

# Risk Reporting and Multiple Directorships: Evidence from Gulf Cooperation Council Markets

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## **Abstract**

Risk reporting is one of the effective risk management procedures. It provides greater transparency, stimulates shareholders' confidence, minimizes the information asymmetry between investors and agents, and helps investors to take effective and timely risk diversification. In this paper we investigate the association between Corporate Risk Disclosures (CRD) and multiple directorships of 1,051 year-observations of Gulf Corporation Council (GCC) listed firms from 2015 to 2018. Unlike previous studies in the GCC, we find multiple directorships are beneficial for firms. In specific, we find multiple directorships improve the firm' corporate risk disclosures. Additional analyses show consistent results even when CRD is disaggregated into mandatory versus voluntary risk disclosures, financial versus non-financial risk disclosures and with market, empowerment, and damage risk disclosures. Results are robust with different measures of corporate risk disclosures and multiple directorships. This study gives new insights into recent corporate governance updates in emerging markets regarding number of corporate board sets. The empirical results demonstrate that firms with more board directorships is not detrimental as it helps to mitigate information asymmetry and agency costs.

**Keywords** Corporate risk disclosures, multiple directorships, agency theory and GCC

## 1. INTRODUCTION

Risk disclosure through effective risk management has emerged as a key, if not the most important priority for companies. Scholars' call for more research studies, to show how public firms should be both descriptive and prescriptive in disclosing information about their risk exposure as an evidence of the importance of risk reporting (e.g. Dobler, Lajili, & Zéghal, 2011). Furthermore, the collapse of crude oil' prices starting from Mid-2014 has dramatically exposed the economy of oil exporting countries such as those of the GCC countries to various risks. The stated oil price crash revealed that they rely on crude oil exporting as their major revenue stream (Zerban, Omar, & Al Sibani, 2015). In response to the adverse uncertainties that may arise following the increased exposure, shareholders and regulators have continually placed increasing pressure on companies to disclose risk information and provide other necessary information to reduce uncertainty (Elshandidy&Neri, 2015).

GCC markets have become increasingly important to investors that are seeking higher returns, therefore the demand for experienced directors in high quality monitoring and advising is one of the recent call of the GCC authorities (GCC BDI, 2017). In fact, previous studies

and professional surveys have argued that multiple directorship is a common phenomenon in GCC listed companies (Halawi & Davidson, 2008; Eulaiwi, Al-Hadi, Taylor, Al Yahyae, & Evans, 2016). Thus, the nature of the structure of any firm listed among the GCC firms tend to draw questions, due to a high proportion of multiple directorship in the boards as well as the level of risk disclosure that emanates from the organisations. In this study, we investigate the impact of multiple directorships on the level of risk disclosures of the GCC countries' firms.

Three important institutional and economic attributes make the Gulf Cooperation Council an interesting and unique location for our study. First, corporate governance is assuming a growing importance in GCC economies. Specifically, the importance of risk management and disclosure have been raised as the risk disclosure should be timely and mandatory to shareholders in the majority of GCC countries (i.e. Bahrain CG code, 2011; Kuwait CG code, 2013; Oman CG code, 2015; Saudi CG code, 2017).

Second, although there is an increasing interest in risk disclosure research among the GCC member countries, there is still a relatively small number of either country-specific or cross-

border studies that have been undertaken across the GCC region (e.g. Al-Hadi et al., 2016; Hassan, 2009). Additionally, there are far-less documentary evidence to assess the impact of oil price crash period on risk type disclosure in oil-exporting countries such as those in the GCC. Hence, oil price collapse significantly promotes exogenous shock, such that this paper is meant to investigate disclosure practices in connection with the recent development of corporate governance. Therefore, our sample collection spanned the oil price crash period to create a non-biased sample for our study.

Third, several recent developments in the GCC region are likely to stimulate an increased demand for transparency and disclosure (Baydoun, Ryan, & Willett, 2012), particularly in relation to risk reporting (Al-Hadi et al., 2016). The mandatory adoption of IFRS for all listed firms has repositioned the risk management and risk reporting systems. For example, the UAE Commercial Company Law was amended to enforce the use of IASs/IFRS by all listed companies with effect from first July 2015 (IFRS UAE, 2017). Similarly, in Saudi Arabia, all listed companies were required by Saudi Organization for Certified Public Accountants (SOCPA) to adopt IFRS starting from financial periods beginning

on or after January 2017 (IFRS Foundation, 2017). Besides, the stock markets of the GCC have been growing at a breath-taking pace; the number of companies listed in GCC markets have increased from 584 in 2008 (Halawi & Davidson, 2008) to 727 at the beginning of 2020, an increase of 24.48%. The provision of adequate risk disclosures, therefore, is an essential factor for GCC non-financial listed firms.

Based on a sample of 1,051 firm-year observations of non-financial firms throughout 2015–2018 (285 firms), we analysed the association between multiple directorships and the level of corporate risk disclosure, using multi-measures of multiple directorships. Our results revealed that there is a positive relationship between multiple directorship and risk reporting. We also found consistent results after we disaggregated our CRD index into mandatory and voluntary risk disclosures. Further analyses show also a significant positive effect of multiple directorships and market risk disclosures, financial versus non-financial risk, damage risk disclosures, and empowerment risk disclosures.

We contributed to this line of research in two ways: First, we add a new insight to risk reporting to the existing literature. Interest in Enterprise Risk

Management (ERM) has continued to grow in recent years. Unlike traditional risk management, where individual risk categories are separately managed in risk “silos,” ERM enable firms to manage a wide array of risks in an integrated, enterprise-wide fashion. For instance, prior studies focused on the effects and determinants of market risk disclosures, liquidity risk disclosures, financial and non-financial risk disclosures, and operational risk disclosures (e.g., Al-Hadi, Al-Yahyaee, Hussain, & Taylor, 2017; Al-Hadi, Hasan, & Habib, 2015a; Willeson, 2014; Barakat& Hussainey, 2013; Brown, Goetzmann, Liang, & Schwarz, 2008). In fact, most organizations have recently started considering and implementing ERM programs, in addition to that, consulting firms have established specialized ERM units, and rating agencies have begun to consider ERM in their rating process, and finally, ERM-related courses and research have been developed by universities and research centres (Hoyt & Liebenberg, 2011). This paper is a timely response to this recent call of ERM studies (e.g. Pérez-Cornejo, de Quevedo-Puente, & Delgado-García, 2019; McShane, Nair, & Rustambekov, 2011). This work ultimately considers the multi-dimensional aspects of corporate risk disclosures index in line with risk

application of ERM. Our measures of corporate risk disclosures consider 10 types of financial and non-financial risk disclosures including credit, liquidity, market, operational, strategic, employment, integrity, damage, empowerment and technological. We also considered the legal structure of index’s items, particularly, if these items are regulated by the international accounting standard board, e.g., mandatory or voluntarily (for more details see Appendix B and methodology section 4.2).

Second, our study contributes to existing directorship literature studies as well as corporate risk disclosures. While, previous studies have investigated different effects of multiple aspect of directorship such as financial performance and financial crisis (Hauser, 2018; Withisuphakorn& Jiraporn, 2018; James, Wang, & Xie, 2018); mergers and acquisitions (Ferris, Jayaraman, & Liao, 2018; Benson, Davidson III, Davidson & Wang, 2015); compensation (Ferris, Liao, & Tamm, 2018); political connection (Brown, Dai, & Zue, 2019); firm’s value and location (James et al., 2018; Verwijmeren& Wang 2018) and financial reporting quality and earning management (Al-Yahyaee & Al-Hadi, 2017; Ferris & Liao, 2019). Specifically, we add to the work of Eluawi et al. (2016); and Al-

Yahyaee and Al-Hadi, (2017). Eulaiwi et al. (2016) found positive significant association between the presence of family ownership and multiple directorships in the GCC firms, this positive association was surprisingly found to be better and more effective by nomination committee in the board. While Al- Yahyaee and Al-Hadi (2017) found consistent evidence with Eulaiwi et al. (2016) that multiple directorships in the GCC are detrimental. They found that multiple directorships reduce the quality of the audit committee when the firms' directors serve as directors in both audit and risk committees, because of high level busyness. We provide evidence regarding the positive side of firms' multiple directorships to corporate risk reporting from a unique GCC setting.

The remainder of the paper is as follows. The second section briefly discusses the institutional background of the GCC region. The third section reviews previous studies and develops the hypotheses. While explanations of the research design are provided in the fourth section, the fifth section presents the results and discussions. The last section provides the conclusion.

## **2. INSTITUTIONAL BACKGROUND OF THE GCC REGION**

In an attempt to develop business, economic and scientific cooperation between oil-producing countries, the Gulf Cooperation Council (GCC) was created in 1981. The GCC region are located along the western part of the Arabian Gulf. This region has been recognised as one of the world's fastest growing markets in the capital markets (Baydoun et al., 2012; Al-Shammari, Brown, & Tarca, 2008). For instance, during the last few years, top fifty banks across GCC region have increased their total assets by 33% from US\$1.5 trillion in 2014 to almost US\$2 trillion in 2017 (Gulf Business, 2014; 2015; 2016; 2017).

The demographic and geographic characteristics of the GCC region have been changing rapidly in the past few years. An increase in younger and better-educated population, a diversity in market products and services, and an increase in demand for regulatory requirements in the capital markets may have distinct these markets from other markets. To have an efficient and competitive capital market, especially in emerging economies like GCC, it is essential to impose the adoption of corporate governance and procedures. For Publicly Held Joint Stock Companies in the GCC, they have to comply with the corporate governance codes on a mandatory basis (comply/penalised).

Except for Bahrain, all Joint Stock companies and financial institutions licensed by Central Bank of Bahrain (CBB) must comply with the CG Code voluntarily (comply/explain).

The revised and reissued CG code helps to encourage public listed companies to display higher standard of compliance to protect their investors. Take, for instance, Saudi Arabia CG code 2006 was silent on risk disclosure while a new CG code 2017 states that the board's report should include information on all risks that the company faces: operational, market and financial risks (Saudi CG code, 2017). Indeed, the CG codes of all GCC countries (except UAE) require full disclosure of risks to attain justice, transparency and avoid conflict of interests. Whereas, the UAE CG codes 2007 and 2016 fail to give effective ways of disclosing risks for listed companies (Al-Hadi et al., 2016; UAE CG code, 2016).

According to Halawi and Davidson survey (2008), the rate of multiple directorships across the six stock markets of the region are 20.4%, 17.2%, 15.7%, 14.3%, 13%, 10.2% in Oman, Abu Dhabi, Kuwait, Dubai, Saudi, and Bahrain respectively. The institutional specificities of emerging economies such as those in the GCC can sustain higher levels of multiple directorships, which could

influence the quality of corporate governance (Eulaiwi et al., 2016). Prior research has indicated that multiple directorships may impact the efficiency and effectiveness of board functioning (e.g. Fich & Shivdasani, 2006; Ferris, Jagannathan & Pritchard, 2003). Multiple directorships are obliged to reduce attenuate agency costs and eliminate value reducing acquisitions caused by agency conflicts (Ahn et al., 2010). That will probably produce more risks reporting.

By recognizing the fact that executives' time is finite, the corporate regulators appeal on the necessity to limit the number of outside board seats that can be held by one individual (Ahn et al., 2010). For instance, the CG codes in Saudi Arabia and Kuwait restricted the company's board to a maximum of five Joint Stock Companies (Saudi CG code, 2017; Eulaiwi et al., 2016; Kuwait CG code, 2013). While in Bahrain, the regulation limits a person in a public company to hold a maximum of three directorship positions (Eulaiwi et al., 2016; Bahrain CG code, 2011). However, the CG codes in Oman and UAE are silent on the issue of multiple directorships, and the number of outside directorships permitted is not delineated (Eulaiwi et al., 2016; UAE CG code, 2016; Oman CG code, 2015).

### 3. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

#### 3.1 Corporate risk disclosures

A number of definitions of “corporate risk disclosures” have been proposed by researchers in previous studies in order to establish conceptual frameworks of their respective research. For example, Linsley and Shrives (2006) propose a broad definition of corporate risk disclosure in terms of communication of both positive and negative information about the uncertainties of the business. The definition involves the possibility of both punishment and reward as the possible outcome of a situation. However, self-interest directors may be reluctant to disclose bad or negative risk information in order to maintain the image of the company (Linsley & Shrives, 2006).

The emergence of corporate risk disclosure (CRD) occurs as a result of highly complex and competitive business environment, in order to promote transparency, and to improve the quality of disclosure information asymmetries have to be minimized. By disclosing risk information, the shareholders and other stakeholders will be able to assess the potential value gains, profitability and the growth prospects of the company (Miihkinen, 2012). In addition, there is a

chance to reduce the company's perceived risk due to the fact that increased information on corporate risk enables a better assessment of the company's future performance (Moumen, Othman, & Hussainey, 2015). Consequently, risk information minimizes uncertainty and improves investors' confidence (Al-Hadi et al., 2016).

Risk disclosure is considered an important aspect of effective risk management or “Enterprise Risk Management” because it provides greater transparency and stimulates shareholders' confidence. By disclosing risk, the information asymmetry detected between investors and agents will be minimized in order to make the corporate governance more effective. It has also been suggested that improvement in CRD would enable investors to take more effective decisions about diversification of risk (Ntim, Lindop, & Thomas, 2013; Miihkinen, 2012). The nature of the board structure was identified as one of the most influential attributes of the corporation that could affect risk disclosure to the full extent (e.g. Al-Hadi et al., 2017; Al-Yahyaee, Al-Hadi, & Hussain, 2017; Al-Hadi et al., 2016; Allini et al., 2016; Elshandidy & Neri, 2015; Barakat, & Hussainey, 2013; Ntim et al., 2013; Oliveira, Rodrigues, & Craig, 2011).

### 3.2 Multiple directorships

In the course of previous research studies, there were two competing perspectives. Reflecting the influence of multiple directorships or busier directors on corporate governance. According to the first perspective, external directorships can lead to effectiveness of the director's actions according in the agency theory (Fama& Jensen, 1983; Ricardo-Campbell, 1983). Those directors, who hold more than several seats on the boards, are more experienced, deliver better productivity, and enable better maintenance functions. In this case, they are obliged to attenuate agency costs and eliminate value-reducing acquisitions caused by agency conflicts (Ahn et al., 2010). Based on a socio-cognitive perspective, multiple directorships through social contact with other directors in different board meetings acquire knowledge, experience, and strategic information that helps in the successful implementation of firm's strategies (Carpenter & Westphal, 2001). Numerous studies have attempted to address the fact that multiple directorships can affect the effectiveness of corporate governance. Clements, Neill, and Wertheim (2015) conducted one of such studies that confirmed different directorships as the major determinant of effectiveness in business governance.

Moreover, Carpenter and Westphal (2001) explored the vital ways in which multiple directorships and social network influence corporate governance. As proven by Kroll, Walters, and Le (2007) and Certo (2003), multiple directorships add prestige to the board structures, which in turn attracts potential investors due to anticipated efficiency gains. Also, Fich and Shivdasani (2006), stated that the affairs that multiple directorships conduct using high-quality financial reporting can also improve the effectiveness of corporate governance. That fact can cause disclose of more risks information. Generally, the first perspective has a potential of being approved, considering the strong theoretical bases of the existing studies.

According to the second perspective, directors with more than one board seats may cause negative consequences to the monitoring functions as well as shareholder value (Falato, Kadyrzhanova, & Lel, 2014), because board members would be too busy to pay proper attention to the internal routine of the firm (Haniffa&Hudaib, 2006). Thus, busier directors can lead to decreasing confidence level of investors who will not see the expected level of commitment (Fich & Shivdasani, 2006); increase in information asymmetry, and high agency costs (Shivdasani & Yermack, 1999;

Jensen &Meckling, 1976). Basically, the directors will not have enough time to provide equal services to all firms they work for (Halawi & Davidson, 2008; Haniffa&Hudaib, 2006). By holding too many outside board seats, the director may become too busy to the extent his or her ability to provide high-quality management is compromised, thereby leading to lower efficiency and productivity, as well as managerial oversight (Ahn et al., 2010). According to a research study conducted by Alfraih and Almutawa (2017), a higher proportion of directors with multiple outside seats on firms' boards causes lower level of voluntary disclosure. Thus, less CRD can be expected. However, prior studies found that there is no impact of multiple directorships on voluntary disclosure (Haniffa& Cooke, 2002); as well as risk disclosure (Allini et al., 2016).

### **3.3 Multiple directorships and the level of corporate risk disclosures**

A research conducted by Elshandidy, Fraser, and Hussainey (2013) implied that firms with increased systematic, financing, and risk-adjusted returns, are more likely to disclose more risk information. Meanwhile, those firms that fail to provide a high level of risk information identified by investors will have to deal with the

consequences of the increased cost of capital as a result of increased rate of return by investors. Therefore, the transparency of the communication of risk information would minimize the investors' uncertainty and consequently would decrease the cost of equity capital (Al-Hadi, Taylor, & Hossain, 2015b). Hence, the firms with better governance structure reduce their cost of equity capital by mitigating agency risks. At the same time, weak governance expose shareholders to even greater agency risks (Habib, 2006).

There is a large volume of published studies describing the role of multiple directorships on corporate governance efficiency (e.g. Clements et al., 2015; Ahn et al., 2010; Fich & Shivdasani, 2006; and Carpenter &Westphal, 2001). Considering this, the research has demonstrated through human capital principles that when directors have a position outside the company, it can bring more value to the firm (Certo, 2003). The interlocking directorate makes directorship a precious source of experience and information. Furthermore, prior studies have proven that multiple directorships have a positive significant impact on financial disclosure (Hashim& Rahman, 2011) as well as corporate social reporting disclosure (Haniffa& Cooke, 2005).

In our study, we employ agency and resource-based theories to elucidate the association between multiple directorships and the level of corporate risk disclosure. The agency theory speculates that more effective directors on the board will improve transparency. Thus, multiple directorships help to minimize agency costs (Ahn et al., 2010). Expert directors who are set on various boards assist in providing vital advice and counsel to formulate firms' strategies and implement them successfully (Carpenter & Westphal, 2001), which further supplements top management and facilitate the evaluations of their proposals (Fama & Jensen, 1983). From a resources-based perspective, large sized companies, as well as environmentally sensitive companies reveal more risk-related information to address stakeholders' perceptions of corporate image (Oliviera et al., 2011). Using resource-based theory, multiple directorships as a valuable source can help the firm, to obtain capital at a reduced cost from the market due to increased reputation and improvement in its image. Consequently, multiple directorships have enough motivations to increase the level of risk disclosure that could improve the firm's image and boost achievement of corporate goals.

However, Alfraih and Almutawa (2017), found that 52 Kuwaiti listed non-financial firms with a higher proportion of directors having multiple directors in other firms' boards tend to have a lower level of voluntary disclosure. Several studies also found that multiple board seats are associated with lower firm earnings report quality as well as financial report quality (e.g., Ferris & Liao, 2019; Al-Yahyaee & Al-Hadi, 2017). These findings are in harmony with the second perspective of multiple directorships, that maintains that busier directors have adverse effect on managerial oversight, management quality, productivity (Ahn et al., 2010; Haniffa & Hudaib, 2006); and firm performance (Hauser, 2018; Verwijmeren & Wang, 2018; Fich & Shivdani, 2006; Shivdani & Yermack, 1999). Consequently, the level of corporate risk disclosure can be reduced by the existence of busier directors.

The research study conducted by Haniffa and Cooke (2002), address the issue of when multiple directorships are exposed to various implications on disclosure practice, because directors are members of several boards in different firms. In this case, the company's claim for confidentiality and disclosure of information can be distracted. At the same time, they report that there was no clear

association between numerous directorships in Malaysia and the scope of voluntary disclosure. This finding is consistent with those of Allini et al., (2016), that multiple directorships had no impact on risk disclosure while investigating 17 Italian-listed state-owned business entities. However, the GCC model of governance differs from those of other developed and developing markets so that the corporate governance characteristics may have different influence on directorships and the level of CRD in the studies conducted in different environments. The case is widely related to the fact that the directors in the GCC countries often engage in the activities of more than one company. This factor can have desirable influence on the potential risk disclosure expressions. Generally, the topic of ‘multiple directorships variable’ has not been fully covered in terms of its interrelations with risk disclosure practices.

In the context of this research, we argue that multiple directorships play an important role in the GCC because they are typically knowledgeable and competent. Multiple directorships have the ability to access information from other companies, an ability that may enhance transparency at the managerial level. They further have skills and equally get

incentives for diligently monitoring the actions of the management, which also improves the quality of reporting (Hashim& Rahman, 2011; Haniffa& Cooke, 2005). Therefore, we believe that multiple directorships in the GCC will help to increase the level of CRD. In the light of the agency and resource-based theories, and on this view, the following hypothesis was developed:

*H<sub>1</sub>: There is a positive relationship between multiple directorships and the level of CRD.*

## **4 RESEARCH DESIGN**

### **4.1 Sample and Data**

We use a hand-collected sample from non-financial firms comes from six of the GCC stock exchange markets (i.e., Saudi, Abu Dhabi, Bahrain, Dubai, Kuwait, and Oman) for the period from 2015 to 2018.<sup>1</sup> In particular, all corporate risk reporting, multiple directorships, and other governance characteristics are collected from firms’ annual reports. Other variables, such as firms’ beta, some financial variables, and country-level variables are obtained from Datastream,

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<sup>1</sup> Clarifying the impact of the collapse of crude oil’ prices in non-financial firms in the GCC capital markets is one of the motivations in this paper. However, the absence of either annual reports or corporate governance reports of the majority of listed firms in the GCC for the period before the collapse of crude oil’ prices leads us to restrict the research to the period after it.

Bloomberg, and the World Bank and measurements of the variables used in databases. Table 1 presents the definitions this study.

**Table 1: Measurements of Variables**

Variable	=	Definition
Crdindex	=	The level of corporate risk disclosure based on index
MDir%	=	Total number of multiple directorships held by all of the board members divided by the board size
MDR_In	=	The natural logarithm of one plus the total multiple directorships
Control variables		
Bsize	=	Number of board members
Bindp%	=	The proportion of independent directors relative to total directors on the board
BoardDual	=	A dummy variable taking value 1 if the CEO is also the chairman of the board of directors and 0 otherwise
Bmeet	=	A of board meetings during the year
Gender	=	A dummy variable taking value 1 if board contains female directors and otherwise 0
AQ	=	A dummy variable that takes on the value of 1 if the firm is audited by one of the Big Four auditors, 0 otherwise
Size	=	The natural logarithm of total assets
ROE	=	Net profit scaled by total equity
Beta	=	Systematic risk which is calculated over 12 months by regressing the share price against the respective market index
Lev	=	The total debt scaled over total assets
CCFAC	=	Factor analysis of country level governance (which covers political stability and absence of violence, government effectiveness, regulatory quality and control of corruption)

Initially, our sample of non-financial firms in the GCC stock markets consists of 1,288 firm-year observations (Table 2, Panel A). The joint-listed firms (64 firm-year), firms with unavailable annual reports and missing values in control variables (173 firm-year) were excluded. Thus, the final sample size of 1,051 firm-year observations is yielded. Panel B of Table 2 shows that the highest number of firm-year observations is presented by Saudi Arabia with 423,

followed by Oman with 226 and Kuwait with 219 firm-year observations. Moreover, Panel C of Table 2 provides the nine industries of the sample which are Consumer Discretionary (170), Consumer Staples (157), Energy (101), Healthcare (41), Industrials (238), Materials (252), Communication Services (31), Information Technology (4), and Utilities (57). Finally, Panel D of Table 2 shows the distribution of the sample based on country and industry.

**Table 2: Sample Selection and Distribution**

**Panel A: Sample selection**

Number of observation available for non-financial firms in stock markets of GCC	1,288
Less:	

Joint-listed firms	64
Firms with unavailable annual report and missing values in control variables	173
Total firm-year observations	1,051

**Panel B: Sample distribution based on country and year**

Country	2015	2016	2017	2018	Total
KSA	102	109	109	103	423
Bahrain	12	13	14	12	51
Kuwait	55	55	55	54	219
Oman	64	56	61	45	226
UAE	33	35	35	29	132
<b>Total</b>	<b>266</b>	<b>268</b>	<b>274</b>	<b>243</b>	<b>1,051</b>

**Panel C: Sample distribution based on industry and year**

Industry	2015	2016	2017	2018	Total
Consumer Discretionary	45	43	44	38	170
Consumer Staples	41	41	42	33	157
Energy	22	25	27	27	101
Healthcare	10	11	11	9	41
Industrials	60	61	61	56	238
Materials	65	63	65	59	252
Communication Services	8	8	8	7	31
Information Technology	1	1	1	1	4
Utilities	14	15	15	13	57
<b>Total</b>	<b>266</b>	<b>268</b>	<b>274</b>	<b>243</b>	<b>1,051</b>

**Panel D: Sample distribution based on country and industry**

Industry	KSA	Bahrain	Kuwait	Oman	UAE	Total
Consumer Discretionary	72	25	49	24	0	170
Consumer Staples	62	0	11	44	40	157
Energy	16	0	20	57	8	101
Healthcare	27	0	11	3	0	41
Industrials	74	18	97	18	31	238
Materials	160	0	16	76	0	252
Communication Services	4	4	11	4	8	31
Information Technology	0	0	4	0	0	4
Utilities	8	4	0	0	45	57
<b>Total</b>	<b>423</b>	<b>51</b>	<b>219</b>	<b>226</b>	<b>132</b>	<b>1,051</b>

## 4.2 Study variables

### Dependent Variable

We construct our Corporate Risk Disclosures (CRD) index to capture the extent of Enterprise Risk Management (ERM). While, in traditional risk management, the individual risk categories are separately managed in risk “silos,” ERM enables firms to manage a wide array of risks in an integrated, enterprise-wide

fashion. CRD is constructed based on the two main risk categories (financial and non-financial) which covers thirty-three disclosure items that are under 10 sub-categories of risk, namely credit risk (four items), liquidity risk (two items), market risk (six items), operational risk (three items), empowerment risk (three items), information processing and technology risk (three items), integrity risk (three

items), strategic risk (three items), damage risk (three items), and risk management (three items). Furthermore, the index of CRD includes mandatory risk disclosure (twelve items) and voluntary risk disclosure (twenty-one items). Appendix B provides information about the disclosure indices.

The index is developed based on prior academic and professional research (i.e., Al-Hadi et al., 2015a; Miihkinen, 2012; Amran, Rosli & Mohd Hassan, 2009; Linsley and Shrivs, 2006). Furthermore, we follow the prior research (e.g., Al-Hadi et al., 2015a) to apply accounting standards (i.e., using disclosure requirements in IFRS 7: Financial Instruments Disclosures) to develop the index. Specifically, the mandatory and voluntary parts of the financial risk disclosure index were developed based on IFRS 7. Recently, the GCC countries made IFRS mandatory adoption for all non-financial listed companies. Additionally, a study has been done by Li (2010) proposes that the mandatory adoption of IFRS significantly increases disclosure as well as enhances information comparability based on the strength of the countries' legal enforcement.

Marston and Shrivs's study (1991) indicates that using weighted or unweighted indices provide similar results (i.e., no significant difference results).

Moreover, to reduce subjectivity in determining weights, many researchers tend to use the unweighted index (Ahmed & Courtis, 1999). This study, therefore, adopts the unweighted disclosure index approach, which is consistent with prior risk disclosure research (e.g., Oliveira et al., 2011; Hassan, 2009). Thus, we compared the contents of every firm's annual report to the items listed in the index (Appendix B). We gave 1 if the item disclosed or 0 otherwise.

### **Independent Variable**

In defining the multiple directorships (MDir%), we follow prior studies (Eulaiwi et al., 2016; Fich & Shivdasani, 2006) by calculating the total number of multiple directorships held by all of the board members divided by the board size. Following a previous study (i.e., Eulaiwi et al., 2016), this study uses another measurement of multiple directorships (MDR\_In) as an extra measurement for additional analysis to confirm the findings of the main model. The natural logarithm of one plus the total multiple directorships indicates the measurement of MDR\_In.

### **Control Variables**

As suggested by the literature related to corporate risk disclosure, the current study is controlled for several board characteristics. First, board size, which is

measured as a number of board members (Elshandidy&Neri, 2015; Ntim et al., 2013). Second, following prior studies (e.g.,Ntim et al., 2013), this study controlled for board independence, measured as the proportion of independent directors relative to total directors on the board. Third, CEO duality, a dummy variable taking the value 1 if the CEO is also the chairman of the board of directors and 0 otherwise(Elshandidy&Neri, 2015). Fourth, board meeting, which is measured by the number of board meetings during the year (Allini et al., 2016). Lastly, diversity (i.e., gender), a dummy variable taking the value 1 if board contains female directors and otherwise 0 (Allini et al., 2016).

The auditor quality in the GCC firms has a valuable role towards compliance with accounting standards (Al-Shammari et al., 2008). In addition, previous studies find a significant positive relationship between auditor quality and risk disclosure (e.g.,Oliveira et al., 2011). Thus, the current study controlled for auditor quality (AQ) by incorporating a variable for the presence of an external Big four audit firms. Furthermore, the study is included several firm characteristics, namely, firm size (Size), profitability (ROE), leverage (Lev), and firm-level risk (Beta). Firm size (Size), measured as the

natural logarithm of total assets, as previous studies have shown that firm size is consistently and positively related to risk disclosure (e.g.,Allini et al., 2016; Miihkinen, 2012; Dobler et al., 2011; Amran et al., 2009; Hossain &Hammami, 2009; Linsley& Shrivess, 2006). Return on equity (ROE), measured as net profit scaled by total equity (e.g., Hossain &Hammami, 2009), and for leverage (Lev) is measured as total debt scaled over total assets (e.g., Dobler et al., 2011; Oliveira et al., 2011; Hassan, 2009). In addition, prior studies (e.g., Al-Hadi et al., 2016; Elshandidy&Neri, 2015) find a negative association between the level of firm risk (Beta) and risk disclosure. Hence, we controlled for firm-level risk (Beta), measured by calculated regressing the share price against the respective market index over 12 months.

Also, we follow Al-Hadi et al. (2017) and Al-Yahyaee et al. (2017) by including factor analysis of country-level governance (CCFAC) to measure the country-level. Factor analysis of country-level governance (CCFAC), covers political stability and absence of violence, government effectiveness, regulatory quality, and control of corruption.<sup>2</sup>We further included industry and year as dummy variables to mitigate their

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<sup>2</sup> From <http://www.worldbank.org/>

differences level on the level of risk disclosure. Finally, we confirmed the robustness for homoscedasticity in all the regression models.

### 4.3 Methodology and Regression Model

We use the following linear regression model to investigate the relationship between the level of corporate risk disclosure and multiple directorships:

$$\begin{aligned}
 Crdindex = & \beta_0 + \beta_1 MDir\%_{it} \\
 & + \beta_2 Bsize + \beta_3 Bindp\%_{it} \\
 & + \beta_4 BoardDual_{it} \\
 & + \beta_5 Bmeet_{it} \\
 & + \beta_6 Gender_{it} + \beta_7 AQ_{it} \\
 & + \beta_8 Size_{it} + \beta_9 ROE_{it} \\
 & + \beta_{10} Beta_{it} + \beta_{11} Lev_{it} \\
 & + \beta_{12} CCFAC_{it} \\
 & + Year FE + IND FE \\
 & + \varepsilon_{it}
 \end{aligned}$$

## 5 EMPIRICAL RESULTS AND DISCUSSION

### 5.1 Descriptive Statistics

Table 3 describes the basic characteristics of the considering variables included in the regression models. The descriptive statistics are provided to determine the distribution and dispersion of each variable for all five countries corporations from 2015 to 2018. According to Table 3, the mean (standard deviation) values of

corporate risk disclosure index (Crdindex), multiple directorships (MDir%) and (MDR\_In) are 0.627 (0.151), 0.564 (0.288) and 0.43 (0.20) respectively. Table 3 shows that interlocking directors hold 56.4 % of boards of directors' seats in the GCC non-financial firms. Overall our sample, 92.10% of non-financial firms in the GCC, have at least one multiple directorships on the board.<sup>3</sup> Thus, we can consider multiple directorships as a common phenomenon in the GCC listed firms. This result is consistent with those of the Eulaiwi et al., (2016) and Halawi and Davidson (2008), which indicate the high number of multiple directorships in the GCC firms. The deviations between maximum and minimum for Crdindex ranged from 0.272 to 0.969, and MDir% started from 0 to 1. Moreover, Audit Quality represented by the big four audit firms (AQ) has a relatively high mean of 58.5%. However, it is lower compared to the financial firms in the GCC (see Al-Yahyaee et al., 2017; Al-Hadi et al., 2015). Also, Table 3 illustrates diversity among the sample firms as there is a large dispersion in terms of control variables.

<sup>3</sup> Based on our data.

**Table 3: Descriptive statistics**

Variable	N	Mean	S.D	Min	Mdn	Max
Crdindex	1,051	.627	.151	.272	.64	.969
MDir%	1,051	.564	.288	0	.57	1
MDR_In	1,051	.43	.20	0	.45	.69
Control variables						
Bsize	1,051	7.595	1.643	4	7	13
Bindp%	1,051	.502	.254	0	.44	1
BoardDual	1,051	.028	.164	0	0	1
Bmeet	1,051	5.130	1.643	1	5	17
Gender	1,051	.142	.349	0	0	1
AQ	1,051	.585	.492	0	1	1
Size	1,051	19.577	1.728	9.945	19.61	25.542
ROE	1,051	.061	.299	-6.552	.07	2.527
Beta	1,051	.925	.477	-.961	.92	3.379
Lev	1,051	.221	.209	0	.18	2.031
CCFAC	1,051	-.098	0.975	-1.089	-.45	2.301

Notes: Crdindex is the level of corporate risk disclosure based on index; MDir% is the total number of multiple directorships held by all of the board members divided by the board size; MDR\_In indicates natural logarithm of one plus total multiple directorships; Bsize is a number of board members; Bindp% is the proportion of independent directors relative to total directors on the board; BoardDual is a dummy variable taking value 1 if the CEO is also the chairman of the board of directors and 0 otherwise; Bmeet is a number of board meetings during the year; Gender is a dummy variable taking value 1 if board contains female directors and otherwise 0; AQ is a dummy variable that takes on the value of 1 if the firm is audited by one of the Big Four auditors, 0 otherwise; Size is the natural logarithm of total assets; ROE is 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; Lev is the total debt scaled over total assets; and CCFAC represents factor analysis of country level governance (which covers political stability and absence of violence, government effectiveness, regulatory quality and control of corruption).

## 5.2 Pearson correlation matrix

Table 4 analyses and demonstrate the Pearson-correlation coefficient between each pair of variables in this study. We find a positive and significant correlation between the level of corporate risk disclosure and multiple directorships (at  $p < .01$ ). Also, the level of CRD is positively and significantly correlated with Bsize, Bmeet, AQ, Size, Beta, and Lev (at  $p < .01$ ), and negatively correlated with CCFAC (at  $p < .01$ ).

TABLE 4: Pearson correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13
1-CRDINDEX	1												
2-MDIR%	.237***	1											
3-BSIZE	.229***	.211***	1										
4-BINDP%	-.027	.019	.188***	1									
5-BOARDUAL	.033	.021	-.027	-.028	1								
6-BMEET	.153***	.045	.068**	.179***	-.063**	1							
7-GENDER	-.001	-.044	.087***	-.030	.048	.051*	1						
8-AQ	.060**	.095***	.071**	.031	.036	.083***	.104***	1					
9-SIZE	.277***	.280***	.393***	-.132***	.004	.062**	.030	.254***	1				
10-ROE	-.019	-.011	.044	-.039	-.015	.004	.018	.089***	.004	1			
11-BETA	.115***	.021	-.045**	.021	.128***	-.003	-.114***	-.227***	-.022	-.094***	1		
12-LEV	.106***	.034	.127***	.051*	.002	.005	.018	.021	.279***	-.119***	.082***	1	
13-CCFAC	-.171***	.066**	.117***	.561***	-.056*	.198***	.081***	.199***	.006	-.046	-.177***	.037	1

\*\*\*p<.01 \*\*p<.05 \*p<.10.

### 5.3 Regression analysis

#### Association between corporate risk disclosures and multiple directorships

Table 5 presents two models that use fixed effect<sup>4</sup> estimates to investigate the association between the level of CRD and multiple directorships. For detecting the issue of heteroscedasticity, the Breusch-Pagan (BP) approach and White test (IM-test) method with the null hypothesis of homogenous and alternative hypothesis of heterogeneous have been utilized for the two models. We also apply the Wooldridge test approach to check the issue of serial correlation. Moreover, we calculate variance inflation factors (VIF) for all explanatory variables applied in the two models. The VIF determination is a method of measuring the level of collinearity between the independent and control variables in a regression analysis (Damodar N Gujarati & Porter, 2009). We find all VIF values for the two models are less than 2. Therefore, there is no meaningful multicollinearity issue. This research also applies the Doornik-Hansen test to assess the normal distribution of residuals to avoid biased estimation of regression coefficients.

In this study, we assess the impact of multiple directorships (the independent variable) on corporate risk disclosure (dependent variable) with considering control variables by using multi measures of the independent variable. According to

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<sup>4</sup> We test Pooled OLS, Fixed effect (FE), and Random effect (RE), to identify the most suitable regression model to estimate the relationship between the variables. We conduct F-test and Breusch-pagan test for all two models. As the outcome of F-test shows, null hypothesis is rejected, and alternative hypothesis, which is fixed effect, is accepted for the two models. The result of Breusch-Pagan test shows that the null hypothesis is rejected, and Random effect method is accepted. Thus, we conduct Hausman test for the two models. The result of Hausman test shows the null hypothesis, which is random effect, is rejected and the alternative hypothesis, which is fixed effect, is accepted. Finally, the most suitable method for the two models is Fixed effect (FE).

H<sub>1</sub>, we predict a positive relationship between the variables. Table 5 provides the results for H<sub>1</sub>. The results of models 1 and 2 in table 5 show the regressions while the independent variable is measured by MDir% and MDR\_In. Both measures of multiple directorships have a positive and significant impact on the level of CRD (with b<sub>1</sub>= 0.0591 and 0.0829, respectively, at p < 0.01). Our results are stable with the different measures of multiple directorships in the two models in Table 5. Thus, the results confirm the positive relationship between the variables. These findings are consistent with our theoretical prediction that multiple directorships have more experiences, knowledge, and deliver better productivity, and enable better maintenance functions, which lead to disclosing more risks information. This implies multiple directorships are valuable sources in the GCC firms which robust the processes of risk management as well as risk reporting. Additionally, agency problems can be mitigated in the existence of multiple directorships. The finding is similar to inferences of previous studies that indicate multiple directorships increase the effectiveness of corporate governance (e.g., Clements et al., 2015; Kroll et al., 2007; Fich & Shivdasani, 2006; Certo, 2003).

In terms of economic significance, the reported coefficient in Model 1 of Table 5 implies that a 0.1127 standard deviation change in the level of risk disclosure is associated with a one standard deviation change in the percentage of multiple directorships on the boards.<sup>5</sup> In the two models, the coefficients for the control variable ROE is negative and significant for the level of risk disclosure. While the level of country governance (CCFAC) has positive and significant p-value with the effect of 0.0936 and 0.0947 on corporate risk

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<sup>5</sup> Calculated as [0.288 (SD of MDir%) \* 0.0591 (regression coefficient) / 0.151 (SD of Crdindx)].

disclosure. Adjusted R-squared for the two models in Table 5 is 29.5% and 29.3%, respectively.

**TABLE 5**  
**Association between corporate risk disclosures and multiple directorships**

Dependent Variable	Crdindex Model 1	Crdindex Model 2
MDir%	0.0591*** 3.98	
MDR_In		0.0829*** 3.91
Bsize	0.0013 0.31	0.0011 0.26
Bindp%	-0.0170 -0.59	-0.0160 -0.56
BoardDual	0.0189* 1.91	0.0182* 1.86
Bmeet	-0.0002 -0.12	-0.0002 -0.12
Gender	-0.0063 -0.22	-0.0066 -0.23
AQ	-0.0019 -0.21	-0.0022 -0.24
Size	0.0008 0.30	0.0009 0.32
ROE	-0.0059** -2.52	-0.0058** -2.45
Beta	0.0037 0.43	0.0036 0.42
Lev	0.0073 0.37	0.0066 0.34
CCFAC	0.0936*** 6.83	0.0947*** 6.89
Constant	0.5602*** 8.21	0.5581*** 8.17
YEAR FE	YES	YES
IND FE	YES	YES
COUNTRY FE	No	No
N	1,051	1,051
R-squared	0.305	0.303
Adjusted R-squared	0.295	0.293
Number of Co	285	285

Notes: Crdindex is the level of corporate risk disclosure based on index; MDir% is the total number of multiple directorships held by all of the board members divided by the board size; MDR\_In is natural logarithm of one plus total multiple directorships; Bsize is a number of board members; Bindp% is the proportion of independent directors relative to total directors on the board; BoardDual is a dummy variable taking value 1 if the CEO is also the chairman of the board of directors and 0 otherwise; Bmeet is a number of board meetings during the year; Gender is a dummy variable taking value 1 if board contains female directors and otherwise 0; AQ is a dummy variable that takes on the value of 1 if the firm is audited by one of the Big Four auditors, 0 otherwise; Size is the natural logarithm of total assets; ROE is 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; Lev is the total debt scaled over total assets; and CCFAC represents factor analysis of country level governance (which covers political stability and absence of violence, government effectiveness, regulatory quality and control of corruption).

\*\*\*p<.01 \*\*p<.05 \*p<.10.

## 5.4 Additional analysis

This segment reveals a series of additional tests applied to assess the robustness of the main regression model to provide further supplementary outcomes. Practically, previous researches stated that there are different types of risk disclosure, and hence, these indicators may act similarly in the analysis. Therefore, to check the robustness of the outcomes of this study, we employ them to compare results with the main dependent variable of this study (Crindex).

Table 6 illustrates the result of main model of this study while Financial corporate risk disclosure (FCRD%) and Non-financial corporate risk disclosure (NFCRD%) are considered as dependent variables. According to Model 1 and 2 in Table 6, MDir% and MDR\_In has a significant and positive impact on Financial corporate risk disclosure (FCRD%). Similarly, Model 3 and 4 show that both MDir% and MDR\_In has positive and significant effects on Non-financial corporate risk disclosure (NFCRD%). These results are in line with the main outcome of the study.

Table 7 provides the results of this study while Mandatory corporate risk disclosure (MCRD%) and Voluntary corporate risk disclosure (VCRD%) considered as dependent variables. Table

7 shows that multiple directorships have a positive and statistically significant influence on mandatory and voluntary risk disclosure (at  $p < 0.05$  or better). These outcomes support the finding of this study.

According to Table 8, MDir% and MDR\_In increases the level of Market risk disclosure (MRD%), Damage risk disclosure (DRD%), Empowerment risk disclosure (ERD%), and Risk management disclosure (RMD%). Thus, these outcomes verify the finding of this study. Furthermore, Table 8 reported that multiple directorships are insignificant with CRD%, LRD%, ORD%, IPATRD%, IRD%, and SRD%, which is contrary to the main finding of the study. The findings of this study show that multiple directorships influence corporate risk disclosure. Thus, generally believed that the quality of the board conducts high-level of risk reporting that can enhance the effectiveness of corporate governance. It demonstrates that multiple directorships comprehend and play out their assignment in regulating, coordinating, and assessing the usage of corporate governance and key arrangement of the organization, in this manner, we may presume that multiple directorships in non-financial organizations in the GCC play out their job as needs are.

**TABLE 6**

**Association between financial/non-financial corporate risk disclosures and multiple directorships**

Dependent Variable	FCRD%	FCRD%	NFCRD%	NFCRD%
	Model 1	Model 2	Model 3	Model 4
MDir%	0.0528**		0.0624***	
	2.32		3.29	
MDR_In		0.0803**		0.0837***
		2.39		3.04
Controls	YES	YES	YES	YES
Constant	0.7802***	0.7739***	0.4344***	0.4350***
	7.63	7.56	5.33	5.30
YEAR FE	YES	YES	YES	YES
IND FE	YES	YES	YES	YES
COUNTRY FE	NO	NO	NO	NO
N	1,051	1,051	1,051	1,051
R-squared	0.306	0.306	0.185	0.183
Adjusted R-squared	0.296	0.296	0.173	0.171
Number of Co	285	285	285	285

Notes: FCRD% is the level of financial corporate risk disclosure based on index; NFCRD% is the level of non-financial corporate risk disclosure based on index.

\*\*\*p<.01 \*\*p<.05 \*p<.10.

**TABLE 7**

**Association between mandatory/voluntary corporate risk disclosures and multiple directorships**

Dependent Variable	MCRD%	MCRD%	VCRD%	VCRD%
	Model 1	Model 2	Model 3	Model 4
MDir%	0.0426**		0.0682***	
	2.23		3.35	
MDR_In		0.0676**		0.0910***
		2.39		3.11
Control	YES	YES	YES	YES
Constant	0.9117***	0.9046***	0.3592***	0.3603***
	12.10	11.76	3.86	3.86
YEAR FE	YES	YES	YES	YES
IND FE	YES	YES	YES	YES
COUNTRY FE	NO	NO	NO	NO
N	1,051	1,051	1,051	1,051
R-squared	0.194	0.196	0.244	0.241
Adjusted R-squared	0.183	0.184	0.233	0.230
Number of Co	285	285	285	285

Notes: MCRD% is the level of mandatory corporate risk disclosure based on index; VCRD% is the level of voluntary corporate risk disclosure based on index.

\*\*\*p<.01 \*\*p<.05 \*p<.10.

**TABLE 8**  
**Association between risk disclosure categories and multiple directorships**

DEPENDENT VARIABLE	CRD% MODEL 1	CRD% MODEL 2	LRD% MODEL 3	LRD% MODEL 4	MRD% MODEL 5	MRD% MODEL 6	ORD% MODEL 7	ORD% MODEL 8	ERD% MODEL 9	ERD% MODEL 10	IPATRD% MODEL 11	IPATRD% MODEL 12	IRD% MODEL 13	IRD% MODEL 14	SRD% MODEL 15	SRD% MODEL 16	DRD% MODEL 17	DRD% MODEL 18	RMD% MODEL 19	RMD% MODEL 20
MDIR%	0.0334		0.0049		0.0817**		0.0119		0.1146**		0.0779		0.0102		0.0309		0.1062***		0.0849***	
MDR_LN	1.51		0.16		2.34		0.52		2.17		1.48		0.25		0.93		2.78		2.80	
		0.0529		0.0241		0.1172**		0.0151		0.1595**		0.0855		0.0165		0.0442		0.1459***		0.1192***
CONTROL	YES	1.48 YES	YES	0.52 YES	YES	2.26 YES	YES	0.46 YES	YES	2.15 YES	YES	1.19 YES	YES	0.28 YES	YES	0.90 YES	YES	2.64 YES	YES	2.69 YES
CONSTANT	0.9066***	0.9011***	0.8924***	0.8799***	0.6585***	0.6538***	0.9596***	0.9603***	0.4459***	0.4429***	0.1482	0.1626	-0.0370	-0.0388	0.4647***	0.4630***	0.2939**	0.2925**	0.7654***	0.7624***
YEAR FE	8.78 YES	8.64 YES	10.69 YES	10.27 YES	4.20 YES	4.16 YES	3.36 YES	3.35 YES	2.66 YES	2.64 YES	0.79 YES	0.86 YES	-0.30 YES	-0.32 YES	3.53 YES	3.48 YES	2.26 YES	2.24 YES	5.97 YES	5.92 YES
IND FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES									
COUNTRY FE N	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO									
R-SQUARED	1.051	1.051	1.051	1.051	1.051	1.051	1.051	1.051	1.051	1.051	1.051	1.051	1.051	1.051	1.051	1.051	1.051	1.051	1.051	1.051
ADJUSTED R-SQUARED NO OF CO	0.118 285	0.118 285	0.036 285	0.036 285	0.342 285	0.341 285	0.068 285	0.068 285	0.108 285	0.105 285	0.091 285	0.088 285	0.043 285	0.043 285	0.058 285	0.058 285	0.080 285	0.077 285	0.236 285	0.234 285

Notes: CRD% is the level of credit risk disclosure based on index; LRD% is the level of liquidity risk disclosure based on index; MRD% is the level of market risk disclosure based on index; ORD% is the level of operational risk disclosure based on index; ERD% is the level of empowerment risk disclosure based on index; IPATRD% is the level of information processing and technology risk disclosure based on index; IRD% is the level of integrity risk disclosure based on index; SRD% is the level of strategic risk disclosure based on index; DRD% is the level of damage risk disclosure based on index; RMD% is the level of risk management disclosure based on index.

\*\*\*p<.01

\*\*p<.05

\*p<.10

## 6 CONCLUSION

This paper analyzes the non-financial firms in six of the GCC stock markets (i.e., Saudi, Abu Dhabi, Bahrain, Dubai, Kuwait, and Oman) in terms of the impact of multiple directorships on the extent of corporate risk disclosure over four years. The outcome based on a sample of 1,051 firm-year observations demonstrates that multiple directorships on the board expand risk disclosures. The results are robust using several proxies of CRD and alternative measures of multiple directorships. This result is supported by agency theory and resource based theory, as information asymmetry and agency costs can be mitigated in the existence of multiple directorships, and in turn improve the firm's image and boost achievement of corporate goals.

The findings from the study reveal interesting insights into internal corporate governance mechanisms that remain uncovered in the GCC region which help the investors, potential investors and other stakeholders to understand comprehensively how these variables considerably affect the level of corporate risk disclosure as well as corporate governance and by extension, the firm performance. Furthermore, the study findings inform the regulators about the policies that regulate the multiple directorships on the effectiveness of the level of corporate risk disclosure. Moreover, this would assist the regulators in ensuring that the corporate risk disclosure practices of a firm adhere to efficient risk management and control systems to improve shareholders' value. Thus, the study helps to evaluate responses from the various organizations on the amount of useful information provided to stakeholders. In terms of application, the results are applicable to developing countries with similar social, political, and economic environments such as MENA countries. This study focused on the

quantity of risk disclosure in non-financial firms in the GCC region, hence investigate the determinants and economic consequences of the quality of corporate risk disclosure in emerging market could be subject as avenues for future research. Additionally, any further research could examine the risk disclosure in the financial sectors, which could offer fruitful areas for further studies.

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**Appendix A**

**Year of Establishment of the Corporate Governance Codes, and the Requirements of Corporate Risk Disclosure and Multiple Directorships**

	KSA	Bahrain	Kuwait	Oman	UAE
<b>Accounting Standards Adoption Year (IAS/IFRS) for non-financial firms</b>	2017	1986	1990	1986	2016
<b>Corporate Governance Code</b>	Release 2006 Amended 2009 Reissued 2017	Release 2011	Release 2010 Amended 2013	Release 2002 Reissued 2015 Updated 2016	Release 2007 Reissued 2016
<b>Compliance of CG Code</b>	Mandatory	Voluntary	Mandatory	Mandatory	Mandatory
<b>Corporate Risk Disclosure of CG Code</b>	Required	Required	Required	Required	Silent
<b>Multiple Directorships of CG Code</b>	Limited to 5	Limited to 3	Limited to 5	Silent	Silent

**Appendix B: Corporate Risk Disclosure Index**

<b>Financial Risk:</b>		<b>Mandatory /Voluntary</b>	<b>Sources</b>
<b>A- Credit Risk</b>			
<b>1</b>	<b>The exposure to credit risk.</b>	Mandatory	IFRS 7: Paragraph 36 (a)
<b>2</b>	A description of collateral held as security and other credit enhancements.	Mandatory	IFRS 7: Paragraph 36 (b)
<b>3</b>	Information about the credit quality of financial assets that are neither past due nor impaired.	Mandatory	IFRS 7: Paragraph 36 (c)
<b>4</b>	The carrying amount of financial assets that would otherwise be past due or impaired whose terms have been renegotiated.	Mandatory	IFRS 7: Paragraph 36 (d)
<b>B- Liquidity Risk</b>			
<b>5</b>	A maturity analysis for financial liabilities that shows the remaining contractual maturities.	Mandatory	IFRS 7: Paragraph 39 (a)
<b>6</b>	A description of how it manages the liquidity risk.	Mandatory	IFRS 7: Paragraph 39 (b)
<b>C- Market Risk: Disclosures for firm's currency exchange risk, equity risk, interest rate risk, commodities risks.</b>			
<b>7</b>	The exposure to interest rate risk.	Mandatory	IFRS 7: Paragraph 34 (a); B7
<b>8</b>	The exposure to foreign exchange rate risk.	Mandatory	IFRS 7: Paragraph 34 (a); B7
<b>9</b>	The exposure to equity price risk.	Mandatory	IFRS 7: Paragraph 34 (a); B7
<b>10</b>	The exposure to commodity risk.	Mandatory	IFRS 7: Paragraph 34 (a); B7
<b>11</b>	Presenting market risk information utilizing more than one method (i.e. A sensitivity analysis, value at risk, and a tabular presentation).	Voluntary	IFRS 7: Paragraph 41; B7
<b>12</b>	Provide an explanation of the method/s used for the exposure.	Voluntary	IFRS 7: Paragraph 41 (a); B7: AL-Hadi et al., (2015), Miihkinena (2012), Amran et al., (2009), Linsley and Shrivs (2006).
<b>Non-Financial Risk:</b>			Miihkinena (2012), Amran et al., (2009), Linsley and Shrivs (2006).
<b>D- Operational Risk (e.g.,Dependence on the know-how of the personnel, uncommon business fluctuations in demand, products development, efficiency and performance, sourcing, interruptions in the delivery chain, customer satisfaction, stock obsolescence and shrinkage, product and service failure,</b>			

<b>environmental, health and safety, project deliveries, quality controls)</b>		
13	The exposure to operational risk.	Mandatory
14	Disclose two or more of operational risk.	Voluntary
15	Provide further information of operational risk.	Voluntary
<b>E-Empowerment Risk (e.g., Leadership and management, outsourcing, performance incentives, change readiness, and communication)</b>		
16	The exposure to empowerment risk.	Voluntary
17	Disclose two or more of empowerment risk.	Voluntary
18	Provide further information of empowerment risk.	Voluntary
<b>F-Information Processing and Technology Risk (e.g., Integrity, access, availability, and infrastructure)</b>		
19	The exposure to information processing and technology risk.	Voluntary
20	Disclose two or more of information processing and technology risk.	Voluntary
21	Provide further information of information processing and technology risk.	Voluntary
<b>G-Integrity Risk (e.g., Management and employee fraud, illegal acts, and reputation)</b>		
22	(A)The exposure to integrity risk.	Voluntary
23	(B) Disclose two or more of integrity risk.	Voluntary
24	(C) Provide further information of integrity risk.	Voluntary
<b>H- Strategic Risk (e.g., Market competition, market areas, position in the production chain, dependence on customers, dependence on suppliers, changes in customer preferences, regulatory changes, political changes, economical changes, mergers and acquisitions, pricing, industry specific changes, launch of new products, business portfolio, life cycle (growth and profitability), management, research and development)</b>		
25	The exposure to strategic risk.	Voluntary
26	Disclose two or more of strategic risk.	Voluntary
27	Provide further information of strategic risk.	Voluntary
<b>I- Damage Risks (e.g., Insurances, significant legal actions)</b>		
28	The exposure to damage risk.	Voluntary
29	Disclose two or more damage risk.	Voluntary
30	Provide further information of damage risk.	Voluntary
<b>J- Risk Management (e.g., Risk management policy, risk management organization)</b>		
31	Disclose risk management.	Mandatory
32	Disclose two or more of risk management.	Voluntary
33	Provide further information of risk management.	Voluntary