

## FIRM'S SIZE, MANDATORY ADOPTION OF IFRS AND CORPORATE RISK DISCLOSURE AMONG LISTED NON-FINANCIAL FIRMS IN SAUDI ARABIA

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### ABSTRACT

*This study examines the relationship between the mandatory adoption of International Financial Reporting Standards (IFRS) and the disclosures of corporate risk among non-financial firms in Saudi Arabia. Based on the observation of 320 firm-year from 2015 until 2017, this study reveals a positive relationship between the mandatory adoption of IFRS and the corporate risk disclosures. The relationship holds when we decompose corporate risk disclosures into financial and non-financial risk disclosures. The results are consistent for both the pooled Ordinary Least Squares (OLS) and random effects estimations. Additionally, the result is steady with all primary categories except risk management. We also provide evidence that large firms are more likely to adopt IFRS and reveal more risk information than small firms. This study's findings are relevant for market regulators in their attempt to improve corporate risk disclosures among listed firms in Saudi Arabia.*

**Keywords:** corporate risk disclosures, firms' risk, firm's size, IFRS, non-financial firms, Saudi Arabia

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## **INTRODUCTION**

Over the past two decades, risk management and corporate risk disclosures (CRD) have gained considerable attention among researchers, corporate practices and regulators worldwide (Solomon et al., 2000; Linsley & Shrides, 2000; 2006; Dobler, 2008; Hassan, 2009; Dobler et al., 2011; Alzead & Hussainey, 2017). Several factors have contributed to this rise, including the current fast-changing economic and competitive environments, complex organisational structures, strict regulatory requirements and several non-financial corporate crises (Linsley & Shrides, 2006). These events ultimately highlighted the importance and benefits of having a comprehensive and transparent disclosure of risks within organisations.

One of the primary benefits of CRD is that it helps increase investors' confidence in firms (Solomon et al., 2000; Cabedo & Tirado, 2004; Dobler, 2008; Al-Hadi et al., 2015) and its management (Deumes & Knechel, 2008). Corporate risk disclosures:

1. Enables investors to understand better the risks associated with company's on- and off-balance sheet items (Al-Hadi et al., 2015).
2. Reduces the uncertainty surrounding the future performance and targets of a company (Iatridis, 2008).
3. Allows investors to weigh expected returns against risks before making any investment decision (Cabedo & Tirado, 2004).

These findings are consistent with the Certified Financial Analyst (CFA) Institute's (2016) study that indicates that 89.7% of respondents use risk disclosure parameters when evaluating firms for potential future investment, and over 90% view risk disclosures as vital to them.

Considering the benefits of CRD to investors, several accounting standards settings bodies, including the International Accounting Standards Board (IASB) have enhanced and expanded the degree of CRD in annual reports. This improvement allows firms to provide transparent, accountable and efficient reporting (IFRS Foundation, 2019). An increase in the International Financial Reporting Standards (IFRS) disclosure requirements allow for comparison of performances (Trimble, 2017) as firms that adopt the IFRS tend to provide comprehensive information (Ding et al., 2007) to reduce information asymmetry.

Adoption of IFRSs will:

1. Help analysts in better forecasting the performance of foreign firms and reduce their errors (Ashbaugh & Pincus, 2001).

2. Better monitor firms' actions (Ball, 2006).
3. Reduce the information asymmetry and agency problems, which will lead to efficient capital markets (Hope et al., 2006).

Furthermore, having a unified and comprehensive reporting system will limit the degree of managerial judgement in reporting company results; thus, this will improve the quality and the comparability of results (Daske & Gebhardt, 2006; Cai et al., 2008; Barth et al., 2012). Moreover, it will decrease earnings management chances (Ewert & Wagenhofer, 2005; Soderstrom & Sun, 2007; Cai et al., 2008; Barth et al., 2008). Besides, investors will benefit from enhanced comparability between firms as they will select the best firms to invest in a more efficient way (Ciubotariu, 2013). Finally, IFRSs reduce international differences in accounting standards, facilitate cross-border acquisitions and divestitures, and enhance the global markets' liquidity (Ball, 2006). Therefore, in today's worldwide business environment, being familiar with IFRS standards is no longer an option but a requirement to succeed (Kouaib et al., 2018).

Consequently, due to the importance of CRD and IFRS adoption, several research studies investigate the impact of IFRS adoption on firms' risk disclosure practices. Prior studies by Bischof (2009), Taylor et al. (2010), Oliveira et al. (2011), and Miihkinen (2012) examined the relationship between IFRS adoption and CRD. Nevertheless, most CRD studies focused on the standards of publicly traded firms' risk reporting practices in developed countries (Al-Hadi et al., 2015). Hence, less focused on the risk reporting practices of publicly traded firms in emerging countries recorded. Although some studies examined risk disclosure practices in developing countries, such as Adamu (2013) in Nigeria; Hassan (2009; 2014) in the UAE; Abdallah et al. (2015) in the Gulf Cooperation Council (GCC); Mokhtar and Mellett (2013) in Egypt; Al-Shammari (2014) in Kuwait; and Amran et al. (2009) in Malaysia, none examined the issue within the Kingdom of Saudi Arabia (KSA). Studies on voluntary disclosures have shown that IFRS did influence various factors, including companies' disclosure levels in the financial statements (El Mahjoub & Dicko, 2017). However, given their recent adoption for non-financial Saudi Arabia firms, IFRS has not been extensively examined on the disclosure practice, particularly CRD, including the above studies.

The agency and the signalling theories advocate firm size is the crucial determinant of CRD. The view is consistent with Miihkinen (2012), Elzahar and Hussainey (2012), Dobler et al. (2011), Amran et al. (2009), and Linsley and Shrivs (2006), which report that the level of CRD is high among large firms. Nevertheless, the firm size's impact on the relationship between the mandatory

adoption of IFRS and CRD remains unclear. As the relationship between the mandatory adoption of IFRS and CRD is likely to be boost by firm size, there is a need to attend to the potential increase (decrease) of information asymmetry, and the agency problems. Therefore, this study investigates the firm size's effect on the relationship between IFRS mandatory adoption and CRD among publicly listed Saudi Arabia firms.

Unlike other developing countries, Saudi Arabia is unique as the country has limited CRD requirements, concentrated ownership structure of firms among a few investors (Al-Hadi et al., 2015), and the discerned dates of IFRSs adoption for financial and non-financial firms. Distinct to financial firms (which have been adopting International Accounting Standards [IAS] in 1974 and IFRS in 2008), the IFRS adoption date for non-financial firms began in January 2017. Therefore, Saudi Arabia provides an excellent example of how the different mandatory adoption of IFRS can impact non-financial firms' CRD practices and whether this adoption has been an effective movement. This study contributes to the current body of knowledge, especially, related to emerging markets and the GCC region as the impact of the mandatory adoption of IFRS on CRD in these countries is unknown. Although Saudi Arabia is the biggest economy in the region, no prior studies have explored how the mandatory adoption of IFRS standards has influenced the CRD of publicly listed non-financial firms in this country. Therefore, this study can be considered a pioneering study in this country as it sheds light on this relationship.

The results indicate that the mandatory adoption of IFRS is positively and significantly associated with the extent of CRD. Additional analyses reveal a positive impact of adopting IFRS on financial and non-financial risk disclosure and all primary categories except risk management. The above findings remained for the random effects and pooled OLS estimators. Furthermore, the results reveal that firm size significantly influences the relationship between adopting IFRS and the level of risk disclosures and non-financial risk disclosure.

## **REGULATORY BODIES IN KINGDOM OF SAUDI ARABIA**

### **Capital Market and Stock Exchange Authority**

To ensure a fair and transparent financial market and investors' protection against illegal practices, Saudi Arabia had transformed its stock exchange market to a new capital market in 2003. The establishment of Saudi Arabian Capital Market Authority (SACMA) is following the Capital Market Law issued under Royal Decree No. (M/30) in 2003. The Capital Market Law's primary function is to

provide SACMA with the regulatory and supervisory frameworks in protecting investors against fraud, scam, cheating or manipulation. The establishment of the Capital Market Law also provides securities' laws and regulations in the context of the Saudi Stock Exchange (Tadawul), which set out the rules regulating the offer of securities, securities professionals, and the securities market (Gouda, 2012, p. 117). This transformation has improved the capital market regulations concerning disclosure and transparency (Al-Wasmi, 2011).

Owing to the weaknesses of the implementation of the Tadawul, which has resulted in a lack of transparency, SACMA has issued a corporate governance code known as Corporate Governance Regulations in Saudi Arabia in 2006 [CG Code 2006] (The Institute of International Finance (IIF) & Hawkamah, 2006). However, since then, some improvement in the code took place. In 2009, all listed firms were required to disclose corporate governance information (Shehata, 2015). The second revise corporate governance code was in 2017 [CG Code 2017], intending to provide practical governance arrangements to ensure a clear relationship between shareholders and the company's board and between the board and the executive management team (Certified Management Accountant [CMA], 2017).

Consequently, according to CG Code 2006, the Board of Directors undertake the risk disclosure of all risks that the company faces (i.e., operational, market, and financial risks) and have to initiate risk management policies with various considerations. For example, after forecasting potential risks, the board should disclose them to shareholders and other stakeholders without discrimination (Article 90 [17] of CG Code, 2017). Additionally, the disclosures should be timely and mandatory to shareholders and investors. Significantly, the information should follow the established reporting rules, i.e. should be disclosed and classified (Saudi CG Code, 2017).

### **Adoption of Accounting Standards**

Before 1992, the Ministry of Commerce controlled the accounting profession in Saudi Arabia. The Ministry was responsible for issuing public accounting certificates and disciplinary issues (Aghimien, 2016). In 1992, the Saudi Organization for Certified Public Accountants (SOCPA) was established under Royal Decree No. M/12. SOCPA promotes the accounting and auditing profession and all matters that may lead to its development and improve its status. SOCPA has approved a convergence plan for all banks and investment firms to change their accounting and auditing standards from the existing Generally Accepted Accounting Principle practice to International Accounting Standards (IAS) issued

by the International Accounting Standards Committee (IASC) effective from 1994. Since then, all banks and investment firms have been complying with IAS (Al-Shammari et al., 2008). Under IAS, individuals undergo an examination for admission as auditor as well as professional training requirements. In terms of monitoring compliance, the enforcement body in Saudi Arabia relies primarily on audit reports.

SOCPA required all listed firms to adopt IFRS starting from financial periods beginning on or after January 2017, and all non-listed firms to adopt IFRS starting from January 2018 (IFRS Foundation, 2017; Ibrahim et al., 2019). Nevertheless, in addition to IFRS that financial firms need to comply with since 2008 (Almansour 2019), these firms are also subject to Saudi Arabian Monetary Authority or the central bank of Saudi Arabia (SAMA) requirements.

## **LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

### **Corporate Risk Disclosures (CRD)**

Hassan (2009) defines CRD as incorporating general, specific, and potential circumstances in financial statements that may cause the value of corporations' assets and liabilities to fluctuate, decrease, or otherwise. With the complexities surrounding the business environment and operations, risk management has become a vital governance aspect of successful firms, which, in turn, emphasises risk reporting. Through risk reporting, firms allow outside stakeholders to assess the degree and nature of risks that the company faces and their impacts on its economic performance, particularly its cash flow (Dobler et al., 2008). As a result, CRD has become a vital part of business disclosures (Cabedo & Tirado, 2004; Linsley & Shrivess, 2006), reducing the information asymmetry between managers and stakeholders.

CRD benefits not only firms but also the capital markets (Adamu, 2013). Prior studies provide evidence that the extent of CRD has a positive impact on a company's share price (Schrand, 1997; Healy et al., 1999; Linsmeier et al., 2002; Gelb & Zarowin, 2002; Uddin & Hassan, 2011) as it reduces the uncertainties around share price valuation, which lower share price volatility. Moreover, having extensive CRD enables firms to lower their overall cost of debt (Sengupta, 1998; Deumes & Knechel, 2008), minimise the agency problem between managers and shareholders (Healy & Palepu, 2001; Bushman & Smith, 2001; Uddin & Hassan, 2011), reduce the cost of equity (Easley & O'hara, 2004; Hughes et al., 2007; Lambert et al., 2007), and improve analysts' ratings for the company (Lang &

Lundholm, 2000; Gigler & Hemmer, 2001). As for the market, high levels of CRD help increase the capital markets' efficiency (Healy & Palepu, 2001) as it reduces the information asymmetry between investors and managers. High levels of CRD also better inform analysts about firms' business conditions, enhancing market efficiency and increasing companies' liquidity (Lev, 1988; Diamond & Verrecchia, 1991; Kim & Verrecchia, 1994; Gigler & Hemmer, 2001).

### **IFRSs' Adoption and CRD**

Prior studies utilised various theories to explain the extent of risk disclosures (Lopes & Rodrigues, 2007). However, studies such as those of Lundholm and Van Winkle (2006) and Lopes and Rodrigues (2007) provide evidence that the integration of various theories strengthens the rationale behind CRD. This finding is relevant in emerging capital markets, given their specific social and institutional features (Al-Shammari, 2014). Therefore, the current study integrates legitimacy theory, agency theory, and signalling theory in explaining the relationship between mandatory adoption of IFRS on the extent of risk disclosures among Saudi Arabia firms. Legitimacy theory suggests that firms may disclose more risk information due to external pressure on them for more transparent reporting (Al-Hadi et al., 2015). In this case, firms adopt a socially oriented behaviour to gain social approval (Guthrie & Parker, 1989). According to legitimacy theory, firms tend to comply with the mandatory risk disclosure (required by the IFRS) to satisfy the regulatory body's requirement (Oliveira et al., 2011; Al-Hadi et al., 2015). With the mandatory adoption of IFRS by the SOCPA in 2017, listed firms in Saudi Arabia may experience more pressure to disclose more risk information to fulfil the requirements of IFRS imposed on them, compared with the period before the IFRS adoption. Such behaviour allows firms to gain legitimacy from society (Hassan, 2014) given that the IFRS's disclosure requirements are comprehensive than previously used local standards.

However, from agency theory, firms are expected to present relevant information to reduce agency problems, information asymmetry between managers and stakeholders (Healy & Palepu, 2001). Unfortunately, managers may not disclose adverse outcomes to protect their interests until accountants, shareholders, and directors force them to reveal such information (Lightstone & Driscoll, 2008). Nevertheless, with the mandatory adoption of IFRS, accountants of these firms have no option but to disclose all relevant outcomes to reduce the agency problem. Thus, the adoption of IFRS may lead firms to disclose more risk-related information. The combination and consistency between the two theories (Morris, 1987) may strengthen the prediction of the extent of risk disclosures.



Firms may be motivated to disclose more risk-related information to signal stakeholders' different target (Haniffa & Cooke, 2002). This finding is consistent with signalling theory, which explains the incentives behind firms' desire to disclose more risk information (Haniffa & Cooke, 2002).

Many studies attempted to find the relationship between IFRS adoption and different types of disclosures (Bischof, 2009; Taylor et al., 2010; Oliveira et al., 2011; Landsman et al., 2012; Miihkinen, 2012; Misirlioğlu et al., 2013; Li & Yang, 2015; El Mhjouh & Dicko, 2017). These studies provide evidence of a positive relationship between the adoption of IFRS and the level of disclosures (Landsman et al., 2012; El Mhjouh & Dicko, 2017), the quality of firms (Misirlioğlu et al., 2013), voluntary risk disclosure (Li & Yang, 2015), and CRD (Oliveira et al., 2011, in Portugal; Bischof, 2009, in several European countries; Taylor et al., 2010, in Australia; Miihkinen, 2012, in Finland; Misirlioğlu et al., 2013, in Turkey; Landsman et al., 2012, in 13 European countries, South Africa, Hong Kong and Australia; and Li & Yang, 2015, in 30 countries). However, the above studies did not include developing countries, particularly the GCC region. A recent study indicates that the mandatory adoption of IFRS in non-financial listed firms is more likely to lead to a higher level of CRD in Saudi Arabia (Ibrahim et al., 2019). This finding is consistent with the finding of Chua et al. (2012), which indicates that the mandatory adoption of IFRS leads to better accounting quality. Therefore, based on the above theories and research findings, the first hypothesis is:

H1: A positive relationship exists between the mandatory adoption of IFRS and CRD among publicly listed Saudi Arabia non-financial firms.

### **Firm Size, IFRSs' Adoption and CRD**

Firm size represents one of the most critical variables in determining CRD. According to the agency theory and signalling theory, large institutions lean toward reporting more risk information to reduce agency costs and information asymmetry (Al-Maghzom et al., 2016). Most studies indicate that disclosure is prevalent in large firms (e.g., Linsley & Shrivess, 2006; Amran et al., 2009; Dobler et al., 2011; Elzahar & Hussainey, 2012; Miihkinen, 2012, Al-Shammari, 2014). However, Aryani and Hussainey (2017) report a nonsignificant association between firm size and CRD in Indonesia.



Considering that agency theory and signalling theory keep referring to firm size as the critical determinant of CRD, the relationship between the mandatory adoption of IFRS and CRD may be affected by firm size. Based on the theory and findings from previous studies, the second hypothesis is:

H2: Firm size strengthens the relationship between mandatory adoption of IFRS and CRD among publicly listed non-financial firms in Saudi Arabia.

## **RESEARCH METHODOLOGY**

### **Sample Selection and Data**

The sample consists of 109 non-financial firms listed in the Saudi Arabia stock market from 2015 to 2017. This study excludes financial firms due to special regulations and risk disclosure frameworks (Beretta & Bozzolan, 2004; Linsley & Shrides, 2006). The financial listed firms in the Saudi stock market are subject to stringent regulation and monitoring. The financial firms have to mandatorily comply with IAS and IFRS from 1994 and 2008, respectively (Al-Shammari et al., 2008; Almansour, 2019). However, the non-financial firms (sample of this study) are only required to comply IFRS on a mandatory basis from 2017. Therefore, including the financial firms might lead to bias in the findings of this study. Table 1 presents the sample selection for this study. The total observation for this study is 339 firm-year. Of these firm-year observations, the study excludes five due to un-available annual reports, and 14 due to missing values for some control variables such as Beta. This exclusion yields 320 firm-year observations for a total of 109 firms.

Data on CRD, IFRS and corporate governance characteristics were hand-collected from these firms' annual reports. Whereas DataStream provides information related to the control variables. As this study covers three years of observation, consisting of the pre-adoption period (2015 and 2016), and the mandatory IFRS adoption period (2017), the data can be categorised into three categories. Two of the categories in the IFRS periods' pre-adoption, which are non-adaptors and voluntary adopters. The third category is the mandatory IFRS adopters. However, this study categorises the IFRS adoption into non-IFRS adopters and IFRS mandatory adopters because of the absence of the voluntary adopters' category among the sample (Table 1).

Table 1  
*Sample selection*

Number of observation available for non-financial firms in Saudi Stock Markets	339
Less:	
Firm-year with unavailable annual report	(5)
Firm-year with missing values in control variables	(14)
Total firm-year observations	320

### **Dependent Variable**

This study's dependent variable is CRD index (CRDI), representing the risk disclosure level among listed firms in Saudi Arabia. The CRDI is an extension of the Alzead and Hussainey (2017) index. They developed the index based on prior studies (e.g., Linsley & Shrive, 2006; Taylor et al., 2010; Miihkinen, 2012); risk-related accounting standards such as IAS 1, 21, 32, 36 and 39 and IFRS 7; and Saudi Arabia regulations related to risk disclosure requirements.

This study categorised the unweighted financial and non-financial risk into 11 primary categories and 47 sub-items, as presented in Appendix A. If the company discloses an item, a dummy variable (1) is assigned, and zero (0) otherwise. This study determines the CRDI score according to the following formula:

$$\text{CRDI} = \frac{\text{Total actual CR disclosure score}}{\text{Total maximum CR disclosure score}}$$

### **Independent, Moderating and Control Variables**

This study's independent variable is the adoption of IFRS, whereas the moderating variable is firm size. This study measures IFRS adoption based on a dummy variable equal to one (1) if it applies IFRS and zero (0) otherwise, consistent with Li and Yang (2015). Firm size is measured using a dummy variable that takes the value of one (1) if the firm size is equal or more than the median value of the natural logarithm of total assets and zero (0) otherwise (Mohd Ali et al., 2007).

Six control variables, which have been proven in previous studies to impact CRD significantly, are included. These variables are board independence (Oliveira et al., 2011; Ntim et al., 2013; Elshandidy & Neri, 2015), board size (Ntim et al., 2013; Elshandidy & Neri, 2015; Saggat & Singh, 2017), audit quality

(Lopes & Rodrigues, 2007; Oliveiera et al., 2011; Al-Shammari, 2014), leverage (Ahmed & Courtis, 1999; Deumes & Knechel, 2008; Iatridis, 2008; Hassan, 2009), profitability (Miihkinen, 2012; Aryani & Hussainey, 2017), and company's risk factor (Al-Hadi et al., 2015; Elshandidy & Neri, 2015). Table 2 presents these variables and their explanations.

Table 2  
Measurements of variables

Variable	Measurement
CRDI	The level of corporate risk disclosures.
IFRS	A dummy variable taking value 1 if the firm applies IFRS and otherwise 0.
Size	A dummy variable taking value 1 if the firm size equal or more than median value of the natural logarithm of total assets and 0 otherwise.
BInd	The percentage of independent directors to directors on the board.
BSize	Number of board directors.
AQ	A dummy variable of 1 if the firm is audited by one of the Big Four auditors, 0 otherwise.
Leverage (Lev)	The measure of the company's leverage calculated by using the total debt scaled over total assets.
ROE	The measure of the company's profitability calculated by using net profit scaled by total equity.
Beta	Represents systematic risk which is calculated over 12 months by regressing the share price against the respective market index.

## Statistical Model

This study utilises Equation (1) to examine the relationship between the mandatory adoption of IFRS, governance and company-specific characteristics and the level of CRD (dependent variable).

$$CRDI_{it} = \alpha_0 + \alpha_1 IFRS_{it} + \alpha_2 Size_{it} + \alpha_3 BInd_{it} + \alpha_4 BSize_{it} + \alpha_5 AQ_{it} + \alpha_6 Lev_{it} + \alpha_7 ROE_{it} + \alpha_8 Beta_{it} + \varepsilon_{it} \quad (1)$$

This study examines the moderating role of firm size on the relationship between the mandatory adoption of IFRS and the level of CRD by using Equation (2):

$$CRDI_{it} = \alpha_0 + \alpha_1 IFRS_{it} + \alpha_2 Size_{it} + \alpha_3 IFRS_{it} * Size_{it} + \alpha_4 BInd_{it} + \alpha_5 BSize_{it} + \alpha_6 AQ_{it} + \alpha_7 Lev_{it} + \alpha_8 ROE_{it} + \alpha_9 Beta_{it} + \varepsilon_{it} \quad (2)$$

Where:

CRD = the level of corporate risk disclosures,

IFRS = the mandatory adoption of IFRS,

Size = the firm's size,

IFRS\*Size = the interaction between the mandatory adoption of IFRS and the firm's size,

BInd = board independent,

BSize = total number of board directors,

AQ = audit quality,

Lev = company's leverage,

ROE = company's profitability, and

Beta = systematic risk.

## **RESULTS**

### **Descriptive Statistics**

Table 3 presents the summary statistics for the variables included in the regression model. Panel A Table 3 indicates that the mean and standard deviation (SD) values for CRDI is 0.63 and 0.14, respectively. Panel A Table 3 also indicates that the minimum and the maximum score of CRDI is 0.21 and 0.96, respectively. This finding indicates that the level of risk disclosure among firms in Saudi Arabia is high. The average score is higher than the average score reported (27%) by an earlier study in Saudi Arabia by Alzead and Hussainey (2017).

Concerning the corporate governance variables, Panel A Table 3 indicates that the minimum and maximum value of board independence (BInd) is 14% and 100%, respectively. However, on average, the level of BInd in this study is 51%. The descriptive statistics show that the board (BSize) size among Saudi Arabian firms is dispersed, with five (5) as the minimum number, and 13 as the maximum. However, the mean and SD value for BSize is 8.24 and 1.49, respectively. Panel A Table 3 indicates that, on average, total debts over total assets (Lev) is 0.23, suggesting a low leverage level for the sample firms. This result indicates that the majority of our sample firms did not rely heavily on debt financing. This finding is consistent with prior studies (e.g., Ibrahim et al., 2019; Al-Maghzom et al., 2016). Similarly, our sample firms' return on equity (ROE) was low, with a mean of 0.07, and some firms recorded net losses. On average, our sample firms have a higher level of risk than the market, with a mean Beta factor of 1.11.

Panel B Table 3 presents descriptive information related to the categorisation of the sample firms. The study period covers pre-IFRS adoption (2015 and 2016) and IFRS adoption period (2017). Therefore, this study categorises these firms as either non-IFRS adopter and mandatory adopter. Panel B Table 1 indicates that the majority (66%) of the observation falls under non-IFRS adopter.

Table 3  
*Descriptive statistics (N = 320)*

Panel A: Descriptive statistics for continuous variables					
Variable	Mean	SD	Min	Median	Max
CRDI	0.63	0.14	0.21	0.64	0.96
IFRS	0.34	0.47	0	0	1
Size	0.50	0.50	0	1	1
BInd	0.51	0.17	0.14	0.44	1
BSize	8.24	1.49	5	9	13
AQ	0.47	0.50	0	0	1
Lev	0.23	0.19	0	0.21	0.74
ROE	0.07	0.20	-1.91	0.08	0,58
Beta	1.11	0.28	0.43	1.14	1.80

  

Panel B: Descriptive statistics for dummy variable		
Type of IFRS adopter	No of observations	Frequency (%)
Mandatory adopter	109	34
Non-adopter	211	66

### **Pearson's Correlation Coefficients**

Table 4 presents Pearson's correlation between our variables over the three years. Table 4 indicates that the variables' multicollinearity problem is not concerned as the variables' coefficient values are lower than 0.8000 (Kennedy, 2003). Table 4 clearly shows a positive and significant correlation between the extent of CRD and the adoption of IFRS. Moreover, independent directors (BInd), the board size (BSize), type of audit quality (AQ), company size (Size), and leverage level (Lev) all have significant correlations with the CRDI. The control variables of profitability (ROE) and risk factor (Beta) have no significant correlation with our dependent variable. The result of profitability is consistent with those obtained from Ahmed and Curtis (1999), and Elzahar and Hussainey (2012). However, the risk factor results are not consistent with previous literature, perhaps due to the unique risks associated with firms operating in the GCC region and Saudi Arabia.

Table 4  
Pearson correlation matrix

	CRDI	IFRS	Size	BInd	BSize	AQ	Lev	ROE	Beta
CRDI	1								
IFRS	0.262***	1							
Size	0.090*	-0.011	1						
BInd	-0.308***	-0.051	-0.222***	1					
BSize	0.139***	-0.044	0.252***	-0.161***	1				
AQ	0.114**	-0.147***	0.295***	-0.254***	0.276***	1			
Lev	0.192***	-0.008	0.278***	-0.227***	0.164***	0.133**	1		
ROE	0.031	-0.092*	0.146***	-0.191***	0.147***	0.241***	-0.188***	1	
Beta	0.039	-0.001	-0.150***	0.154***	-0.179***	-0.180***	0.238	-0.315***	1

Note: \*, \*\*, and \*\*\* denote significance at 10%, 5% and 1%, respectively.

## **Regression Analyses**

This study uses a fixed effect estimator to test the hypotheses and address the bias of omitted variables. The fixed effects' estimator can accurately capture any unobservable and consistent heterogeneity (Al-Hadi et al., 2017). Table 5 presents the regression results for the association between IFRS adoption and CRD (Model 1 – H1) and its components (Models 3 and 4). Table 5 also presents the impact of firm size on the relationship between IFRS adoption and CRD (Model 2 – H2) and CRD components (Models 5 and 6). Column 2 in Table 5 indicates that IFRS adoption is significantly related to CRD at  $p < 0.01$ ; hence H1 is supported. This result indicates that firms that adopted the IFRS responded to the external pressure to provide transparent risk-related information. The disclosure also reflects the response to reduce the information asymmetry between managers and stakeholders. Column 2 provides evidence that only one control variable (i.e., ROE) is significantly related to CRD. However, our result indicates that profitable firms tend to disclose less CRD information as these firms might focus on responding to shareholders' demand for the higher cost of equity. Our analyses also fail to provide evidence on the role of corporate governance mechanism, i.e., board independence and board size on the level of CRD. Control variables such as firm size, leverage, Beta and audit quality are also not related to risk disclosure. Since the ownership of Saudi-listed companies' is highly concentrated (Habtoor & Ahmad, 2017); therefore, independent directors may not be truly independent in performing their duties. Hence, the effectiveness of the board of directors will be affected by concentrated ownership. However, the non-significance of these variables is consistent with Elzahar and Hussainey (2012) and Ibrahim et al. (2019) for BInd and BSize, Aryani and Hussainey (2017) and Hassan (2009) in term of firm size, Amran et al. (2009) and Al-Shammari (2014) in term of leverage, and Ibrahim et al. (2019) for AQ.

Column 3, Table 5 reports the regression results for H2 is supported. The results indicate that firm size significantly strengthens the relationship between IFRS adoption and CRD at  $p < 0.05$ . This finding indicates that large firms that adopted IFRS disclose more risk information than smaller firms. Column 3 also indicates that IFRS adoption and ROE are significantly related to the IFRS adoption, consistent with Column 2 Table 5.



Table 5

*Association between corporate risk disclosures and IFRS (N = 320)*

Variables	CRD Model 1	CRD Model 2	FCRD Model 3	NFCRD Model 4	FCRD Model 5	NFCRD Model 6
IFRS	0.0719 (11.40)***	0.0595 (6.72)***	0.0898 (10.17)***	0.0650 (8.61)***	0.0895 (6.10)***	0.0481 (5.11)***
Size	0.0108 (1.03)	0.0050 (0.47)	0.0142 (0.78)	0.0095 (0.48)	0.0140 (0.76)	0.0015 (0.08)
IFRS*Size	–	0.0243 (1.99)**	–	–	0.0007 (0.04)	0.0333 (2.27)**
BInd	–0.0053 (–0.13)	–0.0119 (–0.28)	–0.0160 (–0.27)	–0.0012 (–0.03)	–0.0162 (–0.28)	–0.0103 (–0.24)
BSize	–0.0002 (–0.04)	–0.0006 (–0.10)	0.0006 (0.11)	–0.0006 (–0.09)	0.0006 (0.11)	–0.0010 (–0.17)
AQ	–0.0102 (–0.97)	–0.0102 (–1.02)	0.0119 (1.09)	–0.0186 (–1.46)	0.0119 (1.09)	–0.0187 (–1.53)
Lev	–0.0139 (–0.21)	–0.0210 (–0.33)	–0.0137 (–0.21)	–0.0139 (–0.17)	–0.0139 (–0.21)	–0.0237 (–0.31)
ROE	–0.0446 (–2.95)***	–0.0456 (–2.76)***	–0.0183 (–0.74)	–0.0546 (–3.77)***	–0.0183 (–0.73)	–0.0560 (–3.53)***
Beta	0.0060 (0.28)	0.0046 (0.23)	0.0250 (1.01)	–0.0013 (–0.05)	0.0250 (1.00)	–0.0032 (–0.13)
Constant	0.6095 (9.34)***	0.6220 (10.23)***	0.8060 (13.04)***	0.5344 (6.92)***	0.8063 (13.14)***	0.5515 (7.65)***
R <sup>2</sup>	0.540	0.554	0.462	0.421	0.462	0.443
Adjusted R <sup>2</sup>	0.529	0.541	0.449	0.406	0.447	0.427

Note: \*, \*\*, and \*\*\* denote significance at 10%, 5% and 1%, respectively.

Columns 4 to 7 present the regression results on the relationship between independent variables and financial and non-financial CRD. Column 4 presents results on regression analysis on financial corporate risk disclosure (FCRD). Model 3 indicates that only IFRS is positive and significantly related to FCRD. The significance of IFRS is consistent for non-financial corporate risk disclosure (NFCRD) at  $p < 0.01$  (Model 4). These results are consistent with previous studies' findings in other countries (e.g., Bischof, 2009; Taylor et al., 2010; Miihkinen, 2012). Model 4 also provides evidence on the significant relationship between ROE and NFCRD at  $p < 0.01$ . However, the direction of this relationship

is in contrast to the result of IFRS adoption. Consistent with Model 2, this study examines the moderating role of firm size on the relationship between IFRS adoption and FCRD and NFCRD.

Column 6 in Table 5 indicates that firm size did not influence the relationship between IFRS adoption and FCRD. However, this study indicates that firm size strengthens the positive relationship between IFRS adoption and NFCRD (Column 7, Model 6) at  $p < 0.05$ . This finding indicates that large firms that adopt the IFRS tend to disclose more non-financial corporate risk information in response to external pressure. Large firms are financially capable of disclosing voluntary information such as NFCRD to reduce information asymmetry between managers and stakeholders. Furthermore, these firms also might be subject to scrutinising by the regulators and other stakeholders to adopt and apply the IFRS. Model 6 provides evidence on the significant relationship between ROE and NFCRD. This study also ensures that our results are robust; as the random effects and pooled OLS estimators produce consistent results (not reported in this article, but available upon request) with findings reported in Table 5. Hence, our conclusions related to H1 and H2 are unchanged.

### **Additional Tests**

The purpose of the additional analysis is to identify the type of risk information that Saudi Arabia firms tend to disclose more. Therefore, this study decomposes CRD into 11 primary subcategories (i.e., risk management, financial instruments, liquidity risk, credit risk, market risk, operational risk, environmental risk, regulation and compliance risk, empowerment and employment risk, information and technology risk, and other types of risks). However, this study excludes the subcategory of financial instruments since its value is identical. Table 6 indicates that IFRS adoption is positive and significantly related to each subcategory of risk information except for risk management disclosures (RMD). Columns 5 to 11 indicate that the adoption of IFRS is positive and significant at  $p < 0.01$  with RMD, ORD (operational risk disclosures), ERD (environmental risk disclosures), ECRD (regulation and compliance risk disclosure), EERD (empowerment and employment risk disclosure), ITRD (information and technology risk) and OTRD (other type of risks disclosure). IFRS adoption also has a positive and significant relationship with LRD at  $p < 0.05$  and with CRD at  $p < 0.10$ . These findings indicate that the relationship holds when this study decomposes the CRD into main categories except RMD. These results are consistent with the primary outcome of this study and verify the findings of the study.

Table 6  
Association between Corporate Risk Disclosures Categories and IFRS (N = 320)

Variables	RMD Model 1	LRD Model 2	CRD Model 3	MRD Model 4	ORD Model 5	ERD Model 6	ECRD Model 7	EERD Model 8	ITRD Model 9	OTRD Model 10
IFRS	0.0055 (0.59)	0.0411 (2.20)**	0.0231 (1.66)*	0.1366 (11.30)***	0.0740 (7.01)***	0.0480 (3.51)***	0.0818 (7.20)***	0.0437 (3.14)***	0.1194 (3.94)***	0.0419 (3.39)***
Size	0.0013 (0.77)	0.0176 (1.16)	-0.0002 (-0.02)	0.0205 (0.72)	0.0231 (2.34)**	0.0104 (0.26)	0.0070 (0.27)	0.0002 (0.01)	-0.0402 (-0.45)	0.0112 (0.28)
Blnd	-0.0334 (-1.00)	-0.1720 (-1.61)	-0.0749 (-1.09)	0.0198 (0.24)	-0.0023 (-0.04)	0.0629 (0.69)	-0.0811 (-1.48)	0.1161 (1.85)*	-0.2128 (-1.27)	0.0359 (0.50)
BSize	0.0010 (0.62)	-0.0069 (-0.69)	0.0130 (1.23)	0.0004 (0.04)	-0.0009 (-0.13)	-0.0102 (-0.91)	0.0064 (0.56)	0.0151 (3.24)***	-0.0055 (-0.35)	-0.0113 (-0.98)
AQ	0.0035 (0.50)	0.0281 (2.02)**	0.0146 (1.59)	0.0121 (0.72)	0.0076 (0.56)	-0.0254 (-1.02)	-0.0178 (-0.96)	-0.0729 (-2.19)**	-0.0364 (-0.47)	-0.0139 (-0.84)
Lev	0.0262 (1.03)	0.0384 (0.42)	0.0789 (0.94)	-0.0203 (-0.20)	0.0740 (0.74)	0.0218 (0.16)	0.1663 (1.58)	-0.2538 (-1.43)	-0.1888 (-0.65)	0.0201 (0.18)
ROE	0.0166 (0.90)	0.0187 (0.76)	0.0222 (1.09)	-0.0197 (-0.44)	-0.0584* (-1.94)	-0.0194 (-0.47)	-0.0485 (-1.92)*	-0.0191 (-0.43)	-0.0145 (-0.18)	-0.0227 (-0.76)
Beta	0.0012 (0.04)	0.0511 (0.81)	-0.0441 (-0.90)	0.0429 (1.14)	-0.0294 (-0.94)	0.0164 (0.31)	0.0136 (0.49)	0.0381 (0.59)	0.0281 (0.25)	-0.0005 (-0.01)
Constant	1.1476 (2.21)**	-0.1601 (-0.19)	0.8004 (1.75)*	1.4329 (1.72)*	1.8122 (3.21)***	1.7525 (1.96)*	0.9393 (1.33)	0.4291 (0.39)	-2.1930 (-1.23)	1.1607 (1.74)*
R <sup>2</sup>	0.008	0.053	0.028	0.529	0.368	0.111	0.381	0.169	0.121	0.105
Adj R <sup>2</sup>	0.018	0.028	0.003	0.517	0.352	0.088	0.365	0.147	0.098	0.082

Notes: RMD% is the level of risk management disclosures based on index; LRD% is the level of liquidity risk disclosures based on index; CRD% is the level of credit risk disclosures based on index; MRD% is the level of market risk disclosures based on index; ORD% is the level of operational risk disclosures based on index; ERD% is the level of environmental risk disclosures based on index; ECRD% is the level of regulation and compliance risk disclosures based on index; EERD% is the level of empowerment and employment risk disclosures based on index; ITRD% is the level of information and technology risk disclosures based on index; and OTRD% is the level of other type of risks disclosures based on index.  
\*, \*\*, and \*\*\* denote significance at 10%, 5% and 1% respectively.

## **CONCLUSIONS**

Using a comprehensive CRDI, we examine the relationship between CRD, different types of risk disclosure, and the mandatory adoption of IFRS and the moderating effect of firm's size of publicly listed non-financial firms in Saudi Arabia from 2015–2017. The adoption of IFRS has a positive and significant impact on the extent of CRD. Moreover, the decomposition of the CRDI and the use of different econometric estimators prove the main results' robustness. This study also indicates that the company's size moderates the relationship between IFRS and CRD and the NFCRD. The interaction strengthens the relationship between the firm's size and both dependent variables.

This study has significant contributions to the body of knowledge as it is the first study to investigate the relationship between the mandatory adoption of IFRS and CRD in Saudi Arabia. As far as we know, it is also the first study to provide evidence of the positive significant moderating role of firm size on the relationship between the implementation of IFRS and CRD. Our findings add to the literature on CRD and the benefits of adopting IFRS. The results might be relevant to regulators and industries to ensure that companies disclose more risk information. Both parties have to acknowledge that high-level compliance with IFRS will lead the Saudi Arabia capital market to be more efficient and transparent.

Nevertheless, despite its significant contributions, this study has limitations. First, the sample selection excluded financial firms; thus, future research may gain new insights by investigating these firms' risk disclosure practices. Second, data for this study is limited to three years of observation, i.e. 2015 to 2017, due to unavailable recent data related to CRD during this study was conducted. Hence, given that the mandatory IFRS adoption was implemented in Saudi Arabia at the beginning of 2017, only one year represents this impact. Although the data from this year shows the impact of mandatory IFRS adoption, further studies should include more data from later years to confirm the accuracy of the results obtained from this study. The future study also may extend the current study to other GCC countries or developing countries.

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## REFERENCES

- Abdallah, A. A. N., Hassan, M. K., & McClelland, P. L. (2015). Islamic financial institutions, corporate governance, and corporate risk disclosure in Gulf Cooperation Council countries. *Journal of Multinational Financial Management*, 31, 63–82. <https://doi.org/10.1016/j.mulfin.2015.02.003>
- Adamu, M. U. (2013). Risk reporting: A study of risk disclosures in the annual reports of listed companies in Nigeria. *Research Journal of Finance and Accounting*, 4(16), 140–147.
- Aghimien, P. A. (2016). Development of accounting standards in selected Middle Eastern Countries in comparison to the United States of America. *Review of International Business and Strategy*, 26(1), 69–87. <https://doi.org/10.1108/RIBS-11-2013-0115>
- Ahmed, K., & Courtis, J. K. (1999). Associations between corporate characteristics and disclosure levels in annual reports: A meta-analysis. *The British Accounting Review*, 31(1), 35–61. <https://doi.org/10.1006/bare.1998.0082>
- Al-Hadi, A., Al-Yahyaee, K. H., Hussain, S. M., & Taylor, G. (2017). Market risk disclosures and corporate governance structure: Evidence from GCC financial firms. *The Quarterly Review of Economics and Finance*, 73, 136–150. <https://doi.org/10.1016/j.qref.2017.11.008>
- Al-Hadi, A., Hasan, M. M., & Habib, A. (2015). Risk committee, firm life cycle, and market risk disclosures. *Corporate Governance: An International Review*, 24(2), 145–170. <https://doi.org/10.1111/corg.12115>
- Al-Maghzom, A., Hussainey, K., & Aly, D. (2016). Corporate governance and risk disclosure: Evidence from Saudi Arabia. *Corporate Ownership and Control Journal*, 13(2), 145–166. <https://doi.org/10.22495/cocv13i2p14>
- Almansour, M. S. (2019). *Challenges and opportunities from adopting IFRS in Saudi Arabia: The case of the banking sector*. Doctoral dissertation, Nottingham Trent University.
- Al-Shammari, B. (2014). Kuwait corporate characteristics and level of risk disclosure: A content analysis approach. *Journal of Contemporary Issues in Business Research*, 3(3), 128–153.
- Al-Shammari, B., Brown, P., & Tarca, A. (2008). An investigation of compliance with international accounting standards by listed companies in the Gulf Co-Operation Council member states. *The International Journal of Accounting*, 43(4), 425–447. <https://doi.org/10.1016/j.intacc.2008.09.003>
- Al-Wasmi, M. E. (2011). *Corporate governance practice in the GCC: Kuwait as a case study*. Unpublished PhD dissertation, Brunel University.
- Alzead, R., & Hussainey, K. (2017). Risk disclosure practice in Saudi non-financial listed companies. *Corporate Ownership and Control*, 14(4), 262–275. <https://doi.org/10.22495/cocv14i4c1art8>
- Amran, A., Abdul Manaf, R., & Che Haat, M. H. (2009). Risk reporting: An exploratory study on risk management disclosure in Malaysian annual reports. *Managerial Auditing Journal*, 24(1), 39–57. <https://doi.org/10.1108/02686900910919893>

- Aryani, D., & Hussainey, K. (2017). The determinant of risk disclosure in the Indonesian non-listed banks. *International Journal of Trade and Global Markets*, 10(1), 58–66. <https://doi.org/10.1504/IJTG.M.2017.082376>
- Ashbaugh, H., & Pincus, M. (2001). Domestic accounting standards, international accounting standards, and the predictability of earnings. *Journal of Accounting Research*, 39(3), 417–434. <https://doi.org/10.1111/1475-679X.00020>
- Ball, R. (2006). International Financial Reporting Standards (IFRS): Pros and cons for investors. *Accounting and Business Research*, 36(Suppl.), 5–27. <https://doi.org/10.1080/00014788.2006.9730040>
- Barth, M. E., Landsman, W. R., & Lang, M. H. (2008). International accounting standards and accounting quality. *Journal of Accounting Research*, 46(3), 467–498. <https://doi.org/10.1111/j.1475-679X.2008.00287.x>
- Barth, M. E., Landsman, W. R., Lang, M., & Williams, C. (2012). Are IFRS-based and US GAAP-based accounting amounts comparable? *Journal of Accounting and Economics*, 54(1), 68–93. <https://doi.org/10.1016/j.jacceco.2012.03.001>
- Beretta, S., & Bozzolan, S. (2004). A framework for the analysis of firm risk communication. *The International Journal of Accounting*, 39(3), 265–288. <https://doi.org/10.1016/j.intacc.2004.06.006>
- Bischof, J. (2009). The effects of IFRS 7 adoption on bank disclosure in Europe. *Accounting in Europe*, 6(2), 167–194. <https://doi.org/10.1080/17449480903171988>
- Bushman, R. M., & Smith, A. J. (2001). Financial accounting information and corporate governance. *Journal of Accounting and Economics*, 32(1–3), 237–333. [https://doi.org/10.1016/S0165-4101\(01\)00027-1](https://doi.org/10.1016/S0165-4101(01)00027-1)
- Cabedo, J. D., & Tirado, J. M. (2004). The disclosure of risk in financial statements. *Accounting Forum*, 28(2), 181–200. <https://doi.org/10.1016/j.accfor.2003.10.002>
- Cai, L., Rahman, A. R., & Courtenay, S. M. (2008). *The effect of IFRS and its enforcement on earnings management: An international comparison*. SSRN. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1473571&rec=1&srcabs=1310346&alg=1&pos=7](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1473571&rec=1&srcabs=1310346&alg=1&pos=7)
- Certified Financial Analyst (CFA) Institute. (2016). *User perspective on financial instrument risk disclosure under International Financial Reporting Standards* (Volume 1). Charlottesville, VA: CFA Institute.
- Certified Management Accountant [CMA] (2017). The capital market authority approves the corporate government regulations, 15 February. <https://cma.org.sa/en/MediaCenter/PR/Pages/NewCGR.aspx>
- Chua, Y. L. E., Cheong, C. S., & Gould, G. (2012). The impact of mandatory IFRS adoption on accounting quality: Evidence from Australia. *Journal of International Accounting Research*, 1(1), 119–146. <https://doi.org/10.2308/jiar-10212>
- Ciubotariu, M. S. (2013). The role of small and medium enterprises in the modern economy and the importance of IFRS application for SMEs. *The USV Annals of Economics and Public Administration*, 13(1(17)), 201–210.
- Daske, H., & Gebhardt, G. (2006). International financial reporting standards and experts' perceptions of disclosure quality. *Abacus*, 42(3–4), 461–498. <https://doi.org/10.1111/j.1467-6281.2006.00211.x>

- Deumes, R., & Knechel, W. R. (2008). Economic incentives for voluntary reporting on internal risk management and control systems. *Auditing: A Journal of Practice & Theory*, 27(1), 35–66. <https://doi.org/10.2308/aud.2008.27.1.35>
- Diamond, D. W., & Verrecchia, R. E. (1991). Disclosure, liquidity, and the cost of capital. *The Journal of Finance*, 46(4), 1325–1359. <https://doi.org/10.1111/j.1540-6261.1991.tb04620.x>
- Ding, Y., Hope, O. K., Jeanjean, T., & Stolowy, H. (2007). Differences between domestic accounting standards and IAS: Measurement, determinants and implications. *Journal of Accounting and Public Policy*, 26(1), 1–38. <https://doi.org/10.1016/j.jaccpubpol.2006.11.001>
- Dobler, M. (2008). Incentives for risk reporting: A discretionary disclosure and cheap talk approach. *The International Journal of Accounting*, 43(2), 184–206. <https://doi.org/10.1016/j.intacc.2008.04.005>
- Dobler, M., Lajili, K., & Zéghal, D. (2011). Attributes of corporate risk disclosure: An international investigation in the manufacturing sector. *Journal of International Accounting Research*, 10(2), 1–22. <https://doi.org/10.2308/jiar-10081>
- Easley, D., & O'hara, M. (2004). Information and the cost of capital. *The Journal of Finance*, 59(4), 1553–1583. <https://doi.org/10.1111/j.1540-6261.2004.00672.x>
- El Mahjoub, E., & Dicko, S. (2017) The impact of IFRS adoption on Canadian firms' disclosure levels. *International Journal of Accounting and Financial Reporting*, 7(1), 227–248. <https://doi.org/10.5296/ijafr.v7i1.11136>
- Elshandidy, T., & Neri, L. (2015). Corporate governance, risk disclosure practices, and market liquidity: Comparative evidence from the UK and Italy. *Corporate Governance: An International Review*, 23(4), 331–356. <https://doi.org/10.1111/corg.12095>
- Elzahar, H., & Hussainey, K. (2012). Determinants of narrative risk disclosures in UK interim reports. *The Journal of Risk Finance*, 13(2), 133–147. <https://doi.org/10.1108/15265941211203189>
- Ewert, R., & Wagenhofer, A. (2005). Economic effects of tightening accounting standards to restrict earnings management. *The Accounting Review*, 80(4), 1101–1124. <https://doi.org/10.2308/accr.2005.80.4.1101>
- Gelb, D. S., & Zarowin, P. (2002). Corporate disclosure policy and the informativeness of stock prices. *Review of Accounting Studies*, 7(1), 33–52. <https://doi.org/10.1023/A:1017927530007>
- Gigler, F. B., & Hemmer, T. (2001). Conservatism, optimal disclosure policy, and the timeliness of financial reports. *The Accounting Review*, 76(4), 471–493. <https://doi.org/10.2308/accr.2001.76.4.471>
- Gouda, B. A. (2012). The Saudi Securities Law: Regulation of the Tadawul Stock Market, issuers, and securities professionals under the Saudi capital market law of 2003. *Annual Survey of International & Company Law*, 18(1), 115–205.
- Guthrie, J. E., & Parker, L. D. (1989) Corporate social reporting: A rebuttal of legitimacy theory. *Accounting and Business Research*, 19(76), 343–352. <https://doi.org/10.1080/00014788.1989.9728863>



- Habtoor, O., & Ahmad, N. (2017). The influence of royal board of directors and other board characteristics on corporate risk disclosure practices. *Corporate Ownership & Control*, 14(2-2), 326–337. <https://doi.org/10.22495/cocv14i2c2p6>
- Haniffa, R. M., & Cooke, T. E. (2002). Culture, corporate governance and disclosure in Malaysian corporations. *Abacus*, 38(3), 317–349. <https://doi.org/10.1111/1467-6281.00112>
- Hassan, M. K. (2009). UAE corporations-specific characteristics and level of risk disclosure. *Managerial Auditing Journal*, 24(7), 668–687. <https://doi.org/10.1108/02686900910975378>
- Hassan, M. K. (2014). Risk narrative disclosure strategies to enhance organisational legitimacy: Evidence from UAE financial institutions. *International Journal of Disclosure and Governance*, 11(1), 1–17. <https://doi.org/10.1057/jdg.2012.11>
- Healy, P. M., Hutton, A. P., & Palepu, K. G. (1999). Stock performance and intermediation changes surrounding sustained increases in disclosure. *Contemporary Accounting Research*, 16(3), 485–520. <https://doi.org/10.1111/j.1911-3846.1999.tb00592.x>
- Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics*, 31(1–3), 405–440. [https://doi.org/10.1016/S0165-4101\(01\)00018-0](https://doi.org/10.1016/S0165-4101(01)00018-0)
- Hope, O. K., Jin, J., & Kang, T. (2006). Empirical evidence on jurisdictions that adopt IFRS. *Journal of International Accounting Research*, 5(2), 1–20. <https://doi.org/10.2308/jiar.2006.5.2.1>
- Hughes, J. S., Liu, J., & Liu, J. (2007). Information asymmetry, diversification, and cost of capital. *The Accounting Review*, 82(3), 705–729. <https://doi.org/10.2308/accr.2007.82.3.705>
- Iatridis, G. (2008). Accounting disclosure and firms' financial attributes: Evidence from the UK stock market. *International Review of Financial Analysis*, 17(2), 219–241. <https://doi.org/10.1016/j.irfa.2006.05.003>
- Ibrahim, A., Habbash, M., & Hussainey, K. (2019). Corporate governance and risk disclosure: evidence from Saudi Arabia. *International Journal of Accounting, Auditing and Performance Evaluation*, 15(1), 89–111. <https://doi.org/10.1504/IJAPE.2019.096748>
- IFRS Foundation. (2019). About us [online]. Retrieved 6 June 2019, from <https://www.ifrs.org/about-us/>
- IFRS Foundation. (2017). IFRS around the world. Jurisdictional profile: Saudi Arabia, February 2017. Retrieved from <http://www.ifrs.org/-/media/feature/around-the-world/jurisdiction-profiles/saudi-arabia-ifrs-profile.pdf>
- Kennedy, P. (2003). *A guide to econometrics*. Cambridge, MA: MIT Press.
- Kim, O., & Verrecchia, R. E. (1994). Market liquidity and volume around earnings announcements. *Journal of Accounting and Economics*, 17(1–2), 41–67. [https://doi.org/10.1016/0165-4101\(94\)90004-3](https://doi.org/10.1016/0165-4101(94)90004-3)

- Kouaib, A., Jarboui, A., & Mouakhar, K. (2018). CEOs' accounting-based attributes and earnings management strategies under mandatory IFRS adoption. *Journal of Applied Accounting Research*, 19(4), 608–625. <https://doi.org/10.1108/JAAR-04-2017-0051>
- Lambert, R., Leuz, C., & Verrecchia, R. E. (2007). Accounting information, disclosure, and the cost of capital. *Journal of Accounting Research*, 45(2), 385–420. <https://doi.org/10.1111/j.1475-679X.2007.00238.x>
- Landsman, W. R., Maydew, E. L., & Thornock, J. R. (2012). The information content of annual earnings announcements and mandatory adoption of IFRS. *Journal of Accounting and Economics*, 53(1–2), 34–54. <https://doi.org/10.1016/j.jacceco.2011.04.002>
- Lang, M. H., & Lundholm, R. J. (2000). Voluntary disclosure and equity offerings: Reducing information asymmetry or hyping the stock? *Contemporary Accounting Research*, 17(4), 623–662. <https://doi.org/10.1506/9N45-F0JX-AXVW-LBWJ>
- Lev, B. (1988). Toward a theory of equitable and efficient accounting policy. *Accounting Review*, 63(1), 1–22.
- Li, X., & Yang, H. I. (2015). Mandatory financial reporting and voluntary disclosure: The effect of mandatory IFRS adoption on management forecasts. *The Accounting Review*, 91(3), 933–953. <https://doi.org/10.2308/accr-51296>
- Lightstone, K., & Driscoll, C. (2008). Disclosing elements of disclosure: A test of legitimacy theory and company ethics. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, 25(1), 7–21. <https://doi.org/10.1002/cjas.50>
- Linsley, P. M., & Shrives, P. (2000). Risk management and reporting risk in the UK. *Journal of Risk*, 3, 115–129. <https://doi.org/10.21314/JOR.2000.034>
- Linsley, P. M., & Shrives, P. J. (2006). Risk reporting: A study of risk disclosures in the annual reports of UK companies. *The British Accounting Review*, 38(4), 387–404. <https://doi.org/10.1016/j.bar.2006.05.002>
- Linsmeier, T. J., Thornton, D. B., Venkatachalam, M., & Welker, M. (2002). The effect of mandated market risk disclosures on trading volume sensitivity to interest rate, exchange rate, and commodity price movements. *The Accounting Review*, 77(2), 343–377. <https://doi.org/10.2308/accr.2002.77.2.343>
- Lopes, P. T., & Rodrigues, L. L. (2007). Accounting for financial instruments: An analysis of the determinants of disclosure in the Portuguese stock exchange. *The International Journal of Accounting*, 42(1), 25–56. <https://doi.org/10.1016/j.intacc.2006.12.002>
- Lundholm, R., & Van Winkle, M. (2006). Motives for disclosure and non-disclosure: A framework and review of the evidence. *Accounting and Business Research*, 36(Suppl.), 43–48. <https://doi.org/10.1080/00014788.2006.9730044>
- Miihkinen, A. (2012). What drives quality of firm risk disclosure? The impact of a national disclosure standard and reporting incentives under IFRS. *The International Journal of Accounting*, 47(4), 437–468. <https://doi.org/10.1016/j.intacc.2012.10.005>

- Misirlioglu, İ. U., Tucker, J., & Yükseltürk, O. (2013). Does mandatory adoption of IFRS guarantee compliance? *The International Journal of Accounting*, 48(3), 327–363. <https://doi.org/10.1016/j.intacc.2013.07.002>
- Mohd Ali, S., Hassan, M. S., & Mohd-Saleh, N. (2007). Block-ownership and earnings management in Malaysian Listed firms, *Corporate Ownership & Control*, 5(1–1), 195–201. <https://doi.org/10.22495/cocv5i1c1p3>
- Mokhtar, E. S., & Mellett, H. (2013). Competition, corporate governance, ownership structure and risk reporting. *Managerial Auditing Journal*, 28(9), 838–865. <https://doi.org/10.1108/MAJ-11-2012-0776>
- Morris, R. D. (1987). Signaling, agency theory and accounting policy choice. *Accounting and Business Research*, 18(69), 47–56. <https://doi.org/10.1080/00014788.1987.9729347>
- Ntim, C. G., Lindop, S., & Thomas, D. A. (2013). Corporate governance and risk reporting in South Africa: A study of corporate risk disclosures in the pre- and post-2007/2008 global financial crisis periods. *International Review of Financial Analysis*, 30, 363–383. <https://doi.org/10.1016/j.irfa.2013.07.001>
- Oliveira, J., Rodrigues, L. L., & Craig, R. (2011). Risk-related disclosure practices in the annual reports of Portuguese credit institutions: An exploratory study. *Journal of Banking Regulation*, 12(2), 100–118. <https://doi.org/10.1057/jbr.2010.20>
- Saggar, R., & Singh, B. (2017). Corporate governance and risk reporting: Indian evidence. *Managerial Auditing Journal*, 32(4/5), 378–405. <https://doi.org/10.1108/MAJ-03-2016-1341>
- Saudi CG Code. (2006). Corporate governance code of Kingdom of Saudi Arabia. Retrieved from [http://www.cma.org.sa/en/Pages/Implementing\\_Regulations.aspx](http://www.cma.org.sa/en/Pages/Implementing_Regulations.aspx)
- Saudi CG Code. (2017). Corporate governance code of Kingdom of Saudi Arabia. Retrieved from [https://cma.org.sa/en/RulesRegulations/Regulations/Documents/CGRegulations\\_en.pdf](https://cma.org.sa/en/RulesRegulations/Regulations/Documents/CGRegulations_en.pdf)
- Schrand, C. M. (1997). The association between stock-price interest rate sensitivity and disclosures about derivative instruments. *Accounting Review*, 72(1), 7–109.
- Sengupta, P. (1998). Corporate disclosure quality and the cost of debt. *Accounting Review*, 73(4), 459–474.
- Shehata, N. F. (2015). Development of corporate governance codes in the GCC: an overview. *Corporate Governance*, 15(3), 315–338. <https://doi.org/10.1108/CG-11-2013-0124>
- Saudi Organization for Certified Public Accountants (SOCPA). About us. Retrieved 28 August 2019 from <https://socpa.org.sa/Socpa/About-Socpa/About-Us.Aspx>
- Soderstrom, N. S., & Sun, K. J. (2007). IFRS adoption and accounting quality: A review. *European Accounting Review*, 16(4), 675–702. <https://doi.org/10.1080/09638180701706732>
- Solomon, J. F., Solomon, A., Norton, S. D., & Joseph, N. L. (2000). A conceptual framework for corporate risk disclosure emerging from the agenda for corporate governance reform. *The British Accounting Review*, 32(4), 447–478. <https://doi.org/10.1006/bare.2000.0145>

- Taylor, G., Tower, G., & Neilson, J. (2010). Corporate communication of financial risk. *Accounting & Finance*, 50(2), 417–446. <https://doi.org/10.1111/j.1467-629X.2009.00326.x>
- The Institute of International Finance (IIF), & Hawkamah. (2006, December). Corporate governance in Saudi Arabia: An investor perspective. Retrieved from [https://www.hawkamah.org/uploads/reports/SaudiCorpGov\\_1206.pdf](https://www.hawkamah.org/uploads/reports/SaudiCorpGov_1206.pdf)
- Trimble, M. K. (2017). The historical and current status of IFRS adoption around the world. Available at SSRN: <https://ssrn.com/abstract=3276760>. <https://doi.org/10.2139/ssrn.3276760>
- Uddin, M. H., & Hassan, M. K. (2011). Corporate risk information in annual reports and stock price behavior in the United Arab Emirates. *Academy of Accounting and Financial Studies Journal*, 15(1), 59–84.

## APPENDIX

### Appendix A. Corporate risk disclosure categories and items

Category	Disclosure Items
	Financial Risk Disclosure
Risk management	1. Risk management disclosure 2. Forecasting risks the company may encounter
Financial instruments	3. Financial instruments disclosures
Liquidity risk	4. Liquidity risk disclosure
Credit risk	5. Credit risk disclosure
Market risk	6. Investment risk 7. Financial markets risk 8. Foreign exchange rate risk (Currency risk) 9. Interest rate risk 10. Cash flow risk 11. Equity risk 12. Pricing risk or commodity price risk 13. Fair value risk
	Non-Financial Risk Disclosure
Operational risk	14. Risk of unexpected business interruption 15. Marketing risk 16. Industrial risk (competition) 17. Customers' relations and satisfaction risk 18. Seasonality of demand risk 19. Loss of major customers risk 20. Efficiency and performance risk 21. Lack of natural resources risk (e.g. water) 22. Sourcing risk. (Insufficient resources and raw material) 23. Risk of key supplies and not secure suppliers 24. Risk of product or service development and failure
Environmental risk	25. Risk of natural disasters 26. Risk of use of products that environmentally sensitive 27. Extreme weather conditions risk 28. Environment incidents risk 29. Risk of new laws and regulations related to the environment

*(continue on next page)*

Appendix A (*continued*)

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Category	Disclosure Items
Regulation and compliance risk	30. Compliance to local law and regulations risk
	31. Compliance to Saudisation law risk
	32. Compliance to corporate governance disclosure requirements risk
	33. Litigation risk
	34. Risk of changing the current legal requirements
Empowerment and employment risk	35. Any further discussion about other risk related to regulation and compliance
	36. Human errors risk
	37. Outsourcing risk
	38. Risk of loss of key employees, or managers, or leaders
	39. Employees and work environment risk
Information and technology risk	40. Recruiting of qualified and skilled professional
	41. Risk of technical and system failure
Other type of risks	42. Risk of rapid development in technology
	43. Risk of intellectual rights
	44. Strategic risk
	45. Economic risk, internal or external
	46. Governmental risk
	47. Political risks

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