

Determinants of Basel III Risk Disclosures: The Case of Gulf Cooperation Council Public Banks

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ABSTRACT

Manuscript Type: Research paper

Research aims: The purpose of this paper is to investigate and examine the determinants of risk disclosure practices under Basel 3, Pillar 3 (revised 2016 version) requirements of the top 50 listed banks in the Gulf Countries region (GCC). The study covers the period 2016-2019.

Design/Methodology/Approach: The present study is based on a content analysis approach to allow the measurement of risk disclosures. Six risk disclosure categories were identified as the major sections regarding this particular type of reporting. The analysis covers both quantitative and qualitative data that had been hand collected from the annuals reports and Pillar 3 risk disclosures reports. From a regulatory perspective, the study refers to the most relevant international accounting standards, namely, Basel III Agreement Pillar 3 (2016 revised version), and IFRS 7.

Research findings: It is expected that the GCC major banks, even though they must comply with the same risk disclosure regulation, will demonstrate specific disparities in their risk reporting. The results of the study suggest that Basel III risk reporting is significantly determined by size, leverage, cross listing, and government ownership.

Theoretical contributions/Originality: The present study contributes to the literature by documenting the level of compliance of the top

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GCC banks with the recent BCBS risk disclosure requirements, and by providing empirical evidence regarding the quality of the released risk disclosures and its potential determinants. Another major contribution of the paper is the development of a self-constructed disclosure index that reflects the most recent Basel III disclosure regulations (Pillar 3, 2016 version).

Practical implications: The findings of this study could be appreciated from different angles. From a regulatory perspective, this study might be insightful to GCC banking regulators in terms of developing appropriate policies that will bring the banks to responsibly and professionally adopt an acceptable level of risk disclosure. At the global level, the findings could be insightful to the IASB concerning the degree of compliance of the banks in the region with IFRSs related to risk reporting. Thus, it can help the IASB consider institutional differences among countries when revising its pronouncements.

Research limitations/Implications: The findings of the present study would be understood in light of some limitations. First, in the present study, we considered only the top 50 GCC listed banks, which could impede the generalisation of the results from the content analysis and the regression on the rest of the banks in the region. Second, we were interested in this research about the implementation of the new 2016 market discipline Pillar 3 disclosures requirement. Expanding the time frame of the study could reveal additional insights into risk disclosure practices.

Keywords: Corporate Risk Disclosures Basel Committee on Banking Supervision (BCBS), Basel III, Pillar 3, Market Discipline, IFRS 7, Gulf Cooperation Council (GCC)

JEL Classification: G21,G28,G32,G34,G38

1. Introduction

Due to the sensibilities engendered by their activities, and the volatile environment in which they operate, banks are bound to disclosing significant amounts of information that is then made publicly available to all users. For this, the economic and financial crisis has proven that the banking sector has failed to capture all of the necessary information that is required in order to ensure the effective and comprehensive regulation of the banking sector (Farina et al., 2017). Moreover, banks' financial reporting requirements and discretionary choices may affect financial stability (Ryan, 2018), and it reduces the cost of capital as investors achieve improved information and give more assurance to the corporation (Nahar et al., 2016).

The nature of the banking industry exposes the sector to increasing risks, if compared to other business sectors (Htay et al., 2011) and, because they are risk-oriented, banks disclosures must be examined separately (Linsley & Shrives, 2005). For this, there is a need to devote more attention to supervising banks' lending activities (Festic & Beko, 2009). In the aftermath of the latest 2009 financial crisis, major market participants have questioned the sincerity of the banks and, as a result of this, the quality of risk disclosure assists the banks in upholding or increasing their legitimacy (Oliveira et al., 2011). It has now become evident that the issue of risk reporting is a major aspect that is at the center of this disclosure debate. If investors and other stakeholders are to be able to appreciate the risk profile of a firm, they must obtain adequate information regarding the risks that face a firm and the way the directors are handling those risks. The disclosure of risk information therefore allows investors and other stakeholders to make this assessment (Linsley & Shrives, 2005). Therefore, when banks' exposure to interest rate risk increases, the price of this risk simultaneously rises (Haddad & Sraer, 2020). For all these reasons, the new Basel Accord (Pillar 3) has initiated a call for more enhanced disclosure in published accounts. It has introduced a number of disclosure requirements that aim to enhance the market's ability to assess a bank's risk levels and its value (BCBS, 2015).

Today, we have substantial evidence to support the idea that offering improved bank disclosures has been demonstrated to make a banking crisis less likely to occur (Tadesse, 2005) because, in regimes with high disclosure, banks are less likely to take extreme risks (Nier & Baumann, 2006). Hence, understanding and communicating adopted risk management mechanisms is likely to provide insights and enable diagnosis on firm risk exposure (Jizi & Dixon, 2017). Besides, due to market discipline, poorly run banks will see their funding base diminished. This fact has been clearly highlighted by Cordella and Levy-Yeyati (1998) and Boot and Schmetis (2000), who have stated that, ex-ante, managers will select lower risks when the risk profile is observable to outsiders; and ex-post, when a banking crisis does occur.

One of the main motives of the present study is the fact that most of the previous studies in this stream of research have focused on the risk disclosures of general nature as required by certain accounting standards only. For this, these studies have not addressed the question related to the determinants of Basel III risk disclosures in with the Gulf Countries context. To the best of our knowledge, no

previous studies have investigated the risk reporting quality of the Gulf Cooperation Council (GCC)¹ top listed banks' reporting under the new Basel III, Pillar 3 disclosure requirements, 2015 Version. The present study contributes to the risk reporting literature by presenting empirical evidence relating to the compliance level of the 50 largest GCC based banks with the new updates to the Pillar 3 requirements by the Basel Committee. Furthermore, this study also attempts to explain different reporting patterns, both across banks and across countries. It also contributes to the field of research, recommending the examination of risk reporting incentives across countries (e.g., Linsley & Shrides, 2006; Dobler, 2008).

It is believed that the contribution of the present study to the banking sector regulators and supervisors in the region is significant, as it provides them with insights relating to the quality and quantity of the risk-related data delivered by the banks under their jurisdictions. The findings of the present study could thus be utilised to improve risk reporting by the banks and to enhance market discipline in GCC markets. This study also contributes to the existing literature by adding some insight into certain reporting behaviors and practices on the part of GCC banks as a response to international banking regulations.

The rest of the paper is structured as follows. Section 2 outlines the institutional setting. Section 3 discusses the theoretical framework and the literature review supporting this study. Section 4 discusses the research methodology. Section 5 reports the results of the empirical analysis. Section 6 concludes the paper. Finally, Section 7 presents the limitations, contributions and provides avenues for future research.

2. Institutional setting: Basel III, Pillar requirements

Over the past 25 years, capital adequacy requirements have emerged as the dominant form of regulation through which to maintain the financial soundness of banks (Lee, 2014). Basel III was established by the members of the Basel Committee on Banking Supervision (BCBS) in 2010–2011, and it was planned that it should be introduced between 2013 and 2015. Basel III represents a set of capital, liquidity,

¹ The Gulf Cooperation Council (GCC) is a regional intergovernmental political and economic union of Arab states bordering the Gulf. It was established in 1981 and its six members are the United Arab Emirates, Saudi Arabia, Qatar, Oman, Kuwait and Bahrain.

and funding reforms. The objectives of the capital reforms are to increase quality, consistency, and the transparency of capital, so as to enhance the risk coverage framework and to reduce systemic and pro-cyclical risk. Proposing a more sensitive methodology to the extreme and unanticipated fluctuations in the market, the Basel III regulations will thus help to improve management and governance, and it will strengthen banks' transparency and disclosures (BCBS, 2015) and improve financial stability, and allow for more investment in risky assets (Kara & Ozsoy, 2020).

The BCBS developed Pillar 3 to push forward, and enhance, market discipline, through regulatory disclosure requirements on how companies should report their banking activities, which are becoming even more diversified and complicated. Information asymmetry is the primary incentive behind Pillar 3 reporting, as it creates trading frictions by introducing adverse selection, thus leading to lower levels of stock liquidity and higher expected returns for investors (Leuz & Verrecchia, 2000). Accordingly, financial institutions reporting under Basel III must provide regular disclosures that cover the principal data related to assets, the processes put in place for risk assessment, the exposure to different risks, and then adequate capital with which to face these risks.

3. Theoretical Framework and Literature Review

3.1. *Resource Dependency Theory*

The concept of the "Resource Dependence Perspective" (RDT) has acquired wide public recognition and has become universally acknowledged after the publication of the book "The External Control of Organizations. A Resource Dependence Perspective" (Salancik & Pfeffer, 1978). Resource Dependency Theory (RDT) explains how firms work to decrease external interdependence and uncertainty (Salancik & Pfeffer, 1978). RDT posits that organisations are not independent, because of their reliance on the external environment to acquire and secure those critical resources that they require (Pfeffer & Salancik, 2003). Institutions, like banks, must manage the risk to which they are exposed, to acquire a stable flow of the necessary resources, such as corporate capital, deposits and legitimacy, in order to strengthen their presence and their capacity to grow sustainably in the longer term. Prosperous companies must therefore improve their operational systems to effectively deal with their external

environmental requirements and to gain the support of the main resource owners (Pfeffer & Salancik, 2003).

Hence, it is believed that the International Financial Reporting Standards (IFRS) regulations, along with the Basel accord's requirements, will undoubtedly assist banks with their risk management and disclosure practices. It may also help them to enhance their operational competences, their performance and to lessen critical future financial distresses. Hence, risk management and disclosure activities can create opportunities through which to gain competitive advantage (Hart, 1995).

In other words, by adopting sound risk management processes and embracing clear and concise disclosure policies, banks will comply with the reporting requirements of IFRS and the Basel regulations. Consequently, banks will be more able to examine their risks and more aware of the ways to avoid or mitigate them. Moreover, by complying with the disclosure requirements of IFRS and the Basel regulations and making their risk reports publicly available, banks may improve both their corporate image and the public perception of their reputation. It will be difficult to create a positive reputation without providing the related public disclosures (Ntim et al., 2013). Consequently, banks may take advantage of the increasing chances for competitive advantages by means of risk management and by disclosure improvement (Barakat & Hussainey, 2013). In the present study, RDT is considered to offer a solid theoretical framework, as public risk reporting is utilised by banks as a practical tool by which their external credibility is reinforced, consequently guaranteeing access to the critical financial resources that are necessary for their growth and survival.

3.2. Corporate Risk Disclosure

Although many aspects of corporate disclosures have been extensively investigated, studies that are interested in corporate risk disclosure (CRD) are still relatively limited and the area is under-researched (Lajili & Zéghal, 2005; Woods et al., 2008; Mazumder & Hossain, 2018; Elshandidy et al., 2018; Elamer et al., 2021; Veltri, 2020; Nahar et al., 2020; Qanga & Schutte, 2021). Besides, most of these studies have been interested in non-financial companies in industrialised countries. Nahar et al. (2016) reported that most risk disclosure studies are limited to developed countries, such as the Anglo-Saxon, Dutch, and German countries (Abraham & Cox, 2007; Deumes & Knechel, 2008; Lajili & Zéghal, 2005; Linsley & Shrives,

2006; Solomon et al., 2000); European countries (Barakat & Hussainey, 2013; Oliveira et al., 2011) and French and Latin countries (Beretta & Bozzolan, 2004; Thuélin et al., 2006). The present study, along with the limited number of similar studies, seeks to contribute to shedding light on corporate risk disclosure practices in the banking sector in a specific region, which is the Gulf Countries.

Corporate risk disclosure has always been seen as being of vital significance from various aspects. First, it is essential because corporate transparency in relation to risk is crucial if capital markets are to function well and vital in making company reporting more usefully informative for investors (Mokhtar & Mellett, 2013; Deumes, 2008). Second, it is considered to be an outside system that scrutinises executive managers' behaviors (Eng & Mak, 2003). Third, it strengthens the corporation's authenticity and reputation, which ensures the trust of stakeholders (Oliveira et al., 2011). Fourth, the risk disclosures help to bridge the gap in information asymmetry that exists between directors and shareholders (Raman & Bukair, 2013), thereby facilitating market discipline, since market participants have meaningful information on which to base their judgments of risk and performance (Hirtle, 2007).

Gregoriou (2009) investigated the level of corporate risk disclosure quality under Basel II Pillar 3 for the period 2004-2006 in relation to 65 risk elements. The results show high levels of disclosure inconsistencies. Furthermore, half of the sample did not comply with the underlying Basel II Pillar 3 requirements. In another study, Woods and Marginson (2004) reached similar conclusions from a sample of British banks which were reporting under FRS 13. They reported no substantial variations in the level, content, and format of disclosures among the sample banks in their study. On their part, Woods et al. (2008) relying on a content analysis of longitudinal data for the period 2000-2006 of the world's top-25 banks, indicated significant, constant diversity in quantitative and descriptive market risk disclosures. These variations were present both within and across countries. For the authors, this means that progress towards international harmonization remains apparent, rather than real. Vauhkonen (2012) investigated the role of disclosure requirements, such as those promoted by Pillar 3, using a theoretical model, and he concluded that more severe requirements will possibly make the banking system safer. Furthermore, he reported that the stricter the disclosure requirements, the greater the positive impact of an increase in capital requirements on bank safety. From another perspective,

Cordella and Levy-Yeyati (1998), as well as Boot and Schmeits (2000), emphasised the commitment effect of bank disclosure. Banks that decide to provide more risk disclosure information elect for a lower default risk in equilibrium. This means that banks that divulge their risk-profile expose themselves to market discipline implications and, consequently, are sanctioned by investors for selecting higher risk. This would not be the case if there were no indication of the bank risk profile provided to the investing community.

3.3. *Hypothesis Development*

Using an RDT framework, we hypothesised that in order to survive and maintain the flow of vital resources, corporations are driven to comply with the requirements of strategic resource providers to manage the pressures of uncertainty and scarcity in their environment by reviewing their structure and adapt their financial reporting system accordingly. However, in response to the new restrictions and regulations which characterised mainly by a market discipline approach, as promoted by Basel III requirements, banks will be adopting different response strategies depending on the factors that are being tested in the present study. Furthermore, RDT expects that enhanced risk disclosures can convey valuable signals to credit rating agencies regarding the present and upcoming performance and risk management aspects of a bank. This enhanced risk disclosure may enable access to resources, legitimise banks' operations, and reduce the cost of capital.

The factors that are believed to represent the different responses from the part of the banks and are assumed to have a significant impact on banks risk disclosure practices include the size of the assets that are held by the bank, the credit risk, as measured by loans loss provisions (LLP), profitability, leverage levels, IFRS adoption, cross-border listings, and government ownership. It is worth noting that the proposed factors are all bank specific. The financial data related to these proposed factors have been extracted from Thomson Reuters Eikon database, from the annual reports of the banks and from the Basel III separate reports of the banks in the sample

3.3.1. *Level of Risk Disclosure and Size Effect*

Size has been considered in the present study because literature has widely demonstrated that size is an essential determinant of financial reporting and large firms tend to provide more financial

disclosure compared to small ones. In this study size is measured by the log of total bank assets. Linsley and Shrivies (2006) documented a positive relationship for UK and Canadian banks. The authors posit that, according to stakeholders' expectations, larger banks should be providing more disclosures, or they have more diverse information needs, and, accordingly, they believe that larger banks may be replying to these expectations and satisfying those needs. In several recent studies this positive association between the firm size and the level of disclosure has been the subject of a consensus (Grassa et al., 2020; Augustina & Apriyanto, 2020). While other studies have concluded that there was no significant association between the level of risk disclosure and the firm size (Aryani & Hussainey, 2017; Angraini & Dura, 2021). The following hypothesis is thus proposed:

H₁: The extent of risk disclosure is positively associated with bank size.

3.3.2. *Level of Risk Disclosure and Bank Profitability*

The variable profitability is the capacity of a firm to generate income with every available resource from the company's operation (Widyaningsih et al., 2017). Additionally, a high income provides a positive measurement of the management's capability of operating the company on behalf of its stakeholders. However, the relationship between corporate disclosure and profitability has been always a subject of a large debate and the empirical results are inconclusive and most of time of conflicting nature. It has been argued in the corporate disclosure literature that managers of profitable firms tend to publish more information to indicate their capacity to maximize shareholders' value, ensure their positions and justify their professional benefits. On the other hand, managers of less profitable firms are reluctant to provide additional information to conceal their poor performance and preserve their companies' shares from being devalued (Aljifri et al., 2014). On the other hand, Linsley and Shrivies (2006) and Elshandidy et al. (2013) suggested that high profitable firms are inclined to signal, through risk disclosure, their ability to manage risk successfully and to achieve high-quality performance. The significant association between the company profitability and disclosure has been empirically supported by various studies (Alkurdi et al., 2019 ; Zhang et al., 2019; Oino, 2019; Bani-Khaled et al., 2021). However, Elghaffar et al., (2019) reported no significant association between the two variables. Most of the

corporate disclosure studies use the return on asset (ROA) as a proxy for profitability. The current study therefore adopts the same approach. Given this mixed evidence, we formulate the following nondirectional hypothesis:

- H₂: There is an association between the quantity of risk disclosure and the profitability of the banks.

3.3.3. *Level of Risk Disclosure and Loans Loss Provisions (LLP)*

Ng et al. (2020) showed that higher attention paid to a banks' financial reporting strengthens the role of loan loss provisions as a signal of expected loan losses. Besides, Gebhardt and Novotny-Farkas (2011) reported that loan loss provisioning is a key accounting choice that significantly influences the reported earnings of banks. This was corroborated by Andreou et al. (2017) who indicated that the main discretionary loan loss accounting ways are provisions and allowances. Norden and Stoian (2014) reported a significant trade-off in banks' provisioning for the expected and unexpected losses that affect profitability, risk, and payout policies, while Zoubi and Al-Khazali (2007) indicated that banks' managers in the GCC region smooth out income by means of loss provisions. Based on this proposition, it is hypothesised that:

- H₃: There is an empirically negative association between the quantity of risk disclosure and LLP.

3.3.4. *Cross-border Listing*

A decision by the firm to go for a cross-listing choice involves essentially a trade-off between the potential gains and costs. Cetorelli and Peristiani (2015) reported on a few studies that investigated the underlying motives and trade-offs of those companies that are listed outside their home market. The authors mention that among the benefits of being listed abroad is the reduction in market-segmentation problems. This may also improve firm visibility, decrease informational asymmetries, and reduce the cost of capital and enhance liquidity levels. It reinforces investor protection and improves the ability to monitor investors to transfer ownership. Hence, it has been postulated that to achieve these goals, companies must improve their disclosures and those related to the risk to

which they are exposed. Regarding the costs that entail a cross-listing decision, they are typically the obligation from the part of the firm to comply with more demanding regulatory environments. Consequently, it has been hypothesized in the present study that there exists an association between the level of corporate risk related disclosure and firms' cross-listing activities. Recent studies have indeed emphasized the idea that cross-listing is associated with better accounting quality (Arenke & Kimani, 2019; Kamarudin et al., 2020; Garanina & Array, 2021). Based on these studies, the following hypothesis is proposed:

- H₄. There is a positive association between a bank listed on a foreign stock market and the level of corporate risk disclosure.

3.3.5. *Leverage Levels*

Leverage is adopted as a determinant of risk related disclosure because it is believed to be one of the financial parameters that measure how a company performs in fulfilling their long-term needs. Thus, financial disclosure lessens the agency costs and enables the creditors the risk assessment of the firm. Additionally, detailed loan level disclosure should assist investors and regulators in more accurately assessing the riskiness of securitized loan portfolios (Ertan et al., 2017). Since corporate leverage is often taken as a proxy for risk, it may influence the level of risk disclosure. Consequently, companies exhibiting higher levels of risk tend to disclose larger amounts of risk-related information, since the managers are eager to explain the reasons for high risk (Linsley & Shrivs, 2006). Elshandidy et al. (2013) and Deumes and Knechel (2008) reported that research had demonstrated that companies with huge debts are enforced to disclose more information to satisfy their creditors. Consequently, these studies documented a significant and positive association between leverage levels and disclosure levels. However, other studies (e.g., Haji & Ghazali, 2013; Monday & Nancy, 2016) found leverage to be significantly and negatively related to the quality of financial reporting. Based on these theories, the following hypothesis is tested:

- H₅. There is a positive association between bank leverage and the level of corporate risk disclosure.

3.3.6. *IFRS Adoption*

From the perspective of resource dependence theory (RDT), by adopting IFRS, the banks management might increase and improve the quality of risk disclosure to acquire critical resources, such as funds, government grants and business contracts (Jizi et al., 2014). Moreover, thorough risk disclosure regularly performs as a signal of enhanced risk management and conformity to IFRS regulations and Basel Accords, this in turn works towards improving the image of the bank (Ntim et al., 2013). Daske and Gebhardt (2013) concluded that market liquidity, and disclosure for companies, experienced a considerable increase after mandatory IAS/IFRS adoption. Likewise, Armstrong et al. (2010) demonstrated that investors show a positive reaction to 16 events that are associated with IFRS adoption in Europe. From another perspective, Ahmed et al. (2013) postulated that if IFRS are of higher quality than domestic GAAP, and if they are correctly implemented, then mandatory adoption of IFRS is supposed to enhance accounting quality. This statement has been empirically documented by several recent studies (De Moura et al., 2020; Yim, 2020; Adeolu Abata & Ayinde Amoo, 2020). They have all agreed that the legal enforcement of IFRS adoption on banks has significantly stimulated the banks to provide quality risk related information to the market participants. Relying on these studies, the following hypothesis is formulated:

- H₆. There is a positive association between the adoption of international accounting norms (IFRS) and the extent of corporate risk disclosure.

3.3.7. *Government Ownership*

Based on RDT, banks tend to heavily rely on outside resources. This reliance on external resources creates additional exposure to these banks to both variations in the resources flow and country-level institutional pressures (Bonetti et al., 2016). Thus, banks may choose to improve their risk disclosure level as a strategic behaviour to manipulate external dependencies or exert influence over the allocation or sources of critical resources in direct response to the country-level governance processes that affect them (Bonetti et al., 2016). For this, the BCBS has been stressing, in all its official documents and releases on the importance of the bank's corporate governance structure. It affirms that 'Supervisors, governments and

depositors are among the stakeholders due to the unique role of banks in national and local economies and financial systems, and the associated implicit or explicit deposit guarantee (BCBS, 2006). Furthermore, resource dependence theory offers more support for the vital role of government ownership in shaping the disclosure policy of the company. It presumes that corporations that have a large presence of government ownership may also make use of risk disclosure to have access to critical financial resources, represented by official grants, exclusive rights and government contracts. In this study government ownership is measured by the proportion of shares owned by the government. Related to the context of the present study, Baydoun and Willett (2006) stated that listed companies in GCC countries are predominantly government owned. This confirms the high presence of governments in GCC countries in the banks' boards of administration. Furthermore, the market appreciates a company with a higher proportion of independent directors and government ownership (Ghazali, 2014). This has been confirmed by Liu and Sun (2010), who found that corporate disclosure quality is lower for firms that are ultimately controlled by individuals than for firms that are ultimately controlled by the state. Additionally, Sepasi et al. (2016) and Salem et al., (2019), provided evidence that government ownership influences firm's disclosure. However, Elzahr and Hussainey (2012) and Solomon et al. (2000) reported no significant relationship between institutional ownership and risk disclosure. The following can be thus hypothesized:

H₇. There is a positive association between government ownership and the quality of risk reporting in banks.

4. Methodology

4.1. Data Collection and Sample

The GCC banks' selection relied on the top 50 listed banks in the GCC in the 2016 ranking that the GulfBusiness website provided. GulfBusiness is the region's first dominant business magazine. It covers a wide range of economic sectors. The banks were ranked based on the size of their total assets. (See Appendix 1)

Their principal sources for risk data are the annual reports, because these enable the reader to obtain a coherent risk picture without difficulty. They are the "main disclosure vehicle" (Linsley & Shrives, 2005; Marston & Shrives, 1991). Data relating to Basel III risk

disclosure and market discipline were hand-collected from the Pillar III regulatory capital disclosure requirements that were released separately. In general, banks release Pillar 3 reports separately to their annual reports, while some combine them in their annual reports.

The base year – 2016 – was selected because, in that year, the Basel Committee on Banking Supervision introduced major updates in relation to Pillar 3 disclosure requirements, in order to enhance the quality of the Pillar 3 quantitative and qualitative information disclosed. Hence, the study covers the period from 2016-2019, producing 200 banking-year observations.

4.2. Bank Risk Disclosure Index Development

Following a widely used approach in relation to corporate risk disclosures by using content analysis (Elshandidy et al., 2013; Oliveira et al., 2011; Lajili & Zéghal, 2005), the present study also used an approach that relies on content analysis and other statistical methods – regression and correlation analysis. The content analysis of the annual reports and the Basel III reports of the sample banking institutions, published over a four-year period from 2016-2019, was performed so as to score each banking-year's disclosures against an optimal index. This approach is helpful in generating both qualitative and quantitative indicators of the degree of bank risk disclosure, in order to establish whether differences exist across countries and across banks. The main objective is to assess whether these banks are providing acceptable disclosure levels relating to the market risks to which they are exposed, and to examine the main bank specific factors that determine the levels of this disclosure.

In developing the optimal risk disclosure index, this study has relied on a risk disclosure index proposed by Huang (2006), from the World Bank, which has also been adopted by Nier (2004). Moreover, this study has used the extensive guidance proposed by the Enhanced Disclosure Task Force (EDTF), established by the Financial Stability Board (FSB), which is a group constituted of banks, analysts, investors, and auditors. Its mission is to enhance the risk disclosures of the world's largest banks. Technically, risk disclosures can be categorised into two classes. The first is related to general risk information and to IFRS 7 financial instruments' disclosure requirements. This type of information is disclosed in the annual reports. It involves six main risk categories that are related to risk management objectives and policies: operational risk, liquidity risk, capital structure and adequacy, credit risk, and market

risk. Accordingly, the disclosure index (CRDI 1) was developed to score this first set of risk information items. Appendix 2 reports the required disclosures for general risk.

The second set of risk information was extracted from banks' Basel III Pillar 3 reports, which generally come in a stand-alone document that provides a readily accessible source of prudential measures (BCBS, 2015). When disclosed, they are usually called qualitative and quantitative disclosures, under Pillar-III of risk-based capital adequacy. Disclosure Index 2 (CRDI 2) was constructed in order to score both the qualitative and quantitative information found in the annual reports, and the Pillar 3 disclosures, in numerical, narrative, graphical, and tabular forms. Appendix 3 reports the qualitative and quantitative risk disclosure requirements, which consists of 11 qualitative risk items and 29 quantitative risk items.

4.3. The Dependent Variable

The dependent variable in the present study is the extent of risk disclosure that is captured by the two indices (CRDI 1 and CRDI 2). For the construction of these disclosure indices, in addition to the Basel III Pillar 3 recommendations and the international accounting standards requirements (IAS and IFRS), several other sources and references have been utilised. Each individual risk-related information item disclosed, and reported by each bank, was coded using a binary/dichotomous scoring system. A value of 1 is given if the risk item is present in the annual report or in the Pillar 3 disclosures, and 0 is given for non-disclosure. Hence, the user of the risk information is offered an overview of the total risk to which the bank is exposed. This scoring approach, regardless of the importance of the risk item, is generally known as an unweighted index. Such a practice is regarded as being both acceptable and common in the literature, letting us inhibit subjectivity while allocating weights to the individual risk information item. This approach is also coherent with the main research objective of this paper, namely, to provide some much-needed indications of the trends and variations in the scale of market risk disclosures in the banking sector (Woods et al., 2008). Another reason to opt for the use of an unweighted disclosure index is that the present study does not focus on a specific category, it addresses all the annual reports' users (Oliveira et al., 2011).

Differences in CRDI scores depend on the extent of the disclosure by each bank distinctly. CRDI is calculated based on the following formula:

$$CRDI_j = \frac{\sum x_j}{\sum m_{ij}}$$

Where $CRDI_j$ represents the corporate risk disclosure index for the bank j , x_j the total number of risk items disclosed by the bank j , and m_{ij} the maximum risk items to be disclosed by bank j (comprising 44 risk items for the first risk category, and 40 for the second). The higher the index, the more transparent the bank is in disseminating risk information.

4.4. Regression Model

To test our hypotheses and to identify the factors that are associated with the extent of the Basel III risk disclosures in the annual reports and in the Pillar 3 risk reports of the top GCC public banks, a multivariate analysis was performed through the following regression model:

$$CCRD = \alpha_0 + \beta_1 Size + \beta_2 Lev + \beta_3 Prof + \beta_4 CrossList + \beta_5 IFRS + \beta_6 LLP + \beta_7 Gov + \varepsilon$$

Where $CCRD$ is the comprehensive corporate risk disclosure index, represents the average of $CRDI 1$ (which is an index that is calculated through a content analysis based on seven components (44 items) extracted from the annual reports of the bank) and $CRDI 2$ (which is an index calculated based on a content analysis that is based on seven components (40 items) that are extracted from the separate Basel III, Pillar 3 risk annual reports of the bank; α is the intercept; β_1 is size; β_2 is leverage; β_3 is profitability; β_4 is cross listings; β_5 is IFRS adoption by the bank; β_6 is the loan loss provision; β_7 is government ownership and ε is error term. Detailed definitions and measurements of all study variables are summarised in Table I.

Table 1: Variables' descriptions

Variables	Proxies of measurement
Bank size (Size)	Logarithm of total bank assets.
Leverage (Lev)	Investment account holders divided by total assets.
Profitability (Prof)	Net income divided by average total assets.

Table 1: Variables' descriptions (continued)

Variables	Proxies of measurement
Cross listings (Crosslist)	Dummy: 1 if the bank is listed on foreign stock market, 0 otherwise.
IFRS adoption (IFRS)	Number of years since a bank first implemented IFRS.
Credit risk (LLP)	Loan loss provision divided by average net loans
Government ownership (Gov)	The proportion of shares owned by the government

5. Research Findings

The investigation of the extent of the risk disclosure of the major GCC banks in this study is structured into three major sections. First, the CRDI 1 for risk category one is calculated. Second, the same is done in relation to CRDI 2 for risk category two. Then, an empirical analysis is performed to examine the determinants of the risk disclosure practices of the sample, based on the CCRDI, which is a comprehensive corporate risk disclosure index that represents the average of CRDI1 and CRDI2.

5.1. Descriptive Statistics of the Extent of Risk Disclosures

5.1.1. General Risk Disclosures (CRDI1)

Table 2 reports the summary statistics for the six categories of risks that comprises 44 items. Relying on a content analysis, these scores represent the averages of the risk that was disclosed in the annual reports for four years, namely, 2016, 2017, 2018 and 2019. The mean scores for major GCC banks showed an average score of 0.83, scores which ranged from 65 per cent to 98 per cent, and such scores are regarded as being generally acceptable by the previous literature. This indicates that the top GCC listed banks comply with 83 per cent of the risk disclosure that has been investigated in the present study.

Liquidity and operational risk showed the lowest level, if compared with the optimal level of all types of risk disclosures (83 per cent). This led us to think that the sampled banks utilise their discretion in order to decide on which risk information should be reported to the public. Taken as a whole, the scores of the individual risk disclosure categories that were reported by the appraised commercial banks in GCC countries indicate that all the disclosure

items in the six risk categories were provided by all the sampled banks.

The scores related to each country, reported in Table 3, also corroborate this. To better understand the overall trend for this type of disclosures, an analysis was carried out across countries. Table 3 provides the descriptive statistics relating to the extent of the risk disclosure for each risk category, and by jurisdiction. This clearly indicates that Kuwait had the highest mean (91%), followed by Oman (84%), Bahrain (83%), and then Qatar and UAE (82%), and Saudi Arabia (80%) respectively.

Based on an average of 84% for the total index, it can be noticed that only two countries, Kuwait and Oman, showed an average that was above the total CRDI average. Nonetheless, the remaining countries were at an acceptable level of risk disclosure. These variations are certainly due to the local legal requirements' differences. In general, the banks in the sample have produced an acceptable level of risk disclosure.

Table 2: Corporate Risk Disclosure Index (CRDI 1) Total Scores

Risk categories	Mean	Median	Min	Max	Standard deviation (SD)
Board and management structure related to risk management	0.80	0.82	0.56	1	0.15
Market risk	0.84	0.96	0.44	1	0.23
Liquidity risk	0.75	0.96	0.36	1	0.37
Credit risk	0.93	0.96	0.88	1	0.05
Operational risk and other risk	0.65	0.84	0.56	1	0.35
Capital Management	0.98	1.00	0.96	1	0.02
Overall CRDI 1	0.83	0.92	0.62	1	0.20

Table 3: Index Scores on Individual Risk Items by Country (CRDI 1)

Countries	A	B	C	D	E	F	Total Index
Qatar	100	89	67	88	60	87	82
KSA	74	74	77	95	62	100	80
UAE	79	90	68	96	60	100	82
Kuwait	88	92	89	95	80	100	91
Bahrain	83	83	59	94	80	100	83
Oman	88	67	67	100	80	100	84

Notes: A = Board and management structure risk, B = Market risk, C= Liquidity risk, D= Credit risk, E= Operational risk, F= Capital management risk

Furthermore, the standard deviation that is reported in Table 2, and the described scores in Table 3, endorse the idea that the level of global risk disclosure provided by the sampled banks in all the jurisdictions is at around the same level. Nevertheless, this is not the case for the separate risk items reported by all the banks in all the GCC countries.

5.1.2. Extent of Pillar 3 Risk Disclosures Scores (CRDI 2)

The first, and most striking, observation relating to the second category of risk disclosures is the considerably low level of publication within certain jurisdictions and among certain risk items. During the scoring process of Pillar 3 disclosures, it was observed that there was a considerable lack, and in certain cases, there was an absence of entire risk item categories across both banks and across countries. This was evidenced in Table 4 and Table 5, which show that, only in certain countries, all the banks did comply with the new requirements of the Pillar 3 new disclosure requirements; and their reported risk reports match the regulation. Whereas some of the other banks in different countries, such as is the case in the UAE and Oman, in Table 5, categorically did not provide any Pillar 3 disclosures, with some of them published only Pillar 3 and capital adequacy disclosures according to the previous regulation and by means of the old templates. This situation may be ascribed to the novelty and complications of the new disclosure requirements, or to the relaxed enforcement mechanisms in the jurisdictions concerned. It might also be attributed to the resemblance that exists between

the risk information published in the annual reports, and the requirements of the Pillar 3 disclosures. This indicates that certain banks are content to comply with the minimum legal requirements only by disclosing risk information in their annual reports. Moreover, certain banks have not yet adopted the Basel III requirements, and they are still providing risk information according to Basel II. Probably, their respective public institutions have not yet enforced the implementation of the Basel III regulations. During the scoring process, these banks were allocated a score of 0. The same score was assigned to those banks providing only Pillar 3 required information according to the pre-2005 BCBS regulation, and that are still using the previous Pillar 3 templates.

A closer look at Tables 4 and 5 reveals the presence of wide discrepancies relating to the extent of this disclosure category. On one hand, banks in Bahrain, with an average score of 100%, delivered full coverage of their Pillar 3 disclosures and complied completely with the 2015 new BCBS templates. On the other hand, UAE, and Oman reported extremely low averages, 3% and 9%, respectively. With an overall average of 43%, only three countries fall within this average, Bahrain, KSA and Kuwait.

Table 4: Pillar 3 Qualitative and Quantitative Disclosures (CRDI 2)

	Average	Median	Min	Max	SD
Overview of risk management and RWA	0.74	0.74	0.64	0.84	0.14
Linkages between financial statements and regulatory exposures	0.44	0.44	0.44	0.44	0.00
Credit risk	0.40	0.40	0.32	0.44	0.05
Counterparty credit risk	0.39	0.40	0.36	0.44	0.33
Securitization	0.37	0.40	0.32	0.40	0.36
Market risk	0.36	0.32	0.32	0.44	0.62

Note: The detailed template of the Pillar 3 risk disclosure required items is reported in Appendix 3 (Qualitative and Quantitative risk disclosures template)

It is clear from the findings that the Bahraini, Saudi, and Kuwaiti major banks have devoted noticeable efforts to offering a well-designed risk reporting system, which is characterized by the comprehensive coverage of most of the Pillar 3 2015 qualitative and quantitative disclosures.

From another perspective, the analysis of the Pillar 3 disclosure patterns demonstrates remarkably interesting facts about the reporting behavior on the part of the banks sampled. The first, and most noticeable, impression that one has when perusing Pillar 3 disclosures, is that they are not easy to read (Linsley & Lawrence, 2007), and the information is dispersed throughout the annual reports, which impairs their understandability (Oliveira et al., 2011).

Table 5: Summary of Pillar Disclosures by Country (CRDI 2)

Risk category	Qatar	KSA	UAE	Kuwait	Bahrain	Oman
Overview of risk management and RWA	75	72	20	63	100	50
Linkages between financial statements and regulatory exposures	35	68	0	35	100	0
Credit risk	35	60	0	35	100	0
Counter-party credit risk	35	60	0	50	100	0
Securitization	10	60	0	50	100	0
Market risk	20	52	0	68	100	3
Average	35	62	3	50	100	9

Even though BCBS (2015) is noticeably clear about the presentation and reporting style of Pillar 3 disclosures, the sampled banks show great inconsistencies, and there were considerable reporting variations on their risk reporting regimes. It was not even possible to get the Pillar 3 reports of some banks, and several provided some kind of reports, which were entitled capital adequacy reports, that included some of the recommended BCBS (2015) Pillar 3 data. Besides, with some banks, wide variations in disclosure templates were employed and different titles and risk items' names appear in their Basel III reports. Additionally, the banks in the sample utilised different means to display the same required risk item. In fact, tables, graphical presentations, narrative descriptions and quantitative figures have been used. This makes comparability across these banks and countries quite impossible. In many cases, it was observed that there was a prevalence of narrative risk disclosures,

instead of there being quantitative and straightforward ones. This phenomenon has also been observed by Linsley and Shrivies (2006), who justified this behavior on the part of the banks as an attempt to disguise, or to hide, certain sensitive risk information to avoid potential pressures from their investors.

Overall, the findings relating to Pillar 3 risk disclosure practices on the part of the GCC's major banks indicate major problems in relation to transparency and comparability. Disclosures are often vague, qualitative, backward looking and of doubtful usefulness in relation to decision-making. Oliveira et al. (2011) also observed this. The presentation of risk in the annual reports was not standardized, and the descriptions of risk disclosures were vague and elusive (Linsley & Shrivies. 2006). It is, then, highly recommended that this situation should be seriously addressed by the local banking authorities to discover the reporting deficiencies and the transparency flaws on the part of the banks operating in these countries. Hence, tangible enforcement and repressive measures should be instituted to enhance the risk disclosure practices on the part of the banks.

5.2. Regression Results: Determining Factors of Risk Disclosure

Table 6 presents the correlation matrix of the variables. It shows several strong correlations among some of the explanatory variables. This implies the possibility of a multicollinearity problem. However, as no correlation coefficients were greater than .80, no concern in relation to the multicollinearity problem should exist. Variance Inflation Factor (VIF) had also been utilised as another check for multicollinearity. A VIF value that is greater than 10 indicates a case of multicollinearity. Hence, the multicollinearity between the independent variables is not considered a serious problem. As can be noticed in Table 6, the variables size, crosslist and LLP indicated the highest correlation index relating to the dependent variable CCRD (0.429; 0.436 and 0.456, respectively), and a statistically significant value ($p > 0.05$), while the rest of the variables exhibited a lower significant value ($p < 0.05$), as well as a low correlation index. To answer the question as to what are the factors that determine the level and quality of the corporate risk disclosure of major GCC banks, a multiple regression analysis was applied.

Table 6: Spearman Correlation Matrix

Determinants of Basel III Risk Disclosures

Variables	CCRD	Size	Lev	Prof	Crosslist	IFRS	LLP	Gov
CCRD	1							
Size	0.429*	1						
Lev	-0.012	0.267	1					
Prof	0.261	0.152*	-0.108	1				
Crosslist	0.436*	0.353	-.492*	.428*	1			
IFRS	0.043	-0.078	.457*	0.059	-0.302	1		
LLP	0.456*	0.348**	-0.167	0.170	-0.266	0.255	1	
Gov	0.310*	0.465*	0.263*	-0.300	0.293**	0.246*	-.606**	1

Notes: This table reports the bivariate statistics for the study variables of the sample (100 bank-years); ** and * indicate the level of significance at 5% and 10%, respectively, variables' definitions are described in Table 1.

Table 7 reports the regression results, estimating the factors influencing the extent of risk-related disclosures. The model reports an R² of 0.299, which suggests that independent variables explain nearly 30 percent of the variation in the CCRD index. A discussion and comments on the regression results related to the relationship between the overall levels of banks risk disclosures, as measured by CCRD, and the factors that are assumed to have a significant impact on banks' risk disclosure practices have been tested, as follows. These factors are the amount of the assets that are held by the bank, the credit risk as measured by loans' loss provisions (LLP), profitability, leverage levels, IFRS adoption, cross-border listings, and government ownership.

Table 7: The Factors Determining Comprehensive Risk Disclosure – Regression Analysis.

Coefficients					
Model	Unstandardized coefficients	Standardized coefficients	T	VIF	P-value
	β	Beta			
(Constant)	2.619		1.723		0.000**
Size	0.272	0.609	0.276	1.478	0.016*
Lev	0.978	0.613	3.281	1.166	0.002*
Prof	0.976	0.512	2.114	1.345	0.189
Crosslist	3.342	2.045	-3.582	1.456	0.002*
IFRS	-3.567	9.768	-0.362	1.199	0.178

Table 7: The Factors Determining Comprehensive Risk Disclosure – Regression Analysis (continued)

Coefficients					
Model	Unstandardized coefficients β	Standardized coefficients Beta	T	VIF	P-value
LLP	-0.076	0.412	-2.209	2.287	0.190
Gov	-0.872	-0.657	-2.342	2.211	0.033**
<i>Model summary</i>					
R	0.437				
R square	0.299				
Adjusted R square	0.199				
F-statistic	2.999				
P value	0.0023				
Observations	200				

Note: This table reports the associations between risk disclosure under IFRS 7, and under Basel III Pillar 3 requirements' index (CCRD, the dependent variable), and the independent variables. Table 1 shows the description of variables. * denotes significant at 1%, ** denotes significant at 5%.

Overall, our findings provide support to most of the hypotheses, and the results are consistent with the expectations of the RDT framework. An examination of the results suggests that bank size tends to be statistically associated with risk disclosure. This means that larger banks are eager to provide more public risk disclosure, if compared to the smaller banks (Campbell et al., 2014; Htay et al., 2011; Raman & Bukair, 2013). This finding supports hypothesis H_1 . For instance, RDT posits that if larger banks have enhanced resources and higher technological logistics, they can afford to provide a higher level of information at a lower cost (Campbell et al., 2014). Besides, from the RDT perspective, this result also indicates that large banks engaging in enhanced risk related disclosures activities will be able to maintain legitimacy (Mollaha & Zaman, 2015) and increase their chances to have access to additional resources and opportunities.

Regarding the effect of leverage on risk disclosure, Table 7 reveals that leverage has a significant impact on GCC top listed banks' risk disclosure. Hence, according to this finding, leverage is a key incentive for the banks in providing enhanced levels of corporate risk disclosure. This result supports the premise of RDT that to

maintain the flow of financial resources, the company must keep the flow of corporate disclosure and ensure the continuous access to these resources. Moreover, from the RDT perspective, if the strategy of the bank is to maintain higher leverage levels, then it is expected that the management will be under continuous and close scrutinising by the creditors and the financial resources providers. The lenders have a vested interest in monitoring the company to ensure that their interests are protected. Besides, business risk is included to control for its impact on board governance and performance. The significant association between leverage and risk disclosure is consistent with the results of several other studies (e.g., Barakat & Hussainey, 2013, Wan Ibrahim et al., 2011), this result validates agency theory's postulates. Thus, the higher the bank leverage, the more that risk disclosure is provided in annual reports (Hassan, 2009; Nier & Baumann, 2006). Besides, it appears that the top GCC public banks, with a higher level of investment accountholders, are persuaded that they have the obligation to increase the risk related information that they make public to lessen the supervision costs and depositors' suspicions regarding the bank's aptitude in satisfying its commitments.

With reference to the association between profitability and risk disclosure, the findings divulge no significant relationship between the level of bank profitability (ROA) and CCRD, which is in line with most of the previous studies (e.g., Street & Gray, 2002; Glaum & Street, 2003; Ali et al., 2004; Madrigal et al., 2015). Thus, suggesting that more profitable banks, and those that are relatively less profitable, do consider disclosing their corporate risk, regardless of their levels of profitability. Saidi (2017) indicated that even if the costs of competition that are engendered by the disclosure are high for those firms that are in full growth, firms are more motivated to provide information to mitigate the risk of being adversely selected. On the other hand, other studies have reported that profitability and corporate risk disclosure are significantly correlated (e.g., Aljifri & Hussainey, 2000; Mousa & Elamir, 2013).

The results of the regression report also shows a significant and positive association between cross-border listings and risk disclosure. This is consistent with previous studies (e.g., Miihkinen, 2012; Rajab & Handley-Schachler, 2009, Raman & Bukair, 2013). In line with RDT arguments the more the access to financial resources, the lesser the cost of capital. This is applicable for big size firms. As the size of the company increases, it is easier for it to access more financial resources

which lead to the lower cost of capital and higher profit. Thus, to gain access to financial resources abroad, large banks will get listed in foreign capital markets and increase their risk related disclosures accordingly. Additionally, RDT suggests that the opportunity to gain unique and valuable resources through collaborative relationships with others leads to mutual benefits that enhance the competitive capabilities of the firm (Amoako-Gyampah et al.,2019).

Regarding the impact of loan loss provisions (LLP) on risk disclosure, the findings reveal no significant association. This result is not in line with the RDT premise. This finding is corroborated by Naciri (2002), who reported that the Basel Accord's implementation in Canada had no effect on earnings management, as the Canadian banks (1980-1996) continued to manage their provisions for doubtful debts both before and after the adoption of the Basel Accord. However, Pérez et al. (2008) showed that Spanish banks, notwithstanding regulatory requirements on provision that leave little discretion to managers, do use reserves to manage their results. It is worth mentioning that banks tend to hold substantial discretion for determining LLP estimates, and bank executives must guarantee that the application of Basel III provisioning standards are motivated by sound credit risk management considerations (Wezel et al.,2012).

Government ownership indicates a significant and positive association. This significant association offers support for the RDT framework. RDT expects that banks may engage in increased risk disclosures to indicate their conformity with government programs and regulations that can facilitate for them accessing to vital resources, in the form of finance and business contracts. The positive correlation between governmental ownership is in line with the outcomes of prior studies (Alhazaimeh et al., 2014; Eng & Mak, 2003; Ghazali, 2014; Ntim et al., 2013; Barakat & Hussainey, 2013). This result implies that powerful shareholders such as government shareholders have both the power and the incentives to monitor insiders' behavior to safeguard minority rights and bank reputation. This finding is also supported by the fact that, in an emerging region such as the GCC, where ownership concentration is widespread, government ownership is an essential element that encourages higher levels of corporate governance disclosures. Nevertheless, Aryani and Hussainey (2017) and Saggat and Singh (2017) reported a negative association between the number of block holders and risk disclosure. Finally, Table 7 indicates that there is no statistically significant relationship between the adoptions of IFRS and CCRD.

6. Summary and Conclusion

The present study is an attempt to examine the level of corporate risk disclosures by the 50 largest GCC based listed banks for the period 2016-2019 empirically. The study relies on the annual reports, from which to extract the general bank risk information in Basel III/Pillar 3 disclosure reports (Version 2015) to obtain the Pillar 3 risk data, and on the Thomson Reuters Eikon database to obtain the financials. To acquire a comprehensive measure of the extent of risk-related information disclosed, a detailed content analysis was undertaken by means of a self-constructed disclosure index that covers the two sets of risk data. Then, an additional analysis was carried out in order to empirically test some of the determinants of selected levels of risk disclosures among GCC banks.

Largely, the content analysis of risk disclosures among the GCC banks demonstrates the existence of several deficiencies, including the lack of the disclosure of detailed policies that would make it possible to mitigate credit and liquidity risk, shortfalls in associated collateral explanation, and the absence of a sensitivity analysis of risk exposures that relate to liquidity. Moreover, disclosures are often vague, qualitative, backward looking, and of doubtful usefulness in relation to decision making. It has also been demonstrated that the presentation of risk was not standardized, and that the descriptions of risk disclosures were vague and elusive. It has also been found, through the detailed content analysis, that the top GCC banks are striving to comply with the minimum legal requirements regarding their operational and other risks and that they are using their discretion to decide on what risk information is to be reported to the public. These findings provide more evidence on the persistence of international financial reporting differences and disharmony, which constitute a clear breach of comparability and transparency in the information qualitative characteristics. Besides, the regression analysis also reveals that the potential determining factors of comprehensive risk disclosures within the top GCC banks are size, leverage, cross listing, and government ownership.

The present study contributes to the literature by documenting the level of the top GCC banks' compliance with the recent BCBS risk disclosure requirements, and by providing empirical evidence relating to the quality of the risk disclosures released, and their potential determinants. Another major contribution of this paper is the development of a self-constructed disclosure index that reflects

the most recent Basel III disclosure regulations (Pillar 3, 2015 and 2018 versions).

7. Limitations, future research avenues, and implications

The findings of the present study will be understood in the light of some of its limitations. First, in the present study, we considered only the top 50 GCC listed banks, which may impede the generalisation of the results of the content analysis, and the regression analysis, based on the rest of the banks in the region. Second, the present study is interested in the implementation of the new 2016 market discipline Pillar 3 disclosures' requirements. Expanding the period of the study might expose additional insights into risk disclosure practices.

Future research may first be carried out by increasing the sample and enlarging the time frame's scope to include all the MENA region banks for multiple years. This may raise additional questions regarding compliance with the Basel Committee on Banking Supervision's regulations and implementation challenges and may provide more insights into risk reporting behaviors among GCC banks. Third, future research may investigate additional factors that are likely to influence the volume and quality of risk-related disclosures. These additional factors may include institutional ownership, corporate governance variables, and the level of the diversification of the banks.

The findings of this study may be appreciated from different angles. From a regulatory perspective, this study may have policy implication and be insightful for GCC banking regulators, in term of developing appropriate policies that will bring the banks to adopt an acceptable level of risk disclosure, both responsibly and professionally. On a global level, the findings of this study may be helpful for the IASB, in relation to the degree of the banks' compliance in the region to IFRSs that are related to risk reporting. It can thus help the IASB to consider the institutional differences among countries when revising their pronouncements (Tahat et al., 2016). Overall, the findings have implications for investors, risk regulators and other stakeholders to guarantee information appropriateness, enhanced market efficiency, and offering specific guidelines to improve accountability and to encourage the listed banks in GCC stock markets to adopt sound and credible risk disclosures practices. The policy implications of this study can be also of interest for national

stock markets and securities regulators by suggesting that listed banks must overcome all the imperfections of risk disclosure policies, this in return should contribute in the strengthening the domestic capital markets and enhance the banks' ability to raise funds and attract cross-borders capital flows. Accounting firms may also benefit from the output of this study in term of providing them with practical insights related to the deficiencies of risk disclosure practices of GCC listed banks. Thus, the auditing protocols and mechanisms of the accounting firms might be reviewed and improved and to accommodate any shortcomings.

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Appendix 1: GCC Listed Banks for the year 2017

BANK	ASSETS (US\$)	NET PROFIT (US\$000)	RANK	COUNTRY
Qatar National Bank	197,718,273	3,407,769	1	Qatar
Emirates NBD	121,972,233	1,970,913	2	UAE
National Commercial Bank	117,731,019	2,510,889	3	KSA
National Bank of Abu Dhabi	114,542,200	1,441,885	4	UAE
Al Rajhi Banking Corporation	90,589,818	2,166,923	5	KSA
National Bank of Kuwait	79,085,342	1,019,964	6	Kuwait
Abu Dhabi Commercial Bank	70,321,061	1,131,791	7	UAE
First Gulf Bank	66,732,443	1,652,546	8	UAE
Samba	61,730,290	1,334,843	9	KSA
Riyad Bank	58,031,734	891,330	10	KSA
Banque Saudi Fransi	54,247,656	936,062	11	KSA
Kuwait Finance House	53,910,645	529,126	12	Kuwait
Saudi British Bank	49,614,905	1,038,595	13	KSA
Dubai Islamic Bank	47,636,947	1,102,655	14	UAE
Arab National Bank	45,335,659	763,167	15	KSA
Qatar Islamic Bank	38,415,969	579,869	16	Qatar
Commercial Bank of Qatar	35,818,760	137,741	17	Qatar
Mashreqbank	33,436,846	531,966	18	UAE
Abu Dhabi Islamic Bank	33,294,235	531,870	19	UAE
Ahli United Bank	31,322,484	624,310	20	Bahrain
Arab Banking Corporation	30,141,000	234,000	21	Bahrain
Union National Bank	28,291,749	430,868	22	UAE
Bank Muscat	28,104,000	458,597	23	Oman
Alawwal Bank	28,018,800	283,927	24	KSA
Alinma Bank	27,927,963	400,606	25	KSA
Saudi Investment Bank	25,163,066	280,789	26	KSA

Determinants of Basel III Risk Disclosures

Appendix 1: GCC Listed Banks for the year 2017 (continued)

BANK	ASSETS (US\$)	NET PROFIT (US\$000)	RANK	COUNTRY
Al Rayan	25,145,879	570,055	27	Qatar
Doha Bank	24,825,535	289,500	28	Qatar
Burgan Bank	23,750,616	218,085	29	Kuwait
Albaraka Bank Group	23,425,265	267,636	30	Bahrain
Gulf International Bank	22,905,800	37,300	31	Bahrain
Gulf Bank	17,863,470	140,314	32	Kuwait
Bank Al Jazira	17,685,165	232,518	33	KSA
Commercial Bank of Dubai	17,446,168	273,091	34	UAE
Al Khaliji Commercial Bank	16,647,596	117,193	35	Qatar
Bank Al Bilad	14,371,358	215,739	36	KSA
Al Ahli Bank Kuwait	14,000,369	106,231	37	Kuwait
Commercial Bank of Kuwait	13,479,134	164,686	38	Kuwait
Barwa Bank	12,651,011	202,968	39	Qatar
Qatar International Islamic Bank	11,689,824	215,596	40	Qatar
RAKBANK	11,573,708	180,500	41	UAE
Boubyan Bank	11,359,892	134,750	42	Kuwait
Noor Bank	10,744,478	152,690	43	UAE
Bank Dhofar	10,265,036	123,693	44	Oman
Bank of Bahrain Kuwait	9,847,321	150,924	45	Bahrain
National Bank of Fujairah	9,710,895	125,359	46	UAE
National Bank of Oman	9,175,800	144,880	47	Oman
Sharjah Islamic Bank	9,131,289	126,024	48	UAE
Ithmaar Bank	8,341,310	13,798	49	Bahrain
National Bank of Bahrain	7,917,830	154,880	50	Bahrain

Appendix 2: Risk disclosures, Class One from annual reports

	Sub-index	Categories	Based Risk Category
Assets			
Loans	S1: Loans by maturity	Below 3 months, 3-6 months, 6 months -1 year, 1-5 years, 5 years +	Interest rate risk, liquidity risk
	S2: Loans by type	Loans to municipalities/ government, mortgage, HP/Leases, Other Loans	Credit risk
	S3: Loans by counterparty	Loan to Group Companies, Loans to other Corporate, Loans to Banks	Credit risk
	S4: Problem loans	Total problem Loans	Credit risk
	S5: Problem loans by type	Overdue/ Restructured/ Other Non-performing	Credit risk
Other earning assets	S6: Securities by type (detailed breakdown)	Treasury Bills, Other Bills, Bonds, CDs, Equity Investments, Other Investments	Credit risk
	S7: Securities by type (coarse breakdown)	Government Securities, Other Listed Securities, Non-listed Securities	Liquidity risk, Market risk
	S8: Securities by holding purpose	Investment Securities, Trading Securities	Liquidity risk, Market risk
Liabilities			
Deposits	S9: Deposits by maturity	Demand, savings, Below 3 months, 3-6 months, 6 months -1 year, 1-5 years, 5 years +	Liquidity risk
	S10: Deposit by type of customer	Banks Deposits, Municipal/Government	Liquidity risk, Market risk
	S11: Money market funding	Total Money Market Funding	Credit risk
	S12: Long-term funding	Convertible Bonds, Mortgage Bonds, Other Bonds, Subordinated Debt, Hybrid Capital	Credit risk

Determinants of Basel III Risk Disclosures

Appendix 2: Risk disclosures, Class One from annual reports (continued)

	Sub-index	Categories	Based Risk Category
Memo lines			
	S13: Reserves	Loan Loss Reserves (Memo)	Cushion for risk
	S14: Capital	Total Capital Ratio, Tier 1 Ratio, Total Capital, Tier 1 Capital	Credit risk
	S15: Contingent Liabilities	Total Contingent Liabilities	Credit risk
	S16: Off-Balance Sheet Items	Off-Balance Sheet Items	Market risk
Income statement			
	S17: Non-interest Income	Net Commission Income, Net Fee Income, Net Trading Income	Credit risk
	S18: Loan Loss Provisions	Loan Loss Provisions	Credit risk

Source (adapted): Nier (2004), Huang (2006)

Appendix 3: Pillar 3 Qualitative and Quantitative risk disclosures template

Panel A: Qualitative risk items

Risk category	Qualitative risk items (11)
Overview of risk managerial and RWA	OVA - Bank risk management approach
Linkages between financial statements and regulatory exposures	LIA - Explanation of differences between accounting and regulatory exposure
Credit risk	CRA – General information about credit risk CRB – Additional disclosure related to the credit quality of assets. CRC – Qualitative disclosure requirements related to risk mitigation. CRD – Qualitative disclosures on banks’ uses of external credit ratings-Qualitative disclosures related to IRB models. CRE – Qualitative disclosures related to IRB models

Appendix 3: Pillar 3 Qualitative and Quantitative risk disclosures template

Panel A: Qualitative risk items (continued)

Risk category	Qualitative risk items (11)
Counterparty credit risk	CCRA – Qualitative disclosure
Securitization	SECA – Qualitative disclosure requirements
Market risk	MRA – Qualitative disclosure requirements related to market risk. MRB – Qualitative disclosure for banks using the internal Model Approach (IMA)

Panel B: Quantitative risk items

Risk category	Quantitative risk items (29)
Overview of risk management and RWA	OV1 - Overview of RWA
Linkages between financial statements and regulatory exposures	LI1 - Differences between accounting and regulatory scopes of consolidation and mapping of financial statements with regulatory risk categories LI2 - Main sources of differences between regulatory exposure amounts and carrying values in financial statements
Credit risk CRA – General information about credit risk	CR1 – Credit quality of assets CR2 – Changes in stock of defaulted loans and debt securities CR3 – Credit risk mitigation techniques-overview CR4 – Standardized approach – credit risk exposure and Credit Risk Mitigation (CRM) effects CR5 – Standardized approach – exposures by asset classes and risk weights CR6 – IRB - Credit risk exposures by portfolio and PD range CR7 – IRB – Effect on RWA of credit derivatives used as CRM techniques CR8 – RWA flow statements of credit risk exposures under IRB CR9 – IRB – Backtesting of probability of default (PD) per portfolio CR10 – IRB (specialized lending and equities under the simple risk weight method)

Panel B: Quantitative risk items (continued)

Risk category	Quantitative risk items (29)
Counterparty credit risk CCRA	<p>CCR1 – Analysis of counterparty credit risk (CCR) exposure by approach</p> <p>CCR2 – Credit valuation adjustment (CVA) capital charge</p> <p>CCR3 – Standardized approach of CCR exposures by regulatory portfolio and risk weights</p> <p>CCR4 – IRB – CCR exposures by portfolio and PD scale</p> <p>CCR5 – Composition of collateral for CCR exposure</p> <p>CCR6 – Credit derivatives exposures</p> <p>CCR7 – RWA flow statements of CCR exposures under the Internal Model Method (IMM)</p> <p>CCR8 – Exposures to central counterparties</p>
Securitization SECA	<p>SEC1 – Securitization exposures in the banking book</p> <p>SEC2 – Securitization exposures in the trading book</p> <p>SEC3 – Securitization exposures in the banking book and associated regulatory capital requirements – bank acting as originator or as sponsor</p> <p>SEC4 – Securitization exposures in the banking book and associated capital requirements – bank acting as investor</p>
Market risk MRA	<p>MR1 – Market risk under standardized approach</p> <p>MR2 – RWA flow statements of market risk exposures under an IMA</p> <p>MR3 – IMA values for trading portfolios</p> <p>MR4 – Comparison of VaR estimates with gains/losses</p>

Source (adapted): BCBS (2015)

