Drivers of Mandatory Disclosure in GCC Region Firms

Abstract

Purpose

This paper aims to investigate firm-level variations in the extent of mandatory disclosures and address the drivers of mandatory disclosure using data from the Gulf Co-operation Council (GCC) region.

Design/methodology/approach

The extent of mandatory disclosure is examined using a disclosure index created with reference to 24 International Financial Reporting Standards (IFRSs).

Findings

We find that the extent of mandatory disclosure required by applicable IFRSs/IASs increases with international presence, group firms, the level of voluntary disclosure, firm age, and the education level of company financial controllers. It decreases with firm size and the proportion of institutional share ownership. The degree of board independence is positively related to the level of mandatory disclosure in firms with no state ownership. Profitability positively affects the level of mandatory disclosure to a greater extent in more liquid GCC firms. Our results confirm that there is greater sensitivity of mandatory disclosure to loss than to profit. Loss increases, while profit decreases, the extent of mandatory disclosure.

Originality/value

We develop a highly granular mandatory disclosure index in a developing country setting and identify key drivers of such disclosure.

Research limitation/implications

Our results promote further understanding of international financial reporting differences in an emerging country setting.

Practical implications

Our findings provide a detailed insight to investors, financial analysts, practitioners, and academics.

Keywords: Corporate financial reporting, mandatory disclosure, emerging countries, GCC.

Drivers of Mandatory Disclosure in GCC Region Firms

1. Introduction

Over the last two decades, there has been considerable interest in the drivers of mandatory disclosure, though studies largely focus on developed nation firms, limiting the generalisation of results to emerging countries. However, emerging countries may present a distinctive case as they may be characterised by differences in: familiarity with accounting standards and by language barriers (Abd-Elsalam and Weetman, 2003); governance practices (Aguilera and Cuervo Cazurra, 2009; Abdallah and Ismail, 2017), ownership structures (Abdallah and Ismail, 2017); and cultural factors (education) (Haniffa and Cooke, 2002). This paper aims to examine the impact of firm-specific characteristics, ownership structure factors, corporate governance factors, and cultural factors on mandatory disclosure in emerging economy listed firms from the Gulf Co-operation Council (GCC) region. Such firms seek to attract funds from national or even global markets and decide whether to disclose more or less information (Meek *et al.*, 1995). While complying with mandatory disclosure requirements and/or releasing additional voluntary information may be beneficial to the firm, the quality and quantity of information released may still be varied (Schuster and O'Connell, 2006).

Our study is motivated first of all by the extent of mandatory disclosure in GCC country listed firms following IASs/IFRSs adoption. Second, the GCC region is a rapidly growing economy and presents an attractive destination for investors. Between 2010 and 2019 the GCC region's GDP grew at an average annual rate of 3.45% (compared to an average annual global growth rate of 2.96% over the same period), and it generated a GDP of $1.6 trillion in 2019 (World Bank WDI Database). Despite the GCC countries achieving Foreign Direct Investment (FDI) inflows to the region of below 2% of GDP in recent years, the region realised FDI inflows of 2.46% of GDP on average between 2010-13 (World Bank WDI database). Third, ownership concentration in the GCC region is relatively high, with large government stakes in particular (Abdallah and Ismail, 2017), thereby providing a good opportunity to understand the effects of state ownership and its interaction with board independence on their effect on the extent of mandatory disclosure.

Our paper provides several important contributions. First, it investigates the extent of mandatory disclosures and addresses the drivers of mandatory disclosure in GCC country listed firms, which should be of interest to researchers wishing to understand how mandatory disclosure has evolved and to identify those factors explaining differences across the region. Second, it provides a great insight for investors who consider making investments in the GCC region by identifying those factors that affect the extent of mandatory disclosure. Third, this study represents some useful guidance for GCC state enforcement bodies who will need to understand where variations occur in mandatory disclosures, particularly in cases of lower disclosure, as will the Gulf Co-Operation Council Accounting and Auditing Organization (GCCAAO) with its aim of harmonizing accounting standards across the region. Fourth, our results also examine the case of loss-making firms in GCC countries, which is an area not focused on in prior mandatory disclosure studies. Fifth, our results provide a useful insight into governance reforms, particularly regarding the relationship between corporate governance and disclosure practices which is an area identified for improvement in GCC countries (International Monetary Fund, 2018).

Our results show that mandatory disclosure increases with firm international presence, age, voluntary disclosure, and financial controller education level. Further, holding firms provide greater disclosure than individual firms. Board independence also drives more mandatory disclosure in firms with no strong state ownership. However, board independence decreases

the extent of disclosure in firms with strong state ownership. Further, mandatory disclosure is impaired where firms have relatively high institutional share ownership and in larger firms. CEO role duality has a weak negative effect on mandatory disclosure. Our results show that greater loss leads firms to disclose more mandatory information whereas greater profit leads to the opposite, implying that GCC firms become more relaxed in the provision of more detailed information when they earn greater profits. Our study also confirms that the sensitivity of mandatory disclosure to loss is nearly nine times greater than that to profit, implying that profit-making firms disclose less than loss-making firms. In general, liquidity has no effect on mandatory disclosure, though highly profitable firms which are more liquid tend to disclose more. These results therefore suggest that GCC firms disclose more when they are financially stronger, have greater management experience and expertise, and are more international in scope.

Our findings will be of interest to current and potential investors in GCC country listed firms, as well as providing the IASB with a useful perspective on the extent and drivers of mandatory disclosure in a developing country setting.

Where it applies, disclosure for an item is mandatory if it must be reported in the financial statements of firms in accordance with legal or financial reporting requirements. Extant mandatory disclosure research focusing on developed countries such as the US, UK and European countries is well developed (Street and Gray, 2001; Glaum and Street, 2003). Our study extends analysis to a developing (GCC) country setting. It contributes to existing knowledge as: (i) we develop a highly granular mandatory disclosure index, which should provide detailed insight to investors, financial analysts, practitioners, and academics wishing to understand disclosure in GCC country listed firms; and (ii) we identify key drivers of such disclosure.

The remainder of this paper is organized as follows. Section 2 outlines the financial reporting environment for GCC country firms. Section 3 discusses the existing literature and discusses our hypothesis development. Section 4 describes the data and empirical models employed, and Section 5 discusses our empirical results. Finally, Section 6 summarises and draws some conclusions.

2. The GCC country corporate financial reporting environment

Within GCC countries, company law and security market law regulate corporate financial reporting, while financial reporting legislation protects financial report users. While GCC state company law sets out general reporting principles, it does not specify statement format or content, except for the minimum requirement for a balance sheet and a profit and loss statement. Governments control the accounting and auditing profession and regulate financial reporting regulations. Bahrain, Kuwait, the UAE, and Saudi Arabia have professional accounting bodies, though such bodies do not regulate accountants and auditors, establish accounting and auditing standards, or engage in enforcement (Shuaib, 1999; Al-Basteki, 2000). However, in Saudi Arabia, the Saudi Organization for Certified Public Accountants (SOCPA) issues accounting and auditing standards and certifies public accountants (SOCPA, 2020).

GCC country governments have adopted IASs and IFRSs in response to domestic and international financial market demand for greater financial reporting comparability (Hussain *et al.*, 2002; Naser and Nuseibeh, 2003). In Oman, Kuwait and Bahrain, the respective Ministries of Commerce require listed firms to comply with IASs, while in Saudi Arabia, Qatar and the UAE, financial firms are required by central banks to comply with national GAAP or IFRSs. In Saudi Arabia, from 2017 all listed firms were required to report using the "national standards that are closely converged with full IFRSs" (IASPlus, 2019).

3. Literature review and hypothesis development

Disclosure is mandatory where firm information results from mandated accounting standards and regulations. Where enforcement is inefficient, the level of mandatory disclosure depends largely on manager discretion and may therefore be similar to the level of voluntary disclosure, particularly as the costs of provision may be similar. The level of mandatory disclosure is driven by supply and demand, regulatory risk borne by managers, and by country level regulatory and enforcement mechanisms.

3.1. Theoretical Framework

The theoretical framework for both mandatory and voluntary disclosure is similar, and draws upon agency theory, signalling theory, capital need theory, political cost theory, and cultural theories as discussed in prior studies (such as Wallace et al. 1994; Healy and Palepu, 2001; Haniffa and Cooke, 2002; Abd-Elsalam and Weetman, 2003; Aljifri, 2008; Von Alberti-Alhtaybat et al., 2012).

Agency theory concerns the relationship between agents (managers) and principals (shareholders) whereby the two parties tend to act in their own interests, and the separation of interests may cause conflicts (Jensen and Meckling, 1976; Morris, 1987). The theory suggests that disclosure may be used to reduce the information asymmetry and agency costs that arise between the parties. Signalling theory is concerned with the problems relating to information asymmetries in markets and illustrates how these asymmetries can be reduced by the party with more information by signalling it to others (Morris, 1987). Capital need theory hypothesises that a primary motivation for firm disclosure is the need for increasing capital at the lowest cost, leading in turn to an expectation for the firm to disclose more (Choi, 1973; Cooke, 1993; Abd-Elsalam and Weetman, 2003). Political cost theory may provide additional theoretical underpinning to explain the level of mandatory disclosures. Watts and Zimmerman (1978) argue that large firms are more visible and therefore the level of political costs is influenced by firm size. To avoid the political costs, larger firms in the GCC region may increase the extent of mandatory disclosure as argued by Abd-Elsalam and Weetman, (2003) that the impact of disclosure of proprietary information on larger firms is less likely. Finally, Gray (1988) examines the relationship between culture and the accounting system with a reference to the cultural patterns proposed by Hofstede (1980) and suggests that education is one of the key institutional consequences of accounting values and systems. In our paper, we focus on the education element as a measure of a professional status (Grace, 1995) to examine its interaction with the extent of mandatory disclosure in the GCC context. In the following sections, we discuss the drivers of mandatory disclosures and develop our hypotheses with reference to prior studies.

3.2. Mandatory disclosure indices

In common with other areas of accounting research, much of the financial disclosure literature focuses on developed countries, and in particular the US and the UK, with a paucity of studies for developing countries. Existing studies for the US and UK include Barrett (1976), Malone *et al.* (1993), and Street and Gray (2002), and for France include Barrett (1976) and Zarzeski (1996). Firm sample sizes for the developed country studies are relatively high compared to those for developing countries due to data collection and database limitations, and a culture of corporate secrecy in the latter (Hassan *et al.*, 2006). In the case of developing country studies, there is significant variation in the quality of mandatory disclosure indices employed, due in

part to the absence of a theoretical basis for determining index size and scope, with component item counts ranging from 20 (Agyei-Mensah, 2013) to 641 (Al-Akra *et al.*, 2010a).

Unweighted disclosure indices, which reflect the demands of different financial statement users regarding the relative importance of various information items, are prevalent in the developed country literature. On this basis, Abd-Elsalam and Weetman (2007) apply an index of 241 mandatory items required by the Companies Act, Capital Market Law and IASs in Egypt and find average mandatory disclosure levels of 92%, 73% and 76%, respectively. Alanezi and Albuloushi (2011) and Alfraih (2016) apply indices of 199 and 439 items based on 18 IASs and 26 IASs/IFRSs, and find average disclosure levels of 72% and 70%, respectively. Naser and Nuseibeh (2003) apply both weighted and unweighted indices for 56 mandatory items and find average disclosure levels of 89% in each case.

Furthermore, many studies apply customised disclosure indices relevant and applicable to a country's environment (Abd-Elsalam and Weetman, 2003; Alfraih, 2016), while Abd-Elsalam and Weetman (2007) and Dahawy (2009) apply existing indices used by bodies such as the Egyptian Capital Market Authority. Importantly, IAS/IFRS adoption does not necessarily lead to greater mandatory disclosure as this depends both on a country's financial reporting system (Craig and Diga, 1998; Tower *et al.*, 1999; Al-Shammari *et al.*, 2008) and firm manager implementation even where compliance is required (Touron, 2005).

Perusal of the literature reveals that mandatory disclosure in developing countries is far lower than that in developed countries, with index scores as low as 44% for Bangladesh (Akhtaruddin, 2005) and 54% for Egypt (Dahawy, 2009) compared to 93% for New Zealand (Owusu-Ansah and Yeoh, 2005). Further, due to data availability and sample size limitations, developing country studies are typically smaller. Mandatory disclosure studies for developing countries include Saudi Arabia (Naser and Nuseibeh, 2003), Egypt (Abd-Elsalam and Weetman, 2007; Dahawy and Conover, 2007) and GCC countries (Al-Shammari *et al.*, 2008). The most comprehensive mandatory disclosure index of 641 items is developed by Al-Akra *et al.* (2010a) and uses the PricewaterhouseCoopers (2004) checklist. In general, developing country studies reach similar conclusions to those found for developed countries. However, developing country firms often do not comply fully with IAS disclosure requirements, with disclosure levels very rarely close to, or exceeding 90%, and the majority of studies reporting disclosure levels ranging from 60% to 70%.

3.3. Mandatory disclosure determinants and hypothesis development

In this section, we develop hypotheses for the relationship between firm mandatory disclosure and its potential determinants in relation to firm characteristics, ownership structure, corporate governance, and corporate cultural factors.

3.3.1. Firm characteristics

Inchausti (1997) employs an agency and signalling theories approach and argues that managers with 'good news' in terms of performance disclose more detailed information than when they have 'bad news' to prevent share undervaluation. However, evidence on the relationship between mandatory disclosure and firm profitability is mixed. A positive relationship is found by Ali *et al.* (2004) for firms in India, Pakistan and Bangladesh, and for Australian firms by Gallery *et al.* (2008). In contrast, no relation is found by Street and Gray (2001) for the US, Glaum and Street (2003) for Germany, Al-Shammari *et al.* (2008) for GCC countries, or Popova *et al.* (2013) for the UK, while Wallace and Naser (1995) find a negative relationship for Hong Kong. Based on the mixed evidence, we argue that firm performance is a key instrument to determine the extent of mandatory disclosure. Theory and empirical studies show

that profitability could increase, decrease, or have no effect on the level of mandatory disclosures. Further, it is argued that legal actions against inadequate disclosures can encourage firm management to increase voluntary disclosure (Healy and Palepu, 2001). We argue that negative firm profitability (loss) can lead firms to disclose additional information because managers of loss-making firms are expected to justify their operating results and may also be more sensitive to investor legal action. Therefore, we expect that the sensitivity of mandatory disclosure in GCC firms is greater to loss than to profit. We therefore develop the broad hypothesis that:

H1: The extent of mandatory disclosure is influenced by firm profitability.

Agency theory arguments suggest that firms with lower liquidity will wish to reassure investors and lenders by disclosing more information, particularly in relation to their ability to meet short-term obligations without liquidating long-term assets or interrupting operations (Wallace and Naser, 1995). However, Belkaoui and Kahl (1978) make the signalling theory argument that managers of more liquid firms will disclose more to distinguish themselves from less liquid firms (Oyelere *et al.,* 2003; Aly *et al.,* 2010).

There is mixed evidence on the relationship between the extent of mandatory disclosure and liquidity. A negative relationship is found by Wallace *et al.* (1994) for Spanish firms, Naser *et al.* (2002) for Jordanian firms, and Ismail *et al.* (2010) for Egyptian firms. In contrast, a positive relationship is found by Belkaoui and Kahl (1978) for Canadian firms and Al-Akra *et al.* (2010b) for Jordanian firms. However, no relationship is found by Wallace and Naser (1995) for Hong Kong firms, Owusu-Ansah and Yeoh (2005) for New Zealand firms, Aljifri (2008) for UAE firms, and Hassan (2013) for Jordanian firms.

Consistent with signalling theory, we expect that more liquid GCC firms will disclose more financial information in order to distinguish themselves from other firms. We also argue that more liquid firms tend to be more profitable because of lower finance costs and more efficient working capital management. Thus, managers of more profitable and liquid firms will be motivated to disclose more. We expect that the effect of firm profitability on mandatory disclosure is positively influenced by firm liquidity. We therefore hypothesise that:

H2a: Firm liquidity positively impacts the level of mandatory disclosure.
H2b: The interaction relationship between a firm's liquidity and its profitability significantly impacts the level of mandatory disclosure.

Daske *et al.* (2013) and Amiraslani *et al.* (2013) argue that the level of disclosure is positively related to the degree of international exposure or activity, as gauged by foreign market listing, foreign sales, or the presence of foreign investors, though there exists mixed evidence on this relationship. Glaum and Street (2003) find that firms cross-listing on US exchanges disclose more while no relationship is found by Malone *et al.* (1993) and Street and Gray (2001) for US firms and Ismail *et al.* (2010) for Egyptian firms.

For GCC country firms, it is expected that firms more heavily engaged in international activities will engage more with mandatory disclosure requirements than firms with a more domestic market focus. We therefore hypothesise that:

H3: There is a significant positive impact of the degree of international activity (sales) on the extent of mandatory disclosure.

Globalisation and greater financial reporting awareness by current and potential investors have led to increased demand for quality financial information and disclosure. Whereas

mandatory disclosure is the responsibility of regulatory organisations (security exchange authorities, IASB, FASB), voluntary disclosure is at the discretion of firm managers and driven by their interests (Akhtaruddin, 2005). Mandatory and voluntary disclosure interrelate and interact, whereby mandatory disclosure is an obligation to disclose a minimum amount of reporting information (Wallace and Naser, 1995) while voluntary disclosure is the provision of additional information on firm value and performance. Where mandatory disclosure proves imperfect in meeting investor expectations, managers employ voluntary disclosure as an additional tool (Graham *et al.*, 2005) to communicate their superior knowledge of company performance (Healy and Palepu, 2001). Dye (1985, 1986) argues that where the two disclosure types are substitutes (complements), then greater disclosure requirements will reduce (increase) voluntary disclosure. Noh et al. (2019) investigate the link between firms' voluntary guidance and mandatory 8K filings and find a negative relationship, implying the two disclosures are substitutes and emphasising that the link between them likely depends on the specific content and disclosure attributes being considered. However, Ball *et al.* (2012) examine the relationship between audited financial reporting and voluntary disclosure of managers' private information and suggest that they are complementary mechanisms for communicating with investors. Naser *et al.* (2003) find that voluntary and mandatory disclosures are equally important to Kuwaiti stakeholders, whereas Gigler and Hemmer (1998) find that increasing mandatory disclosures may eliminate voluntary disclosures. Al-Razeen and Karbhari (2004) find no interaction for Saudi firms.

We argue that mandatory and voluntary disclosure are complements for GCC firms as we consider that private information disclosure is uninformative as a stand-alone mechanism (Ball *et al.*, 2012), and therefore hypothesise that:

H4: There is a significant positive impact of the extent of voluntary disclosure on the extent of mandatory disclosure.

Firms may apply IFRS 10 *Consolidated Financial Statements* to an earlier accounting period, though in so doing they must disclose the fact that they have early-adopted the standard, and they may also apply IFRS 11 *Joint Arrangements*, IFRS 12 *Disclosure of Interests in Other Entities*, IAS 27 *Separate Financial Statements*, and IAS 28 *Investments in Associates and Joint Ventures*. Therefore, firms producing consolidated financial statements are expected to comply with more accounting standards and disclose more. However, while we expect firms producing consolidated financial statements to have a higher level of mandatory disclosure, there exists no evidence on this relationship, thereby supporting the need for further investigation. We therefore hypothesise that:

H5: Firms producing consolidated financial statements are expected to have a higher level of mandatory disclosure.

The degree of mandatory disclosure may be associated with a firm's length of establishment (age), though evidence on this relationship is mixed. For example, Popova *et al*. (2013) find a positive relationship, whereas Glaum and Street (2003), Owusu-Ansah and Yeoh (2005) and Al-Sammari *et al.* (2008) find no relationship. It is expected that older GCC firms will be more likely to comply with mandatory disclosure requirements than younger firms as: (i) the former will have stronger accounting systems and more qualified and experienced staff, leading to increased gathering, processing and dissemination of the information supporting mandatory disclosure requirements; and (ii) the latter may suffer greater competitive disadvantage by disclosing information on research and development expenditure, capital expenditure and new products, for example (Glaum and Street, 2003). We therefore hypothesise that:

H6: There is a significant positive impact of firm age on the extent of mandatory disclosure.

The evidence on the relationship between firm size and the extent of mandatory disclosure is mixed. Al-Shammari *et al.* (2008) and Al Mutawaa and Hewaidy (2010) find a positive relationship, while Street and Bryant (2000) and Glaum and Street (2003) find no evidence. In theory, however, firms benefit from greater disclosure which potentially leads to lower political, capital, proprietary and direct costs, and thus larger firms are likely to disclose more. We therefore hypothesise that:

H7: There is a significant positive impact of firm size on the level of mandatory disclosure.

3.3.2. Ownership structure factors

In GCC countries, government agencies, institutional investors, and dominant families typically maintain substantial listed firm equity ownership, and thereby will influence the level and quality of disclosure. They are 'insiders' as they typically have board representation and better access to internal information, thus requiring lower disclosure. Evidence on the insider effect for institutional investors is observed for Saudi Arabia (Naser and Nuseibeh, 2003), Kuwait (Al-Shimmiri, 2003) and Bahrain (Al-Bastaki, 1997). However, government ownership may exert a different impact to institutional ownership due to high political costs. Abd-Elsalam and Weetman (2007) find that increased government ownership leads to greater IAS mandatory disclosure in Egyptian firms, Hassan (2013) finds lower IFRS mandatory disclosure as public ownership increases, while no relationship is found by Wallace and Naser (1995) for Hong Kong firms and by Naser *et al.* (2002) and Hassan (2013) for Jordanian firms. Further, neither Shammari *et al.* (2008) nor Al-Akra *et al.* (2010b) find a relationship between disclosure and institutional ownership for GCC country firms and Jordanian firms, respectively.

In our paper, we gauge the impact of government ownership and institutional ownership to examine ownership diffusion separately. Agency theory suggests that firms with institutional ownership have less incentive to comply with mandatory disclosure requirements while the opposite is true for firms with government ownership due to political sensitivity. We therefore hypothesise that:

H8: Firms with greater institutional ownership produce a lower level of mandatory disclosure.

H9: Firms with greater government ownership produce a higher level of mandatory disclosure.

3.3.3. Corporate governance factors

Larger boards facilitate better monitoring and strategic decision making, while allowing for greater diversity and financial reporting expertise (Singh *et al.*, 2004; Laksmana, 2008). Rahman and Ali (2006) find that larger boards lead to lower earnings management and higher mandatory disclosure and disclosure quality. Al-Akra *et al.* (2010b) find a positive relation for Jordanian firms, while Hasan *et al.* (2013) find no relationship for Bangladeshi firms. We therefore expect that:

H10: The level of mandatory disclosure is positively related to board size.

Agency and resource dependency theories suggest that greater board independence should lead to greater monitoring of management and better financial disclosure (Haniffa and Cooke, 2002). Haniffa and Cooke (2002) and Lim *et al.* (2007) argue that non-executive directors provide a linking mechanism between the firm and its external environment, as well as monitoring management performance and reducing manager-owner information asymmetry. Many studies find a positive relationship. Ezat and El-Masry (2008) find a positive relationship between the degree of board independence and reporting in Egyptian firms, while Verriest *et al.* (2013) find a positive relation with information quality in European firms. However, other studies find no relationship (Hassan, 2013; Aljifri *et al.,* 2014).

While there is little empirical evidence for GCC countries, the literature in general supports a positive relationship as greater independence promotes board monitoring, transparency, and disclosure. We also argue that state ownership moderates the relationship between board independence and mandatory disclosure and expect in a firm controlled by government that independent board members may be influenced more by their personal relationships with government representatives (Dahya et al., 2008), and in turn the level of mandatory disclosure is impaired (Chen and Jaggi,2000). Therefore, we introduce an additional interaction effect. We hypothesise that:

H11a: The level of mandatory disclosure is significantly affected by board independence.
H11b: The interaction relationship between board independence and state ownership negatively impacts the extent of mandatory disclosure.

Role duality describes when the Chief Executive Officer (CEO) is also the Chair, the former responsible for setting and implementing firm strategies and managing operations, while the latter has responsibility for ensuring board effectiveness (Arcay and Vazquez, 2005). Agency theory suggests that role separation improves management efficiency and provides checks and balances on management performance (Haniffa and Cooke, 2002), also limiting CEO power concentration (Kelton and Yang, 2008). However, Eisenhardt (1989) and Stewart (1991) argue that role duality allows a sharper focus on firm objectives and promotes faster implementation of operational decisions, and that CEO duality reduces voluntary disclosures (Gul and Leung, 2004). Alfraih (2016) finds a negative relationship between IFRS disclosure and role duality for Kuwaiti firms, while Gao and Kling (2012) find a positive relationship for Chinese firms. Despite mixed evidence on the impact of duality on disclosure, the theory in general supports a negative relationship (Haniffa and Cooke, 2002). We therefore hypothesise that:

H12: Role duality negatively impacts the level of mandatory disclosure in GCC firms.

3.3.4. Cultural characteristics

Gray (1988) identifies education as a key driver of accounting values and practices, and Grace *et al.* (1995) argue that director educational level is a useful measure of professional status. Wallace and Cooke (1990) argue that higher education levels lead to greater political awareness and demand for corporate accountability. Haniffa and Cooke (2002) hypothesise a positive relationship between the proportion of business or accounting qualified directors and the extent of voluntary disclosures but find no relationship. We argue that more relevant educational backgrounds should lead to both greater management team credibility and financial disclosure, though also greater awareness of the costs of disclosure and potential for loss of competitive advantage. We therefore hypothesise that:

H13: The proportion of directors on the board who have a qualification in business and/or accounting has a positive impact on the level of mandatory disclosure.

This argument is further strengthened in the case of firm financial controllers, with professionally qualified controllers disclosing more and being more aware of disclosure issues than their unqualified counterparts (Ahmed and Nicholls, 1994). We therefore hypothesise that:

H14: The proportion of financial controllers who have a qualification in business and/or accounting has a positive impact on the level of mandatory disclosure.

4. Research design and data

Our study data is based on the annual reports of listed firms from six GCC countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates) over the period 2010 to 2013. The motivation behind the sample period is twofold. First, the adoption of IFRS in the GCC region is relatively new. The majority of GCC countries mandatorily adopted IFRS in the early 2000s, excepting Saudi Arabia which follows national GAAP that is similar to IFRS effective from 2017 for non-financial firms. In order to eliminate the impact of the global financial crisis we focus on the period after the crisis. Second, the GCC region became more attractive to potential investors who are also key users of financial disclosure information, with average annual FDI inflows of 2.46% of GDP during the sample period, followed by a fall to below 2% in more recent years. Thus, there was significant focus on the region due to its increased openness and dynamism during the sample period. 392 annual reports are hand-collected for non-financial listed firms. For each country, the top 20 listed firms by market weight index over the study period are collected, capturing 79% of GCC state total market capitalisation.

Our model dependent variable to capture the degree of mandatory disclosure is a mandatory disclosure index ($MDINDEX$) which comprises 325 hand-collected mandatory items based on mandatory disclosure requirements of the 24 applicable IFRSs/IASs. We consider only accounting standards that are relevant and applicable to a given firm's financial environment and practices during the sample period. For example, IFRS 15 (*Revenue from Contracts with Customers*) and IFRS 7 (*Financial Instruments*) are both excluded as they are not effective during the period. Likewise, IFRS 4 (*Insurance Contracts*) and IAS 30 (*Disclosures in the Financial Statements of Banks and Similar Financial Institutions*) are excluded as they apply only to financial firms. Further, any accounting standards which are not applicable to our sample firms are also eliminated such as IAS 12 *(Income Tax*) as firms instead pay a Zakat (religious tax). Table I shows the 24 applicable IASs/IFRSs included in this study, along with the 325 required disclosure items.

[Insert Table I here]

We validate the $MDINDEX$ checklist by: (i) checking and confirming its completeness and comprehensiveness against the Big-4 firm disclosure checklists; and (ii) by engaging two experienced auditors who specialise in the application of IFRSs/IASs to review it. Consistent with Glaum and Street (2003), each disclosure requirement in the $MDINDEX$ is assigned an equal weight. Disclosure items (d_i) listed in the $MDINDEX$ checklist score 1 if they are made by a firm and 0 if they are not. Where a disclosure item is not applicable to a firm, the item is omitted for that firm. The $MDINDEX$ for each firm is the total score of mandatory disclosures provided divided by the total score of Applicable Mandatory Disclosures (AMD) as shown in Equation 1:

$$MDINDEX_{it} = \frac{\sum_{i=1}^{m} d_i}{AMD_{it}} \quad (1)$$

Where: $MDINDEX$ = mandatory disclosure index for firm i, $0 \leq MDINDEX \leq 1$; i = number of firms; m = number of applicable disclosure items; and t = year.

We include as independent variables in our model the firm characteristics (firm size, profitability, liquidity, degree of international exposure, identification of firms which consolidate their financial statements, and firm length of establishment), ownership factors (institutional ownership and state ownership), corporate governance factors (board size, degree of board independence, role duality), cultural factors (director and financial controller education levels), and the level of firm voluntary disclosure. All regressions include the effects of industry, year, and country. Table II provides the definitions of the independent variables.

[Insert Table II here]

Model I specifies the level of mandatory disclosure as a function of corporate characteristic factors (CCF), as detailed in Equation 2:

$$\begin{aligned} MD_{it} = \beta_0 &+ \beta_1 ROA_{it} + \beta_2 LIQ_{it} + \beta_3 IL_{it} + \beta_4 IS_{it} \\ &+ \beta_5 FOWN_{it} + \beta_6 VDIndex_{it} + \beta_7 CFS_{it} + \beta_8 AGE_{it} + \beta_9 SIZE_{it} \\ &+ \beta_{10} INDUSTRY_i + \beta_{11} YEAR_t + \beta_{12} COUNTRY_i + \varepsilon_{it} \end{aligned} \quad (2)$$

Model II includes Model I variables plus a dummy variable for profit-making firms, $DROA_{it}$, as well as an interaction with ROA_{it} ($DROA_{it} \times ROA_{it}$). The dummy $DROA_{it}$ is set equal to 1 if $ROA_{it} > 0$, and 0 otherwise. The inclusion of the dummy variable helps gauge the impact of positive ROA_{it} on the extent of mandatory disclosure as detailed in Equation 3:

$$\begin{aligned} MD_{it} = \beta_0 &+ \beta_1 ROA_{it} + \boldsymbol{\beta_2 DROA_{it}} + \boldsymbol{\beta_3 DROA_{it} \times ROA_{it}} + \beta_4 LIQ_{it} + \beta_5 IL_{it} + \beta_6 IS_{it} \\ &+ \beta_7 FOWN_{it} + \beta_8 VDIndex_{it} + \beta_9 CFS_{it} + \beta_{10} AGE_{it} + \beta_{11} SIZE_{it} \\ &+ \beta_{12} INDUSTRY_i + \beta_{13} YEAR_t + \beta_{14} COUNTRY_i + \varepsilon_{it} \end{aligned} \quad (3)$$

Inspired by the empirical approach of Basu (1997), we develop a model to predict that the relationship between the level of mandatory disclosure, MD_{it}, and firm profitability, ROA_{it}, which depends on whether the firm is profit-making or loss-making. The level of mandatory disclosure is given by β_0 for loss-making firms, and $\beta_0 + \beta_2$ for profit-making firms. The impact of ROA_{it} is given by β_1 for loss-making firms, and $\beta_1 + \beta_3$ for profit-making firms. We expect a negative β_1, which implies that loss-making firms tend to disclose more information (since ROA_{it} is negative). The interaction coefficient, β_3, reflects the difference between profit-making and loss-making firms in terms of the impact of ROA_{it} on mandatory disclosure. We expect that the level of mandatory disclosure in profit-making firms is less than loss firms as managers tend to provide more detailed information to justify their operational losses. This would be confirmed if $\beta_1 + \beta_3 < -\beta_1$, or $\beta_3 < -2\beta_1$.

The above inequality is obtained as follows (a is β_1, b is β_3):

The impacts for loss $-x$: $a * (-x)$

and profit $+x$: $(a+b)*(+x)$

For the profit impact to be less than the loss impact, we need:

$(a+b)*x < a*(-x)$

i.e. b $< -2a$

Model III includes Model I variables plus an interaction between ROA_{it} and LIQ_{it} ($ROA_{it} \times LIQ_{it}$), focusing on the impact of profitability on the level of mandatory disclosure in more liquid GCC firms, as detailed in Equation 4:

$$\begin{aligned} MD_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 LIQ_{it} + \boldsymbol{\beta_3 ROA_{it} \times LIQ_{it}} + \beta_4 IL_{it} + \beta_5 IS_{it} \\ + \beta_6 FOWN_{it} + \beta_7 VDIndex_{it} + \beta_8 CFS_{it} + \beta_9 AGE_{it} + \beta_{10} SIZE_{it} \\ + \beta_{11} INDUSTRY_i + \beta_{12} YEAR_t + \beta_{13} COUNTRY_i + \varepsilon_{it} \end{aligned} \quad (4)$$

We predict that liquidity (LIQ_{it}) strengthens the relationship between the level of mandatory disclosure (MD_{it}) and profitability (ROA_{it}) as highly liquid firms tend to be more profitable and efficient in working capital, and in turn the relationship between the level of mandatory disclosure and profitability is strengthened. β_3 reflects the interaction effect of ROA_{it} and LIQ_{it} and is expected to be positive, suggesting more disclosures because managers will be motivated to signal their ability to create value for their shareholders and lower liquidity risks for creditors.

Model IV includes Model I variables plus ownership, governance, and cultural factors, as detailed in Equation 5:

$$\begin{aligned} MD_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 LIQ_{it} + \beta_3 IL_{it} + \beta_4 IS_{it} \\ + \beta_5 FOWN_{it} + \beta_6 VDIndex_{it} + \beta_7 CFS_{it} + \beta_8 AGE_{it} + \beta_9 SIZE_{it} \\ + \boldsymbol{\beta_{10} IOWN_{it} + \beta_{11} SOWN_{it} + \beta_{12} BOARDS_{it} + \beta_{13} BOARDIND_{it}} \\ + \boldsymbol{\beta_{14} DUALITY_{it} + \beta_{15} EDUBOARD_{it} + \beta_{16} EDUFIN_{it}} + \beta_{17} INDUSTRY_i \\ + \beta_{18} YEAR_t + \beta_{19} COUNTRY_i + \varepsilon_{it} \end{aligned} \quad (5)$$

Model V includes Model IV variables plus an interaction effect ($BOARDIND_{it} \times SOWN_{it}$) focusing on the impact of board independence on the level of mandatory disclosure with firms influenced or controlled by governments. We predict that the relationship between board independence and the level of mandatory disclosure is impaired in government controlled or influenced firms, expecting $\beta_{14} < 0$. Model V is detailed in Equation 6:

$$\begin{aligned} MD_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 LIQ_{it} + \beta_3 IL_{it} + \beta_4 IS_{it} \\ + \beta_5 FOWN_{it} + \beta_6 VDIndex_{it} + \beta_7 CFS_{it} + \beta_8 AGE_{it} + \beta_9 SIZE_{it} \\ + \beta_{10} IOWN_{it} + \beta_{11} SOWN_{it} + \beta_{12} BOARDS_{it} + \beta_{13} BOARDIND_{it} \\ + \boldsymbol{\beta_{14} BOARDIND_{it} \times SOWN_{it}} + \beta_{15} DUALITY_{it} + \beta_{16} EDUBOARD_{it} \\ + \beta_{17} EDUFIN_{it} + \beta_{18} INDUSTRY_i + \beta_{19} YEAR_t + \beta_{20} COUNTRY_i + \varepsilon_{it} \end{aligned} \quad (6)$$

5. Results and discussion

Descriptive statistics computed for the model variables are presented in Table III.

[Insert Table III here]

The mean for the MD index across both firms and years is 0.732, with a range of 0.610 to 0.890. The highest index value is for Qatar at 0.766, followed by the UAE (0.766), Kuwait (0.739), Oman (0.708), Bahrain (0.711) and Saudi Arabia (0.706). Firm size (total assets) has a mean of $4.455 billion, and varies greatly, ranging from $0.031 billion to $91.549 billion. Firm profitability (ROA) ranges from –26.7% to 44.9%, with a mean of 8%. Firm liquidity has a mean of 2.314, and ranges from 0.157 to 12.862. 50% of sample firms have some level of international sales.

71.7% of firms present consolidated financial statements. We omit auditor type as an explanatory variable in our models given the evident lack of variation. The length of establishment (firm age) ranges from 2 to 59 years, with a mean of 24 years. The degree of institutional ownership ranges from zero to 100%, with a mean of 61% for the whole sample. For state ownership the range is zero to 100%, with a mean of 26.5%. On average, firms have just 8.145 directors, and the proportion of independent members is 62.8%. A surprisingly high 77.6% of sample firms have role duality. 70.1% of directors are qualified, while for financial controllers the proportion is higher at 72%. Finally, average voluntary disclosure is much lower than that for mandatory disclosure at 31.2%.

Table IV presents a Pearson correlation matrix for the model variables. The examination of coefficients between the MD Index (dependent) and explanatory variables shows that the strongest association is related to role duality. The correlation coefficient between the MD Index and duality is negative and significant at the 1% level, which provides support for hypothesis H12. The correlation coefficients also provide useful insights into the relationships between the MD Index and other variables. For example, the association between the MD Index and foreign ownership is positive and significant, which is expected as firms with foreign ownership tend to provide greater mandatory disclosure, as discussed in hypothesis H3. Likewise, the positive and significant correlation of 16.7% between mandatory disclosure and board independence indicates that firms with a higher degree of board independence disclose more. Whilst firm liquidity exhibits no strong link to the extent of mandatory disclosure, the correlation for the MD index and firm profitability is negative and significant at the 1% level. The extent of mandatory disclosure is significantly negatively correlated with institutional ownership, confirming the relationship discussed in hypothesis H8. Further, Table IV shows that the educational level of board members and financial controllers are both significantly related to the level of mandatory disclosure. We find a positive but insignificant correlation by 1% between the MD Index and board size for GCC firms, consistent with Hasan *et al.* (2013). A correlation of 5.5% in Table IV indicates that there is no significant association between mandatory and voluntary disclosure in GCC firms. This finding is consistent with Al-Razeen and Karbhari (2004) who finds no such interaction for Saudi firms.

[Insert Table IV here]

Table V presents the results of our five regression models. Model II finds that loss increases disclosure and leads GCC firms to provide more detailed information ($\beta_1 = -0.428$), whereas profit reduces mandatory disclosures ($\beta_1 + \beta_3 = -0.049 < -\beta_1$). These results confirm that a one unit increase in loss leads to a 0.428 increase in the mandatory disclosure index, whereas

a one unit increase in profit reduces the disclosure index by 0.049. The test results show that the sensitivity of mandatory disclosure to loss is almost nine times greater than to profit. This implies that managers of GCC firms are reluctant to disclose more in profit firms, but loss firms' managers are eager to disclose more detailed information. Overall, these results provide support for agency and signalling theories, and for hypothesis H1 in Model II. Model III adds an interaction term between profitability and liquidity ($ROA\ x\ LIQ$) to determine whether firms with both higher profitability and liquidity disclose more, and we find this interaction term is significantly positively related to the extent of disclosure, consistent with Ali *et al.* (2004) and Gallery *et al.* (2008). The result suggests that more profitable and cash generative firms disclose more to convey 'good news', to increase the security of director positions, to justify their compensation, and to signal their ability to maximise shareholder value. Consistent with Owusu-Ansah and Yeoh (2005) and Al-Sammari *et al.* (2008), liquidity has no effect across the models, but strengthens the relationship between the extent of mandatory disclosure and profitability and thus there is partial support for agency and signalling theories, and for hypothesis H2.

[Insert Table V here]

Firms with a greater proportion of international sales, a foreign market listing or with foreign investors disclose more across our models, providing support for signalling and capital needs theories, and for hypothesis H3. Our results are consistent with extant studies on international listing (Cooke, 1992; Amiraslani *et al.,* 2013), international sales (Meek *et al.,* 1995; Street and Gray, 2001) and foreign investors (Glaum and Street, 2003). Such international exposure encourages firms to convey their international credentials by improving information disclosure and comparability (Hope, 2003; Oliveira *et al.,* 2006), in so doing meeting the information requirements of regulators and wider stakeholders (Malone *et al.,* 1993).

We argue in hypothesis H4 that mandatory disclosure may not fully satisfy the information needs of users, thereby encouraging the firm's management to provide further voluntary disclosure to fully communicate with them (Graham *et al.*, 2005). As expected, firms providing greater voluntary disclosure also provide more mandatory disclosure across the models, thereby supporting hypothesis H4. This finding implies that mandatory and voluntary disclosure complement each other, and are therefore equally important for GCC firms, consistent with the findings of Naser *et al.* (2003) and Ball *et al.* (2012). Firms preparing consolidated financial statements provide greater mandatory disclosure in Model III (and marginally so in Model I), supporting the argument that in so doing they comply with more IAS and IFRS standards and providing support for hypothesis H5.

More established firms tend to provide more mandatory disclosure across the models (excepting Model II), consistent with Al-Sammari *et al.* (2008), and supporting hypothesis H6 as younger firms have less developed accounting systems and this weaker regulatory compliance experience (Glaum and Street 2003). Further, such firms face a potential competitive disadvantage in disclosing more detailed strategic information.

The level of mandatory disclosure is significantly negatively associated with firm size across the models, a result which is inconsistent with studies such as Al-Shammari *et al.* (2008) and Gallery *et al.* (2008), providing no support for agency, signalling and political cost theories, and for hypothesis H7. Perhaps larger GCC country firms disclose more voluntary and less mandatory information.

Agency theory suggests that firms with outsider (widely held) ownership will disclose more information than firms with insider (closely held) ownership, shareholders in the latter already enjoying preferential information access. In Model IV and Model V, we find that greater institutional ownership leads to significantly lower disclosure across the models, consistent

with Schadewitz and Blevins (1998), and providing support for hypothesis H8. Indeed, institutional owners are effectively insiders in GCC countries given their board representation. In contrast, mandatory disclosure increases with state ownership in Model V, supporting agency and signalling theories, and hypothesis H9, consistent with Abd-Elsalam and Weetman (2007).

Mandatory disclosure is not related to board size in our models, and thus hypothesis H10 is not supported, contradicting the argument that the motivation to monitor and improve disclosure is reduced in larger boards which suffer from CEO dominance and may be slower in making urgent decisions (Goodstein *et al.*, 1994). Our results confirm that board size in GCC country listed firms is not a strong driver of the extent of mandatory disclosure.

In Model IV, mandatory disclosure is unrelated to board independence. When we consider the impact of government ownership on the relationship between mandatory disclosure and board independence, however, we find that mandatory disclosure is negatively associated with independence for firms influenced or controlled by governments. Thus, lower government ownership tends to strengthen board independence, in turn increasing mandatory disclosure, consistent with Chen and Jaggi (2000) and providing support for agency theory and hypothesis H11b with the interaction term. In GCC countries, independence is considered a mechanism whereby the independent directors coerce management to meet the firm's disclosure requirements (Haniffa and Cooke, 2002; Ghazali and Weetman, 2006).

There is weak evidence of a negative impact of role duality on the mandatory disclosure level in Model IV, thus providing weak support for agency theory and hypothesis H12, consistent with Gul and Leung (2004) and Lakhal (2005). Role separation improves management efficiency and monitoring.

Models IV and V show that board educational level has no effect on mandatory disclosure, providing no support for hypothesis H13, a result inconsistent with both Gray (1988) and Chiang and He (2010) who argue that better educated directors are more knowledgeable and disclose more but consistent with Haniffa and Cooke (2002). In contrast, education is a positive driver for financial controllers across the models, providing support for hypothesis H14, a result consistent with Ahmed and Nicholls (1994) who argue that overseas professionally qualified accountants are better trained, more professionally aware, and will disclose more than their home trained counterparts.

6. Conclusions

This paper aimed to determine the factors driving the extent of mandatory disclosure in GCC country listed firms. We find that mean mandatory disclosure across the sample is 0.732, and thus lower than in more developed countries. The relatively low level of mandatory disclosure may be explained by less developed enforcement mechanisms and external auditor monitoring arising from a lack of professional accounting training, salaries insufficient to attract highly qualified accountants, and a lack of government commitment to strong enforcement.

Our results show that mandatory disclosure is significantly positively affected by international presence, firms with group accounting standards or consolidated financial statements, voluntary disclosure, firm length of establishment, board independence in the absence of government control, and the educational level of financial controllers, while it is significantly negatively affected by firm size, institutional share ownership, board independence with strong government control, and marginally with CEO role duality. Firm liquidity is not a direct determinant, though profitability positively affects disclosure to a greater degree in more liquid firms. Our findings confirm that loss-making firms disclose more, and profit-making firms disclose less, and show that in the former the extent of mandatory disclosures are more sensitive than in the latter, implying that managers tend to disclose more

to justify negative performance in their business operations. Our paper has implications for regulators, enforcement bodies, and investors in the GCC countries. For GCCAAO regulators seeking to harmonise accounting standards, they provide a useful mandatory disclosure benchmark metric and a guide to which drivers might promote desired higher disclosure. The paper provides important lessons on the diffusion of financial reporting standards across and within developing countries, and through time. Further, lessons drawn from the GCC country experience will be of interest to other developing country regulators.

Our paper makes a number of contributions to the academic literature. First, it provides a comprehensive insight into the determinants of mandatory disclosure in GCC country listed firms. Second, our methodological approach to calculating the mandatory disclosure index may prove useful to stakeholders in GCC country disclosure including investors, financial analysts, and regulators. Our indices may be augmented by users with new mandatory disclosure items as they become relevant. Finally, our results promote further understanding of international financial reporting differences in a developing country setting.

Our paper has several limitations. First, in the scoring process, we only score mandatory disclosure items rather than the value or quality of financial information disclosed by firms, the latter which may be assessed differently by different users. Second, our disclosure model is based on an unweighted approach where we score each disclosure requirement equally, while a weighted approach may produce differing results. Third, our study examined only GCC firms, and the study could therefore be extended in future research to compare with other emerging and developed markets. Two further areas for future research may be identified. The relationship between the level of mandatory and voluntary disclosure has been examined briefly in the study. However, this relationship may be examined in greater detail to understand which groups of disclosure items are complementary and why. This may provide additional insights for users and also for standard setters and policy makers who observe gaps in mandatory disclosure requirements and thus areas for improvement. Further, the focus of our paper was to examine the early post-financial global crises years of IFRS adoption. The use of more recent data would present the opportunity for observing possible changes in the drivers of mandatory disclosure as it becomes more established.

References

Abdallah, A.A.-N and Ismail, A.K. (2017), "Corporate gogernance practices, ownership structure and corporate performance in the GCC countries", *Journal of International Financial Markets, Institutions & Money,* Vol. 46, pp. 98-115.

Abd-Elsalam, O. H. and Weetman, P. (2003), "Introducing International Accounting Standards to an emerging capital market: relative familiarity and language effect in Egypt", *Journal of International Accounting, Auditing and Taxation*, Vol. 12 No. 1, pp. 63-84.

Abd-Elsalam, O. H. and Weetman, P. (2007), "Measuring accounting disclosure in a period of complex changes: the case of Egypt", *Advances in International Accounting,* Vol. 20, pp. 75-104.

Abdul Rahman, R. and Haneem Mohamed Ali, F. (2006), "Board, audit committee, culture and earnings management: Malaysian evidence", *Managerial Auditing Journal*, Vol. 21 No. 7, pp. 783-804.

Agyei-Mensah, B. K. (2013), "Adoption of International Financial Reporting Standards (IFRS) in Ghana and the quality of financial statement disclosures", *Macrothink Institute, International Journal of Accounting and Financial Reporting,* ISSN, pp. 2162-3082.

Ahmed, K. and Nicholls, D. (1994), "The impact of non-financial company characteristics on mandatory disclosure compliance in developing countries: the case of Bangladesh", *The International Journal of Accounting*, Vol. 29, pp. 62–77.

Akhtaruddin, M. (2005), "Corporate mandatory disclosure practices in Bangladesh", *The International Journal of Accounting*, Vol. 40 No. 4, pp. 399-422.

Al Mutawaa, A. and Hewaidy, A. M. (2010), "Disclosure level and compliance with IFRSs: An empirical investigation of Kuwaiti companies", *The International Business and Economics Research Journal,* Vol. 9 No. 5, pp. 33.

Al-Akra, M. Eddie, I. A. and Ali, M. J. (2010a), "The influence of the introduction of accounting disclosure regulation on mandatory disclosure compliance: Evidence from Jordan", *The British Accounting Review,* Vol. 42 No. 3, pp. 170-186.

Al-Akra, M. Eddie, I. A. and Ali, M. J. (2010b), "The association between privatisation and voluntary disclosure: evidence from Jordan", *Accounting and Business Research*, Vol. 40 No. 1, pp. 55-74.

Alanezi, F. S. and Albuloushi, S. S. (2011), "Does the existence of voluntary audit committees really affect IFRS-required disclosure? The Kuwaiti evidence", *International Journal of Disclosure and Governance,* Vol. 8 No. 2, pp. 148-173.

Al-Bastaki, H. (1997), "Extent of disclosure in the annual reports of banks operating in Bahrain", *Arab Journal of Administrative Sciences*, Vol. 5 No. 1, pp. 241-268.

Al-Basteki, H. (2000), "Strategies for enhancing the accounting profession and practices in Bahrain: Accounting experts' perceptions", *Research in Accounting in Emerging Economies*, Vol. 4 No. 2, pp. 165-189.

Alfraih, M. M. (2016), "The effectiveness of board of directors' characteristics in mandatory disclosure compliance", *Journal of Financial Regulation and Compliance,* Vol. 24 No. 2, pp. 154-176.

Ali, M. J. Ahmed, K. and Henry, D. (2004), "Disclosure compliance with national accounting standards by listed companies in South Asia", *Accounting and Business Research*, Vol. 34 No. 3, pp. 183-199.

Aljifri, K. (2008), "Annual report disclosure in a developing country: The case of the UAE", *Advances in Accounting*, Vol. 24 No. 1, pp. 93-100.

Aljifri, K. Alzarouni, A. Ng, C. and Tahir, M. I. (2014), "The Association between Firm Characteristics and Corporate Financial Disclosures: Evidence from UAE Companies", *The International Journal of Business and Finance Research*, Vol. 8 No. 2, pp. 101-123.

Al-Razeen, A. and Karbhari, Y. (2004), "Interaction between compulsory and voluntary disclosure in Saudi Arabian corporate annual reports", *Managerial Auditing* Journal, Vol. 19 No. 3, pp. 351-360.

Al-Shammari, B. (2008), "Voluntary disclosure in Kuwait corporate annual reports", *Review of Business Research*, Vol. 8 No. 1, pp. 62–81.

Al-Shammari, B. Brown, P. and 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*, Vol. 43 No. 4, pp. 425–447.

Al-Shimmiri, T. B. (2003), "Capital structure and performance of non taxpaying entities", *Arab Journal of Administrative Sciences*, Vol. 10 No. 3, pp. 363-385.

Aly, D. Simon, J. and Hussainey, K. (2010), "Determinants of corporate internet reporting: evidence from Egypt", *Managerial Auditing Journal*, Vol. 25 No. 2, pp. 182-202.

Amiraslani, H. Iatridis, G. E. and Pope, P. F. (2013), "Accounting for asset impairment: a test for IFRS compliance across Europe", *Centre for Financial Analysis and Reporting Research (CeFARR)*.

Arcay, M. R. B. and Vazquez, M. F. M. (2005), "Corporate characteristics, governance rules and the extent of voluntary disclosure in Spain", *Advances in Accounting*, Vol. 21, pp. 299-331.

Aguilera, R.V. and Cuervo Cazurra, A. (2009), "Codes of good governance", *Corporate Governance: An International Review*, Vol. 17 No. 3, pp. 376–387

Barrett, M. E. (1976), "Financial reporting practices: disclosure and comprehensiveness in an international setting", *Journal of Accounting Research*, Vol. 14 No. 1, pp. 10-26.

Ball, R., Jaramayan, S. and Shivakumar, L. (2012), Audited financial reporting and voluntary disclosure as complements: A test of the Confirmation Hypothesis, *Journal of Accounting and Economics*, Vol. 53, pp. 136-166.

Basu, S. (1997), "The conservatism principle and the asymmetric timeliness of earnings", *Journal of Accounting and Economics*, Vol. 24, pp. 3-37.

Belkaoui, A. and Kahl, A. (1978), "Corporate financial disclosure in Canada", Research Monograph No. 1 of *Canadian Certified General Accountants Association*.

Buzby, S.L. (1975), "Company size , listed versus unlisted stocks and the extent of financial disclosure", *Journal of Accounting Research*, Spring, pp. 16–37.

Choi, F.D.S. (1973), "Financial disclosure and entry to the European Capital Market", *Journal of Accounting Research*, Vol. 11 No. 2, pp.159-175.

Chen, C. J. and Jaggi, B. (2000), "Association between independent non-executive directors, family control and financial disclosures in Hong Kong", *Journal of Accounting and Public Policy*, Vol. 19 No. 4, pp. 285-310.

Chiang, H. T. and He, L. J. (2010), "Board supervision capability and information transparency", *Corporate Governance: An International Review*, Vol. 18 No. 1, pp. 18-31.

Cooke, T.E. (1992), "The Impact of Size, Stock Market Listing and Industry Type on Disclosure in the Annual Reports of Japanese Listed Corporations", *Accounting and*

Business Research, Vol. 22 No. 87, pp. 229–237.

Cooke, T.E. (1993), "Disclosure in Japanese corporate annual reports", *Journal of Business Finance & Accounting*, Vol. 20 No. 4, pp. 521-535.

Craig, R. and Diga, J. (1998), "Corporate accounting disclosure in ASEAN", *Journal of International Financial Management and Accounting*, Vol. 9 No. 3, pp. 246-274.

Dahawy, K. (2009), "Company characteristics and disclosure level: The case of Egypt", *International Research Journal of Finance and Economics*, Vol. 34, pp. 194-208.

Dahawy, K. and Conover, T. (2007), "Accounting disclosure in companies listed on the Egyptian stock exchange", *Middle Eastern Finance and Economics*, Vol. 1 No. 1, pp. 5-20.

Dahya, J., Dimitrow, O. and McConnell, J.J. (2008), "Dominant shareholders, corporate boards, and corporate value: A cross-country analysis", *Journal of Financial Economics*, Vol. 87, pp. 73-100.

Daske, H. Hail, L. Leuz, C. and Verdi, R. (2013), "Adopting a label: Heterogeneity in the economic consequences around IAS/IFRS adoptions", *Journal of Accounting Research*, Vol. 51 No. 3, pp. 495-547.

Dye, R. A. (1985), "Disclosure of nonproprietary information", *Journal of Accounting Research*, pp. 123-145.

Dye, R. A. (1986), "Proprietary and nonproprietary disclosures", *Journal of Business*, pp. 331-366.

Eisenhardt, K. M. (1989), "Making fast strategic decisions in high-velocity environments", *Academy of Management journal*, Vol. 32 No. 3, pp. 543-576.

Ezat, A. and El-Masry, A. (2008), "The impact of corporate governance on the timeliness of corporate internet reporting by Egyptian listed companies", *Managerial Finance*, Vol. 34 No. 12, pp. 848-867.

Gallery, G. Cooper, E. and Sweeting, J. (2008), "Corporate disclosure quality: lessons from Australian companies on the impact of adopting International Financial Reporting Standards", *Australian Accounting Review*, Vol. 18 No. 3, pp. 257-273.

Gao, L. and Kling, G. (2012), "The impact of corporate governance and external audit on compliance to mandatory disclosure requirements in China", *Journal of International Accounting, Auditing and Taxation*, Vol. 21 No. 1, pp. 17-31.

Gigler, F. and Hemmer, T. (1998), "On the frequency, quality, and informational role of mandatory financial reports", *Journal of Accounting Research*, Vol. 36, pp. 117-147.

Glaum, M. and Street, D.L. (2003), "Compliance with the Disclosure Requirements of Germany's New Market: IAS Versus US GAAP", *Journal of International Financial Management and Accounting*, Vol. 14 No. 1, pp. 65–100.

Goodstein, J. Gautam, K. and Boeker, W. (1994), "The effects of board size and diversity on strategic change", *Strategic management journal*, Vol. 15 No. 3, pp. 241-250.

Grace, M. Ireland, A. and Dunstan, K. (1995), "Board composition, non-executive directors' characteristics and corporate financial performance", *Asia-Pacific Journal of Accounting*, Vol. 2 No. 1, pp. 121-137.

Graham, J. R. Harvey, C. R. and Rajgopal, S. (2005), "The economic implications of corporate financial reporting", *Journal of Accounting and Economics*, Vol. 40 No. 1, pp. 3-73.

Gray, S. J. (1988), "Towards a theory of cultural influence on the development of accounting systems internationally, *Abacus*, Vol. 24 No. 1, pp. 1-15.

Gul, F. A. and Leung, S. (2004), "Board leadership, outside directors' expertise and voluntary

corporate disclosures", *Journal of Accounting and Public Policy*, Vol. 23 No. 5, pp. 351-379.

Gulf-Co-Operation Council Accounting and Auditing Organization (GCCAAO) (2021), "Strategic plan", available at: https://www.gccaao.org/About-us/Strategic-Plan.aspx?lang=ar-sa [Accessed 29 March 2021].

Haniffa, R.M. and Cooke, T.E. (2002), "Culture, corporate governance and disclosure in Malaysian corporations", *Abacus*, Vol. 38 No. 3, pp. 317–349.

Hasan, S. Hossain, S. Z. and Swieringa, R. J. (2013), "Corporate governance and financial disclosure in Bangladesh perspective", *Research Journal of Finance and Accounting*, Vol. 4 No. 1, pp. 109-119.

Hassan, M. (2013), "Corporate governance characteristics and voluntary disclosure: The case of UAE listed corporations", *Prosiding International Conference on Business, Economics, and Accounting*.

Hassan, O. A. Giorgioni, G. and Romilly, P. (2006), "The extent of financial disclosure and its determinants in an emerging capital market: the case of Egypt", *International Journal of Accounting, Auditing and Performance Evaluation*, Vol. 3 No. 1, pp. 41-67.

Healy, P.M. and Palepu, K.G. (2001), "Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature", *Journal of Accounting and Economics*, Vol. 31 No. 1-3, pp. 405–440.

Hofstede, G., Culture's Consequences, Sage Publications, 1980.

Hope, O.. (2003), "Disclosure practices, enforcement of accounting standards and analysts' forecast accuracy: an international study", *Journal of Accounting Research*, Vol. 20 No. 2, pp. 295–321.

Hussain, M. Islam, M. M. Gunasekaran, A. and Maskooki, K. (2002), "Accounting standards and practices of financial institutions in GCC countries", *Managerial Auditing Journal*, Vol. 17 No. 7, pp. 350-362.

Inchausti, A.G. (1997), "The influence of company characteristics and accounting regulation on information disclosed by Spanish firms", *European Accounting Review*, Vol. 6 No. 1, pp. 45–68.

Ismail, T. H. Shehata, N. F. and Dahawy, K. (2010), "Firm characteristics determinants and disclosure level in emerging market of Egypt", (In Ismail, T. (ed.), *Perspectives in Accounting Practices: Corporate Disclosure, Performance, Governance and Risk Management.*

International Monetary Fund (2018), "Trade and Foreign Investment—Keys to Diversification and Growth in the GCC", Prepared by Staff of the International Monetary Fund, 8 December, available at: https://www.imf.org/en/Publications/Policy-Papers/Issues/2018/12/04/pp120618gcc-trade-and-foreign-investment [Accessed 14 March 2021]

Jensen, M. C. and Meckling, W.H. (1976), "Theory of the firm: Managerial behavior, agency costs and ownership structure", *Journal of Financial Economics*, pp. 305-360.

Kelton, A. S. and Yang, Y. W. (2008), "The impact of corporate governance on Internet financial reporting", *Journal of accounting and Public Policy*, Vol. 27 No. 1, pp. 62-87.

Lakhal, F. (2005), "Voluntary earnings disclosures and corporate governance: Evidence from France", *Review of Accounting and Finance*, Vol. 4 No. 3, pp. 64-85.

Laksmana, I. (2008), "Corporate board governance and voluntary disclosure of executive compensation practices", *Contemporary Accounting Research*, Vol. 25 No. 4, pp. 1147-1182.

Lim, S. Matolcsy, Z. and Chow, D. (2007), "The association between board composition and different types of voluntary disclosure", *European Accounting Review*, Vol. 16 No. 3, pp. 555-583.

Malone, D. Fries, C. and Jones, T. (1993), "An empirical investigation of the extent of corporate financial disclosure in the oil and gas industry", *Journal of Accounting, Auditing and Finance*, Vol. 8 No. 3, pp. 249-273.

Meek, G. K. Roberts, C. B. and Gray, S. J. (1995), "Factors influencing voluntary annual report disclosures by US, UK and continental European multinational corporations", *Journal of International Business Studies*, Vol. 26 No. 3, pp. 555-572.

Mohd Ghazali, N.A. and Weetman, P. (2006), "Perpetuating traditional influences: Voluntary disclosure in Malaysia following the economic crisis ", *Journal of International Accounting, Auditing and Taxation*, Vol. 15 No. 2, pp. 226–248.

Morris, R. (1987), "Signalling, agency theory and accounting policy choice", *Accounting and Business Research*, Vol. 18 No. 69, pp. 47-56. https://doi.org/10.1080/ 00014788.1987.9729347.

Naser, K. and Nuseibeh, R. (2003), "Quality of financial reporting: Evidence from the listed Saudi nonfinancial companies", *International Journal of Accounting*, Vol. 38 No. 1, pp. 41–69.

Naser, K. Al-Khatib, K. and Karbhari, Y. (2002), "Empirical evidence on the depth of corporate information disclosure in developing countries: The case of Jordan", *International journal of commerce and management*, Vol. 12 No. 3/4, pp. 122-155.

Naser, K., Nuseibeh, R. and Al-Hussaini, A. (2003), "Users' perceptions of various aspects of Kuwaiti corporate reporting", *Managerial Auditing Journal*, Vol. 18 No. 6/7, pp. 599-617.

Noh, S., So, E. and Weber, J.P. (2019), "Voluntary and mandatory disclosures: Do managers view them as substitutes", *Journal of Accounting and Economics*, Vol. 68, pp. 1-18.

Oliveira, L. Lima Rodrigues, L. and Craig, R. (2006), "Firm-specific determinants of intangibles reporting: evidence from the Portuguese stock market", *Journal of Human Resource Costing and Accounting*, Vol. 10 No. 1, pp. 11-33.

Owusu-Ansah, S. and Yeoh, J. (2005), "The effect of legislation on corporate disclosure practices", *Abacus*, Vol. 41 No. 1, pp. 92-109.

Oyelere, P. Laswad, F. and Fisher, R. (2003), "Determinants of internet financial reporting by New Zealand companies", *Journal of International Financial Management and Accounting*, Vol. 14 No. 1, pp. 26-63.

Popova, T. Georgakopoulos, G. Sotiropoulos, I. and Vasileiou, K. Z. (2013), "Mandatory disclosure and its impact on the company value", *International Business Research*, Vol. 6 No. 5, pp 1-16.

PricewaterhouseCoopers. (2004). International financial reporting standards disclosure checklist 2004. Meeting all IFRS requirements. PricewaterhouseCoopers.

Rahman, M. Z., and Scapens, R. W. (1988), "Financial reporting by multinational enterprises: Accounting policy choice in a developing country", *Journal of Accounting and Public policy*, Vol. 7 No. 1, pp. 29-42.

Saudi Organization for Certified Public Accountants (SOCPA) (2020), "About us ", Available at: https://old.socpa.org.sa/Socpa/About-Socpa/About-us.aspx [Accessed 29 March 2021].

Schadewitz, H. J. and Blevins, D. R. (1998), "Major determinants of interim disclosures in an

emerging market", *American Business Review*, Vol. 16 No. 1, pp. 41-55.

Schuster, P. and O'Connell, V. (2006), "The Trend Toward Voluntary Corporate Disclosures", *Management Accounting Quarterly Winter*, Vol. 7 No. 2, pp. 1–9.

Shuaib, A. (1999), "Financial reporting in the GCC member countries", In *11th Asian-Pacific Conference on International Accounting Issues, Melbourne*.

Singh, M. Mathur, I. and Gleason, K. C. (2004), "Governance and performance implications of diversification strategies: Evidence from large US firms", *Financial Review*, Vol. 39 No. 4, pp. 489-526.

Stewart, R. (1991), "Chairmen and chief executives: An exploration of their relationship", *Journal of Management Studies*, Vol. 28 No. 5, pp. 511-528.

Street D. L. and Gray, S.J. (2001), "Observance of international accounting standards: Factors explaining noncompliance", *Association of Chartered Certified Accountants (ACCA) Research Report*.

Street, D. L. and Bryant, S. M. (2000), "Disclosure level and compliance with IASs: A comparison of companies with and without US listings and filings", *The International Journal of Accounting*, Vol. 35 No. 3, pp. 305-329.

Street, D. L. and Gray, S. J. (2002), "Factors influencing the extent of corporate compliance with International Accounting Standards: summary of a research monograph", *Journal of International Accounting, Auditing and Taxation*, Vol. 11 No. 1, 51-76.

Touron, P. (2005), "The adoption of US GAAP by French firms before the creation of the International Accounting Standard Committee: an institutional explanation", *Critical Perspectives on Accounting*, Vol. 16 No. 6, pp. 851-873.

Tower, G. Hancock, P. and Taplin, R.H. (1999), "A Regional Study Of Listed Companies' Compliance With International Accounting Standards [online]", *Accounting Forum*, Vol. 23 No. 3, pp. 293–305.

Verriest, A. Gaeremynck, A. and Thornton, D. B. (2013), "The impact of corporate governance on IFRS adoption choices", *European Accounting Review*, Vol. 22 No. 1, pp. 39-77.

Von Alberti-Alhtaybat, L., Hutaibat, K., and Al-Htaybat, K. (2012), "Mapping corporate disclosure theories", *Journal of Financial Reporting and Accounting*, Vol. 10 No. 1, pp. 73-94.

Wallace, R. O. and Naser, K. (1995), "Firm-specific determinants of the comprehensiveness of mandatory disclosure in the corporate annual reports of firms listed on the stock exchange of Hong Kong", *Journal of Accounting and Public Policy*, Vol. 14 No. 4, pp. 311-368.

Wallace, R. O. Naser, K. and Mora, A. (1994), "The relationship between the comprehensiveness of corporate annual reports and firm characteristics in Spain", *Accounting and Business Research*, Vol. 25 No. 97, pp. 41-53.

Wallace, R. S. O. and Cooke, T. E. (1990), "The diagnosis and resolution of emerging issues in corporate disclosure practices", *Accounting and Business Research*, Vol. 20 No. 78, pp.143-151.

Watts, R. L., and Zimmerman, J. L. (1978), "Towards a positive theory of the determination of accounting standards", *Accounting review*, Vol. 53 No. 1, pp. 112-134.

Zarzeski, M. T. (1996), "Spontaneous harmonization effects of culture and market forces on accounting disclosure practices", *Accounting Horizons*, Vol. 10 No. 1, pp. 18-37.

Table I: Number of disclosure requirements for each IAS/IFRS included in the mandatory disclosure index

Standard	Title	Number of mandatory disclosure requirements
IFRS 3	Business Combinations	16
IFRS 5	Non-Current Assets Held for Sale and Discontinued Operations	14
IFRS 8	Operating Segment (replacing IAS 14 Segment Reporting)	27
IFRS 10	Consolidated Financial Statements	9
IFRS 11	Joint Arrangements	9
IFRS 12	Disclosure of Interests in Other Entities	13
IFRS 13	Fair Value Measurement	14
IAS 1	Presentation of Financial Statements	42
IAS 2	Inventories	8
IAS 7	Statement of Cash Flows	14
IAS 16	Property, Plant, and Equipment	15
IAS 17	Leases	21
IAS 18	Revenue	7
IAS 21	The Effects of Changes in Foreign Exchange Rates	6
IAS 23	Borrowing Costs	2
IAS 24	Related Party Disclosures	9
IAS 27	Consolidated and Separate Financial Statements	11
IAS 28	Investments in Associates	15
IAS 31	Interests in Joint Ventures	9
IAS 33	Earnings Per Share	9
IAS 36	Impairment of Assets	14
IAS 37	Provisions, Contingent Liabilities and Contingent Assets	13
IAS 38	Intangible Assets	14
IAS 40	Investment Property	14
Total	**24 standards**	**325**

Table II: Definition of the model independent variables

Variable	Variable label used in the empirical models	Definition
Firm profitability (ROA)	*ROA*	Return on assets = net income/total assets
Positive ROA (positive net income)	*DROA*	Dummy variable where 1 = firms that have positive ROA, and 0 otherwise.
Liquidity (Current ratio)	*LIQ*	Current ratio = current assets/current liabilities
International listening status	*IL*	Dummy variable where 1 = firms listed on an international stock exchange, and 0 otherwise.
International sales	*IS*	Dummy variable where 1 = firms that have international sales, and 0 otherwise.
Foreign shareholding (investors)	*FOWN*	Proportion of shares owned by foreigners to total number of shares issued
Level of voluntary disclosure	*VD Index*	Total voluntary disclosure index (VDI) scores for each firm for each year, based on the latest information released by GCC country non-financial listed firms in their annual reports. The voluntary disclosure checklist contains 129 items, based on 13 main groups including general information, financial overview and historical information, ratios and other analyses, projected and management information, market-based information, future prospects, acquisitions and disposals, research and development, information about directors, employee information, social policy and value-added information, segmental information, and finally foreign currency information. The index computation applied a dichotomous approach (Cooke 1992), with details available from the authors on request.
Consolidated financial statement firms	*CFS*	Dummy variable where 1 = firms that have consolidated financial statements, and 0 otherwise.
Firm age	*AGE*	Natural log of firm age = length of establishment in years.
Firm size	*SIZE*	Natural log of the firm total assets at the reporting date (in US Dollars).
Institutional control ownership	*IOWN*	Dummy variable where 1 = firm institutional ownership is greater than or equal to 20%, and 0 otherwise.
State (government) control ownership	*SOWN*	Dummy variable where 1 = firm state ownership is greater than or equal to 20%, and 0 otherwise.
Board size	*BOARDS*	Natural log of number of company board directors on the firm's board.
Board independence	*BOARDIND*	Ratio of independent non-executive directors to total number of board directors.
Role duality	*DUALITY*	Dummy variable where 1 = CEO serves as Chairman, and 0 otherwise.
Education level of board of directors	*EDUBOARD*	Ratio of directors qualified in business or accounting to total number of directors
Education level of financial controllers	*EDUFIN*	Ratio of financial controllers qualified in business or accounting to total number of financial controllers.
Industry effects	*Industry dummy*	Energy industry firm dummy where 1 = energy industry firms, and 0 otherwise. Manufacturing industry firm dummy where 1 = manufacturing firms, and 0 otherwise. Service industry firm dummy is the reference.
Year effects	*2010-2013*	Year dummy variable where 1 = a given year, and 0 otherwise. 2013 is the reference year.
Country effects	*GCC countries*	Year dummy variable where 1 = a given year, and 0 otherwise. Saudi Arabia is the reference country.

Note: The independent variables are collected from firm annual reports or the respective GCC country stock exchanges. All data relate to financial year-ends.

Table III: Descriptive statistics for the model variables across GCC member state firms

All countries (N=392)	Mean	Median	Std. Deviation	Min	Max
MD index	0.732	0.730	0.057	0.610	0.890
Firm profitability (ROA)	0.080	0.071	0.075	-0.267	0.449
Liquidity	2.314	1.538	2.032	0.157	12.862
International listing	0.051	0.000	0.220	0.000	1.000
International sales	0.500	0.500	0.501	0.000	1.000
Foreign shareholding	0.035	0.000	0.087	0.000	0.480
VD Index	0.312	0.310	0.150	0.090	0.680
Consolidated fin. statements (group)	0.717	1.000	0.451	0.000	1.000
Firm age (log)	2.958	3.135	0.731	0.693	4.078
Firm age (years)	24.000	23.000	13.905	2.000	59.000
Firm size (log)	20.577	20.530	1.825	17.248	25.240
Firm size ($ billion)	4.455	0.823	11.751	0.031	91.549
Institutional control ownership	0.610	1.000	0.488	0.000	1.000
State control ownership	0.265	0.000	0.442	0.000	1.000
Board size (log)	2.071	2.079	0.228	1.609	2.833
Board size (number of directors)	8.145	8.000	1.895	5.000	17.000
Board Independence	0.628	0.636	0.229	0.000	1.000
Role duality	0.776	1.000	0.418	0.000	1.000
Education - board of directors	0.701	0.714	0.096	0.500	1.000
Education - financial controller	0.720	0.750	0.073	0.500	1.000

Table IV: (Pearson) Correlation matrix for the model variables

N=392	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
1. ROA	-0.125**															
2. LIQ	-0.042	0.182***														
3. IL	0.077	-0.038	-0.153***													
4. IS	0.077	-0.001	-0.133***	0.046												
5. FOWN	0.107**	0.094*	-0.088*	-0.075	-0.018											
6. VD Index	0.055	0.110**	-0.190***	0.176***	-0.043	0.140***										
7. CFS	0.247***	-0.081	-0.103**	0.043	0.232***	-0.184***	0.060									
8. AGE	-0.067	0.198***	0.176***	-0.043	0.088*	-0.042	-0.144***	-0.015								
9. SIZE	0.044	-0.124**	-0.235***	0.252***	-0.066	-0.101**	0.501***	0.266***	-0.195***							
10. IOWN	-0.149***	-0.109**	0.046	0.043	-0.131***	0.145***	-0.139***	-0.224***	-0.081	-0.278***						
11. SOWN	-0.025	0.020	-0.139***	0.176***	0.000	-0.167***	0.263***	0.172***	0.042	0.380***	-0.277***					
12. BOARDS	0.010	0.025	-0.095*	0.050	-0.090*	0.270***	0.374***	0.001	0.107**	0.318***	-0.067	0.147***				
13. BOARDIND	0.167***	-0.078	0.011	0.127**	0.158	0.036	-0.154***	-0.009	-0.047	-0.099**	0.074	0.090*	-0.056			
14. DUALITY	-0.256***	0.098*	0.110**	-0.098*	-0.196***	0.058	0.141***	-0.284***	0.261***	0.058	-0.080	-0.009	0.230***	-0.366***		
15. EDUBOARD	0.212***	-0.085*	0.010	0.093*	0.089*	0.024	-0.145***	0.103**	-0.053	-0.142***	0.214***	0.155***	-0.197***	0.388***	-0.331***	
16. EDUFIN	0.483***	-0.126**	-0.025	-0.052	-0.076	0.010	0.064	0.214***	-0.125**	0.125**	-0.005	-0.126**	0.123**	0.121**	-0.140***	0.131***

MD Index (dependent) is represented by 0 in the above table.
*** Significant at the 1% level.
** Significant at the 5% level.
* Significant at the 10% level.

Table V: The mandatory disclosure models

Variables \ Models	H	S	Model I		Model II		Model III		Model IV		Model V	
Constant			0.756***	(16.572)	0.724***	(14.535)	0.781***	(17.619)	0.621***	(10.867)	0.596***	(10.670)
Firm characteristics												
ROA	H1	+	-0.041	(-1.318)	-0.428***	(-4.745)	-0.142***	(-2.979)	-0.035	(-1.374)	0.005	(0.188)
DROA					0.041***	(2.712)						
DROA X ROA					0.379***	(4.173)						
LIQ	H2	+	0.001	(0.909)	0.001	(1.044)	-0.002	(1.474)	0.001	(0.693)	0.000	(0.205)
ROA X LIQ							0.032***	(3.007)				
IL	H3	+	-0.001	(-0.137)	0.002	(0.190)	-0.000	(-0.030)	0.019	(1.599)	0.024***	(2.638)
IS			0.010**	(1.989)	0.011**	(2.207)	0.011**	(2.287)	0.010**	(2.282)	0.011***	(2.588)
FOWN			0.100**	(2.381)	0.096**	(2.265)	0.106**	(2.503)	0.091**	(1.981)	0.087*	(1.884)
VD Index	H4	+	0.130***	(5.110)	0.125***	(4.766)	0.127***	(5.014)	0.100***	(3.876)	0.090***	(3.638)
CFS	H5	+	0.012*	(1.874)	0.006	(0.856)	0.014**	(2.138)	0.005	(0.970)	0.000	(0.063)
AGE	H6	+	0.008**	(2.177)	0.006	(1.557)	0.008**	(2.386)	0.011***	(3.805)	0.012***	(4.200)
SIZE	H7	+	-0.006***	(-2.598)	-0.005**	(-2.378)	-0.006***	(-3.082)	-0.006***	(-2.712)	-0.006***	(-2.927)
Ownership, governance and cultural factors												
IOWN	H8	-							-0.013***	(-2.880)	-0.010**	(-2.432)
SOWN	H9	-							- 0.007	(-1.232)	0.091***	(6.792)
BOARDS	H10	+							-0.016	(-1.561)	-0.013	(-1.325)
BOARDIND	H11	+							0.006	(0.474)	0.033***	(2.577)
BOARDIND X SOWN		-									-0.146***	(-7.484)
DUALITY	H12	-							-0.012*	(-1.746)	-0.008	(-1.187)
EDUBOARD	H13	+							-0.011	(-0.344)	-0.015	(-0.460)
EDUFIN	H14	+							0.291***	(7.557)	0.292***	(7.328)
Fixed effects												
Industry effects			yes		yes		yes		yes		yes	
Year effects			yes		yes		yes		yes		yes	
Country effects			yes		yes		yes		yes		yes	
Adjusted R^2			0.335		0.347		0.346		0.470		0.519	
VIF			< 4						< 6			
No. of observations			392		392		392		392		392	

*** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level.

Note: H represents the relevant hypothesis, and S is the expected sign. The industry sector dummies included are manufacturing and energy sectors, and the service industry sector is excluded as the reference dummy. The country dummies included are UAE, Bahrain, Kuwait, Oman and Qatar, and Saudi Arabia is excluded as the reference dummy. The White test for heteroskedasticity has been performed. Heteroskedasticity corrected t-statistics are provided in parentheses. The robust standard errors are based on HC0 – covariance estimator (SPSS GLM Univariate – supported by robustness checks with the Huber White correction using STATA). The Wald-test results show that ρ-value is significant at the 1% level across the models. Multicollinearity is not a concern as the variance inflation factor (VIF) values in main predictor variables are less than 10.