

Following Samimi et al., (2012) and Usman and Tandelilin, (2014) the current study applied the Chow test in order to compare between pooled and panel regression. The result of the Chow test shows that the F statistics have a high level of significance (F= 0.001 and F=0.001) for both IBs and NIBs respectively, indicating that panel data is more appropriate (see appendices, 6.1 and 6.2). In addition, the Hausman specification test is used to compare between random and fixed effects. The result of the Hausman tests are (Prob > Chi2 = 0.1090 and 0.1029) in IBs and NIBs respectively, confirms that the random effect model is the more appropriate model (see appendices, 6.3 and 6.4).

Table 6.8 provides the results of the relationship between MBV and VDQ in both IBs and NIBs. The R^2 of the model in both IBs and NIBs samples are 0.1809 and 0.1421 respectively, suggesting that 18% and 14% of the variation in the dependent variable is explained by the study's explanatory variables. In addition, table 6.8 shows that the

p-value of the regression model is highly significant at the 1% level. This result indicates that the model has a valid explanatory power and can be compared with EM and VDQ empirical studies (Beretta & Bozzolan, 2008; Pyo & Lee, 2013).

Based on the result reported in table 6.8 the coefficients of VDQ are positively and significantly associated with MBV at 1 % level in both types of banks (IBs and NIBs). This result emphasises that the VDQ assists investors with high quality of information that reduced information asymmetry gap, and thus, increased the company's value and the market react positively to these information. In addition, this result indicates that the characteristics of corporate disclosure that are considered by the developed framework to measure the VDQ are useful and have captured the quality of voluntary disclosure. Therefore, the positive relationship between MBV and VDQ provides an empirical evidence for the validity of the developed framework used in the current study. Furthermore, this finding is in line with those results reported by Beretta and Bozzolan, (2008); Cahan et al., (2016); Jiao, (2011); Nekhili et al., (2017) who found that VDQ has a positive and significant association with capital market reaction.

With regards to the control variables, table 6.8 shows that the coefficient of leverage is negatively and significantly associated with MBV at 1% level in both IBs and NIBs. This finding suggests that capital market react negatively to those banks that have higher leverage as it's linked with greater risk. This result is consistent with Grove et al., (2011). Furthermore, table 6.8 shows that the coefficient of profitability is positively and significantly associated with MBV at 5% level in NIBs, while it has insignificant relationship with IBs.

Table 6. 6 Correlation Matrices Analysis for IBs

	VDQ	Bank-size	Growth	LEVER	PROFT	LIQ
VDQ	1.0000					
Bank-size	0.3215***	1.0000				
Growth	0.0012	0.0018	1.0000			
LEVER	-0.0564	-0.0459	-0.3680***	1.0000		
PROFT	0.0531	-0.0625	-0.0335	-0.0214	1.0000	
LIQ	0.0334	0.0403	0.0612	-0.3713***	-0.1725***	1.0000

VDQ = Quality of voluntary disclosure achieved from multidimensional framework, **Quantity**= the level of voluntary disclosure, **BANK-SIZE=** is measured by the Logarithm of total assets at the year-end, **GROWTH=** is measured as the change of total assets divided by the lagged of total assets. **LEVER=** Leverage is measured by total liabilities to total assets at the end of the financial year,, **PROFIT=** Profitability as measured by net Income divided by lagged total Assets, **LIQ=** Bank Liquidity as measured by current assets divided by current liabilities at the end of the financial year.

Table 6. 7 Correlation Matrices Analysis for NIBs

	VDQ	Bank-size	Growth	LEVER	PROFT	LIQ
VDQ	1.0000					
Bank-size	0.3304***	1.0000				
Growth	0.1087***	0.1005***	1.0000			
LEVER	-0.1123***	-0.0193	-0.3881***	1.0000		
PROFT	-0.1595***	0.0183	-0.0483	0.0017	1.0000	
LIQ	0.0405	-0.0349	0.0087	-0.0705	-0.0494	1.0000

VDQ = Quality of voluntary disclosure achieved from multidimensional framework, **Quantity**= the level of voluntary disclosure, **BANK-SIZE=** is measured by the Logarithm of total assets at the year-end, **GROWTH=** is measured as the change of total assets divided by the lagged of total assets. **LEVER=** Leverage is measured by total liabilities to total assets at the end of the financial year,, **PROFIT=** Profitability as measured by net Income divided by lagged total Assets, **LIQ=** Bank Liquidity is measured by current assets divided by current liabilities at the end of the financial year.

Table 6. 8 Results of Panel Data Regression for the Relationship Between VDQ and MBV for both IBs and NIBs

	IBs				NIBs			
MBV	Obs	Coef.	Z	P>|z|	Obs	Coef.	Z	P>|z|
VDQ	290	12.1057	3.00	0.003***	770	31.7785	3.44	0.001***
Bank-Size	290	-0.1599	-1.10	0.271	770	-0.0755	-0.66	0.508
Growth	290	-3.8743	-1.11	0.268	770	-9.8894	-1.41	0.159
LEVER	290	-8.5203	-2.40	0.017***	770	-24.8852	-2.92	0.003***
PROFT	290	4.7197	0.74	0.357	770	2.8111	2.04	0.041**
LIQ	290	-0.0317	-0.50	0.620	770	-0.1552	-0.62	0.537
_Cons	290	6.8455	2.37	0.001	770	3.9541	2.40	0.002
Random-effect GLS regression, R^2: 0.1809, Prob > Chi2: 0.0001					Random-effect GLS regression, R^2: 0.1421, Prob > Chi2: 0.0001			

*****, **and * indicate the significance of coefficient at 0.01, 0.05, and 0.10 levels respectively.**

MBV= market-based value is an indicator for market reaction, which is measured by using the aggregate of both Tobin's Q and earnings per-share. **VDQ** = Quality of voluntary disclosure achieved from multidimensional framework, **BANK-SIZE=** is measured by the Logarithm of total assets at the year-end, **GROWTH=** is measured as the change of total assets divided by the lagged of total assets. **LEVER=** Leverage is measured by total liabilities to total assets at the end of the financial year,, **PROFIT=** Profitability as measured by net Income divided by lagged total Assets, **LIQ=** Bank Liquidity as measured by current assets divided by current liabilities at the end of the financial year.

6.5 Summary of the Chapter

This chapter seeks to measure VDQ in both types of banks (IBs and NIBs) in MENA countries by developing a multidimensional framework. It also aims to examine whether the VDQ differs significantly between IBs and NIBs. This chapter provides a descriptive analysis of the multidimensional framework for the entire sample, across years and across countries, for 106 banks listed in MENA countries over a 10- year period, from 2006 to 2015. Based on the descriptive analysis for the entire sample, it illustrates that the mean value of VDQ is 0.5774. Moreover, the descriptive analysis across years indicates that the highest and lowest mean values of VDQ are 0.6465 and 0.5352 in 2015 and 2012 respectively. Furthermore, comparing VDQ across countries, banks listed in Kuwait stock market reported the highest mean value of VDQ while banks listed in Iraq stock market reported the lowest mean value of VDQ. These findings are in line with agency, signalling and stakeholders theories, suggesting that VDQ is the most appropriate solution for decreasing or avoiding an asymmetric information issue.

Based on the descriptive statistics of the multidimensional framework for IBs in comparison to NIBs, the descriptive analysis shows that the median values of VDQ (as a cut-off point) in IBs is 5% higher compared to NIBs, signifying that IBs are more likely to disclose high quality information compared with NIBs. In addition, the univariate analyses (t-test) of VDQ for IBs in comparison to NIBs, the result indicates a significant difference between IBs and NIBs, and the mean values of VDQ in IBs overwhelms those of VDQ in NIBs during 2007, 2009, 2010, 2011, 2012 and 2015. In years 2006, 2008, 2013 and 2014, however, the t-test shows an insignificant difference between IBs and NIBs with regards to VDQ. Although, the t-test provides mixed

results on the difference in VDQ of IBs and NIBs based on years, the full sample confirms that the mean value of VDQ in IBs is higher than NIBs. Furthermore, the t-test shows a significant difference at the 1% level, indicating that VDQ in the banking sector in MENA countries is different based on the bank's type, and it confirms that IBs are more likely to disclose high quality information voluntarily compared with NIBs. In addition, this chapter examines the validity of the multidimensional framework by examining the relationship between VDQ and market reaction. The regression result shows a positive relationship between the quality of disclosure (VDQ) and MBV. This suggests that the dimensions that considered by the multidimensional framework to measure the quality are useful and the framework has captured the quality of the information disclosed voluntarily.

Chapter Seven: Empirical Analysis (The Relationship between Earnings Management and Voluntary Disclosure Quality)

Data Analysis and Discussion

7.1 Introduction

This chapter seeks to answer the third question of this study, namely, "what is the relationship between EM and VDQ in IBs and NIBs listed in MENA countries?" The current study developed a multidimensional approach to measure the VDQ, while the two-stage model was employed to measure EM. The regression results show a negative relationship between EM and VDQ in both IBs and NIBs. This negative association was confirmed through robustness analysis in which EM that obtained from Jones model modified for banking institutions was used as dependent variable to assess the validity of the key findings. Furthermore, the results of the additional analysis have supported this negative influence of VDQ on EM. This chapter is organised as follows: section 7.2 provides the descriptive statistics. Section 7.3 presents the multicollinearity results. Section 7.4 shows the results of panel data regression. Sections 7.5 and 7.6 present the robustness analysis and the additional analyses respectively. Section 7.7 reports the results of the endogeneity check while section 7.8 provides the summary of this chapter.

7.2 Descriptive Statistics

Table 7.1 provides summary statistics for all study variables observed from 2006 to 2015. The EMLLP that obtained from the two-stage model is used as dependent

variable. The independent variable is the VDQ, whereas, corporate governance variables and bank characteristics were employed as control variables. With respect to dependent (EMLLPs) and independent variables (VDQ), please refer to chapters five and six as they provide in-depth explanations of their descriptive statistics (see chapter five, section 5.5 and chapter six, section 6.5).

Table 7.1 illustrates that the independence of the board of directors (IBD), board of directors' expertise (BDEX), duality of board of directors (DU), board gender diversity (BGD) and board size (BZ) in both IBs and NIBs have mean values of 0.4678 and 0.2225; 0.9166 and 0.7142; 0.1275 and 0.2467; 0.0083 and 0.1670; 9.1827 and 8.9467 respectively. These results imply that the proportions of IBD, BDEX and the average value of BZ in IBs are higher than NIBs, whereas, the average values of DU and BGD in IBs are lower compared to NIBs. This suggest that the board members in IBs are more experts, independent, and are less likely to hold more than one position with low rate of gender diversity compared to NIBs. These findings are consistent with those of Mollah et al., (2017) and Wasiuzzaman and Nair Gunasegavan, (2013) who found that the average values of IBD, BDEX and BZ are higher for IBs than for NIBs, while, DU and BGD are lower in IBs compared with NIBs. In addition, the board meetings (BM) in both IBs and NIBs have mean values of 5.3448 and 4.4766 respectively, signifying that the directors on the board of IBs meet more frequently compared to NIBs. These results are in line with those of Ishak and Al-Ebel, (2013), who found that the average value of BM over 137 banks in GCC is 5.4.

Furthermore, these results are in line with corporate governance codes that are applied in MENA countries. For instance, one-third of the board of directors should be independent, the roles of chairman and CEO should be separated, board size should

not exceed 16 members and there should not be less than 4 meetings a year (Shehata, 2015).

In the case of audit committee variables, table 7.1 shows that the independence of the audit committee (IAC) and audit committee expertise (ACEX) in both IBs and NIBs have mean values of 0.8451 and 0.3571: 0.7172 and 0.4805 respectively. These results signify that the audit committee members in IBs are more experts and independent compared to NIBs. These findings are consistent with Li et al., (2012), who found that the average value of IAC is about 84%.

Furthermore, the audit committee size (ACZ), audit committee meetings (ACM) and audit committee gender diversity (ACG) in both IBs and NIBs have an average values of 3.0586 and 3.0571; 4.6413 and 4.5298; 0.0068 and 0.0075 respectively. This implies that both types of banks have almost the same size, number of meetings and proportion of females in the audit committee. These findings are quite similar to the results reported by Inaam and Khamoussi, (2016); Soliman and Ragab, (2014) and D'Amato and Gallo, (2016) who found that the mean values of ACZ, ACM and ACG are 3, 4.94 and 0.05 respectively. In addition, these results are consistent with the corporate governance codes that are adopted in MENA countries. For instance, the composition of audit committees should be at least three members, and the majority of the audit committee should be independent, financially expert and meet at least four times a year (Shehata, 2015).

Table 7.1 shows that the audit firm (Big4) in both IBs and NIBs has a mean value of 0.7551 and 0.5103 respectively. These results signify that IBs are more likely to be audited by one of the BIG4 audit firms compared to NIBs. These findings are consistent with Pillai and Al-Malkawi, (2017), who found that the average value of Big4 is 76%.

The managerial ownership (MOS) in IBs and NIBs has average values of 0.0598 and 0.0381 with maximum values of 0.4998 and 0.8590 respectively. This result is consistent with that reported by Forssbaeck, (2011) who found that the mean value of managerial ownership of 331 banks from different regions from 1995 to 2005 is 3.6%. On the other hand, this finding implies that managerial ownership in both IBs and NIBs in MENA countries is very low compared with those reported by Bokpin, (2013), who found that the mean value of managerial ownership in 26 listed banks in Ghana is 14%. The ownership concentration (BH) in IBs and NIBs has mean values of 0.2692 and 0.3076 with a large rate of dispersion. This result implies a low level of ownership concentration compared to the result of Bouvatier et al., (2014) who found that the average value of ownership concentration in 873 European commercial banks is 56.08%.

In terms of the banks' characteristics, bank size, growth, leverage, profitability and liquidity in IBs have mean values of 9.9402, 0.1805, 0.0224, 0.8148 and 2.0739 with maximum values of 32.082, 0.9275, 0.5309, 0.8909 and 87.5589 respectively. In comparison, the average values of bank size, growth, leverage, profitability and liquidity in NIBs have mean values of 6.8124, 0.1337, 0.3677, 0.6020 and 1.2032 with maximum values of 32.082, 0.6298, 2.125 and 45.201 respectively. These results imply that the mean values of bank size, growth, profitability and liquidity in IBs are higher than those of NIBs, while the mean value of leverage in IBs is lower than those for NIBs.

Table 7. 1 Descriptive Statistics of IBs and NIBs

Variables	IBs						NIBs					
	Obs	Mean	Median	S.D	Min	Max	Obs	Mean	Median	S.D	Min	Max
Dependent Variable												
EMLLP	290	0.0938	0.1030	0.0387	0.0117	0.5939	770	0.1181	0.1023	0.1500	0.0004	0.9970
Explanatory variables												
VDQ	290	0.5878	0.5793	0.0575	0.4178	0.7679	770	0.5735	0.5333	0.0507	0.2380	0.6917
IBD	290	0.4678	0.5000	0.2169	0	0.9090	770	0.2225	0.1818	0.2532	0	.9090
BZ	290	9.1827	9	2.3932	3	16	770	8.9467	10	3.1256	0	16
BDEX	290	0.9166	0.4545	0.1913	0.3333	1	770	0.7142	0.3340	0.4495	0.2857	0.9090
DU	290	0.1275	0	0.3342	0	1	770	0.2467	0	0.4314	0	1
BGD	290	0.0083	0	0.0270	0	0.1250	770	0.1670	0	0.0383	0	0.3333
BM	290	5.3448	6	1.6150	2	10	770	4.4766	4	2.5325	2	11
IAC	290	0.8451	1	0.3329	0	1	770	0.3571	0.3300	0.3786	0	1
ACZ	290	3.0586	3	0.4991	2	5	770	3.0571	3	1.0694	2	6
ACM	290	4.6413	4	0.8333	4	9	770	4.5298	4	1.0877	4	11
ACEX	290	0.7172	0.5212	0.4511	0.3333	1	770	0.4805	0.3906	0.4999	0.3333	1
BIG 4	290	0.7551	1	0.4307	0	1	770	0.5103	1	0.5002	0	1
ACG	290	0.0086	0	0.0456	0	0.2500	770	0.0075	0	0.0420	0	0.3333
MOS	290	0.0598	0	0.1069	0	0.4998	770	0.0381	0	0.1310	0	0.8590
BH	290	0.2692	0.1830	0.2847	0.0001	0.934	770	0.3076	0.2185	0.3254	6.68e07	0.9838
BANK- SIZE	290	9.9402	7.1740	8.7464	0.0003	32.0828	770	6.8124	3.2296	7.5624	0.0053	32.8636
GROWTH	290	0.1805	0.1374	0.1544	0.0050	0.9275	770	0.1337	0.1226	0.0811	0.0001	0.9120
LEVER	290	0.0224	0.0143	0.0648	-0.4435	0.5309	770	0.3677	0.3788	0.0843	0	0.6298
PROFIT	290	0.8148	0.8746	0.2026	-0.4179	0.8909	770	0.6020	0.6202	0.4586	-0.0031	2.125
LIQ	290	2.0739	1.1413	7.3137	-2.3924	87.5589	770	1.2032	1.1360	1.6157	0	45.201

Note: ***Dependent variable****:* **EMLLP**= Discretionary accruals gained from Two-stage model, ***Independent variables:*** **VDQ** = Quality of voluntary disclosure score, **IBD**= Independence Board of Directors as measured by the ratio of independent non-executive directors number to the total number of board members, **BZ=** Board Size as measured by the number of board members on the board, **BDEX=** Board of director's expertise measured as the proportion of experienced board members on the board, **DU=** Duality A dummy variable that takes the value 1 if the Chief executive officer is holding two roles, **BGD=** Board Gender Diversity measures as a percentage of female on the board of directors, **BM=**Board Meeting as measured by the number of board meetings held in the financial year, **IAC=** Independence of Audit Committee as measured by the ratio of independent non-executive directors to total number of audit committee, **ACZ=** Audit committee size as measured by the number of audit committee members, **ACM=** Audit committee meetings as measured by the number of board meetings held in the financial year, **ACEX=** Audit committee expertise measured as proportion of experienced audit members on the audit committee, **BIG4=** a dummy variable that takes the value of 1 if the bank is audited by Big 4 and 0 otherwise, **ACG=** Audit committee gender diversity measures as a percentage of female on the audit committee, **MOS=** Managerial Ownership as measured by the number of shares held by managers to total number of outstanding shares, **BH=** Block holders as measured by the ratio of outside stockholders owning 5% or more of outstanding shares within the bank, **BANK-SIZE=** is measured by the Logarithm of total assets at the year end, **GROWTH=** is measured as the change of total assets divided by the lagged of total assets. **LEVER=** Leverage is measured by total liabilities to total assets at the end of the financial year, **PROFIT=** Profitability as measured by net Income divided by lagged total Assets, **LIQ=** Bank Liquidity as measured by current assets divided by current liabilities at the end of the financial year.

7.3 Multicollinearity

The collinearity issue exists when there is a strong linear relationship between two or more independent variables leading to problems in estimating the regression coefficients (Alghamdi and Ali, 2012). Multicollinearity can cause several issues, such as a bias in the result or an increase in the standard error and variance, which may affect the significance, reliability, and stability of the model (Studenmund, 2005). In order to check for the existence of collinearity problems, the current study used two statistical tests, which are the correlation coefficients matrix and the variance inflation factor (VIF). Following Alghamdi and Ali (2012); Gujarati (2008) and Harris and Raviv (2008), the cut-off points of high levels of correlation between the explanatory variables in the correlation coefficients matrix and variance inflation factor are ±80% and VIF value of 10 respectively.

Tables 7.2, 7.3 and 7.4 provide the level of correlation and values of VIF as well as the tolerance values in IBs and NIBs. It can be seen that there are low correlation coefficients among the independent variables, except the correlation coefficients between ACEX and BIG4. Tables 7.2 and 7.3 show that the correlation matrix, which is indicated that there is highly significant correlation between ACEX and BIG4, at the level of 0.8890 and 0.8848 in IBs and NIBs respectively. In addition, table 7.4 shows that ACEX has the highest degree of collinearity compared with other explanatory variables, at 6.28 and 5.63, with a very low tolerance value of 0.1592 and 0.1776 in both IBs and NIBs respectively. The multicollinearity issue between ACEX and BIG4 may inflate standard errors and hence cause some variables statistically insignificant and vice versa. Following Studenmund (2005), and Gujarati (2009), this study omitted the variable that has a high level of correlation and a low level of tolerance with a less significant relationship with the

dependent variable in order to avoid the multicollinearity problem. Thus, the current study omitted the ACEX variable, since the regression result shows that ACEX is insignificant compared with BIG4. Having defined and solved the issue of high correlation between ACEX and BIG4, the multicollinearity problem no longer exists between the study variables.

Table 7. 2 Correlation Matrices Analysis for IBs

	VDQ	IBD	BZ	BDEX	DU	BGD	BM	IAC	ACZ	ACM	ACEX	Big4	ACG	MOS	BH	Bank-size	Growth	LEVER	PROFIT	LIQ
VDQ	1.0000																			
IBD	-0.0078	1.0000																		
BZ	-0.1360*	0.1034	1.0000																	
BDEX	-0.0087	0.3493**	0.4156***	1.0000																
DU	-0.0326	0.2104**	0.1677*	0.4110*	1.0000															
BGD	-0.0125	0.2139*	0.2539***	-0.0009	0.1200**	1.0000														
BM	-0.2097	0.3664***	0.3080***	0.3532***	0.1957**	0.0077	1.0000													
IAC	-0.0270	0.6744***	0.3941***	0.4326***	0.3194**	0.1099	0.4385***	1.0000												
ACZ	-0.1135	0.3370***	0.4226***	0.3494***	0.3769**	0.3507	0.2391**	0.4650***	1.0000											
ACM	-0.1696*	0.1483*	0.1041*	0.1097	0.1333	-0.1259	0.3109***	0.1829**	0.2337***	1.0000										
ACEX	0.2094*	0.0098	-0.0930	0.0357	0.0353	0.1702***	0.0437	-0.1216*	0.0892	-0.0129	1.0000									
Big4	0.2041***	0.0262	-0.0102	0.0129	0.0707	0.1787***	0.0369	-0.0783	0.0831	-0.0334	**0.8890**	1.0000								
ACG	0.0320	0.0834	0.0963	0.0375	0.0723	0.6022***	-0.0983	0.0880	0.3570***	-0.0775	0.1187*	0.1076	1.0000							
MOS	-0.0419	0.2069***	0.1372**	0.0332	-0.0769	-0.0423	-0.1584***	0.1153*	0.1741***	0.0010	0.0321	0.0341	0.0250	1.0000						
BH	-0.0581	0.1146	0.3597***	0.1380**	0.0819	0.2255***	-0.0298	0.3072	0.3537***	0.0068	-0.1174*	0.0227	0.1687***	0.3371***	1.0000					
Bank-size	0.2784***	-0.0899	-0.1906***	0.0643	-0.0106	0.2172***	-0.2043***	-0.1419*	-0.0278	-0.1444*	0.3265***	0.2674***	0.2188**	-0.1219*	-0.1617***	1.0000				
Growth	-0.0101	-0.0693	-0.0208	-0.0381	0.1038	-0.0664	0.2116***	-0.0437	-0.0394	-0.0881	0.2299***	0.2258***	-0.1502*	-0.0285	-0.1573***	-0.0134	1.0000			
LEVER	-0.0229	-0.0852	0.0029	-0.1543***	-0.0050	0.0074	-0.2020***	-0.0774	-0.0453	-0.1012	-0.1844***	-0.1585***	-0.0270	-0.0614	-0.0109	-0.0071	0.0452	1.0000		
PROFIT	0.0146	0.0002	-0.0543	-0.0210	-0.1027	0.0381	-0.0653	0.0555	-0.0539	-0.1039	-0.2462***	-0.1844**	0.1187*	-0.4104***	0.0440	-0.0383	-0.3540***	-0.0628	1.0000	
LIQ	0.0341	0.1386***	0.0071	0.0224	0.0475	-0.0326	0.0179	0.0462	0.0001	0.1175*	0.0779	0.0699	-0.0262	0.3166***	-0.0087	0.0401	0.0606	-0.1423**	-0.4704***	1.0000

******, **and * indicate the significance of coefficient at 0.01, 0.05, and 0.10 levels respectively.***

Table 7. 3 Correlation Matrices Analysis for NIBs

	VDQ	IBD	BZ	BDEX	DU	BGD	BM	IAC	ACZ	ACM	ACEX	Big4	ACG	MOS	BH	Bank-size	Growth	LEVER	PROFIT	LIQ
VDQ	1.0000																			
IBD	0.1325***	1.0000																		
BZ	0.0163	0.3235***	1.0000																	
BDEX	0.1951***	0.4563**	0.5881***	1.0000																
DU	0.0923*	0.3264***	0.5091***	0.5948***	1.0000															
BGD	0.0192	0.0774*	0.2962***	0.2714***	0.1118	1.0000														
BM	0.2448***	0.4772***	0.4082***	0.5551***	0.3494**	0.0530	1.0000													
IAC	0.2389***	0.6296**	0.3417*	0.5104***	0.3182***	0.1764***	0.4890**	1.0000												
ACZ	0.1278**	0.4407***	0.4549***	0.4526***	0.2025***	0.1742**	0.5435***	0.4171***	1.0000											
ACM	0.1847***	0.3652**	0.1265**	0.2964***	0.1321***	0.0504	0.4855*	0.3653***	0.3674**	1.0000										
ACEX	0.3520**	0.1508***	-0.2599***	-0.0128	-0.0283	-0.2221	0.1085***	0.0670	0.0823*	0.1744***	1.0000									
Big4	0.3248***	0.1696**	-0.1914***	0.0188	-0.0423	-0.2151***	0.1588***	0.0891*	0.1545***	0.1691***	**0.8848****	1.0000								
ACG	0.0929*	0.2338**	0.2080	0.1167	-0.0598	0.2935	0.1409***	0.1817***	0.3062***	0.0544	0.0505	0.1256***	1.0000							
MOS	0.0665	0.0928*	0.2164	0.0787	0.1161	-0.0791	0.1725***	0.1609***	-0.0323	0.1162	-0.2408***	-0.2290***	0.0076	1.0000						
BH	0.0826	0.3155***	0.2231	0.3031	0.1536	-0.0602	0.3903***	0.2502**	0.3982***	0.1512***	0.0079	0.0406	-0.0191	0.0017	1.0000					
Bank-size	0.4304**	0.1393	0.0543	0.2168	0.1531***	0.0275	0.2685	0.1289***	0.1095*	0.2073***	0.3040***	0.2395***	0.1331***	0.1069*	0.0672	1.0000				
Growth	0.1063*	-0.0456	-0.1955***	-0.0460	-0.0580	-0.0962**	0.0424	0.0141	-0.0605	-0.0021	0.2855***	0.3070***	-0.0085	-0.0672	0.0236	0.0937**	1.0000			
LEVER	-0.0977***	0.0508	0.2178***	0.0867	0.0694	0.1019	-0.0074	0.0023	0.0789*	0.0116***	-0.2771***	-0.2495	0.0048**	0.0667	-0.0125	0.0286	-0.6746	1.0000		
PROFI	-0.1552**	-0.0130	0.1647**	0.0724*	0.0420	0.0713*	-0.0509	0.0254	-0.0392*	-0.0798	-0.1884***	-0.2370***	-0.0243	0.1187	0.0798	0.0208	-0.0494***	0.0484	1.0000	
LIQ	0.0710*	-0.0289	-0.0823**	-0.0527	-0.0613	-0.0158	-0.0272	-0.0242	-0.0392	-0.0175	0.0023	-0.0046	-0.0061	-0.0139	-0.0286	-0.0269	0.0088	-0.4618***	-0.0528	1.0000

******, **and * indicate the significance of coefficient at 0.01, 0.05, and 0.10 levels respectively.***

Table 7. 4 VIF Analyses for all Study Variables in IBs and NIBs

	IBs (Obs 290)		NIBs (Obs 770)	
Variables	**VIF**	**1/ VIF**	**VIF**	**1/ VIF**
ACEX	**6.28**	0.1592	**5.63**	0.1776
Big4	5.74	0.1742	5.30	0.1888
IAC	2.99	0.3349	2.05	0.4875
IBD	2.89	0.3465	2.04	0.4901
BGD	2.43	0.4118	1.39	0.7168
BZ	2.17	0.4598	2.32	0.4044
PROFT	2.07	0.4840	3.26	0.3071
ACZ	2.03	0.4930	2.05	0.4879
BM	2.02	0.4959	2.27	0.4409
MOS	2.00	0.4992	1.31	0.7660
BDEX	1.99	0.5026	2.58	0.3883
ACG	1.85	0.5419	1.38	0.7225
BH	1.73	0.5794	1.39	0.7201
DU	1.50	0.6656	1.85	0.5412
Bank-size	1.50	0.6668	1.49	0.6704
LIQ	1.45	0.6897	1.68	0.5940
Growth	1.41	0.7071	2.51	0.3977
ACM	1.31	0.7628	1.49	0.6729
LEVER	1.22	0.8216	1.15	0.8660
VDQ	1.21	0.8236	1.46	0.6843
Mean VIF	2.29			2.30

7.4 Multivariate Analysis

This section illustrates the multiple regression analysis in order to achieve the third objective. Before proceeding to examine the association between EM and VDQ based on panel data analysis, several procedures and specification tests should be performed in order to ensure the regression model fits the data. Firstly, the question of whether pooled data or panel data regression is suitable for the current study sample. Following Beck, (2001); Samimi et al., (2012); and Usman and Tandelilin (2014) the current study applied the Chow test in order to compare between pooled and panel regression. The result of the Chow test shows that the F statistics have a high level of significance (F= 0.0001 and F=0.0001) for both IBs and NIBs respectively, indicating that panel data is more appropriate (see appendices, 7.1 and 7.2).

Secondly, the Hausman specification test is used to compare between random and fixed effects. The result of the Hausman tests are (Prob > Chi2 = 0.6290 and 0.6261) in IBs and NIBs respectively, confirms that the random effect model is the more appropriate model for the current study (see appendices, 7.3 and 7.4). Thirdly, the modified Wald test is used in order to examine the heteroscedasticity in the study's model. The result shows that there is no heteroscedasticity (P-Value=0.1507 and 0.2136) in the model used in the current study (see appendices, 7.5 and 7.6). Fourthly, a histogram test is employed in order to check the normality issues. This test provides a frequency distribution of the current study variable, which is considered as a technique for constructing an estimate of an unobservable underlying probability density function (Field, 2013; Liu & Shell, 2012). The histogram test shows that the population of the current study sample is normally distributed (see appendices 7.7 and 7.8). Finally, the Quantile-Quantile (Q-Q plot) test is used to examine the linearity problem. The Q-Q plot provides a graph that plots the quantiles of the study variable against the quantiles

of the particular distribution (Field, 2012). The Q-Q plot test indicates that the relationship between the explanatory (VDQ, CG and bank's characteristics) variables and the dependent variable (EM) are linear.

Table 7.5 provides the results of the random effects regression analysis for the model used in this study. The R^2 of the model in both the IBs and NIBs samples are 0.3428 and 0.1848 respectively, suggesting that 34% and 18% of the variation in the dependent variable is explained by the study's explanatory variables. Although the R^2 of the model in NIBs sample is low, it is typical in the EM (Jenkins & Velury, 2008; Meek et al., 2007; O'Hanlon et al., 1992; Riahi & Mounira, 2011; Shin & Wang, 2012; Yu et al., 2010). Table 7.5 shows that the p-value of the regression model is highly significant at the 1% level. This result indicates that the model has a valid explanatory power and can be compared with EM and VDQ empirical studies (Pyo & Lee, 2013; Riahi & Mounira, 2011; Sun & Rath, 2010; Sun et al., 2010; Yip et al., 2011).

Based on the result reported in table 7.5, the coefficients of VDQ are negatively and significantly associated with EM at 1 % level in both types of banks. This result emphasises that IBs and NIBs in MENA countries with higher VDQ, report lower levels of EM, which supports the third hypothesis and suggests that there is a negative relationship between VDQ and EM. This finding is consistent with Lobo and Zhou (2001), Sanjaya and Young (2012), and Kurniawan (2013) who found that companies with a high quality of voluntary disclosure are less engaged in EM. Thus, the current study accepts the third hypothesis (**H3)**.

The findings are in line with the long-term perspective, suggesting that banks provide high VDQ in order to reduce asymmetric information and boost the confidence of owners about the company's current and future performance (Uyar et al., 2013). The findings are also consistent with the agency and signalling theories, which suggest a

negative association between VDQ and EM. Both theories suggest that EM is a form of agency cost because it causes information asymmetry and accept voluntary disclosure as the most appropriate solution for decreasing information asymmetry (Davidson et al., 2004; Huang & Zhang, 2011).

Table 7.5 shows that the independence of audit committee (IAC) is significant at 10% level and is negatively associated with EM in IBs. This outcome implies that IBs are likely to report lower EM since they have a high ratio of independent members in the audit committee. This finding is in line with Klein (2002); Choi et al., (2004); and Inaam and Khamoussi (2016), who indicated that the level of EM declines with the independence of the audit committee. Generally, this result suggests that IAC in IBs has a considerably negative effect on EM, whereas IAC has insignificant influence on EM in NIBs. The coefficient of audit firms (BIG4) has a negative and significant relationship with EM at 1% and 10% levels in both IBs and NIBs respectively. These findings indicate that both types of banks that are audited by Big 4 companies are less likely to engage in EM practices. This result is in line with Francis et al., (1999); Lin et al., (2006); Lin and Hwang (2010); and Kanagaretnam et al., (2010), who found that the use of big audit firms (Big4) is linked with low EM behaviour.

With regards to the ownership structure, the coefficient of blockholders (BH) is negatively and significantly associated with EM at 1% level in NIBs while it has an insignificant association with EM in IBs. This result highlights that NIBs with a higher ratio of BH report lower levels of EM, and suggests that BH who own at least 5% of the firm's shares and do not serve as director or CEO are vital in reducing managers' opportunistic behaviour (Shleifer & Vishny, 1997). This outcome is in line with Klein (2002), and Ding and Zhang (2007), who found a negative and significant association between BH and EM practices.

In terms of bank characteristic variables, the coefficient of bank size is significant at 1% and 10% levels and is negatively related to EM in both IBs and NIBs respectively. The results reported by both types of banks are consistent with the suggestion of Hagerman and Zmijeski (1979), that larger banks are less likely to engage in EM compared to small banks, due to increase in regulators' monitoring procedures and their focus on any potential issue that may arise with regards to EM practices. A similar argument is made by Xie et al., (2003); Hong and Andersen (2011); Leventis, et al., (2011); Shu and Chiang, (2014) and Abdelsalam et al., (2016) who indicated that large banks employ better monitoring mechanisms because they may be operating in a business environment that is subject to high scrutiny, which thus reduces their opportunities to engage in EM compared to small banks.

Concerning bank growth, the coefficients of growth have a negative and significant association with EM at 5% and 1% levels in both IBs and NIBs respectively. This outcome implies that banks with high growth opportunities are more likely to report lower EM, because they experience increased monitoring, which decreases their likelihood of engaging in EM (Cornett et al., 2009). This result is in line with He, Wong and Young (2012), and Bova (2013), who found that high growth firms are less likely to engage in EM practices compared to low growth firms.

With regards to bank profitability, table 7.5 illustrates that the coefficient of profitability has a negative and significant association with EM at 10% level in NIBs while it has an insignificant relationship with EM in IBs. This result implies that NIBs with low profitability are more likely to engage in EM, and supports other EM studies, which reported that there is a negative and significant relationship between profitability and EM (Bekiris & Doukakis, 2011; Waweru & Riro, 2013).

The coefficient of liquidity (LIQ) is negatively and significantly correlated with EM at 1% level in IBs, whereas it has an insignificant association with EM in NIBs. This result indicates that IBs in MENA countries with a high liquidity ratio (LIQ) are likely to report less EM. This finding is consistent with LaFond et al., (2007) and Ascioglu et al., (2012), who found evidence that companies with greater levels of EM are mostly those with a lower liquidity ratio.

In comparison, the coefficients of all board of directors' variables, ACZ, ACM, ACG, MOS and LEVER are statistically insignificant with EM. These findings indicate that those variables have no influence on EM either in IBs or NIBs. The coefficients of both BDEX and DU are consistent with Marrakchi et al., (2001); Xie et al., (2003); Abdul Rahman et al., (2006) and Sun et al., (2011), who suggests that CEO duality and directors' expertise are unrelated to EM. The coefficients of both BGD and ACG are similar to the findings of Sun et al., (2011), who reported that gender differences have no relationship with EM. The insignificant coefficient of ACZ with EM is in line with Xie et al., (2003) and Visvanathan (2008), who found that the size of audit committee has no relationship with EM. Regarding to the coefficient of ACM, it is similar to the empirical results of Peasnell et al., (2005) and Haniffa et al., (2006), who found no association between ACM and EM. The insignificant coefficient of MOS is in line with the result reported by (Gabrielsen et al., 2002).

Table 7. 5 Results of Panel Data Regression for the Relationship between EM and VDQ in IBs and NIBs.

EMLLPs		IBs				NIBs		
Variables	**Obs**	**Coef.**	**Z**	**P>|z|**	**Obs**	**Coef.**	**Z**	**P>|z|**
VDQ	290	-0.0559	-2.52	0.012***	770	-0.3549	-5.72	0.001***
IBD	290	0.0052	0.30	0.768	770	0.0225	1.11	0.266
BZ	290	0.0011	0.81	0.417	770	0.0012	0.63	0.528
BDEX	290	0.0025	0.16	0.874	770	-0.0146	-1.26	0.208
DU	290	0.0056	0.65	0.519	770	-0.0046	-0.33	0.739
BGD	290	-0.0034	-0.29	0.773	770	-0.0091	-0.68	0.495
BM	290	-0.0004	-0.20	0.843	770	0.0006	0.30	0.766
IAC	290	-0.0201	-1.71	0.088*	770	0.0062	0.53	0.595
ACZ	290	0.0047	0.74	0.462	770	0.0032	0.67	0.504
ACM	290	-0.0025	-0.84	0.402	770	0.0009	0.21	0.832
Big4	290	-0.0163	-2.51	0.012***	770	-0.0231	-1.64	0.098*
ACG	290	-0.0179	-0.97	0.334	770	0.0294	0.96	0.338
MOS	290	0.0219	0.71	0.477	770	-0.0469	-0.93	0.352
BH	290	0.0014	0.14	0.890	770	-0.0578	-3.00	0.003***
Bank-size	290	-0.0008	-2.50	0.012***	770	-0.0030	-1.75	0.080*
Growth	290	-0.0340	-1.97	0.048**	770	-0.2065	-3.67	0.001***
PROFT	290	-0.0233	-1.47	0.141	770	-0.1097	-1.71	0.087*
LEVER	290	-0.0086	-0.24	0.813	770	-0.0164	-1.39	0.165
LIQ	290	-0.0010	-2.86	0.004***	770	-0.0027	-1.30	0.193
_Cons	290	0.1754	5.73	0.0001	770	0.5033	6.41	0.0001

Random-effect method GLS regression, R-sq: 0.1848, Prob >Chi2: 0.0001
R-sq: 0.3428, Prob > Chi2: 0.0001

******, **and * indicate the significance of coefficient at 0.01, 0.05, and 0.10 levels respectively.***
***Dependent variable*:** **EMLLP**= Discretionary accruals gained from Two-stage model.
***Independent variables*:** **VDQ** = Quality of voluntary disclosure score, **IBD**= Independence Board of Directors as measured by the ratio of independent non-executive directors number to the total number of board members, **BZ=** Board Size as measured by the number of board members on the board, **BDEX=** Board of director's expertise measured as the proportion of experienced board members on the board, **DU=** Duality A dummy variable that takes the value 1 if the Chief executive officer is holding two roles, **BGD=** Board Gender Diversity measures as a percentage of female on the board of directors, **BM=**Board Meeting as measured by the number of board meetings held in the financial year, **IAC=** Independence of Audit Committee as measured by the ratio of independent non-executive directors to total number of audit committee, **ACZ=** Audit committee size as measured by the number of audit committee members, **ACM=** Audit committee meetings as measured by the number of board meetings held in the financial year, **ACEX=** Audit committee expertise measured as proportion of experienced audit members on the audit committee, **BIG4=** a dummy variable that takes the value of 1 if the bank is audited by Big 4 and 0 otherwise, **ACG=** Audit committee gender diversity measures as a percentage of female on the audit committee, **MOS=** Managerial Ownership as measured by the number of shares held by managers to total number of outstanding shares, **BH=** Block holders as measured by the ratio of outside stockholders owning 5% or more of outstanding shares within the bank, **BANK-SIZE=** is measured by the Logarithm of total assets at the year end, **GROWTH=** is measured as the change of total assets divided by the lagged of total assets. **LEVER=** Leverage is measured by total liabilities to total assets at the end of the financial year, **PROFIT=** Profitability as measured by net Income divided by lagged total Assets, **LIQ=** Bank Liquidity as measured by current assets divided by current liabilities at the end of the financial year.

7.5 Robustness Check

In order to strengthen the primary results of the association between EM and VDQ in both IBs and NIBs in MENA countries, a robustness test was employed. Therefore, the current study used the Jones model, modified for banking institutions, as an alternative measure of EM to assess the validity of the key findings in table 7.5. Table 7.6 shows that the coefficients of VDQ are negatively and significantly associated with EM at 1% level in both IBs and NIBs. These results are in line with the main findings presented in table 7.5, which indicate that both IBs and NIBs with higher VDQ are less likely to practice EM.

However, it is worth mentioning that the coefficients of IBD and BZ are significant at the 10% and 5% levels and are negatively associated with EM in NIBs. Additionally, the coefficient of BM is negatively significant at 5% with EM in IBs. These findings are in line with EM and corporate governance studies (e.g. González & García-Meca, 2014b; Lin & Hwang, 2010; Quttainah et al., 2013), which indicated that IBD, board size and frequency of BM are vital factors that enable the board to monitor and maintain better control of managerial opportunistic behaviour and have a negative effect on EM practices. In addition, the coefficient of LEVER is positively and significantly related to EM at the 1% level, suggesting that banks with high leverage tend to engage in EM. This result is in line with those reported by Mohd Saleh et al., (2007); Buniamin et al., (2012) and Abdullah et al., (2016), who found that high leverage firms are more likely to manage earnings.

Table 7. 6 Results of Panel Data Regression for the Relationship between EM and VDQ in IBs and NIBs Based on Modified Jones Model

EMDA		**IBs**				**NIBs**		
Variables	**Obs**	**Coef.**	**Z**	**P>|z|**	**Obs**	**Coef.**	**Z**	**P>|z|**
VDQ	290	-0.0418	-3.33	0.001***	770	-0.2499	-6.08	0.001***
IBD	290	0.0070	0.62	0.534	770	-0.0223	-1.86	0.063*
BZ	290	-0.0013	-1.36	0.173	770	-0.0022	-2.07	0.039**
BDEX	290	0.0120	1.20	0.229	770	-0.0044	-0.61	0.542
DU	290	-0.0060	-1.03	0.303	770	-0.0075	-1.04	0.298
BGD	290	-0.0007	-0.09	0.926	770	-0.0071	-0.99	0.324
BM	290	-0.0023	-1.95	0.050**	770	0.0002	0.16	0.872
IAC	290	-0.0122	-1.68	0.093*	770	0.0078	1.05	0.294
ACZ	290	0.0004	0.11	0.914	770	-0.0041	-1.41	0.159
ACM	290	0.0005	0.27	0.787	770	0.0013	0.52	0.606
Big4	290	-0.0065	-1.47	0.143	770	-0.0120	-1.89	0.058**
ACG	290	-0.0011	-0.08	0.934	770	0.0224	1.44	0.149
MOS	290	-0.0295	-0.96	0.338	770	-0.0129	-0.59	0.557
BH	290	0.0062	0.85	0.395	770	0.0109	1.21	0.226
Bank-size	290	0.0003	1.17	0.241	770	0.0005	1.26	0.209
Growth	290	0.0143	1.33	0.183	770	-0.0382	-1.03	0.301
PROFT	290	-0.0323	-3.21	0.001***	770	0.0122	0.30	0.765
LEVER	290	0.0612	2.80	0.005***	770	-0.0032	-0.57	0.568
LIQ	290	-0.0007	-0.24	0.812	770	0.0014	0.99	0.321
_Cons	290	0.0681	3.56	0.000	770	0.2249	4.56	0.000

Random-effect method GLS regression,
R-sq: 0.3540, Prob > Chi2: 0.0001 **R-sq: 0.2921, Prob >Chi2: 0.0001**

******, **and * indicate the significance of coefficient at 0.01, 0.05, and 0.10 levels respectively.***
Dependent variable: **EMDA**= Discretionary accruals gained from Modified Jones model by Yasuda et al., (2004).
Independent variables: **VDQ** = Quality of voluntary disclosure score, **IBD**= Independence Board of Directors as measured by the ratio of independent non-executive directors number to the total number of board members, **BZ=** Board Size as measured by the number of board members on the board, **BDEX=** Board of director's expertise measured as the proportion of experienced board members on the board, **DU=** Duality A dummy variable that takes the value 1 if the Chief executive officer is holding two roles, **BGD=** Board Gender Diversity measures as a percentage of female on the board of directors, **BM=**Board Meeting as measured by the number of board meetings held in the financial year, **IAC=** Independence of Audit Committee as measured by the ratio of independent non-executive directors to total number of audit committee, **ACZ=** Audit committee size as measured by the number of audit committee members, **ACM=** Audit committee meetings as measured by the number of board meetings held in the financial year, **ACEX=** Audit committee expertise measured as proportion of experienced audit members on the audit committee, **BIG4=** a dummy variable that takes the value of 1 if the bank is audited by Big 4 and 0 otherwise, **ACG=** Audit committee gender diversity measures as a percentage of female on the audit committee, **MOS=** Managerial Ownership as measured by the number of shares held by managers to total number of outstanding shares, **BH=** Block holders as measured by the ratio of outside stockholders owning 5% or more of outstanding shares within the bank, **BANK-SIZE=** is measured by the Logarithm of total assets at the year end, **GROWTH=** is measured as the change of total assets divided by the lagged of total assets. **LEVER=** Leverage is measured by total liabilities to total assets at the end of the financial year, **PROFIT=** Profitability as measured by net Income divided by lagged total Assets, **LIQ=** Bank Liquidity as measured by current assets divided by current liabilities at the end of the financial year.

7.6 Additional Analyses

In order to ensure the validity and robustness of the preliminary findings, the current study re-runs the model using different sub-samples of banks with relatively strong incentives to manipulate earnings. Following Wongsunwai, (2013); Doukakis, (2014) and Ipino and Parbonetti, (2017), the current study focused on highly leveraged banks, defined as bank-years that are above the median ratio of total liabilities to the total assets. This is because banks with a high leverage ratio may have strong incentives to engage in EM to avoid debt covenant violation (Scholtens & Kang, 2013). The findings in table 7.7 confirmed the main results presented in table 7.5, which support a negative and significant relationship between EM and VDQ.

In addition, EM research suggests that managers tend to manipulate accounting figures to avoid earnings decreases (Burgstahler & Dichev, 1997; Dechow et al., 2010; Hamdi & Zarai, 2012). The current study created a sub-sample based on banks with strong levels of incentives to avoid earnings decreases. Following Burgstahler & Dichev, (1997) and Hamdi & Zarai, (2012), the sub-sample includes bank-years with changes in net income over lagged total assets (CROA) in the interval between (0, 0.005). Then the model was re-run. The outcomes in table 7.7 provided similar findings to those presented in table 7.5.

Furthermore, Abdelsalam, et al., (2016) argue that political problems are more prevalent in particular non-Gulf cooperation council countries (NGCC) such as Egypt, Syria, Tunisia, Yemen and Iraq. The motivation of bank managers in NGCC to engage in EM is expected to be high, since these countries are in early reform stages, have small securities markets, are underdeveloped, and have low levels of investor protection system (Baatour & Othman, 2016; Sourial, 2004). Therefore, the current study re-ran the

model using a sub-sample that includes banks listed in NGCC. Table 7.7 shows that the findings remain relatively similar compared with the main findings in table 7.5.

According to the argument of empirical EM studies, it is very difficult for big companies to manipulate earnings because they are more closely followed by investors and regulators than small companies (Albrecht & Richardson, 1990; Bhattacharya, 2001; Lee & Choi, 2002; Siregar & Utama, 2008). Furthermore, small companies are inclined to engage in EM more frequently to avoid losses compared to big companies (Albrecht & Richardson, 1990b; Lee & Choi, 2002). Consequently, this study re-runs the model for the observation of small-sized banks by using the median as a cut-off point. Table 7.7 shows that the result is in line with the primary findings in table 7.5.

Several studies argued that managers of low growth companies have more incentives to use discretionary accruals in order to increase the appearance of sustainable growth, share value and attract more investors to meet their capital needs (e.g. Collins, Pungaliya & Vijh, 2012; Summers & Sweeney, 1998; Zang, 2011). The current study, therefore, re-runs the model on low growth banks, defined as bank-years that are below the median ratio of the change of total assets divided by the lagged total assets. The findings confirmed the key outcomes presented in table 7.5.

Table 7. 7 Additional Analyses

	IBs			NIBs		
	Obs	**Coef**	**Z**	**Obs**	**Coef**	**Z**
H-LEV	139	-0.0163*	-1.79	391	-1.1350***	-11.34
CROA	130	-0.0225*	-1.81	461	-0.1007***	-12.01
NGCC	270	-0.0177*	-1.80	579	-1.4166***	-8.44
SBZ	125	-0.0325*	-1.71	405	1.1836***	-7.00
L-GRO	131	-0.0275*	-1.85	399	-1.3830***	-8.02

*** Significance at the 0.10 level. ** Significance at the 0.05 level. *** Significance at the 0.01 level.**

H-LEV= subsample for all banks with high leverage (above median), **CROA**= subsample for banks with a change in return on assets in the interval between (0, 0.005). **NGCC=** subsample of all banks listed in none Gulf cooperation council counties, **SBZ**= subsample for small banks size, **L-GRO**= subsamples for banks with low growth.

7.7 Controlling for Potential Endogeneity Problems

EM and voluntary disclosure literature addressed an important question of whether corporate disclosure and EM have a first order effect on some outcome variables and suffer from an endogeneity bias (Beyer et al., 2010; Choi et al., 2013; Lobo & Zhou, 2001). Beyer et al., (2010) indicated that it is hard to make an assessment of the causal connection and recognise the exact impact that one mechanism would have on another one. There are three types of endogeneity problem. These include simultaneity, measurement error and observations omitted from the regression (Choi et al., 2013). However, simultaneity is considered the most common type of endogeneity in terms of the association between EM and corporate disclosure (Brown & Hillegeist, 2007; Larcker & Rusticus, 2010; Ntim, Opong, Danbolt & Thomas, 2012). Simultaneity may exist when both dependent and independent variables are determined, either by internal factors such as managers' overall policies, or external aspects such as legal effects, rules and regulations concerning the market for corporate control (Choi, Lee &

Park, 2013; Ntim et al., 2012). In addition, McKnight and Weir, (2009) indicated that the presence of the simultaneity issue leads to an inefficient, inconsistent and biased conclusion when addressing the relationship between the dependent and independent variables. Several studies indicated that, two approaches have been used to avoid the endogeneity issue, which include using instrumental variables and utilising simultaneous equation (Choi et al., 2013; Coles, Daniel & Naveen, 2008; McKnight & Weir, 2009). However, both instrumental variables and simultaneous equation approaches provide similar results (Coles, Daniel & Naveen, 2008; Himmelberg, Hubbard & Palia, 1999).

Before proceeding to examine the instrumental variable, the Durbin and Wu-Hausman tests were used in order to investigate the existence of endogeneity (Ntim & Soobaroyen, 2013). However, the Durbin and Wu-Hausman test provides (P= 0.001) in both IBs and NIBs respectively (see appendices 7.9 and 7.10). This result indicates that the alternative hypothesis of the existence of endogeneity issue between the dependent variable (EM) and the independent variable (VDQ) is accepted. As a result, the existence of endogeneity may have an influence on the regression model, leading to an ineffective, inconsistent and biased outcome. Consequently, to examine whether the existence of a simultaneity issue has an impact on the current study findings, the instrumental variable of 2SLS regression is adopted to control the endogeneity issue. This method is considered as the most appropriate econometric approach in addressing the endogeneity issue in accounting research, because it provides a way of obtaining the optimal linear combination of instruments (Moumen, Othman & Hussainey, 2015; Wooldridge, 2010). The instrumental variable is utilised to cut the correlation between the independent variables and error term. The lagged value of VDQ was employed as the endogenous independent variable. Table 7.8 illustrates the results of 2SLS regression of the model in both IBs and NIBs respectively after controlling for

simultaneity. The coefficients of lagged VDQ in both IBs and NIBs are significant at the 1% level and negatively associated with EM. These findings are similar to the prior results of random effect regression presented in table 7.5 and suggest that IBs and NIBs in MENA countries with a high VDQ are less likely to involve in EM practices. Moreover, these results are in line with Choi et al., (2013) and Jaggi et al., (2009) who suggested that there is a significant and negative simultaneity relationship between corporate disclosure and EM practices. The result of the 2SLS regression is an indication that VDQ in both IBs and NIBs in MENA countries is an important factor that can impact the level of EM in the opposite direction. In regards to the control variables, the findings of 2SLS regression provide almost similar results to those presented in table 7.5.

Table 7. 8 Instrumental Variables (2SLS Regression)

EMLLPs

		IBs			NIBs	
Variables	**Obs**	**Coef.**	**P>|z|**	**Obs**	**Coef.**	**P>|z|**
Lag-VDQ	290	-0.1893	0.033**	770	-2.5379	0.01***
IBD	290	0.0005	0.975	770	-0.0590	0.077*
BZ	290	0.0003	0.837	770	-0.0045	0.106
BDEX	290	-0.0020	0.911	770	-0.0564	0.006***
DU	290	-0.0041	0.638	770	0.0096	0.594
BGD	290	-0.0084	0.521	770	-0.0139	0.443
BM	290	-0.0036	0.165	770	0.0054	0.113
IAC	290	-0.0031	0.816	770	0.0049	0.819
ACZ	290	0.0002	0.967	770	0.0026	0.735
ACM	290	-0.0059	0.133	770	-0.0027	0.665
Big4	290	-0.1104	0.026**	770	0.0084	0.632
ACG	290	-0.0069	0.704	770	0.0559	0.131
MOS	290	0.0148	0.641	770	-0.0455	0.370
BH	290	-0.0020	0.843	770	-0.0462	0.027**
Bank-size	290	-0.0007	0.061*	770	0.0031	0.009***
Growth	290	-0.0361	0.050**	770	-0.2268	0.043**
PROFT	290	-0.0439	0.024**	770	0.0318	0.798
LEVER	290	-0.0015	0.970	770	0.0026	0.849
LIQ	290	-0.0009	0.012**	770	-0.0038	0.399
_Cons	290	0.3007	0.001	770	1.7874	0.001

Random-effect method GLS regression, R-sq: 0.2392, Prob > Chi2: 0.0001

Random-effect method GLS regression, R-sq: 0.1585, Prob > Chi2: 0.0001

****** **and * indicate the significance of coefficient at 0.01, 0.05, and 0.10 levels respectively.***

Independent variables*:* Lag-VDQ= is the lagged variable of VDQ.

7.8 Summary of the Chapter

In this chapter the researcher attempts to answer the study's third question; namely, what is the relationship between EM (discretionary accruals) and VDQ in IBs and NIBs in MENA countries? The empirical result on the relationship between EM and VDQ in IBs and NIBs over a 10-year period, from 2006 to 2015 was presented. The two-stage model was used to measure EM, while VDQ was measured through developing the multi-dimensional approach. The results show that VDQ has a negative influence on EM. This result is in line with the agency and signalling theories, which suggest a negative relationship between EM and VDQ. Several analyses were used in this chapter to ensure the validity of the results and to maintain consistency with the theories used in this study. For instance, Jones model modified for banking institution was adopted as an alternative measurement for EM in order to examine whether the different measure of EM has any influence on the main outcomes. The results emphasised that banks in MENA countries with a high VDQ are less likely to engage in EM. Furthermore, the result obtained by re-running the model using sub-samples of banks with relatively high incentives of EM emphasised the negative and significant relationship between EM and VDQ. In general, these analyses confirm that both IBs and NIBs in MENA countries with a high VDQ are less likely to manipulate earnings.

Chapter Eight: Summary and Conclusions

8.1 Introduction

This study has three objectives namely: (1) To investigate and compare EM in IBs and NIBs in MENA countries, (2) To investigate and compare VDQ in IBs and NIBs in MENA countries, and (3) To examine the relationship between EM and VDQ in IBs and NIBs in MENA countries. With regards to the first and second objectives, EM literature indicated that, in an Islamic context, opportunistic behaviour of EM is prohibited and immoral in IBs (Hamdi & Zarai, 2013). Managers of institutions with a religious affiliation usually follow certain socially acceptable norms, which are related to anti-manipulative behaviour (Dyreng, Mayew & Williams, 2012). On the other hand, the perspective of disclosure in IBs is based on both the concept of accountability and the full disclosure, which involves disclosing all necessary information regarding their activities to assist investors and to make sure that these activities are in line with Islamic principles (Baydoun & Willett, 2000; Haniffa & Hudaib, 2002; Maali, Casson & Napier, 2006). IBs are motivated by Islamic law "Shari'ah" to disclose more information voluntarily, irrespective of their local standards, due to the importance of accountability in Islamic society (Maali, Casson, & Napier, 2003). The difference in the business ethics between IBs and NIBs has motivated the researcher to compare both EM and VDQ in each bank type.

In respect of the third objective, EM and voluntary disclosure literature provides two different points of view with regards to the effect of voluntary disclosure on EM, including long-term perspectives and managerial opportunism. The first perspective suggested that managers tend to report more credible information voluntarily to concerned groups in order to reduce asymmetric information and boost the confidence

of owners about the company's current and future performance (Uyar, Kilic & Bayyurt, 2013). This signifies a negative association between EM and voluntary disclosure (Hunton et al., 2006; Iatridis & Kadorinis, 2009; Katmun, 2012; Lobo & Zhou, 2001; Tariverdi et al., 2012). On the other hand, the second view argued that managers may disclose poor (low quality) information voluntarily in order to lid their opportunistic behaviour of EM and to protect themselves against any possible reaction and attention from stockholders (Li et al., 2012). This indicates a positive relationship between EM and voluntary disclosure (Kasznik, 1999; Muttakin et al., 2015; Patten & Trompeter, 2003; Prior et al., 2008).

The remainder of this chapter is organised as follows: Section 8.2 shows the outlines of the study results. Section 8.3 provides the implications of the study, while section 8.4 present the limitations of the study and suggestions for future research.

8.2 The Study Results

Q1: Is there any difference in EM practices between IBs and NIBs?

The findings of the first objective were introduced in chapter 5. Both univariate and multivariate analyses were used. To achieve the first objective, one hypothesis (**H1**) was developed to answer this question. A comparative analysis based on the t-test was used to examine whether the level of EM[37] differ significantly in IBs and NIBs through years scaled from 2006 to 2015 and entire sample. The findings of the t-test show that the entire sample confirms a significant difference between IBs and NIBs regarding EM, with high mean values of EM in NIBs. This suggests that IBs behave differently and they are less involved in EM compared with NIBs. These findings

[37] EM that obtained from both the two-stage model and the Jones model adjusted by Yasuda et al. (2004).

support the hypothesis **H1.** In addition, the use of further and robustness analyses confirmed the key findings that IBs are less likely to engage in EM compared to NIBs.

Q2: Is there any difference in terms of VDQ between IBs and NIBs?

The findings of the second objective were addressed in chapter 6 by employing both univariate and multivariate analyses. To achieve the second objective, one hypothesis (**H2**) was formulated to answer this objective. With respect to the VDQ, the descriptive statistics of the multidimensional framework for IBs in comparison to NIBs, shows that the median values of VDQ (as a cut-off point) in IBs is 5% higher compared to NIBs, signifying that IBs are more likely to disclose high quality information compared with NIBs. A comparative analysis based on the t-test and graphic approach were utilised to examine whether VDQ that was obtained from the multidimensional framework differ significantly through the years scaled from 2006 to 2015 and bank type. The findings of both the t-test and graphic approach showed that there is a significant difference between IBs and NIBs regarding VDQ, with high mean values of VDQ in IBs. This suggests that IBs and NIBs do not behave in the same manner in terms of VDQ, confirming the second hypothesis **H2.** In addition, the use of the robustness analysis supported the main findings that IBs are more likely to disclose wider and reliable information voluntarily compared to NIBs.

Besides the above analysis, this study examined the validity of the multidimensional framework by examining the relationship between VDQ and market reaction. The regression result shows a positive relationship between voluntary disclosure quality (VDQ) and MBV [38] . This suggests that the dimensions considered by the

[38] The market-based value (MBV) as an indicator for market reaction, which is measured by using the aggregate of both Tobin's Q and earnings per-share. The former is measured as the market value of equity to book value of equity, whereas, earnings per-share is measured as net income to outstanding ordinary shares.

multidimensional framework to measure the quality are useful and the framework has captured the quality of the information disclosed voluntarily.

Q3: What is the effect of the VDQ on EM practices in both IBs and NIBs in MENA countries?

The results of the third objective were presented in chapter 7; both univariate and multivariate analyses were utilised. To achieve the third objective, one hypothesis (**H3**) was developed to answer this objective, the overall results suggesting that the VDQ influences the magnitude of EM. In particular, the regression analysis of the model revealed that the coefficients of VDQ in both IBs and NIBs are negatively and significantly associated with EM. This result emphasises that IBs and NIBs in MENA countries, with higher VDQ, report lower levels of EM; this supports the third hypothesis (**H3**). The findings are in line with both the agency and signalling theories, which suggest a negative association between voluntary disclosure and EM. The agency theory suggests that the agency conflict exists if the agents intend to maximise their own interests. The problem of information asymmetry is considered the main factor of the agency problem. According to agency theory, bank managers (agent) may disclose more information voluntarily to shareholders (principal) in order to reduce the agency cost (Huang & Zhang, 2011).

On the other hand, the long-term perspective of signalling theory suggest that banks with high voluntary disclosure are not only interested in increasing current profits and executives' wealth but also in enhancing and building a solid future relationship with stockholders (Qu et al., 2015). In addition, the results of additional and sensitivity analyses confirmed the key findings of a negative association between EM and VDQ. Concerning the issue of endogeneity between EM and VDQ, the robustness test (2SLS) regression technique) showed that the primary results are robust and

consistent, signifying that the endogeneity problem has no impact on the association between EM and VDQ.

8.3 The Study Implications

The outcomes summarised in the former section have both practical and theoretical implications.

8.3.1 Practical Implications

Firstly, the findings of this study may provide a clear image that facilitates managers to evaluate the bank's financial accountability and transparency, which in turn, assists the bank to enhance shareholders' understanding of its financial reporting quality. Priority should be given by the bank manager to develop voluntary disclosures in a complete and appropriate form. The reported findings are helpful for both bank managers and boards of directors who are wishing to determine how VDQ influences EM practices and to evaluate financial reporting quality. The result of this study may provide empirical evidence that assist shareholders in MENA countries to make better decisions when evaluating the reliability and quality of financial reports. Furthermore, financial analysts may use the study findings to evaluate how the quality of voluntary disclosure reduces EM, and thus, affect capital market decisions. Since high quality financial reporting is considered as lifeblood of stock market, the market may perceive that firms with high VDQ are linked with more accurate investment decisions and credit assessment. Thus, the capability of investors to assess banks' performance will be enhanced through having high quality information.

Secondly, The current study provides the external users (e.g. regulators, auditors, owners, investors and creditors) with a deeper understanding of factors that may

enable them to capture EM and to avoid making inaccurate decisions. For instance, it will assist regulators to identify weak areas that require tightening. It will help auditors to enhance the level of evaluating and reporting on EM and, furthermore, it will allow audit committees, investors, and other users to concentrate more on those areas of the financial statements where they should be most sceptical.

Thirdly, this study may offer important implications to regulators and policy makers to understand the importance of VDQ in protecting investors' rights. The findings of this study provides empirical evidence on the significant effect of VDQ in mitigating EM, which may help standard setters in enhancing the guidance to support banks to provide high VDQ.

Fourthly, this study has methodological implication; the developed multidimensional framework in this study may help researchers in the area of disclosure to consider employing this framework in their study. That is because; this framework considers both the quantity and richness of disclosed information with the attention toward satisfying the conceptual frameworks of both FASB and IASB.

Finally, in respect to corporate governance mechanisms, the findings of the present study also carry important implications for the regulatory bodies, showing that they have to pay more attention to boards of directors and audit committees, as they are essential factors which influence both the quality of disclosure and mitigating EM practices in developing countries. In addition, the findings of this study may help researchers working in the MENA countries to verify the effect of boards of directors and audit committees on different types of disclosure and sectors, because different implications may exist in different corporate disclosure.

8.3.2 Theoretical implications

Firstly, the findings of the current study provide strong support for the long-term perspective, which suggests that firms provide VDQ in order to build a solid future relationship with stockholders (Sun et al, 2010). This view is linked to both agency and signalling theories, as they suggest that managers tend to report more information voluntarily to users in order to reduce asymmetric information and boost the confidence of owners about the company's current and future performance (Uyar et al., 2013). The outcomes of this study prove that the VDQ has negative and significant influences on EM practice in both types of banks (IBs and NIBs). Therefore, in order to decrease EM practices, both IBs and NIBs may have to increase their VDQ.

Secondly, the results of the current study show that there is an insignificant relationship between board composition and EM practices in both types of banks (IBs and NIBs). This means that stakeholders do not have the capability to impact the direction in which banks conduct themselves, suggesting that stakeholders do not have the power to apply pressure on bank managers in order to meet their anticipations.

Thirdly, the result of the current study is in line with the Islamic perspective of disclosure, which ensures theoretical accountability for IBs and is in line with the Shari'ah law and AAOIFI standard. These additional regulations ensure full disclosure and social accountability for IBs (Haniffa & Hudaib, 2002; Ousama & Fatima, 2010), which has a negative impact on EM practices.

Fourthly, with regard to the positive influence of VDQ on MBV (as an indicator for market reaction), this result adds to the evidence on the relationship between VDQ

and MBV (Cahan, et al., 2016; Jiao, 2011; Nekhili, et al., 2017). This finding is in line with the outcomes of several voluntary disclosure studies that take into account the agency theory in order to build their framework. These studies indicated a positive and significant association between high VDQ and capital market reaction on the information disclosed by the company.

Finally, the outcomes provided in the current study have significant implications for the association between EM and VDQ proposed by agency, signalling, and stakeholder legitimacy theories. These theories specify the relationship between EM and VDQ in different situations. Based on the findings of the current study with tenets of these theories, the author suggests that the agency and signalling theories are the most appropriate theories for exploring the relationship between EM and VDQ.

8.4 Study Limitation and Suggestions for Future Research

Although the current study has made a significant effort in order to secure meeting the study objectives and answering the research questions, it still suffers from several limitations, which could be considered as opportunities for future research.

Firstly, the lack of data availability regarding the written-off loans for both IBs and NIBs has prevented the current study from utilising other EM measurement models, such as Kanagaretnam, Krishnan and Lobo's (2010) and Cheng, Warfield and Ye's (2011) models. Although the models used in this study are the most suitable models to capture the value of discretionary accruals in the banking industry (Elnahass, Izzeldin & Abdelsalam, 2014; Kwak, Lee & Eldridge, 2009), employing other models, which include written-off loans may be a crucial path for future research.

Secondly, the current study depends only on annual reports to measure VDQ. Although annual reports provide the most comprehensive pertinent data on an annual

basis, and are considered to be a major source of voluntary disclosure to users (Neu et al., 1998), voluntary information can be released through other channels such as web sites, press-releases, prospectuses or interim reports. Thus, banks are likely to offer additional information via these different channels to shareholders rather than only through annual reports, which in turn could influence the VDQ in the annual reports. However, these different channels of communication could, therefore, offer a source for considerable data collection for future research on VDQ. Such results may determine differences and similarities across both types of data sources. Consequently, this limitation provides good opportunity for future studies to use one of these channels to measure VDQ.

Thirdly, the study sample consisted only of IBs and NIBs listed in MENA countries. Therefore, the findings of this study may not be applicable or generalised to other different sectors. Additionally, this study is limited to IBs operate in MENA countries. Other Islamic institutions were excluded from this study (i.g. Islamic investment companies and Islamic insurance companies (Takaful). Therefore, It would be interesting for future research to examine the relationship between VDQ and EM practices for other Islamic financial institutions.

Fourthly, due to the availability of data during this research, the data is limited to the period from 2006 to 2015, with 2008 being considered by economists as the year when the global financial crisis started (Ntim et al., 2013). Thus, it is possible that the results may have been driven by changes in specific year(s) during or after the financial crisis. Therefore, further research can use the most recent data in conducting the association between EM and VDQ.

Finally, this study used several steps to mitigate the likelihood of correlated variables,

such as additional control variables, different measurements, the Hausman test and an endogeneity test. Although this study examined the endogeneity issue between EM and VDQ through an instrumental variable, a potential avenue for future research could be through employing simultaneous system equation as suggested by Al Farooque et al., (2010).

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Appendices

Appendix 4.1 Checklist of VD categories and items:

1. Bank's background (06):	Key words
Bank's history	History
Characterization of bank structure	Bank structure
Bank's activities (general information)	Activities
Establishment date	Establishment
Bank correspondence address or bank official address	Address
Bank email or web page address	Email / web address
2. Bank Strategy (03):	
Administration's vision, strategies and objectives	strategies / vision
Bank future strategy and development.	Future strategy / development
Strategy influence on future outcomes	Strategy-impact or influence
3. Corporate Governance (18)	
Chairman's details	Chairman's details
Directors' details	Directors' details
Duties of board members.	Board duties
Number of shares held by directors.	Shares held by directors / directors' shares
Bank's top five shareholders	Top shareholders / Block-holders
Number of shares held by managers.	Shares held by managers / managers' shares
CEO's details	CEO details
Definition of independent executive directors	Independent directors
Nature of bank chairman	Chairman
Directorship or directors' engagement	Directors' engagement / directorship
Board of directors' pictures.	Manually checked
Chairperson picture.	Manually checked
Information about changes in board members.	Changes in board members / board changes
Date and number of board meetings	Board meeting
Audit committee list.	Audit committee
Statement of bank chairman	Chairman's statement
CEO's statement.	CEO's statement
Managers classification	Executive managers
4. Accounting Policies (7)	
Fixed assets valuation	Fair value / historical cost
Depreciation methods	Depreciation
Transactions of foreign currency	Currency transaction
Events occurred after 31/12	After balance sheet
Accounting standards employed during the year	Accounting standards
IFRS or IAS compliance statement	IFRS / IASs
Contingent liabilities treatments	Contingent liabilities
5. Financial Performance (ratios) (16):	
Information about the bank's financial position	Financial position
Disclosure on non-performing loans (NPLs) / Impaired loans	Non-performing loans / Impaired loans
Analysis of bank's liquidity position	Liquidity position
ROA	Return on assets
ROE	Return on equity

Liquidity ratios.	Liquidity ratio
EPS	Earnings per share / EPS
Capital adequacy ratios.	Capital adequacy ratio
Total dividends.	Total dividends
Dividends per share for the period	Dividends per share
The current year expansion number of branches	Branches
Financial statistics / financial highlights for more than one year	Financial highlights
Two years of comparative income statement	Manually checked
Two years of comparative balance sheet	Manually checked
Cash flow statement	Cash flow
Key achievement during the current year	Achievement
6. Risk Management (07):	
The overall policy of risk management	Risk policy / risk philosophy
Information about risk measurement and risk assets	Risk assets / risk measurement / monitoring
Information about managing and controlling risk	Risk controlled
Brief discussion on risk management committee	Risk committee
Information on management committee of assets and liability	Assets-liability committee.
The structure of risk management	Risk structure
7. Credit Risk Exposure (06):	
Disclosure on credit exposure	Credit exposure
The structure of credit risk management	Credit risk structure
Disclosures about the current loan.	Current loan
Information about assets and loans problems	Loan / assets problems, risk ratings.
Credit rating system disclosure	Credit rating
Information on the process of risk management	Collaterals, guarantees, netting agreement, managing concentrations
8. Currency and market Risk (03):	
Broken down by assets and liabilities.	Manually checked
The of maturity assets, liabilities and currency	Assets maturity, liabilities maturity
Market risk segments information	Market risk
9. Exposure to Liquidity Risk (02):	
Discussion about sources of funds and availability of liquid assets	Liquid assets/use of funds
Maturity information about deposits and other liabilities.	Maturity of depositors
Other information on liquidity risk	
10. Key Non-financial Statistics (06):	
Information about branch location.	Location
Number of branches.	Branches
Number of expansion branch in the current year	Branch expansion
Branch computerization information	Branch computerisations / computerised
ATM information.	ATM
ATM location	ATM location
11. Corporate Social Disclosure (04):	
Information about sporting of recreational, social projects, education and sponsoring public health	Sponsoring, health, social project
Donations to charity information	Donations, charity
Information about government sponsored campaigns and supporting national pride	National pride, campaigns.
Bank social activities	Social activities
12. Employee information (05):	
Total number of employees	Number of employee

Number of employees trained	Trained employees
Policy on employees training	Training policy
Average compensation per employee	Compensation
Employees welfare information	Welfare
13. Others (03):	
General voluntary disclosure information	On-line facilities / Credit card / International banking

Source: the researcher's development

Appendix 4.2 Depth index

	Depth of information disclosed	Operationalization
Relevance	To what extent does the banks in MENA region employ fair value instead of historical cost?	1 = Only historical cost 2 = Mostly historical cost 3 = Balance fair value / historical cost. 4 = Most fair value 5 = Fair value only
	To what extent do banks in MENA region provide non - financial information in terms of bank opportunities and risks complement the financial information?	1= The information is not presented. 2= There is limited information. 3= There is sufficient information. 4= Relatively more information is provided. 5= There is very extensive information.
	To what extent do banks in MENA region provide information about risk that contains good insights into the risk profile of the company?	1 = No information provided 2 = Limited information is provided about risk profile 3 = Sufficient information is provided about risk profile 4 = Relatively much information is provided about risk profile 5 = Very extensive is provided about risk profile
	To what extent do banks in MENA region provide information about forward- looking information?	1= The information is not presented. 2= There is limited information. 3= There is sufficient information. 4= Relatively more information is provided. 5= There is very extensive information.
	To what extent do banks in MENA region provide information about CSR?	1= The information is not presented. 2= There is limited information. 3= There is sufficient information. 4= Relatively more information is provided. 5= There is very extensive information.
	To what extent do banks in MENA region provide a proper disclosure of the extraordinary gains and losses?	1 = No proper information provided 2 = Limited proper information is provided 3 = Sufficient proper information is provided 4 = Very much proper information is provided 5 = Very extensive proper information is provided
	To what extent do banks in MENA region provide information regarding employee policies?	1= The information is not presented. 2= There is limited information. 3= There is sufficient information. 4= Relatively more information is provided.

		5= There is very extensive information.
	To what extent do banks in MENA region provide an analysis concerning cash flows?	1 = No analysis information is provided 2 = Limited analysis information is provided 3 = Sufficient analysis information is provided 4 = Very much analysis information is provided 5 = Very extensive analysis information is provided
	To what extent do banks in MENA region provide information about the intangible assets?	1= The information is not presented. 2= There is limited information. 3= There is sufficient information. 4= Relatively more information is provided. 5= There is very extensive information.
	To what extent do banks in MENA region provide information about the "off-balance" activities?	1= The information is not presented. 2= There is limited information. 3= There is sufficient information. 4= Relatively more information is provided. 5= There is very extensive information.
	To what extent do banks in MENA region provide information about the financial structure?	1= The information is not presented. 2= There is limited information. 3= There is sufficient information. 4= Relatively more information is provided. 5= There is very extensive information.
	To what extent do banks in MENA region provide information about the banks' going concern?	1= The information is not presented. 2= There is limited information. 3= There is sufficient information. 4= Relatively more information is provided. 5= There is very extensive information.
	To what extent do banks in MENA region provide feedback to users of the annual report as to how various market events and significant transactions affected the company?	1 = No feedback is provided 2 = Little feedback is provided 3 = Feedback is present 4 = Feedback assists understanding how events and transactions influenced the bank 5 = Comprehensive feedback is provided
Faithful representation	To what extent do banks in MENA region provide valid arguments to support the decision for certain assumptions and estimates in annual report?	1 = No valid arguments is provided 2 = Limited Valid arguments is provided 3 = Sufficient valid arguments is provided 4 = Very much valid arguments is provided 5 = Very extensive valid arguments is provided
	To what extent do banks in MENA region base their choice for certain accounting principles on valid arguments?	1 = No valid arguments is provided 2 = Limited Valid arguments is provided 3 = Sufficient valid arguments is provided 4 = Very much valid arguments is provided 5 = Very extensive valid arguments is provided
	Which type of auditors' report is included in the banks annual report?	1 = Adverse opinion 2 = Disclaimer of opinion 3 = Qualified opinion 4 = Unqualified opinion financial. figures 5 = Unqualified opinion financial figures internal control

	To what extent do banks in MENA region provide information on corporate governance?	1= The information is not presented. 2= There is limited information. 3= There is sufficient information. 4= Relatively more information is provided. 5= There is very extensive information.
	To what extent do banks in MENA region provide information related to both negative and positive contingencies?	1= The information is not presented. 2= There is limited information. 3= There is sufficient information. 4= Relatively more information is provided. 5= There is very extensive information.
	To what extent do banks in MENA region provide information related to bonuses of the board of directors?	1= The information is not presented. 2= There is limited information. 3= There is sufficient information. 4= Relatively more information is provided. 5= There is very extensive information.
Understandability	To what extent is the annual report of banks in MENA region presented in a well-organized method?	1 = Very bad display 2 = Bad display 3 = Poor display 4 = Good display 5 = Very good display
	To what extent banks in MENA region provide graphs and tables and how clarify the presented information in their annual reports?	1 = No presented graphs 2 = 1-4 presented graphs 3 = 5-9 presented graphs 4 = 10-15 presented graphs 5 = > 15 presented graphs
	To what extent banks in MENA region used language and technical jargon that is easy to follow in their annual report?	1 = Very much jargon 2 = Much jargon 3 = Conservative employ of jargon 4 = Limited employ of jargon. 5 = No jargon at all.
	What is the size of the glossary provided in the banks in MENA region annual reports?	1 = Glossary is not provided. 2 = The glossary is less than one page. 3 = The glossary is approximately one page. 4 = The glossary is about 1-2 pages long. 5 = The glossary is more than two pages
	To what extent banks in MENA region report information about the concerning mission and strategy in their annual reports?	1= The information is not presented. 2= There is limited information. 3= There is sufficient information. 4= Relatively more information is provided. 5= There is very extensive information.
	To what extent is the annual report of banks in MENA region understandable in the researcher perception?	1 = Very poorly understandable 2 = Poorly understandable 3 = Understandable 4 = Good understandable 5 = Very good understandable
	To what extents do banks in MENA region provide sufficient and clear notes about the income statement and the balance sheet?	1 = No sufficient and clear notes provided. 2 = Very short notes, hard to understand. 3 = Notes that explains what happens. 4 = Notes are good explained 5 = Very extensive and sufficient explanation is provided.
Comparability	To what extents do banks in MENA region provide information about the changes in accounting policies?	1= The information is not presented. 2= There is limited information. 3= There is sufficient information. 4= Relatively more information is provided. 5= There is very extensive information.

	To what extents do banks in MENA region provide information about the changes in accounting estimates?	1= The information is not presented. 2= There is limited information. 3= There is sufficient information. 4= Relatively more information is provided. 5= There is very extensive information.
	To what extents do banks in MENA region provide a comparison results of current period with previous periods?	1 = No comparison 2 = Only with previous year 3=With5years 4 = 5 years + description of implications 5 = 10 years + description of implications
	To what extents do banks in MENA region present financial ratios in their annual reports?	1 = No ratios are provided. 2 = one up to five ratios are provided. 3 = Six up to ten ratios are provided. 4 = Eleven up to fifteen ratios are provided. 5 = More than fifteen ratios are provided.
	To what extents do banks in MENA region provide information concerning banks' shares?	1= The information is not presented. 2= There is limited information. 3= There is sufficient information. 4= Relatively more information is provided. 5= There is very extensive information.
	To what extent did the banks adjust previous accounting period's figures?	1 = Adjustments are not provided 2 = Adjustments are described 3 = Adjustments are provided for only one year. 4=2years 5= More than two years notes are provided.
Timeliness	How long it takes for the external auditor to sign the bank's annual report?	It is measured by the natural logarithm of days: 1 = 1- 1.99 2 = 2-2.99 3 = 3-3.99 4 = 4-4.99 5 = 5-5.99

Source: the researcher's development

Appendix 5.1 Hausman Test for Two-stage Model

```
.
. hausman fixed random, sig
```

	Coefficients (b) fixed	(B) random	(b−B) Difference	sqrt(diag(V_b−V_B)) S.E.
NPLs	−.385254	−.3621697	−.0230843	.0570875
CNPLs	.4258713	.4069455	.0189258	.0492709
CTLs	.250101	.2544236	−.0043226	.0034089

```
                b = consistent under Ho and Ha; obtained from xtreg
     B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =        3.02
                Prob>chi2 =      0.3892

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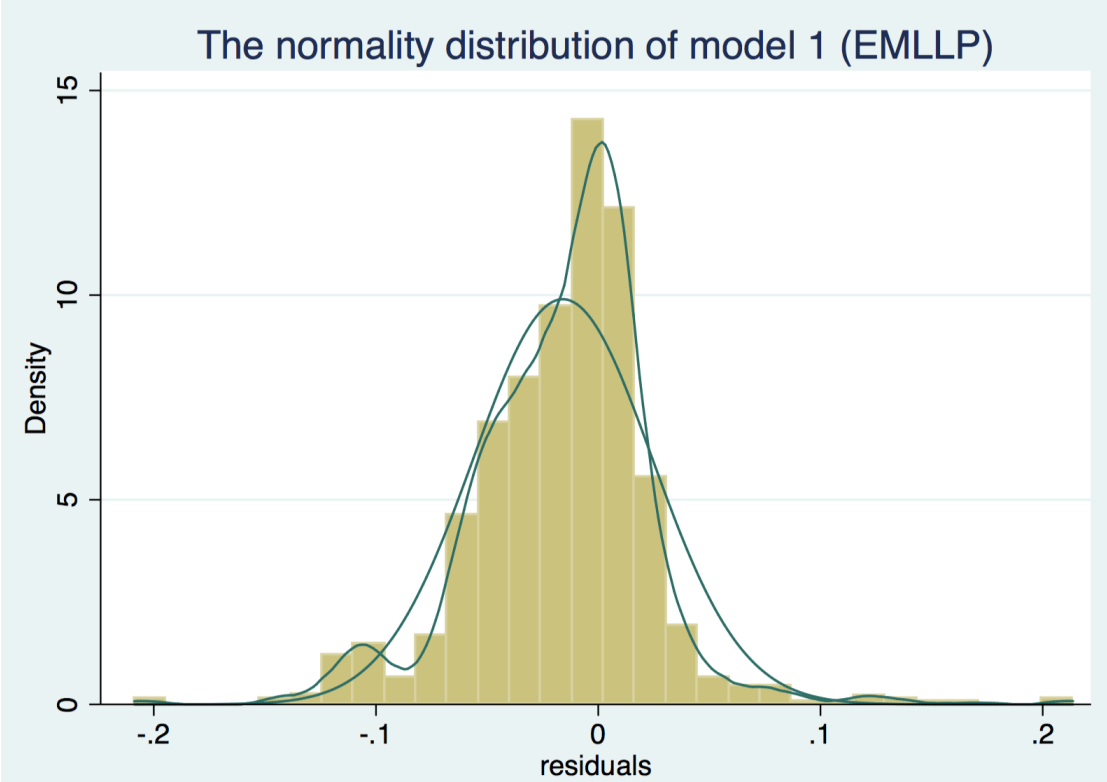
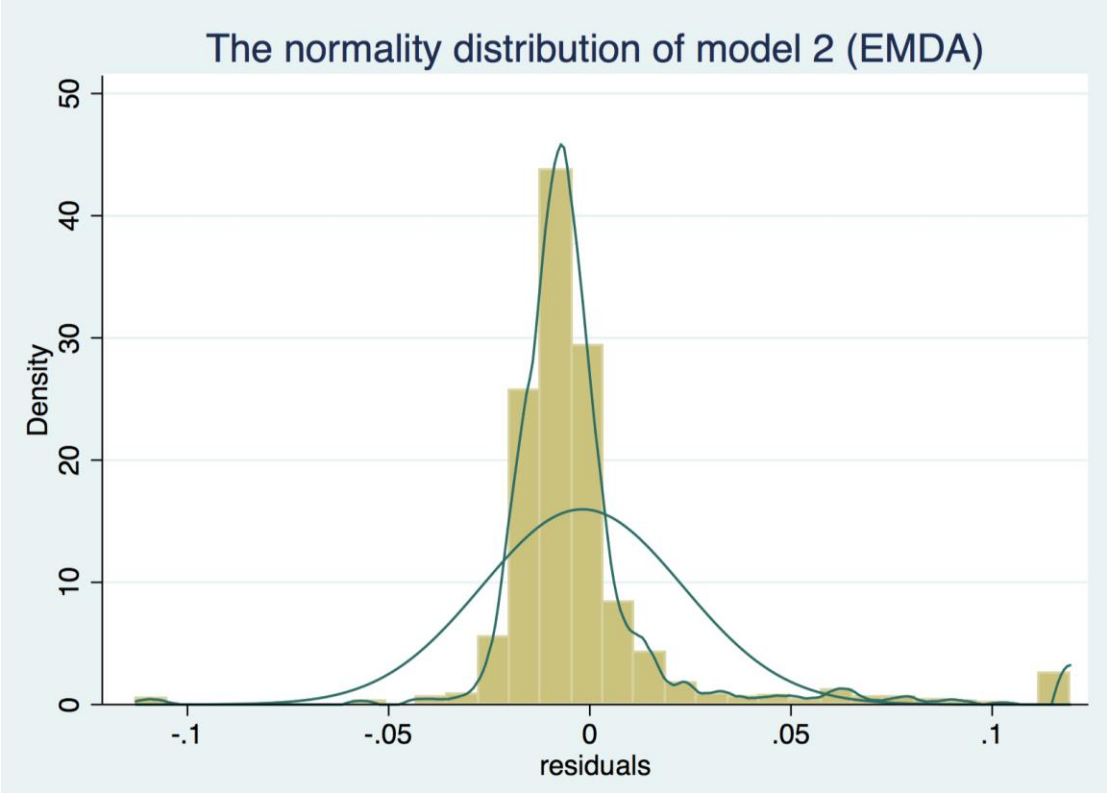
```

Appendix 5.2 the Normality Distribution of Model 1 (EMLLP)



Appendix 5.3 the Normality Distribution of Model 2 (EMDA)



Appendix 6.1: Chow Test for IBs Sample

sigma_u	**39.024393**
sigma_e	**5.7352693**
rho	**.97885757** (fraction of variance due to u_i)

F test that all u_i=0: F(**28**, **255**) = **13.40** Prob > F = **0.0000**

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Appendix 6.2: Chow Test for NIBs Sample

```
      _
-------------+----------------------------------------------------------------
     sigma_u |  15.498941
     sigma_e |  10.443061
         rho |  .68776003   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(76, 687) = 5.00                     Prob > F = 0.0000

.
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```

Appendix 6.3: Hausman Test for IBs

```
                    b = consistent under Ho and Ha;
         obtained from xtreg B = inconsistent under Ha,
         efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

      chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                        =       16.45
              Prob>chi2 =      0.1090
             (V_b-V_B is not positive definite)
```

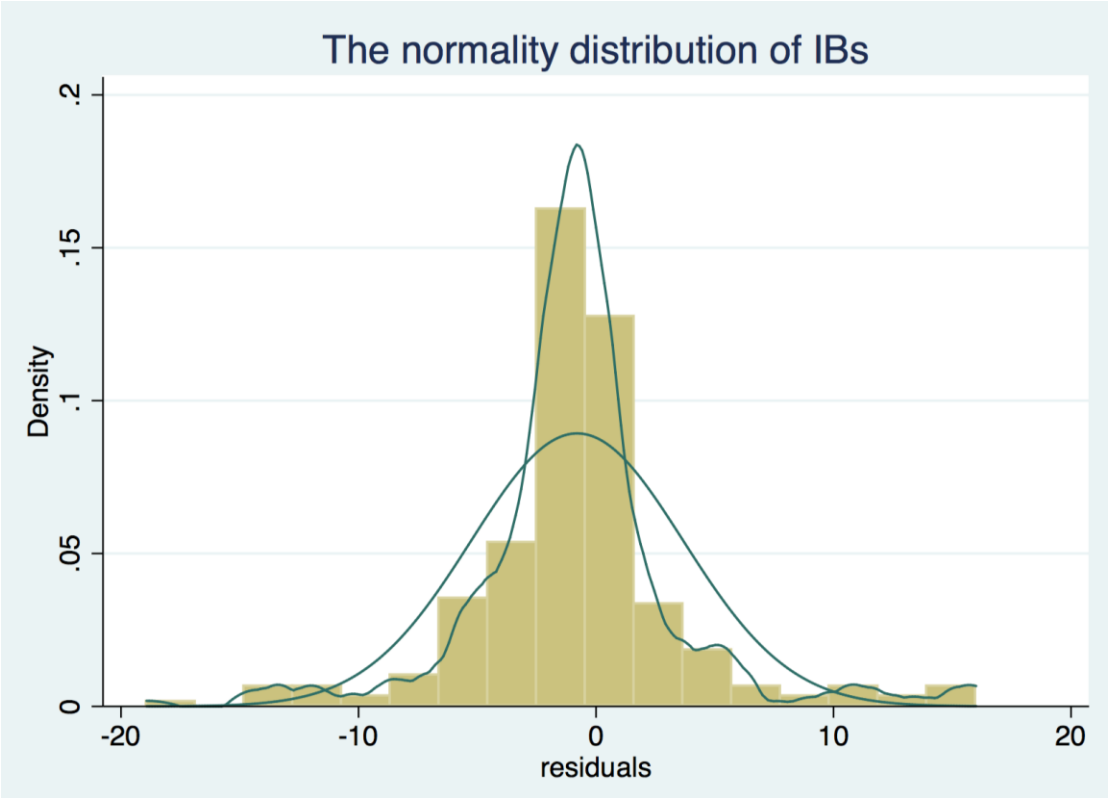
Appendix 6.4: Hausman Test for NIBs

```
                    b = consistent under Ho and Ha;
         obtained from xtreg B = inconsistent under Ha,
         efficient under Ho; obtained from xtreg

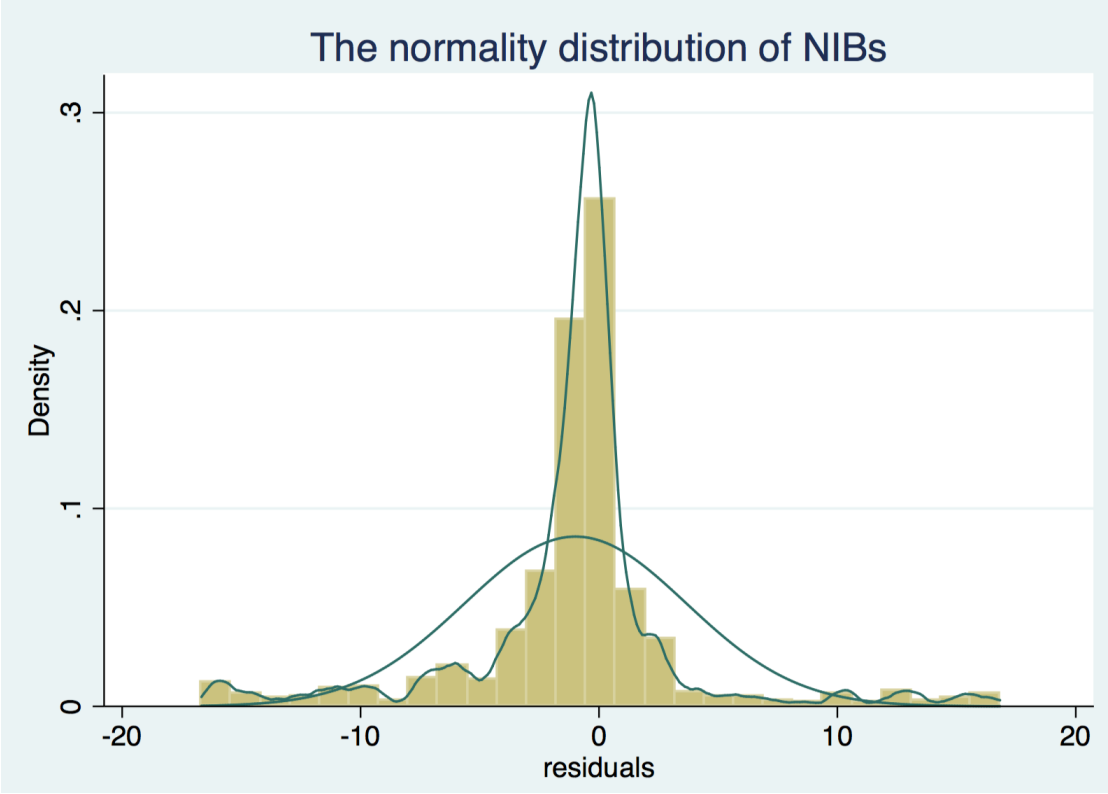
    Test:  Ho:  difference in coefficients not systematic

      chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                        =       10.88
              Prob>chi2 =      0.1029
             (V_b-V_B is not positive definite)
```

Appendix 6.5 The Normality Distribution of IBs



Appendix 6.6 The Normality Distribution of NIBs



Appendix 7.1: Chow Test for IBs Sample

```
     sigma_u |  .03674018
     sigma_e |  .03231605
         rho |  .56380381   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(28, 242) = 2.74                     Prob > F = 0.0000

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```

Appendix 7.2: Chow Test for NIBs Sample

```
------------------------------------------------------------------------------
     sigma_u |  .13305381
     sigma_e |  .06481645
         rho |  .80820498   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(76, 673) = 30.60                    Prob > F = 0.0000

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```

Appendix 7.3: Hausman Test for IBs

. **hausman fixed random, sigmamore**

	Coefficients			
	(b) fixed	(B) random	(b−B) Difference	sqrt(diag(V_b−V_B)) S.E.
VDQ1	.0433014	.0505574	−.0072559	.0115896
IBD	.0242108	.02245	.0017608	.0041409
BZ	.0006565	.0008226	−.0001661	.0005424
BDEX	−.009919	−.011692	.001773	.0019857
DU	.0080273	.0044283	.003599	.0046605
BGD	−.0046722	−.0076844	.0030123	.0036013
BM	.0006612	.0006812	−.00002	.0005852
IAC	−.0026937	−.0042295	.0015358	.0022264
ACZ	.0050582	.0049743	.0000839	.0011013
ACM	−.0017093	−.0011157	−.0005936	.0011278
Big4	−.0173304	−.0200643	.0027339	.0031646
ACG	.0145086	.0166317	−.002123	.0112196
MOS	−.037931	−.042352	.004421	.0226279
BH	−.057649	−.0580258	.0003768	.0077667
BankZ	−.0041761	−.0029328	−.0012433	.0067632
Growth	−.2268112	−.2180128	−.0087984	.0075026
PT	.1220056	.0381579	.0838477	.0589094
PROFT	−.0246238	−.0171842	−.0074395	.004305
LEVER	−.1485616	−.1186124	−.0299492	.0105254
LIQ	−.0041728	−.0036203	−.0005525	.0002005

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(**20**) = (b−B)'[(V_b−V_B)^(−1)](b−B)
= **17.37**
Prob>chi2 = **0.6290**

Appendix 7.4: Hausman Test for NIBs

	(b) fixed	(B) random	(b−B) Difference	sqrt(diag(V_b−V_B)) S.E.
VDQ1	.0458394	.0536153	−.0077759	.0120179
IBD	.0256294	.0237984	.001831	.0041854
BZ	.0006797	.000826	−.0001463	.0005394
BDEX	−.0097908	−.0115178	.0017269	.0019842
DU	.0082177	.0046485	.0035692	.0046426
BGD	−.0046354	−.0076729	.0030375	.0036022
BM	.0006875	.0007149	−.0000274	.000582
IAC	−.0044976	−.0057301	.0012325	.0020652
ACZ	.0052896	.005193	.0000966	.0010932
ACM	−.0017407	−.0011628	−.0005779	.0011274
Big4	−.0169793	−.0196675	.0026882	.0031619
ACG	.0138001	.0159212	−.002121	.0112474
MOS	−.0379389	−.042428	.0044891	.0226466
BH	−.0578433	−.0583351	.0004918	.007717
BankZ	−.0040817	−.0029081	−.0011736	.0067691
Growth	−.230502	−.2236015	−.0069005	.0073571
PT	.1203338	.0378702	.0824636	.0588674
PROFT	−.025037	−.0176083	−.0074286	.0043092
LEVER	−.1550441	−.1278065	−.0272376	.0103674
LIQ	−.0044637	−.0040449	−.0004187	.0001925

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(20) = (b−B)'[(V_b−V_B)^(−1)](b−B)
= 17.41
Prob>chi2 = 0.6261

Appendix 7.5: Modified Wald Test (heteroscedasticity) for IBs

```
.
. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of logEMLLP

         chi2(1)      =     2.07
         Prob > chi2  =   0.1507

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Appendix 7.6: Modified Wald Test (heteroscedasticity) for NIBs

```
. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of logEMLLP

         chi2(1)      =     1.55
         Prob > chi2  =   0.2136

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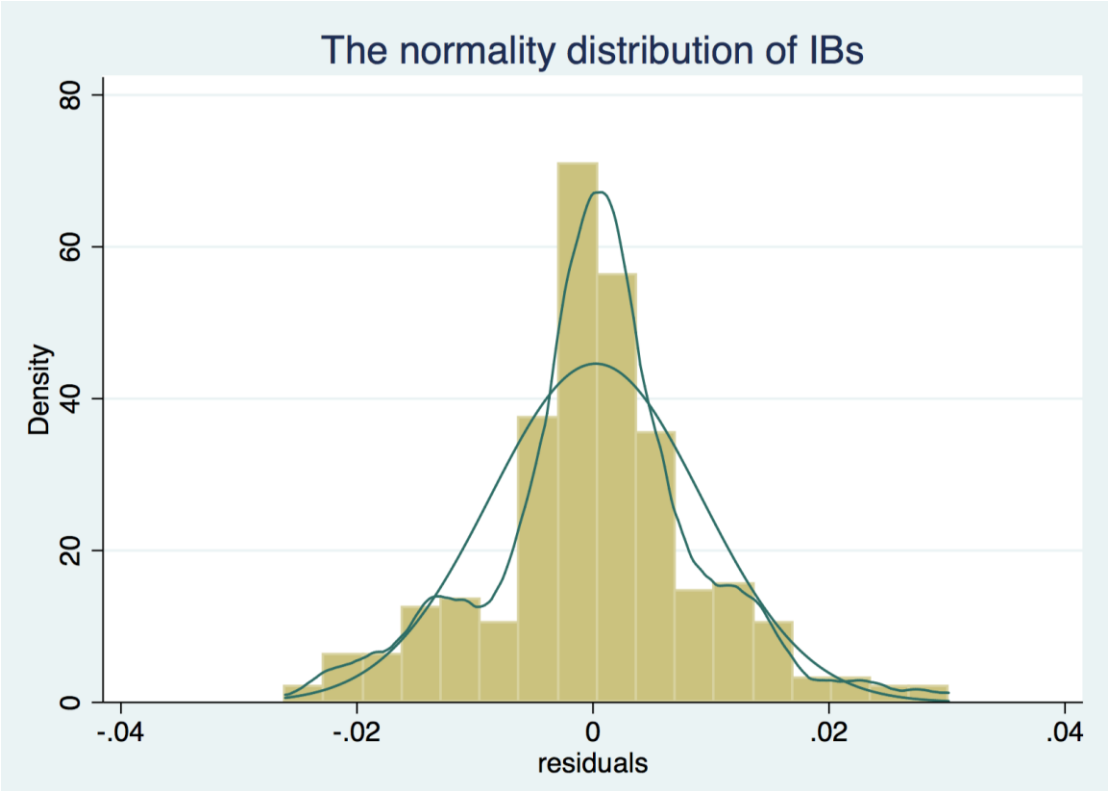
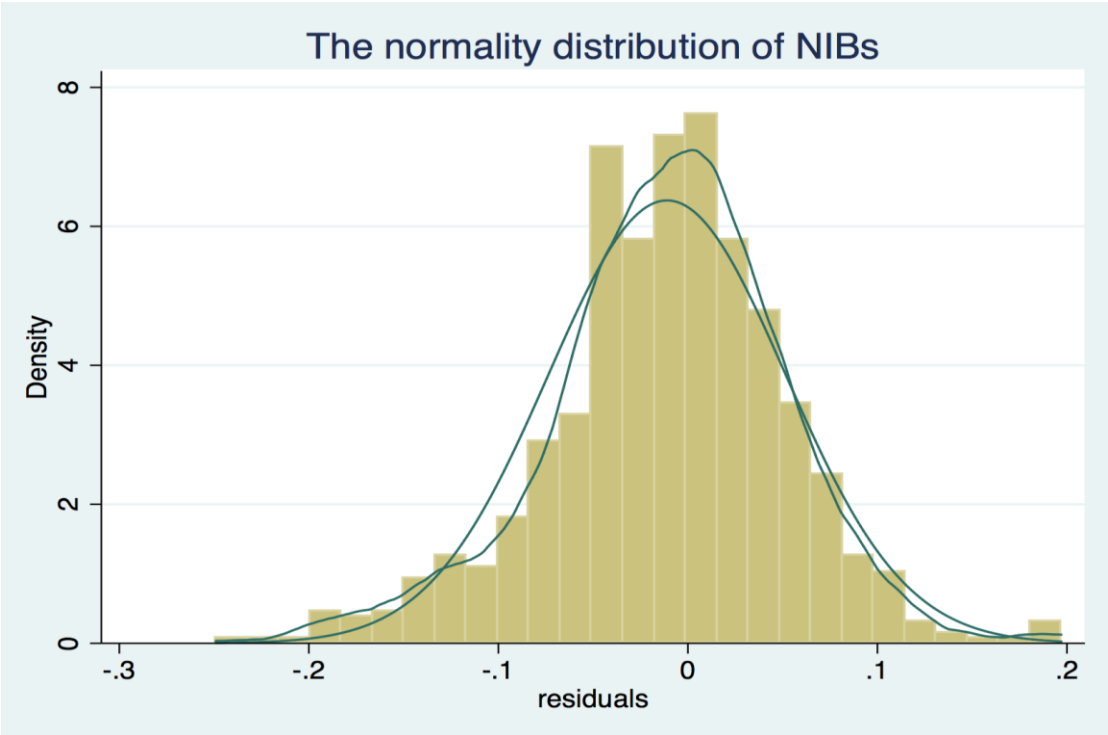
```

Appendix 7.7 The Normality Distribution of IBs



Appendix 7.8 The Normality Distribution of NIBs



Appendix 7.11: Endogeneity (Wu-Hausman Test for IBs):

```
. estat endog

Tests of endogeneity
Ho: variables are exogenous

Durbin (score) chi2(1)          =  8.20543  (p = 0.0042)
Wu-Hausman F(1,267)             =  7.80232  (p = 0.0056)
```

Appendix 7.12: Endogeneity (Wu-Hausman Test for NIBs):

```
.
. estat endog

Tests of endogeneity
Ho: variables are exogenous

Durbin (score) chi2(1)          =  62.1563  (p = 0.0000)
Wu-Hausman F(1,748)             =  65.6825  (p = 0.0000)
```