

**Corporate Boards and Ownership Structure as Antecedents of Corporate Governance
Disclosure in Saudi Arabian Publicly Listed Corporations**

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Abstract

We investigate whether and to what extent publicly listed corporations voluntarily comply with and disclose recommended good corporate governance (CG) practices, and distinctively examine whether the observed cross-sectional differences in such CG disclosures can be explained by ownership and board mechanisms with specific focus on Saudi Arabia. Our results suggest that corporations with larger boards, a big-four auditor, higher government ownership, a CG committee and higher institutional ownership disclose considerably more than those that are not. By contrast, we find that an increase in block ownership significantly reduces CG disclosure. Our results are generally robust to a number of econometric models that control for different types of disclosure indices, firm-specific characteristics and firm-level fixed-effects. Our results have important implications for policy-makers, practitioners and regulatory authorities, especially those in developing countries across the globe.

Keywords: corporate governance, board and ownership structures, voluntary disclosure regime, multi-theory, Saudi Arabia

Introduction

In this paper, we seek to contribute to the extant corporate governance (CG) literature by examining the extent to which publicly listed corporations voluntarily comply with and disclose good recommendations relating to their CG practices, and investigate whether corporate ownership and board mechanisms can explain observable cross-sectional differences in such CG disclosures with specific focus on Saudi Arabia.

Over the past decades, the adoption of CG codes by an increasing number of developing countries has generated a significant research interest on the actual extent of, and factors leading to or impeding implementation at the firm-level and on the consequences of such implementation at the macro or national-level (Aguilera & Cuervo-Cazurra, 2009; Yoshikawa & Rasheed, 2009; Andreasson, 2011; Salterio et al., 2013; Mahadeo & Soobaroyen, 2015). In the main, such CG studies are motivated by an instrumental-led expectation that CG codes might help address systemic issues of corporate accountability, responsibility, corruption and transparency (Tsamenyi et al., 2007; Hussainey & Al-Najjar, 2012; Filatotchev & Boyd, 2009; Samaha et al., 2012; Christensen et al., 2015; Soobaroyen & Ntim, 2013), and thereby improving corporate performance by reducing corporate financial risk in developing countries (Gompers et al., 2003; Klapper & Love, 2004; Beiner et al., 2006; Haniffa & Hudaib, 2006; Henry, 2008; Bauer et al., 2010; Renders et al., 2010; Giroud & Mueller, 2011; Bozec & Bozec, 2012; Ntim et al., 2012a, 2013, 2015a, b; Tariq & Abbas, 2013; Christensen et al., 2015; Ntim, 2015).

To date, however, a good number of these studies report mixed results in terms of actual implementation and/or of positive consequences (Daily et al., 2003; Wieland, 2005; Brennan & Solomon, 2008; Yoshikawa & Rasheed, 2009). More importantly, whereas prior research indicates that corporate decisions, including disclosure choices and strategies are often decided by corporate boards and owners (Ntim & Soobaroyen, 2013a, b), existing studies that empirically examine the different extent to which a firm's board and ownership mechanisms can serve as strong or weak antecedents of voluntary compliance and disclosure of good CG practices are generally rare (Collett & Hraskey, 2005; Bozec & Bozec, 2007; Hussainey & Al-Najjar, 2012; Mallin & Ow-Yong, 2012; Salterio et al., 2013), but particularly acute in

developing countries (Tsamenyi et al., 2007; Rouf, 2011; Ntim et al., 2012b; Samaha et al., 2012). This intuition is motivated by the fact that the capacity of CG codes to achieve good governance depends largely on the extent to which senior managers, owners and companies are willing to engage in effective voluntary compliance and disclosure (Core, 2001; Tariq & Abbas, 2013; Ntim et al., 2013).

Thus, this study seeks to explore CG reforms that have been pursued in developing countries with specific focus on Saudi Arabia. Our decision to focus on Saudi Arabia is motivated by a number of reasons. First, and in line with global developments, Saudi has pursued CG reforms in the form of the 2006 Saudi CG Code. As will be discussed further, and similar to most developing countries, the Saudi CG Code adopts a UK-style voluntary¹ ‘comply or explain’ compliance and disclosure regime (Alshehri & Solomon, 2012; Piesse et al., 2012). Distinct from most Anglo-American countries, the Saudi CG Code explicitly requires firms to go beyond the narrow financial and regulatory aspects of CG by addressing the interests of a broad range of stakeholders, such as creditors, customers, employees, local communities and suppliers (CMA, 2006, p.4), and thus investigating CG practices in the Saudi context may contribute to extant literature by providing new insights on the effectiveness of CG reforms in developing countries.

Second, the Saudi corporate context has distinctive cultural features of having strong hierarchical social structure (Al-Twajry et al., 2002; Haniffa & Hudaib, 2007) in which greater importance is usually attached to informal relationships, such as kingship and tribal affiliations than formal CG and accountability mechanisms like corporate boards and their sub-committees (Hussainey & Al-Nodel, 2008). The Saudi corporate setting is further characterised by concentrated ownership structures (mainly by government and families), prohibition of direct foreign equity-holdings and low levels of institutional ownership, resulting in insufficient activism by shareholders and a weak capacity to implement and enforce corporate regulations (Al-Razeen & Karbhari, 2004; Piesse et al., 2012). In particular, concentrated ownership renders the capital, corporate control, product, professional services and top managerial labour markets weak (Gillan, 2006; Haniffa & Hudaib, 2006; Ntim et al., 2012a, b), which can impact negatively on the willingness of corporations to engage in voluntary disclosure. Arguably, these contextual challenges raise serious empirical questions as to whether the 2006 Saudi voluntary compliance

and disclosure CG Code can improve CG standards of Saudi listed corporations (Al-Moataz & Hussainey, 2010; Munisi & Randoy, 2013; Soliman, 2013a, b).

Third, despite increasing theoretical and empirical evidence that the ability of any single theory to fully explain the reasons and motivations underlying corporate voluntary disclosure behavior is limited (Branco & Rodrigues, 2008; Chen & Roberts, 2010; Ntim & Soobaroyen, 2013a, b), existing studies on voluntary disclosure are either largely descriptive in nature (Bebenroth, 2005; Cromme, 2005; Werder et al., 2005; Alsaeed, 2006; Pass, 2006) or rely on single theoretical perspective (Bozec & Bozec, 2007; Hooghiemstra, 2012; Hussainey & Al-Najjar, 2012; Mallin & Ow-Yong, 2012; Ntim et al., 2012b), and thereby impairing the development of new theoretical insights, advancement and understanding.

Fourth, and unlike most Arabic countries, Saudi Arabia is a major 'G-20' economy, being the world's largest producer of oil, as well as playing host to some of the world's largest multinationals (Alsaeed, 2006; SFG, 2009; Al-Filali & Gallarotti, 2012). For example, Saudi accounted for 44% and 25% of total Arab market capitalisation and GDP, respectively, in 2010 (SFG, 2009; Alshehri & Solomon, 2012). This means that unlike most Arabic countries, any CG failures may have serious implications far beyond the Middle East and developing countries.

Generally, and notwithstanding the increasing number of CG Codes in developing countries, such as Saudi Arabia (Aguilera & Cuervo-Cazurra, 2009; Samaha et al., 2012), existing studies investigating the effectiveness of voluntary CG Codes in improving governance standards are disproportionately concentrated in a few developed countries (Pellens et al., 2001; Bebenroth, 2005; Cromme, 2005; Werder et al., 2005; Pass, 2006; Bozec & Bozec, 2007; Hooghiemstra, 2012; Hussainey & Al-Najjar, 2012; Mallin & Ow-Yong, 2012; Salterio et al., 2013). We contend, however, that in developing countries with different cultural, regulatory, CG and institutional contexts, such as Saudi Arabia (Aguilera & Cuervo-Cazurra, 2009), voluntary compliance with CG Codes can be expected to vary from what has been found in developed countries. Therefore, an investigation of voluntary CG disclosures in developing countries, where there is a dearth of empirical evidence, is crucial in offering a more complete understanding of CG reforms and disclosure behaviour. In this case and although there have been a number of CG studies

within the Saudi corporate context, notably by Hussainey and Al-Nodel (2008), Al-Nodel and Hussainey (2010), Alshehri and Solomon (2012), Piesse et al. (2012), Al-Janadi et al. (2013) and Al-Moataz and Hussainey (2015), our study differs from existing ones in terms of: (i) its explicit construction of a Saudi CG disclosure index based directly on the 2006 Saudi CG Code; (ii) its reliance on a larger panel data set drawn from the 2004-2010 period; and (iii) its evaluation of a broader set of CG provisions and disclosures.

In doing so, we extend, as well as make a number of distinct and new contributions to the extant CG literature. First, using data extracted directly from annual reports of a sample of 80 Saudi listed corporations from 2004 to 2010, we contribute to the literature by providing detailed evidence, for the first time, on the level of compliance with the 2006 Saudi CG Code by constructing a broad CG compliance and disclosure index containing 65 CG provisions. Second, we contribute to the literature by offering evidence on the extent to which the introduction of the 2006 Saudi CG Code has helped in improving CG standards in Saudi listed corporations. Third, we contribute to the literature by applying and informing our analysis with insights from a number of theories, including agency, legitimacy, resource dependence and stakeholder theories. Finally, we make a new contribution to the literature by providing empirical evidence on the extent to which corporate ownership and board mechanisms influence the level of CG disclosure in Saudi listed corporations. This can improve current understanding of the main factors that drive the level of voluntary compliance and disclosure of CG practices in a major developing Arabic country in which various stakeholders, such as the Saudi government, the Saudi Capital Market Authority (CMA) and the Saudi Stock Exchange ('Tadawul') take a keen interest in CG and stakeholder issues.

The rest of the paper is organised as follows. The next section provides an overview of the Saudi stock exchange, CG reforms pursued and the Saudi corporate context. The following sections review the antecedents of the prior voluntary CG disclosure literature and develop hypotheses, describe the data and research methodology, and report empirical results, while the conclusion contains a summary and a brief discussion of policy implications, limitations and recommendations for future research.

The Saudi Stock Exchange, CG Policy Reforms and the Saudi Corporate Context

Although formal public trading of stocks did not start in Saudi until the 1980s, public corporations had long operated in the country in the mid-1930s, when the Arab Automobile corporation was established as the first joint stock corporation ('Tadawul', 2012). By 1975, there were about 14 publicly listed corporations, increasing further to 75 listed firms by 2000 (SFG, 2009; Tadawul, 2012). The rapid economic expansion, arising from a boom in oil income in the 1970's led to the formation of a number of large corporations and joint stock banks (Alsaeed, 2006; Al-Filali & Gallarotti, 2012). However, stock trading was not formalised until the early 1980's when the government embarked upon establishing an official stock exchange as part of the general reforms towards creating a free market economy (Hussainey & Al-Nodel, 2008; Tadawul, 2012). In 1984, the Saudi Arabian Monetary Agency (SAMA) was charged with the responsibility of developing, operating, regulating and monitoring the market until the Capital Market Authority (CMA) was established in July 2003 (SFG, 2009; Al-Janadi et al., 2013). In 2003 and as a part of the CG reforms, the Saudi Stock Exchange ('Tadawul') was established with the responsibility of operating the market, whilst the CMA remained as the sole regulatory body of the market (Alshehri & Solomon, 2012; Soliman, 2013a, b). Since its establishment in 2003, the Tadawul has experienced rapid growth through greater listings and vibrant trading activities. For example, about 68 corporations were listed between 2007 and 2010 (SFG, 2009; 'Tadawul', 2012). This increased the number of listed corporations substantially from 77 in 2005 to 145 in December 2010 with a stock market capitalisation of about \$533bn, and accounting approximately for 44% of total Arab stock market capitalisation (IFC, 2008; SFG, 2009; 'Tadawul', 2012).

With respect to CG, and although legislation regulating the behaviour of corporations, their directors and officers has long existed in Saudi Arabia in the form of the 1965 Companies Act (Al-Razeen & Karbhari, 2004; Hussainey & Al-Nodel, 2008), there is a consensus that in a narrow sense, CG in Saudi Arabia was formally institutionalised by the publication of the Saudi CG Code in November 2006 (CMA, 2006; Al-Nodel & Hussainey, 2010; Soliman, 2013a, b; Al-Moataz & Hussainey 2015). In fact, attempts at pursuing CG reforms in order to enhance CG standards in Saudi public corporations began in earnest in

2003, but early rapid growth in the stock market diverted the attention of the CMA and the relevant stakeholders from it (SFG, 2009; Alshehri & Solomon, 2012). However, a sudden fall of about 25% in value of listed stocks in February 2006 alone, and an overall fall of 53% by the end of 2006, wiping over \$480bn off the market's value highlighted the need to improve CG standards in Saudi publicly listed corporations (SFG, 2009). As a result, academics, investors and practitioners placed pressure on the CMA to urgently improve CG standards by: (i) deepening the market, including increasing its size (e.g., number of listed firms) and allowing direct foreign/institutional investor participation²; (ii) improving disclosure and transparency; and (iii) clamping down on insider trading (SFG, 2009; Alshehri & Solomon, 2012).

Consequently, a first draft of the Saudi CG Code was issued for consultation in July 2006 with the final version published in November 2006. The Code addresses a number of CG issues relating to: (i) board of directors; (ii) disclosure and transparency; (iii) shareholder rights and the general assembly; and (iv) internal control and risk management (CMA, 2006).³ Noticeably, the recommendations of the Saudi CG Code were largely similar to those of the UK's Cadbury Report of 1992 (Alshehri & Solomon, 2012; Piesse et al., 2012). For example, and similar to the Cadbury Report, the Saudi Code suggested an Anglo-American style unitary board of directors, consisting of executive and non-executive directors, who are primarily accountable to shareholders operating within a voluntary ('comply or explain') compliance and disclosure regime (see the Appendix; CMA, 2006). Distinct from the Cadbury Report, however, it explicitly requires Saudi firms to address not only the interests of shareholders, but also those of other stakeholders, such as employees and local communities, although this part of the Code is relatively less developed and clear as to their implications for CG, compliance and disclosure (CMA, 2006, p.4).

In addition to pursuing CG reforms, and as has been previously explained, the Saudi corporate context is characterised by: (i) a highly hierarchical social structure; (ii) concentrated ownership; (iii) low level of institutional shareholding and weak shareholder activism; (iv) the absence of direct foreign/institutional investors; (v) weak enforcement of corporate regulations; and (vi) weak market for capital, managerial labour and corporate control (Haniffa & Hudaib, 2007; Alsaeed, 2006; Piesse et al., 2012). As a result, critical concerns have been expressed as to whether, given the relative uniqueness of

the Saudi corporate context, a voluntary compliance and disclosure regime like the 2006 Saudi CG Code can be effective in raising CG standards in Saudi Arabia (IFC, 2008; SFG, 2009). Consequently, we seek to examine the extent to which Saudi listed corporations are voluntarily complying with the CG provisions contained in the 2006 Saudi CG Code and investigate whether corporate ownership and board mechanisms can explain observable differences in the level of voluntary CG disclosure.

Therefore, we now consider the evidence and insights from previous studies, and subsequently develop our hypotheses.

Literature Review and Hypotheses Development

Previous studies have employed a number of theories, including agency, legitimacy, resource dependence and stakeholder theories⁴ to examine how corporate ownership structure and board mechanisms affect: (i) general voluntary disclosures (Eng & Mak, 2003; Al-Razeen & Karbhari, 2004; Alsaeed, 2006; Barako et al., 2006; Abdelsalam & Street, 2007; Rouf, 2011; Taylor et al., 2011; Al-Janadi et al., 2013); and (ii) voluntary CG disclosures (Collett & Hrasky, 2005; Bozec & Bozec, 2007; Tsamenyi et al., 2007; Hussainey & Al-Nodel, 2008; Alshehri & Solomon, 2012; Piesse et al., 2012; Hussainey & Al-Najjar, 2012; Al-Janadi et al., 2013; Al-Moataz & Hussainey, 2015; Mahadeo & Soobaroyen, 2015). Others have examined how general firm-specific features, such as size and industry, drive corporate social responsibility (CSR) practices (Branco & Rodrigues, 2008; Fifka, 2013), whilst a limited number of studies have investigated how ownership and board mechanisms affect CSR disclosures (Jamali et al., 2008; Reverte, 2009; Ntim & Soobaroyen, 2013a, b).

Hence, and relying on insights from agency, legitimacy, resource dependence and stakeholder theories, we draw from these strands of the literature, supplemented by the implications of the Saudi context to identify potential ownership and board mechanisms that might affect the voluntary disclosure of CG practices. Specifically, we examine how corporate: (i) ownership mechanisms (block ownership, government ownership and institutional ownership); and (ii) board mechanisms (board size, the presence of a CG committee and audit firm size)⁵ affect voluntary disclosure of recommended good CG practices.

Corporate Ownership Structure Mechanisms

Block Ownership and CG Disclosure

From an agency theory perspective, closer managerial monitoring and lesser information asymmetry that is usually associated with block ownership can be expected to minimise agency problems and improve financial performance (Jensen & Meckling, 1976; Jensen, 1993; Botosan, 1997), and hence a lesser need for increased CG disclosures in order to gain legitimacy (legitimacy theory) from powerful corporate stakeholders (stakeholder theory), such as creditors, employee unions, government and shareholders, whose resources (resource dependence), for example finance, contacts and contacts, are arguably critical to the ability of any corporation to maintain sustainable operations (Branco & Rodrigues, 2008; Chen & Roberts, 2010). Thus, in this case, block ownership can serve as a substitute for good governance arrangements, including less disclosure relating to CG practices (Bozec & Bozec, 2007). In contrast, disperse ownership requires greater monitoring, which can be minimised through increased corporate disclosures (Enk & Mak, 2003; Ntim & Soobaroyen, 2013a, b).

In line with the results of past empirical studies (Patel et al., 2002; Barako et al., 2006; Abdelsalam & Street, 2007; Reverte, 2009; Hooghiemstra, 2012; Ntim et al., 2012a, b), Alsaeed (2006) report a negative link between block ownership and voluntary disclosure for a 2003 cross-sectional sample of 40 Saudi listed corporations, whereas using a 2009 cross-sectional sample of 100 Egyptian corporations, Samaha et al. (2012) find that corporations with lower block ownership have higher levels of CG disclosure. Similarly, using a 2002 cross-sectional sample of 244 Canadian listed firms, Bozec and Bozec (2007) report a negative link between ownership concentration and disclosure of good CG practices. Additionally, using a sample of 100 South African listed firms from 2002 to 2009, Ntim and Soobaroyen (2013a, b) and Ntim et al. (2013) report a negative effect of block ownership on voluntary CSR and risk disclosures, respectively. Within the Saudi context, corporate ownership has historically been concentrated with control firmly in the hands of dominant royal families and government (Al-Razeen &

Karbhari, 2004; Piesse et al., 2012), and hence our prediction is that block ownership is more likely to affect voluntary CG disclosure. Thus, our first hypothesis is that:

Hypothesis 1: *There is a statistically significant negative association between block ownership and the level of voluntary compliance and disclosure of good CG practices.*

Institutional Ownership and CG Disclosure

Agency theory suggests that due to their larger ownership stakes, institutional shareholders, as influential corporate stakeholders (stakeholder theory), have extra incentive to closely monitor corporate disclosures (Jensen & Meckling, 1976; Core, 2001; Fung & Tsai, 2012). Therefore, managers will not only be expected to make more disclosures, including CG practices to meet the informational needs of institutional shareholders as powerful (stakeholder theory) corporate stakeholders (Deegan, 2002; Parker, 2005), but also to secure their support in order to legitimise (legitimacy theory) or justify their continued stewardship of the company and its critical resources (resource dependence theory) (Branco & Rodrigues, 2008; Chen & Roberts, 2010).

Empirically and consistent with the findings of past evidence (Barako et al., 2006; Ntim et al., 2012a, b), both Hooghiemstra (2012), and Mallin and Ow-Yong (2012) report a positive association between institutional ownership and voluntary CG disclosure in samples of 85 Dutch and 300 UK listed corporations, respectively. Similarly, Fung and Tsai (2012) report that US firms with high institutional ownership tend to have better performance and improved CG practices. Within the Saudi context, and although institutional ownership has traditionally been relatively low (Alshehri & Solomon, 2012; Piesse et al., 2012), the CMA has been keen on boosting shareholdings by institutions as part of the broader efforts at improving CG standards in Saudi companies (IFC, 2008; SFG, 2009). Also, the Saudi CG Code urges institutional shareholders to actively seek to enhance governance, performance and disclosure practices in Saudi companies, and thus our second hypothesis is that:

Hypothesis 2: *There is a statistically significant positive association between institutional ownership and the level of voluntary compliance and disclosure of good CG practices.*

Government Ownership and CG Disclosure

As a powerful stakeholder (stakeholder theory) and given the Saudi government's (through the CMA) formal support for the recommendations of Saudi CG Code (CMA, 2006; Alshehri & Solomon, 2012), our expectation is that Saudi companies with high government ownership will actively seek to win government support (Deegan, 2002; Ntim & Soobaroyen, 2013a, b) by complying with the Code's provisions through increased disclosure of CG practices that may not only help in legitimising (legitimacy theory) their operations (Ashforth & Gibbs, 1990; Suchman, 1995), but also secure access to critical resources (resource dependence theory) (Branco & Rodrigues, 2008; Reverte, 2009), such as finance that can enhance performance. Also, agency theory suggests that increased disclosure of CG practices can help resolve agency problems between managers and government as an influential shareholder (Jensen and Meckling, 1976; Core, 2001). Further, potential political interference and conflict of interests' problems between shareholders and government that is often associated with government ownership can be minimised through increased voluntary disclosure (Eng & Mak, 2003; Ntim & Soobaroyen, 2013a, b).

Prior evidence relating to the connection between government ownership and voluntary disclosure is limited, although Eng and Mak (2003) and Al-Janadi et al. (2013) find that government ownership is positively associated with voluntary disclosure, whilst Ntim and Soobaroyen (2013a, b) and Ntim et al. (2013) report that government ownership impacts positively on voluntary CSR and risk disclosures, respectively. With regard to the Saudi corporate setting, the government holds significant ownership stakes in large public and private corporations through a number of institutions, including the General Organisation for Social Insurance (GOSI), Public Investment Fund (PIF), and Public Pension Agency (PPA) with keen interest in CG and stakeholder issues and thus, our third hypothesis is that:

Hypothesis 3: *There is a statistically significant positive association between government ownership and the level of voluntary compliance and disclosure of good CG practices.*

Corporate Board Mechanisms

Corporate Board Size and CG Disclosure

Agency theory suggests that increased managerial monitoring associated with larger boards can have a positive influence on corporate disclosures, including CG practices and performance (Samaha et al., 2012), whereas others have suggested that larger boards are often characterised by poor co-ordination, communication and monitoring problems (Jensen, 1993; Ntim et al. 2015a, b), which can impact negatively on CG disclosure and financial performance. Also, resource dependence theory indicates that larger boards are associated with greater diversity in terms of expertise (Branco & Rodrigues, 2008; Chen & Roberts, 2010), experience and stakeholder (stakeholder theory) representation (Reverte, 2009; Ntim & Soobaroyen, 2013 2013a, b), which can enhance corporate legitimacy (legitimacy theory) and reputation (Ashforth & Gibbs, 1990; Suchman, 1995).

Despite the mixed theoretical predictions, a number of empirical studies report a positive connection between board size and voluntary disclosure (Barako et al., 2006; Hooghiemstra, 2012; Hussainey & Al-Najjar, 2012; Mallin & Ow-Yong, 2012; Ntim et al., 2012a, b). For example, both Rouf (2011) and Samaha et al. (2012) find that board size is positively related to voluntary disclosure in a sample of 120 and 100 Bangladeshi and Egyptian listed corporations, respectively. Similarly and employing a sample of 100 South African listed firms from 2002 to 2009, Ntim and Soobaroyen (2013a, b) and Ntim et al. (2013) report that board size has a positive effect on voluntary CSR and risk disclosures, respectively. In addition, Al-Janadi et al. (2013) report a positive link between board size and voluntary disclosure in a sample of 87 Saudi listed firms. Also, the Saudi CG Code specifies that board size should be between 3 and 11, indicating that it considers board size as an important CG mechanism. Given the mixed theoretical literature, however, our fourth hypothesis is that:

Hypothesis 4: *There is a statistically significant association between board size and the level of voluntary compliance and disclosure of good CG practices.*

Audit Firm Size (Auditor Quality) and CG Disclosure

The appointment of external auditors to examine company accounts is an important governance mechanism for monitoring managers in order to reduce agency conflicts in modern corporations, whereby ownership is separate from control (Haniffa & Hudaib, 2007; Han et al., 2012). One way of determining

external auditor quality is the level of disclosure, and in fact, audit firm size has been suggested to have a positive effect on corporate disclosure (Owusu-Ansah, 1998; Eng & Mak, 2003) and audit quality (DeAngelo, 1981). This is because larger audit firms have greater financial strength, experience, expertise, information and knowledge (DeAngelo, 1981; Ntim et al., 2012a, b), which can improve their independence and ability to limit opportunistic activities of managers (Alsaeed, 2006; Aly et al., 2010).

Empirically, a number of studies have reported a positive connection between audit firm size and corporate disclosure (Owusu-Ansah, 1998; Eng & Mak, 2003; Han et al., 2012; Ntim & Soobaroyen, 2013a, b). Of direct relevance to our study, Al-Janadi et al. (2013) report a positive association between audit firm quality/size and voluntary disclosure using a sample of 87 Saudi listed firms. Also, the Saudi CG Code recognises external auditors as one of the key stakeholders in ensuring that Saudi corporations voluntarily comply with its CG provisions. Therefore, our fifth hypothesis is that:

Hypothesis 5: *There is a statistically significant positive association between audit firm size and the level of voluntary compliance and disclosure of good CG practices.*

The Presence of a Corporate Governance Committee and CG Disclosure

The Saudi CG Code does not require Saudi corporations to set-up CG committees to continuously monitor compliance with its CG provisions. Therefore, our expectation is that Saudi listed corporations that voluntarily establish CG committees to specifically monitor their compliance are more likely to engage in good CG practices and disclose more than those that do not have CG committees (Core, 2001; Ntim et al., 2012b). There is a general lack of studies that investigate the link between the presence of a CG committee and corporate disclosure, and this is particularly acute in the case of Saudi Arabia, where there is also a clear dearth of voluntary CG disclosure studies. The only exceptions are studies by Ntim et al. (2012b, 2013) and Ntim and Soobaroyen (2013a). Using a sample of 169 South African listed corporations from 2002 to 2006, Ntim et al. (2012b) report a positive connection between the presence of a CG committee and voluntary CG disclosure, and thus our sixth hypothesis is that:

Hypothesis 6: *There is a statistically significant positive association between the presence of a CG committee and the level of voluntary compliance and disclosure of good CG practices.*

Data and Research Methodology

Data: Sample Selection, Sources, and Description

The sample for the study is drawn from all 145 corporations listed on the Saudi Stock Exchange ('Tadawul') as at the end of 2010 and Table 1 contains a summary of the sample selection procedure. Panel A of Table 1 contains the industrial composition of all the corporations that were listed on the 'Tadawul', whilst Panel B of Table 1 contains the final sampled corporation with full data.

Insert Table 1 about here

Board mechanisms, ownership structure and voluntary CG disclosures were extracted from the sampled corporations' annual reports that were downloaded from the 'Tadawul' *Website/Perfect Information Database*, whereas the accounting/financial variables were obtained from 'Tadawul' and *DataStream*. To be included in our final sample, a corporation had to meet two main criteria: accessibility to a corporation's complete seven-year annual reports from 2004 to 2010 inclusive and the accessibility to a corporation's corresponding accounting/financial data for the same period. The criteria were set for several reasons. First, and in line with past studies (Eng & Mak, 2003; Barako et al., 2006; Henry, 2008), the criteria helped in meeting the requirements for a balanced panel data analysis, whose benefits have been widely articulated (Gujarati, 2003; Petersen, 2009). Third, the sample starts in 2004 because data coverage on the 'Tadawul' *Website/Perfect Information Database/DataStream* on Saudi listed corporations is very limited prior to 2004. Starting from 2004 also allows us to examine CG standards in Saudi corporations *Pre-* and *Post-*2006 CG reforms. The sample ends in 2010 because it is the most recent year for which data is available. As presented in Panel B of Table 1, and after excluding firms that had been suspended, merged, newly listed and with no/missing data, the complete data needed is obtained for a total of 80 firms for seven firm-years and 7 industries in our analysis.

Research Methodology: Definition of Variables and Model Specification

We classify our variables into three main types and Table 2 contains full definitions of all them. First, and to test *Hypotheses 1 to H6*, our main dependent variable is the binary⁶ Saudi CG disclosure index (*SCGI*), which contains 65 CG provisions. The detailed provisions are presented in the Appendix. The *SCGI* seeks to measure the extent to which Saudi listed corporations voluntarily disclose information on their CG practices based on four broad areas specified by the 2006 Saudi CG Code, consisting of: (i) board of directors (*BOD*); (ii) disclosure and transparency (*DAT*); (iii) internal control and risk management (*IRM*); and (iv) the rights of shareholders and the general assembly (*ROS*).

Insert Table 2 about here

Second, and to test *Hypotheses 1 to 6*, we collect data on ownership structures, including block ownership (*BONR*), government ownership (*GONR*), and institutional ownership (*IONR*), and on board mechanisms, including board size (*BSZ*), audit firm quality/size (*AFZ*), and the presence of a CG committee (*CGC*). Finally, and to control for potential omitted variables bias (Gujarati, 2003; Petersen, 2009), we include an extensive number of control variables. These include capital expenditure (*CEXC*), dividend payment status (*DV*), leverage (*LVG*), firm size (*FSZ*), sales growth (*SGR*), industry dummy (*INDU*), and year dummy (*YDU*). For brevity, we do not develop direct theoretical connections between these control variables and voluntary disclosure of CG practices, but there is extensive theoretical and empirical literature that suggests they can potentially affect voluntary CG disclosure (*SCGI*) (Botosan, 1997; Abdelsalam & Street, 2007; Bozec & Bozec, 2007; Aly et al., 2010; Rouf, 2011; Fifka, 2013; Hooghiemstra, 2012; Hussainey & Al-Najjar, 2012; Samaha et al., 2012; Al-Janadi et al., 2013).

Assuming that all relationships are linear, our main ordinary least square (OLS) regression equation to be estimated in order to test *Hypotheses 1 to 6* is specified as follows:

$$\begin{aligned}
 SCGI_{it} = & \alpha_0 + \beta_1 BONR_{it} + \beta_2 IONR_{it} + \beta_3 GONR_{it} + \beta_4 BSZ_{it} + \beta_5 AFZ_{it} \\
 & + B_6 CGC_{it} + \sum_{i=1}^n \beta_i CONTROLS_{it} + \varepsilon_{it}
 \end{aligned} \tag{1}$$

where the variables are defined as follows: Saudi CG disclosure index (*SCGI*); block ownership (*BONR*); institutional ownership (*IONR*); government ownership (*GONR*); board size (*BSZ*); audit firm quality/size

(*AFZ*); the presence of a CG committee (*CGC*); and *CONTROLS* refers to all the control variables, including dividend payment status (*DV*), sales growth (*SGR*), capital expenditure (*CEXC*), leverage (*LVG*), firm size (*FSZ*), 7 industry dummies (*INDU*), and 7 year dummies (*YDU*).

We discuss the empirical results, including descriptive statistics and regression analyses in the following section.

Empirical Results and Discussion

Empirical Results from Descriptive Statistics and Univariate Regression Analyses

Table 3 presents the summary descriptive statistics relating to the level of compliance with the Saudi CG index (*SCGI*) (see Panel A of Table 3) and their sub-indices for the pooled sample, as well as for each of the seven firm-years examined. First, the summary descriptive statistics suggest that there is substantial degree of dispersion in the distribution of the *SCGI*. For example, the *SCGI* ranges from a minimum of 3.08% to a maximum of 90.77% with the average (median) corporation complying with 44.61% (44.62%) of the 65 CG provisions investigated. Second, and in line with the findings of previous studies (Patel et al., 2002; Barako et al., 2006; Henry, 2008; Mahadeo & Soobaroyen, 2015), the results in Table 3 suggest that compliance with the *SCGI* provisions generally improves over time, with the median (average) aggregate compliance levels increasing consistently from 17.08% (16.92%) in 2004 to 73.15% (73.85%) in 2010, a 56.07 (56.93) percentage point increase over the seven firm-year period examined.

Third, we observe similar wide spreads and continuous improvements in the distributions of the four sub-indices. For example, the board of directors (*BOD*) ranges from 0% (0%) to 94.29% with the average (median) corporation complying with 37.30% (34.29%) of the 35 *BOD* provisions examined. By contrast, disclosures relating to internal control and risk management (*IRM*) are lowest with a minimum (maximum) of 0.00% (50.00%) with the average (median) firm complying with 26.40% (0.00%) of the 6 *IRM* provisions. Fourth, the *student t-test* of differences between *Pre-* and *Post-*2006 means/medians indicates that the levels of compliance and disclosure are significantly higher over the *Post-*2006 period than over the *Pre-*2006 period for both the summary *SCGI* and its four sub-indices (*BOD*, *DAT*, *IRM* and

ROS). This suggests that, on average, the introduction of the 2006 Saudi CG code has helped in improving disclosure and CG standards among Saudi listed corporations.

Insert Table 3 about here

Finally and in summary, the main evidence that emerges from investigating the complete sample of corporations is that despite the expectation that the introduction of the Saudi CG Code would speed-up convergence of CG practices (CMA, 2006; IFC, 2008; Alshehri & Solomon, 2012), CG standards among Saudi listed corporations still differ substantially. Whereas this is generally in line with the variability in compliance levels reported by previous CG disclosure studies (Hussainey & Al-Nodel, 2008; Bozec & Bozec, 2007; Hussainey & Al-Najjar, 2012; Samaha et al., 2012; Al-Janadi et al., 2013), it suggests that a high degree of heterogeneity exists when it comes to the importance that Saudi listed corporations attach to CG. Evidence of improving CG standards among the sampled corporations, however, implies that contrary to general concerns as to whether the Saudi CG code can help improve CG standards in Saudi firms given contextual challenges (Safieddine, 2009; SFG, 2009; Piesse et al., 2012), the current voluntary compliance and disclosure regime has had a positive effect on CG standards in Saudi listed firms.

Table 4 reports summary statistics relating to the independent and control variables used. In addition, the summary statistics relating to the *SCGI* and its components are also repeated in Table 4 from Table 3 for the sake of completeness. Similar to the *SCGI*, the distribution of all the independent and control variables generally display wide variations. For example, return on assets (*ROA*) ranges from a minimum of 3.93% to a maximum of 23.93% with mean (median) of 6.76% (4.88%), suggesting that the average Saudi listed firm was profitable over the period analysed. Similarly, board size (*BSZ*) ranges from a minimum of 4 to a maximum of 12 with a median (mean) of 9 (8.42) board members. This compares well with the findings of previous studies relating to the distribution of corporate board size (Haniffa & Hudaib, 2006; Barako et al., 2006; Hooghiemstra, 2012; Hussainey & Al-Najjar, 2012; Mallin & Ow-Yong, 2012). For instance, Haniffa and Hudaib (2006) report an average board size of 10 for a sample of Malaysian listed firms. In line with the findings of past studies (Alsaeed, 2006; Bozec & Bozec, 2007; Piesse et al., 2012; Soliman, 2013a, b), block ownership (*BONR*) is between a minimum of 0.00% (i.e., no

block owners) and a maximum of 85.21% with a mean (median) of 61.96% (62.00%), suggesting that Saudi firms ownership structure is relatively highly concentrated. The figures for the CG indices (*SCGI*, *BOD*, *DAT*, *IRM* and *ROS*), audit firm size (*AFZ*), the presence of a CG committee (*CGC*), government ownership (*GONR*) and institutional ownership (*IONR*), as well as the control variables in Table 4 suggest substantial variation in our sample, and thus reducing any possibilities of sample selection bias.

Observably, the *student t-test* of the differences in means/medians of *Pre-2006* and *Post-2006* suggests that significantly more CG committees were voluntarily set up by Saudi listed firms in the *Post-2006* period to specifically monitor voluntary disclosure of CG practices than in the *Pre-2006* period. This seems to explain the observed significantly higher levels of compliance and disclosure of CG practices in the *Post-2006* period compared with the *Pre-2006* period, and implying generally that the presence of a CG committee impacts positively on voluntary disclosure of CG practices. Additionally, the significantly positive and negative *student t-test* for *FSZ* and *SGR*, respectively, indicate that Saudi firms have become relatively larger in terms of total asset value, whilst their growth has been significantly slower in the *Post-2006* period compared with the *Pre-2006* period, which may be explained by the negative effects of the 2007/08 global financial crisis.

Insert Table 4 about here

We use OLS regression technique to test all our six hypotheses, and thus it is appropriate to initially examine a number of OLS assumptions, including multicollinearity, autocorrelation, normality, homoscedasticity and linearity. Table 5 reports the correlation matrix for all variables used in our analysis to test for multicollinearity. As robustness check, both the Pearson's parametric and Spearman's non-parametric coefficients are reported and, observably, the magnitude and direction of both coefficients are very similar, indicating that no major non-normalities remain. Both matrices suggest further that correlations among the variables are fairly low, indicating that no serious multicollinearities exist. In addition, we investigated (for brevity not reported here, but available on request) scatter plots for *P-P* and *Q-Q*, studentised residuals, Cook's distances and Durbin-Watson statistics for homoscedasticity, linearity,

normality and autocorrelation, respectively, with the tests suggesting no serious violation of these OLS assumptions.

Insert Table 5 about here

Table 5 indicates statistically significant connections among the *SCGI*, and the explanatory variables, and also between the *SCGI* and the control variables. For example, and as hypothesised, *AFZ* (audit firm size), *BSZ* (board size), *CGC* (the presence of a CG committee) and *GONR* (government ownership) are statistically significant and positively associated with the *SCGI* (Saudi CG index), whereas *BONR* (block ownership) is statistically significant and negatively related to the *SCGI*. Observably, *IONR* (institutional ownership) is statistically insignificant, but positively associated with the *SCGI*.

With reference to the control variables, the findings suggest that larger (*FSZ*), highly geared (*LVG*) and dividend paying (*DV*) corporations make significantly more voluntary CG disclosures, whereas growing (*SGR*) corporations make significantly less voluntary CG disclosures. There is, however, no evidence to suggest that more capital intensive (*CEXC*) Saudi corporations make significantly less or more voluntary CG disclosures than their less capital intensive counterparts.

Empirical Results from Multivariate Regression Analyses

Table 6 reports the results of the regression analyses of the effects of corporate ownership and board mechanisms on the extent of voluntary CG disclosures. Models 1, 2 and 3 report the results of a pooled OLS regression of the ownership, board mechanisms, and both ownership and board mechanisms along with the control variables on the *SCGI* (Saudi CG index), respectively. The results contained in Model 3, which is our main model generally indicate that the independent variables (ownership and board mechanisms) are significant in explaining cross-sectional differences in the voluntary CG disclosures.

Insert Table 6 about here

First, our results indicate that the coefficients on *GONR* (government ownership), *IONR* (institutional ownership), *AFZ* (audit firm size), *BSZ* (board size) and *CGC* (the presence of a CG committee) are statistically significant and positively related to the *SCGI*, implying that Saudi

corporations with high *GONR*, *IONR*, *AFZ*, *BSZ* and *CGC* generally make significantly more voluntary CG disclosures.

The results in Model 3 of Table 6 suggest that *BONR* (block ownership) is statistically significant and negatively related to the *SCGI*, implying that Saudi corporations with block ownership disclose less on their CG practices. This finding offers empirical support for our multi-theoretical framework, which suggests that closer managerial monitoring and lesser information asymmetry that is usually associated with block ownership can be expected to minimise agency problems (agency theory) and improve financial performance (Jensen & Meckling, 1976; Jensen, 1993; Botosan, 1997), and hence a lesser need for increased CG disclosures in order to gain legitimacy (legitimacy theory) from powerful corporate stakeholders (stakeholder theory), such as creditors, employee unions, government and shareholders, whose resources (resource dependence), for example finance, contacts and contacts, are arguably critical to the ability of any corporation to maintain sustainable operations (Branco & Rodrigues, 2008; Chen & Roberts, 2010). Thus, in this case, block ownership can serve as a substitute for good governance arrangements, including less disclosure relating to CG practices (Bozec & Bozec, 2007). In contrast, disperse ownership requires greater monitoring, which can be minimised through increased corporate disclosures (Enk & Mak, 2003; Ntim & Soobaroyen, 2013a, b). This also supports *Hypothesis 1* and the findings of past studies, which suggest that *BONR* impacts negatively on voluntary CG and CSR disclosures (Patel et al., 2002; Alsaeed, 2006; Abdelsalam & Street, 2007; Bozec & Bozec, 2007; Ntim et al., 2012a, b; Ntim & Soobaroyen, 2013a, b), but is not in line with the results of those that report a positive link between *BONR* and voluntary disclosure (Eng & Mak, 2003; Tsamenyi et al., 2007). Additionally, the economic importance of this finding is that a one standard deviation change (decrease) in *BONR* may lead to about 2.81% (i.e., 24.83% x 0.113) change (i.e., increase) in the level of the *SCGI*.

Second and by contrast, the positive association between *IONR* and the *SCGI* provide empirical support for *Hypothesis 2* and the findings of past studies that suggest that corporations with high *IONR* make more voluntary CG and CSR disclosures (Barako et al., 2006; Hooghiemstra, 2012; Mallin & Ow-Yong, 2012), as well as those that report a positive link between institutional ownership and performance

(Fung & Tsai, 2012). The findings also offer support for recent attempts by the CMA at increasing institutional shareholding as part of the broader efforts at improving CG standards in Saudi corporations (IFC, 2008; SFG, 2009). Theoretically, the result is largely in line with the predictions of our multi-theoretical framework that draws on insights from agency, legitimacy, resource dependence and stakeholder theories. For example, agency theory suggests that due to their larger ownership stakes, institutional shareholders, as influential corporate stakeholders (stakeholder theory), have extra incentive to closely monitor corporate disclosures (Jensen & Meckling, 1976; Core, 2001; Fung & Tsai, 2012). Therefore, managers will not only be expected to make more voluntary disclosures, including CG practices to meet the informational needs of institutional shareholders as powerful (stakeholder theory) corporate stakeholders (Deegan, 2002; Parker, 2005), but also to secure their support in order to legitimise (legitimacy theory) or justify their continued stewardship of the company and its critical resources (resource dependence theory) (Branco & Rodrigues, 2008; Chen & Roberts, 2010). Economically, this finding implies that a one standard deviation change (increase) in *IONR* may be associated with about 2.10% (11.03% x 0.190) change (increase) in the level of the *SCGI*.

The positive connection between *GONR* and the *SCGI* provides empirical support for *Hypothesis 3* and the results of Eng and Mak (2003), Al-Janadi et al. (2013), Ntim et al. (2012b, 2013) and Ntim and Soobaroyen (2013a, b) that suggest that corporations with high government ownership make significantly more voluntary CG and CSR disclosures, as well as the broader objectives of government investments. Through the GOSI, PIF and PPA, the Saudi government holds significant ownership stakes in major corporations with keen interest in positively influencing CG and stakeholder issues. Thus, this finding offers empirical support for our multi-theoretical framework. Specifically, this finding suggests that as a powerful stakeholder (stakeholder theory) and given the Saudi government's (through the CMA) formal support for the recommendations of Saudi CG Code (CMA, 2006; Alshehri & Solomon, 2012), Saudi companies with high government ownership tend to actively seek to win government support (Deegan, 2002; Ntim & Soobaroyen, 2013a, b) by complying with the Saudi CG Code's provisions through increased disclosure of CG practices that may not only help in legitimising (legitimacy theory) their

operations (Ashforth & Gibbs, 1990; Suchman, 1995), but also secure access to critical resources (resource dependence theory) (Branco & Rodrigues, 2008; Reverte, 2009), such as finance that can enhance performance. Also, agency theory suggests that increased disclosure of CG practices can help resolve agency problems between managers and government as an influential shareholder (Jensen and Meckling, 1976; Core, 2001). Further, potential political interference and conflict of interests' problems between shareholders and government that is often associated with government ownership can be minimised through increased voluntary disclosure (Eng & Mak, 2003; Ntim & Soobaroyen, 2013a, b). The economic relevance of this finding is that a one standard deviation change (increase) in *IONR* may be associated with about 3.94% ($19.69\% \times 0.20$) change (increase) in the level of the *SCGI*.

Further, the positive coefficients on *BSZ*, *AFZ* and *CGC* indicate that *Hypotheses 4, 5, and 6*, respectively, are supported. The positive relationship between *BSZ* and *SCGI* is in line with the evidence of previous studies (Hooghiemstra, 2012; Hussainey & Al-Najjar, 2012; Rouf, 2011; Mallin & Ow-Yong, 2012; Samaha et al., 2012; Al-Janadi et al., 2013; Ntim et al., 2012a, b, 2013; Ntim & Soobaroyen, 2013a, b). Similarly, the evidence that *AFZ* impacts positively on voluntary CG disclosure is consistent with the findings of previous studies (Owusu-Ansah, 1998; Eng & Mak, 2003; Han et al., 2012; Al-Janadi et al., 2013), whereas the positive effect of *CGC* on *SCGI* offers new empirical support for the findings of Ntim et al. (2012b), Ntim et al. (2013), and Ntim and Soobaroyen (2013a b). The positive *CGC-SCGI* nexus is also in line with the univariate (see Table 4) and bivariate (see Table 5) evidence, which suggests that establishing a CG committee to specifically monitor compliance and disclosure of CG practices can contribute positively towards enhancing CG standards. With respect to board size, theoretically, increased managerial monitoring associated with larger boards can have a positive influence on corporate disclosures, including CG ones and performance (Jensen & Meckling, 1976; Jensen, 1993). In a similar vein, and with respect to audit firm size, larger audit firms have greater financial strength, knowledge and independence, which can impact positively on voluntary CG disclosure (DeAngelo, 1981; Owusu-Ansah, 1998; Eng & Mak, 2003; Han et al., 2012). Economically, the implications of these findings can be quantified as, a one standard deviation change (increase) in *BSZ*, *AFZ* and *CGC* may be associated with

about 0.40% (1.76×0.231), 12.45% ($49\% \times 0.254$) and 9.66% ($30\% \times 0.322$) change (increase) in the level of the *SCGI*, respectively.

Third, our findings so far suggest that cross-sectional differences in the *SCGI* can be explained by the independent variables, but since it contains voluntary CG disclosures from four different categories, it is possible for the link between each category and the independent variables to vary, with some potentially having strong connections with these variables and others maintaining weak associations. Thus, to examine the link between each voluntary CG disclosure sub-category and the independent variables, we re-estimate equation (1) by replacing the *SCGI* with the *BOD* (board of directors), *DAT* (disclosure and transparency), *IRM* (internal control and risk management) and *ROS* (rights of shareholders and the general assembly) at a time, and the findings are, respectively, presented in Models 4 to 7 of Table 6.

The coefficients on the *GONR* (except the coefficient on the *DAT* and *IRM*), *IONR* (except the coefficient on the *BOD*, *IRM* and *ROS*), *BSZ* (except the coefficient on the *IRM* and *ROS*), *AFZ* (except the coefficient on the *DAT* and *ROS*) and *CGC* (except the coefficient on the *BOD*, *DAT* and *ROS*) remain statistically significant and positively related to all four voluntary CG disclosure sub-categories. Similarly, the coefficient on *BONR* (except the coefficient on the *IRM*) remains statistically significant and negatively associated with all four disclosure sub-categories, and thus largely offering further empirical support for our previous findings. The observed sensitivities in the coefficients also reflect the differences in the levels of disclosure with respect to the four CG disclosure sub-categories that are evident in Table 3, implying that Saudi corporations differ in terms of the importance that they attach to the various sections of the 2006 Saudi CG code.

Finally, the coefficients on the control variables in Table 6 are generally consistent with expectations. For example, the coefficients on *CEXC*, *DV*, *FSZ* and *SGR* are positively associated with the *SCGI*, whereas the coefficient on *LVG* is negatively related to the *SCGI*. However, the coefficients relating to the control variables are not always statistically significant or consistent across the different models.

Additional Analyses

We carry out additional analyses to investigate the robustness of our findings. First, and as previously discussed, our sample period covers the 2004-2010 period. Therefore, to ascertain whether there are differences in our results with respect to the period of examination, we re-estimate our regressions by splitting our sample into two sub-samples: *Pre-2006* (i.e., from 2004 to 2005) and *Post-2006* (2006 to 2010) periods. To facilitate comparison, Model 1 of Table 7 repeats the main findings contained in Model 3 of Table 6. The results reported in Models 2 and 3 for the *Pre-2006* and *Post-2006* periods, respectively, are generally similar. However, the statistical significance of the *Post-2006* period findings are relatively strong compared with that of the *Pre-2006* period, suggesting that the introduction of the 2006 Saudi CG Code appears to have helped in improving CG practices, and consequently, a tighter association between voluntary CG disclosures and board/ownership mechanisms.

Second and as previously explained, all 65 provisions constituting the *SCGI* are equally weighted, but the number of provisions varies across the four sections, resulting in different weights being assigned to each section: board of directors (*BOD*) (54%); disclosure and transparency (*DAT*) (25%); internal control and risk management (*IRM*) (9%); and rights of shareholders and the general assembly (*ROS*) (12%). To ascertain whether our results are robust to the weighting of the four sections, we construct an alternative *SCGI*, defined as *Weighted-SCGI*, in which each section is awarded equal weight of 25%. Although there are slight changes with regard to the magnitude of the coefficients, our results reported in Model 4 of Table 7 remain essentially the same as those presented in Model 3 of Table 6, and thus our general conclusions remain unchanged.

Insert Table 7 about here

Third, differences in the opportunities and challenges that corporations encounter vary over time, implying that voluntary CG disclosure behaviour may be jointly and dynamically determined by unobserved firm-specific characteristics (Henry, 2008), which simple OLS regression may be unable to detect (Gujarati, 2003; Petersen, 2009). Hence, given the panel nature of our dataset, we run a fixed-effects model to control for possible unobserved firm-specific heterogeneity. This involves re-estimating

equation (1), with the introduction of 79 dummies to represent the 80 sampled corporations. Our fixed-effects results reported in Model 5 of Table 7 remain largely unaltered, implying that our findings are not sensitive to potential unobserved firm-specific heterogeneity.

Finally, to address potential endogeneity problems that may arise from a simultaneous relationship between the board/ownership mechanisms and the CG disclosures, we estimate a lagged structure (i.e., by introducing a one year gap between the CG disclosures and board/ownership mechanisms), whereby the current year's CG disclosures depend on the previous year's board/ownership mechanisms. Similarly, the results reported in Model 6 of Table 7 is essentially the same as those contained in Model 1 of the same table, suggesting that our findings are generally robust to potential endogeneity problems that may arise from the existence of a simultaneous link between board/ownership mechanisms and the *SCGI*. Overall, the evidence emerging from our additional analyses make us reasonably confident that our findings are not driven by any endogenous relationships.

Summary and Conclusion

A number of emerging countries have pursued corporate governance (CG) reforms around the world. In this vein, Saudi Arabia, a major G-20 country has also pursued CG reforms in the form of the 2006 Saudi CG Code, notably adopting the UK-style voluntary ('comply or explain') compliance regime. However, the Saudi corporate context is characterised by a highly hierarchical social structure, concentrated ownership, low institutional ownership, and weak enforcement of corporate regulations. These have raised critical concerns as to whether a voluntary compliance regime will be effective in improving CG standards. In this paper, we investigate whether and to what extent publicly listed Saudi corporations voluntarily comply with and disclose recommended good CG practices, and distinctively, examine whether the observed cross-sectional differences in such voluntary CG disclosures can be explained by ownership and board mechanisms. We use a sample of 80 Saudi listed firms from 2004 to 2010 and 65 CG provisions based on the 2006 Saudi CG Code for our analysis.

Apart from applying a multi-theoretical framework in interpreting our findings, we make a number of new contributions to the extant literature. First, analysis of the levels of compliance with the constructed voluntary compliance and disclosure index generally indicates that, despite the expectation that the introduction of the 2006 Saudi CG Code would speed-up convergence of CG practices, CG standards among Saudi listed corporations still vary substantially. At the aggregate levels, the scores range from a minimum of 3.08% to a maximum of 90.77% with the average sampled corporations complying with 44.61% of the 65 CG provisions examined, as well as the mean CG score increasing from 17.08% in 2004 to 73.15% in 2010. Whereas this is line with the variation in compliance levels reported by previous studies, it indicates that a high degree of heterogeneity exists when it comes to the importance that Saudi listed corporations attach to CG. However, despite concerns as to whether a voluntary CG regime will be effective given the Saudi corporate setting, the scores indicate that compliance levels and CG standards among the sampled corporations have generally improved over the seven-year period investigated.

Second, our analysis of the factors driving voluntary compliance and disclosure suggests that ownership structure and board mechanisms are generally significant in explaining differences in disclosure. Specifically, our results suggest that corporations with larger boards, a big-four auditor, higher government ownership, a CG committee and higher institutional ownership disclose considerably more than those that are not. By contrast, we find that an increase in block ownership significantly reduces voluntary CG disclosure. Our results are generally robust to a number of econometric models that control for different types of disclosure indices, general firm-specific characteristics and firm-level fixed-effects.

Third, our evidence has important implications for policy-makers and regulators. For example, evidence of increasing compliance with the Saudi CG Code implies that efforts by various stakeholders, notably the Capital Market Authority (CMA) and Saudi Stock Exchange ('Tadawul'), at improving CG standards in Saudi corporations have had some positive impact on CG practices of Saudi corporations. However, the large differences in the levels of compliance suggest that enforcement may need to be strengthened further. In this vein, establishing a 'compliance and enforcement committee' to continuously monitor compliance levels among listed corporations may be a step in the right direction. Similarly, as the

presence of institutional shareholders and a big four audit firm is demonstrated to have a positive effect on good CG practices, it provides the CMA, 'Tadawul' and the Saudi government the impetus to encourage greater institutional ownership and a big four auditing of Saudi listed corporations. Also, for managers and corporations, our evidence suggests that one way by which they can improve their CG standards is to establish a CG committee with the specific mandate to monitor their firms' compliance with corporate rules and regulations, especially those relating to good CG practices.

Finally, whilst our evidence is important and robust, some caveats are considered appropriate. We employ a binary scoring scheme, which treats every CG disclosure as equally important. Whilst findings based on our un-weighted and weighted indices are essentially the same, future studies may improve their analysis by constructing weighted and un-weighted voluntary CG disclosure indices. Similarly, as a result of data limitations, our analysis is limited to a number of factors that can influence voluntary CG disclosure. As data availability improves, future studies may need to investigate how other potential factors, such as foreign ownership and the number of analysts, influence voluntary CG disclosure. Further, we collect our data from corporate annual reports to conduct quantitative analyses. However, annual reports can sometimes convey mixed messages. Therefore, future studies may improve on our evidence by employing qualitative approaches, such as conducting face-to-face interviews and case studies with relevant stakeholders, such as auditors, company directors, the CMA, investors and 'Tadawul'. This may provide a holistic understanding of the different determinants of, and motives for, voluntary CG disclosures. Furthermore, we note that because a considerable number of popular corporate board mechanisms, such as CEO role duality, frequency of board meetings, the proportion of independent non-executive directors, the presence of board subcommittees (e.g., audit, nomination and remuneration committees) and executive compensation information are contained in the Saudi CG Code (see the Appendix), we are unable to include them as part of the potential factors that can explain observable cross-sectional differences in the level of voluntary disclosure of recommended CG practices. Our analyses are, therefore, limited to corporate board factors (e.g., board size) and other CG mechanisms (e.g., audit firm size and the presence of a CG committee), which are not already contained in the Saudi CG

index. Future studies may, therefore, enhance the insights that they offer by examining the extent to which these factors may influence voluntary CG disclosure.

Endnotes

1. We will like to clarify the use of a number of terminologies, including ‘voluntary disclosure’, ‘good CG practices’, ‘board mechanisms’ and ‘ownership structures’ that are frequently referred to in this study. First, ‘voluntary disclosure’ refers to the voluntary CG compliance and disclosure regime of ‘comply or explain’ which offers directors and managers the option to comply and disclose their CG mechanisms or explain why they have not been able to comply with specific CG provisions contained in the 2006 Saudi CG Code. In this case, the UK-style ‘voluntary compliance and disclosure’ regime can be contrasted with the US-style mandatory regime of ‘comply or else’, which explicitly mandates firms to comply with specific CG provisions, such as those contained in the 2002 Sarbanes-Oxley (SOX) or else face specified penalty or prosecution. Second, ‘good CG practices’ refer to best practice recommendations relating to CG that are contained in the 2006 Saudi CG Code that Saudi listed corporations are expected to comply with or explain why they have not been able to comply with in their annual reports. Third, ‘board mechanisms’ refer to CG structures relating to corporate boards, including board size, composition and the presence of a CG committee. Finally, ‘ownership structures’ refer to ordinary shareholdings by block shareholders (holding 5% or more of a company’s ordinary shares), who may be individuals, governments and institutions.
2. The CMA prohibits foreigners whether individuals or institutions from participating in the market. Following the 2006 market crash, however, the CMA has been keen on boosting foreign participation, and in August 2008, the CMA granted non-resident and non-Arab foreign investors the opportunity to indirectly buy Saudi shares through swap arrangements for the first time (SFG, 2009, p.6). The operation of the swap arrangements involves a process, whereby a CMA-approved and licensed Saudi local brokerage firm buys and holds shares on behalf of its foreign customers. Any profits, losses and dividends are then passed on to the foreign customers. Further, there are on-going discussions to permit full and direct participation by foreign investors as part of the general attempts at enhancing CG standards, disclosure and transparency in the market.
3. For brevity, we avoid extensive discussions of these provisions, but the Appendix contains the relevant sections and the detail provisions of the 2006 Saudi CG Code.
4. Unlike most prior studies, our analysis is informed by insights from a number of theories, including agency, legitimacy, resource dependence and stakeholder theories. As these are, however, widely available in the literature, we do not engage in detailed discussions of their meanings and underlying assumptions. Similarly we will like to acknowledge the possibility that the predictions of these theories may not be compatible with each other and thereby potentially impeding their ability to enhance our interpretations by combining them. However, Chen and Roberts (2010) suggest that multi-theoretical perspective should focus on theories that have a number of commonalities, including concepts, assumptions and predictions. Consequently, agency, legitimacy, resource dependence and stakeholder theories are selected because of their common foci. In addition and given that CG is a complex phenomenon, we consider it to be right to apply a multi-theoretical perspective, whereby certain components of voluntary CG disclosures may be explained more by some theories (more appropriate or applicable) than others.
5. We note that because a considerable number of popular corporate board mechanisms, such as CEO role duality, frequency of board meetings, the proportion of independent non-executive directors, the presence of board subcommittees (e.g., audit, nomination and remuneration committees) and executive compensation information are contained in the Saudi CG Code (see the Appendix), we are unable to include them as part of the potential factors that can explain observable cross-sectional differences in the level of voluntary disclosure of recommended CG practices. Our analysis is, therefore, limited to corporate board factors (e.g., board size) and other CG mechanisms (e.g., audit firm size and the presence of a CG committee), which are not already contained in the Saudi CG index. We note this as a potential limitation of the study, and therefore discussed as part of the avenues for future research in the summary and conclusion section.
6. Even though binary scoring scheme may fail to capture the relative importance of the various CG provisions (Unerman, 2000; Beattie et al., 2004; Barako et al., 2006), we adopt it for a number of reasons. First, there

is a general lack of a rigorously developed theoretical framework on which weights could be correctly assigned to different CG provisions, and thus using dichotomous scoring scheme obviates a situation, whereby our disclosure indices are excessively dominated by a particular set of CG provisions (Botosan, 1997; Owusu-Ansah, 1998). Second, the findings of past studies suggest that the use of weighted and un-weighted indices tend to give similar results (Owusu-Ansah, 1998; Barako et al., 2006). Fourth, binary scoring scheme is less subjective and easy to replicate (Henry, 2008). Finally, using a binary scheme to score disclosures in annual reports is supported by a rigorously established theoretical and empirical literature (Botosan, 1997; Meek et al., 1995; Collett & Hraskey, 2005; Alsaeed, 2006; Tsamenyi et al., 2007; Vinnicombe, 2010; Rouf, 2011; Mallin & Ow-Yong, 2012).

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Appendix. Full List of the Saudi Arabian Corporate Governance Disclosure Index Provisions Based on the 2006 Saudi CG Code

Corporate Governance (CG) Disclosure Index (SCGI)				
SCGI Theme	SCGI Item: Information on or Reference to	Range of Scores	Total Score per Item	
(i) Board of Directors	<i>Board of Directors and Composition</i>			
	1. Whether the roles of chairperson and CEO/MD are split.	0-1	35	
	2. Whether the chairperson is an independent non-executive director.	0-1		
	3. Whether the board is composed by a majority of non-executive directors.	0-1		
	4. Whether directors are clearly classified into executive directors, non-executive directors (NEDs), and independent NEDs.	0-1		
	5. Whether at least 1/3 of the board are independent NEDs.	0-1		
	6. Whether directors' membership on boards of other firm's are disclosed.	0-1		
	7. Whether members of the board do not hold directorships on more than five other listed firms.	0-1		
	8. Whether the board of directors' meetings record is disclosed.	0-1		
	9. Whether individual director's meeting attendance record is disclosed.	0-1		
	10. Whether directors' biography, qualifications, experience and responsibilities are disclosed.	0-1		
	<i>Audit Committee</i>			
	11. Whether the committee has been established.	0-1		
	12. Whether the committee's remit/terms of reference is disclosed	0-1		
	13. Whether the committee is composed entirely by at least 3 NEDs.	0-1		
	14. Whether at least a member of the committee is literate in financial and accounting matters, such as being a chartered certified accountant.	0-1		
	15. Whether the chairperson of the committee is disclosed.	0-1		
	16. Whether the chairperson of the committee is an independent NED.	0-1		
	17. Whether members of the committee is disclosed.	0-1		
	18. Whether the committee's meetings record is disclosed.	0-1		
	19. Whether the individual members' meetings attendance record is disclosed.	0-1		
	<i>Nomination Committee</i>			
	20. Whether the committee has been established.	0-1		
	21. Whether the committee's remit/terms of reference is disclosed.	0-1		
	22. Whether the committee consists of a majority of independent NEDs.	0-1		
	23. Whether the chairperson of the committee is disclosed.	0-1		
	24. Whether the chairperson of the committee is an independent NED.	0-1		
	25. Whether the members of the committee is disclosed.	0-1		
	26. Whether the committee's meetings record is disclosed.	0-1		
	27. Whether the individual members' meetings attendance record is disclosed.	0-1		
	<i>Remuneration Committee</i>			
	28. Whether the committee has been established.	0-1		
	29. Whether the committee's remit/terms of reference is disclosed.	0-1		
	30. Whether the committee is composed entirely by independent NEDs.	0-1		
	31. Whether the chairperson of the committee is disclosed.	0-1		
32. Whether the chairperson of the committee is an independent NED.	0-1			
33. Whether the members of the committee is disclosed.	0-1			
34. Whether the committee's meetings record is disclosed.	0-1			
35. Whether the individual members' meetings attendance record is disclosed.	0-1			

Appendix. Full List of the Saudi Arabian Corporate Governance Disclosure Index Provisions Based on the 2006 Saudi CG Code

Corporate Governance (CG) Disclosure Index (SCGI)			
SCGI Theme	SCGI Item: Information on or Reference to	Range of Scores	Total Score per Item
(ii) Disclosure and Transparency	36. Whether the firm's ownership structure is disclosed.	0-1	16
	37. Whether the firm's directors own at least 1,000 of the firm's shares.	0-1	
	38. Whether the details of compensation paid to directors are disclosed.	0-1	
	39. Whether board's total value of annual compensation of each director equals or is less than \$53,000 or 10% of firms' profit.	0-1	
	40. Whether the details of the CEO's compensation are disclosed.	0-1	
	41. Whether the details of top management's compensation are disclosed.	0-1	
	42. Whether a review of the firm's operations and performance is disclosed.	0-1	
	43. Whether the details of firm's debt/loans are disclosed.	0-1	
	44. Whether a firm's five-year financial performance is compared/disclosed.	0-1	
	45. Whether a firm's strategies and objectives are disclosed.	0-1	
	46. Whether the principal activities of the firm are disclosed.	0-1	
	47. Whether a firm's dividend policy is disclosed.	0-1	
	48. Whether a firm discloses any related party transactions.	0-1	
	49. Whether a firm has been penalized for breaking corporate regulations by a supervisory body, such as the Tadawul and Capital Market Authority.	0-1	
50. Whether a board statement on the going-concern status of the firm is disclosed.	0-1		
51. Whether a narrative regarding compliance/non-compliance with the Saudi CG code is provided	0-1		
(iii) Internal Control and Risk Management	52. Whether an audit report regarding the effectiveness of internal control system is disclosed.	0-1	6
	53. Whether the firm's risk management policy, philosophy and procedures are disclosed.	0-1	
	54. Whether the major risks facing the firm are disclosed	0-1	
	55. Whether a statement to the effect that the financial reports have been approved by the board of directors, CEO and CFO is disclosed.	0-1	
	56. Whether the board of directors provides a statement regarding consistent application of generally accepted accounting principles.	0-1	
	57. Whether the firm has drafted a corporate governance code.	0-1	
(iv) Rights of Shareholders and the General Assembly (GA)	58. Whether a narrative regarding fact that the general assembly (GA) is held at least once a year is disclosed.	0-1	8
	59. Whether a narrative regarding the fact the agenda for a firm's GA meeting had been announced on the Tadawul website is disclosed.	0-1	
	60. Whether a narrative regarding the fact that the firm's shareholders have the right to vote by proxy is disclosed.	0-1	
	61. Whether a narrative regarding the fact the firm operates a one-vote-one-share policy is disclosed.	0-1	
	62. Whether a narrative regarding the fact that the firm announces a GA meeting at least 20 days prior to the date of the meeting is disclosed.	0-1	
	63. Whether a narrative regarding the fact that the firm immediately informs the Stock Exchange through the Tadawul website about the outcome of the GA meeting is disclosed.	0-1	
	64. Whether a narrative regarding the fact that the GA convenes within six months following the end of the firm's financial year is disclosed.	0-1	
	65. Whether the firm discloses its social contributions.	0-1	
Total	65 SCGI Items		65
Scoring Procedure			
0: If a particular corporate governance item is not disclosed.			
1: If a particular corporate governance item is disclosed.			

Table 1. Summary of the Sample Selection Procedure

<i>Panel A: Industrial composition of firms listed on the 'Tadawul' available to be sampled as of 31/12/2010</i>	<i>No. in each industry</i>	<i>Percentage of sample</i>
Basic Materials	14	9.66
Consumer Goods	27	18.62
Consumer Services	31	21.38
Financials	42	28.97
Industrials	25	17.24
Telecommunications	4	2.76
Utilities	<u>2</u>	<u>1.38</u>
Total firms available to be sampled	145	100.0
Less: Suspended and merged firms	4	
Firms with no yearly data available	34	
Firms listed recently (2009 to 2010)	<u>27</u>	
Total excluded firms	<u>65</u>	<u>44.8</u>
Final selected sample	80	55.2
<i>Panel B: Industrial composition of sampled firms with full data</i>	<i>No. in each industry</i>	<i>Percentage of sample</i>
Basic Materials	8	10.00
Consumer Goods	11	13.75
Consumer Services	22	27.50
Financials	11	13.75
Industrials	23	28.75
Telecommunications	3	3.75
Utilities	<u>2</u>	<u>2.50</u>
Final selected sample	80	100.0

Source: The Saudi Stock Exchange ('Tadawul').

Dependent Variables	
SCGI	Corporate governance (CG) compliance and disclosure index consisting of 65 provisions from the Saudi CG Code that takes a value of 1 if each of the 65 CG provisions is disclosed, 0 otherwise; scaled to a value between 0% and 100%.
BOD	Sub-index of SCGI related to the board of directors consisting of 35 provisions that takes a value of 1 if each of the 35 CG provisions is disclosed, 0 otherwise; scaled to a value between 0% and 100%.
DAT	Sub-index of SCGI related to disclosure and transparency consisting of 16 provisions that takes a value of 1 if each of the 16 CG provisions is disclosed, 0 otherwise; scaled to a value between 0% and 100%.
IRM	Sub-index of SCGI related to internal control and risk management consisting of 6 provisions that takes a value of 1 if each of the 6 CG provisions is disclosed, 0 otherwise; scaled to a value between 0% and 100%.
ROS	Sub-index of SCGI related to right of shareholders and General Assembly consisting of 8 provisions that takes a value of 1 if each of the 8 CG provisions is disclosed, 0 otherwise; scaled to a value between 0% and 100%.
ROA	Percentage of operating profit to total assets value and RISK is the standard deviation of ROA.
Independent Variables	
AFZ	1, if a firm is audited by a big-four audit firm (PricewaterhouseCoopers, Deloitte & Touché, Ernst & Young, and KPMG), 0 otherwise.
BONR%	Percentage of shares held by shareholders with at least 5% of the total company shareholdings.
BSZ	The total number of directors on the board of a company.
CGC	1, if a firm has set up a corporate governance committee, 0 otherwise.
GONR%	Percentage of government ownership to total company ordinary shareholdings
IONR%	Percentage of shares held by institutional shareholders.
Control Variables	
DV	1, if a firm paid dividends during the financial year, 0 otherwise.
FSZ	Natural log of the book value of a firm's total assets value.
INDU	Dummies for each of the 8 main industries: banks and financial; services; building and construction; agriculture; petrochemical; industrials/manufacturing; cement; and others.
LVG%	Percentage of total debt to total assets value.
CEXC%	Percentage of total capital expenditure to total assets value.
SGR%	Percentage of current year's sales minus previous year's sales to previous year's sales.
YDU	Dummies for each of the seven years from 2004 to 2010 inclusive.

Table 3. Summary Descriptive Statistics of Levels of Compliance with SCGI and Sub-Indices

	2004	2005	2006	2007	2008	2009	2010	All	Pre- and Post-2006 Mean/Median Differences	
									Mean All Diff.	Median All Diff.
<i>Panel A: Saudi CG Index (SCGI)</i>									24.575***	21.232***
Mean	17.08	21.29	34.10	46.13	55.52	64.98	73.15	44.61		
Median	16.92	20.00	35.38	46.15	53.85	66.92	73.85	44.62		
STD	4.86	7.04	11.29	13.82	12.21	10.93	8.39	22.33		
Min	3.08	7.69	6.15	10.77	16.92	40.00	47.69	3.08		
Max	33.85	38.46	61.54	83.08	87.69	90.77	90.77	90.77		
<i>Panel B: Board of Directors</i>									21.210***	23.001***
Mean	7.18	9.82	25.07	37.75	47.86	61.14	72.25	37.30		
Median	5.71	8.57	28.57	37.14	42.86	65.71	74.29	34.29		
STD	5.82	8.04	15.20	18.66	18.77	17.35	12.91	27.31		
Min	0.00	0.00	0.00	0.00	5.71	31.43	34.29	0.00		
Max	34.29	34.29	62.86	88.57	94.29	94.29	91.43	94.29		
<i>Panel C: Disclosure and Transparency</i>									25.216***	24.209***
Mean	21.80	29.14	43.44	60.31	71.56	76.80	81.48	54.93		
Median	18.75	31.25	43.75	62.50	75.00	81.25	81.25	56.25		
STD	9.11	13.52	15.85	17.57	11.85	11.94	9.30	25.60		
Min	6.25	6.25	6.25	6.25	43.75	43.75	43.75	6.25		
Max	50.00	62.50	81.25	100.00	100.00	93.75	100.00	100.00		
<i>Panel D: Internal Control and Risk Management</i>									15.544***	11.816***
Mean	1.67	7.50	13.54	24.58	36.04	46.25	55.21	26.40		
Median	0.00	16.67	16.67	33.33	50.00	50.00	16.67	0.00		
STD	12.41	14.30	18.75	19.20	20.88	20.98	25.14	25.03		
Min	0.00	0.00	0.00	0.00	0.00	16.67	0.00	0.00		
Max	50.00	50.00	66.67	83.33	100.00	100.00	100.00	100.00		
<i>Panel E: Rights of Shareholders</i>									7.508***	9.398***
Mean	62.50	66.09	70.31	70.63	71.56	72.19	73.91	69.60		
Median	62.50	62.50	75.00	75.00	75.00	75.00	75.00	75.00		
STD	15.79	13.81	10.02	8.46	11.25	8.66	9.16	11.85		
Min	12.50	12.50	37.50	50.00	12.50	50.00	37.50	12.50		
Max	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50		

Notes: This table shows descriptive statistics of the aggregate levels of compliance with SCGI based on sub-indices from 2004 to 2010. Also, it presents the *Pre-2006* (i.e., 2004 and 2005) and *Post-2006* (i.e., 2006 to 2010) mean/median differences for the SCGI and sub-indices with *** indicating the *student t-test* of the mean/median difference between *Pre-2006* and *Post-2006* sub-samples is significant at the 1% significance level.

Table 4. Summary Descriptive Statistics of the Dependent, Independent and Control Variables for All (560)

Firm Years

Variables	Mean	Median	Std. Dev.	Minimum	Maximum	Pre- and Post-2006 Mean/Median Differences	
						Mean Diff.	Median Diff.
Dependent Variables							
SCGI (%)	44.61	44.62	22.33	3.08	90.77	24.575***	21.232***
BOD (%)	37.30	34.29	27.31	0.00	94.29	21.210***	23.001***
DAT (%)	54.93	56.25	25.60	6.25	100.00	25.216***	24.209***
IRM (%)	26.40	0.00	25.03	0.00	100.00	15.544***	11.816***
ROS (%)	69.60	75.00	11.85	12.50	87.50	7.508***	9.398***
ROA (%)	6.76	4.88	7.16	-3.93	23.93	46.230***	50.919***
RISK (%)	1.59	1.13	1.40	0.16	4.97	65.112***	66.801***
Independent Variables							
AFZ	0.58	1.00	0.49	0.00	1.00	0.132	0.152
BONR(%)	61.96	62.00	24.83	0.00	85.21	0.929	1.052
BSZ	8.42	9.00	1.76	4.00	13.00	0.856	0.732
CGC	0.10	0.00	0.30	0.00	1.00	0.438***	0.487***
GONR(%)	42.17	42.22	19.69	0.00	83.69	.0919	0.933
IONR (%)	6.98	7.00	11.03	0.00	40.00	.0537	0.465
Control Variables							
DV	0.65	1.00	0.48	0.00	1.00	0.783	0.698
FSZ	21.42	21.36	8.84	18.61	25.53	2.315**	2.221**
SGR (%)	14.54	9.32	29.62	-37.62	89.66	-2.832***	-2.566***
LVG (%)	21.46	8.85	27.27	0.00	84.15	1.622	2.001
CEXC (%)	8.57	5.87	8.25	0.11	28.83	-0.915	-0.883

Notes: Variables are defined as follows: Saudi corporate governance disclosure index (*SCGI*); board and directors sub-index (*BOD*); disclosure and transparency sub-index (*DAT*); internal control and risk management sub-index (*IRM*); rights of shareholders and the general assembly sub-index (*ROS*); return on assets (*ROA*); and financial risk (*RISK*); Audit firm size (*AFZ*); block ownership (*BONR*); board size (*BSZ*); the presence of a corporate governance committee (*CGC*); government ownership (*GONR*); institutional ownership (*IONR*); capital expenditure (*CEXC*); dividend payment status (*DV*); firm size (*FSZ*); leverage (*LVG*); capital expenditure (*CEXC*); and sales growth (*SGR*). The last two columns present the *Pre-2006* (i.e., 2004 and 2005) and *Post-2006* (2006 to 2010) mean/median differences for the variables with *** and ** indicating the *student t-test* of the mean/median difference between *Pre-2006* and *Post-2006* sub-sample is significant at the 1% and 5% significance level, respectively.

Table 5. Pearson and Spearman Correlation Matrices of All Variables for All (560) Firm Years

Variable	SCGI	GONR	IONR	BONR	BSZ	CGC	AFZ	FSZ	LVG	SGR	CEXC	DV	ROA	RISK
SCGI	1	.130***	.061	-.119***	.073*	.326***	.117***	.209***	.166***	-.159***	-.016	.093**	.068*	-.071
GONR	.144***	1	.015	.628***	.312***	.043	.302***	.635***	.177***	-.002	.315***	.435***	.128***	.022
IONR	.045	.004	1	.354***	.230***	-.009	.280***	.302***	.285***	.020	.069	.096**	-.093**	-.084**
BONR	-.125***	.662***	.361***	1	.343***	.059	.481***	.684***	.365***	.087**	.347***	.392***	.137***	-.002
BSZ	.066*	.260***	.225***	.318***	1	.099**	.297***	.526***	.226***	-.003	.248***	.251***	-.029	-.027
CGC	.321***	.082*	-.014	.070*	.092**	1	.065	.119***	.021	-.111***	.028	.003	.087**	-.067
AFZ	.117***	.295***	.296***	.477***	.301***	.065	1	.524***	.412***	.081*	.308***	.217***	.031	-.015
FSZ	.214***	.624***	.304***	.698***	.490***	.099**	.523***	1	.580***	.113***	.430***	.420***	.071*	.013
LVG	.153***	.166***	.355***	.378***	.212***	.014	.408***	.592***	1	.101**	.314***	.023	-.157***	-.065
SGR	-.133***	-.004	.024	.083*	.024	-.098**	.077*	.100**	.077*	1	.206***	.040	.150***	.039
CEXC	-.015	.286***	.076*	.326***	.245***	.018	.306***	.413***	.285***	.198***	1	.224***	.020	.085**
DV	.097**	.419***	.102**	.389***	.260***	.003	.217***	.432***	.037	.043	.221***	1	.414***	.028
ROA	.040*	.164***	-.071*	.180***	.011	-.085**	.048	.120***	-.131***	.179***	.056	.491***	1	.138***
RISK	-.042	.094**	-.088**	-.052	-.057	-.078*	-.015	.011	-.047	.032	.026	-.002	.172***	1

Notes: The bottom left half of the table contains Person's parametric correlation coefficients, whereas the upper right half of the table shows Spearman's non-parametric correlation coefficients. ***, **, and * indicate that correlation is significant at the 1%, 5%, and 10% levels, respectively. Variables are defined as follows: the Saudi corporate governance disclosure index (*SCGI*); government ownership (*GONR*); institutional ownership (*IONR*); block ownership (*BONR*); audit firm size (*AFZ*); board size (*BSZ*); the presence of a corporate governance committee (*CGC*); capital expenditure (*CEXC*); dividend payment status (*DV*); firm size (*FSZ*); leverage (*LVG*); sales growth (*SGR*); return on assets (*ROA*); and financial risk (*RISK*). Table 2 fully defines all the variables used.

Table 6. The Effect of Corporate Ownership and Board Mechanisms on the Extent of Voluntary Disclosure of Corporate Governance Practices

<i>Model</i>	<u>SCGI</u>	<u>SCGI</u>	<u>SCGI</u>	<u>BOD</u>	<u>DAT</u>	<u>IRM</u>	<u>ROS</u>
Independent Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Ownership Mechanisms Variables:</i>							
GONR	0.178 (0.073) *	-	0.200 (0.049) **	0.124 (0.091) *	0.046 (0.346)	0.107 (0.141)	0.442 (0.000) ***
IONR	0.190 (0.041) **	-	0.053 (0.081) *	0.028 (0.401)	0.151 (0.073) *	0.082 (0.177)	0.001 (0.496)
BONR	0.039 (0.368)	-	-0.113 (0.045) **	-0.254 (0.026) **	-0.173 (0.061) *	-0.067 (0.240)	-0.135 (0.073) *
<i>Board Mechanisms Variables:</i>							
BSZ	-	0.223 (0.003) ***	0.231 (0.003) ***	0.231 (0.003) ***	0.119 (0.065) *	0.077 (0.126)	0.032 (0.311)
AFZ	-	0.273 (0.010) ***	0.254 (0.018) **	0.208 (0.047) **	0.127 (0.137)	0.164 (0.049) **	0.030 (0.380)
CGC	-	0.319 (0.009) ***	0.322 (0.009) ***	0.028 (0.420)	0.119 (0.178)	1.649 (0.000) ***	0.066 (0.269)
<i>Control Variables:</i>							
FSZ	0.117 (0.207)	0.145 (0.123)	0.282 (0.030) **	0.285 (0.032) **	0.085 (0.276)	0.050 (0.341)	0.343 (0.002) ***
LVG	-0.100 (0.170)	-0.101 (0.158)	-0.148 (0.079) *	-0.169 (0.058) *	-0.101 (0.160)	0.073 (0.198)	-0.106 (0.103)
SGR	0.005 (0.472)	0.000 (0.498)	0.012 (0.432)	-0.058 (0.211)	0.126 (0.032) **	0.005 (0.469)	0.022 (0.346)
CEXC	0.136 (0.044) **	0.076 (0.171)	0.072 (0.184)	-0.009 (0.456)	0.205 (0.004) ***	0.082 (0.107)	-0.155 (0.008) ***
DV	-0.043 (0.362)	0.006 (0.482)	-0.024 (0.422)	-0.022 (0.428)	-0.007 (0.478)	0.221 (0.013) **	0.089 (0.176)
Industry Dummies	Included	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included	Included
Constant	1.421***	1.817***	1.835***	1.861***	1.897***	1.665***	1.538***
Durbin-Watson Statistics	0.924	0.950	0.960	1.012	1.085	1.316	1.183
F-Value	20.452***	21.808***	19.157***	15.629**	17.014***	30.922***	7.989***
Adjusted R ²	41.0%	42.7%	42.8%	37.6%	39.7%	55.2%	22.1%
No. of Observations	560	560	560	560	560	560	560

Notes: P-values are in parentheses. Following Peterson (2009), the coefficients are estimated by using the robust *Clustered Standard Errors* technique. ***, **, and * denote significant at the 1%, 5%, and 10% levels, respectively. Variables are defined as follows: Saudi corporate governance disclosure index (*SCGI*); board and directors sub-index (*BOD*); disclosure and transparency sub-index (*DAT*); internal control and risk management sub-index (*IRM*); rights of shareholders and the general assembly sub-index (*ROS*); government ownership (*GONR*); institutional ownership (*IONR*); block ownership (*BONR*); board size (*BSZ*); audit firm size (*AFZ*); the presence of a corporate governance committee (*CGC*); firm size (*FSZ*); leverage (*LVG*); sales growth (*SGR*); capital expenditure (*CEXC*); and dividend payment status (*DV*). Table 2 fully defines all the variables used.

Table 7. Sensitivity Analyses of the Effects of Ownership and Board Mechanisms on the Extent of Voluntary CG Disclosure

<i>Model</i>	SCGI (1)	Pre-2006 (2)	Post-2006 (3)	Weighted- SCGI (4)	Fixed- Effect (5)	Lagged (6)
Independent Variable						
<i>Corporate Ownership Mechanisms Variables:</i>						
GONR	0.200 (0.049)**	0.008 (0.367)	0.280 (0.049)**	0.293 (0.006)***	-0.058 (0.455)	0.231 (0.049)**
IONR	0.053 (0.081)*	0.013 (0.257)	0.047 (0.377)	0.075 (0.233)	1.128 (0.010)***	0.152 (0.083)*
BONR	-0.113 (0.045)**	-0.006 (0.092)*	-0.131 (0.076)*	-0.129 (0.063)*	-0.394 (0.021)**	-0.018 (0.044)**
<i>Board Mechanisms Variables:</i>						
BSZ	0.231 (0.003)***	-0.034 (0.009)***	0.357 (0.001)***	0.209 (0.004)***	0.013 (0.478)	0.279 (0.002)***
AFZ	0.254 (0.018)**	0.020 (0.176)	0.328 (0.029)**	0.185 (0.055)*	0.004 (0.491)	0.285 (0.022)**
CGC	0.322 (0.009)***	0.152 (0.028)**	0.324 (0.023)**	1.048 (0.000)***	0.405 (0.004)***	0.321 (0.014)**
<i>Control Variables:</i>						
FSZ	0.282 (0.030)**	0.043 (0.048)**	0.401 (0.032)**	0.214 (0.068)*	0.288 (0.222)	0.318 (0.035)**
LVG	-0.148 (0.079)*	-0.031 (0.045)**	-0.185 (0.122)	-0.155 (0.063)*	0.029 (0.421)	-0.156 (0.109)
SGR	0.012 (0.432)	0.015 (0.157)	0.007 (0.471)	0.036 (0.300)	0.013 (0.424)	0.011 (0.444)
CEXC	0.072 (0.184)	-0.020 (0.094)*	0.072 (0.263)	0.075 (0.164)	0.162 (0.045)**	0.076 (0.211)
DV	-0.024 (0.422)	0.067 (0.002)***	-0.080 (0.322)	0.093 (0.210)	-0.189 (0.102)	-0.055 (0.349)
Industry Dummies	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included
Firm Dummies	Excluded	Excluded	Excluded	Excluded	Included	Excluded
Constant	1.835***	0.372***	1.411***	1.791***	-0.867*	1.332***
Durbin-Watson Statistics	0.960	1.628	1.005	1.084	1.199	0.947
F-Value	19.157***	3.996***	10.326***	24.702***	9.126***	14.738***
Adjusted R ²	42.8%	25.3%	32.9%	49.4%	58.3%	38.7%
No. of Observations	560	160	400	560	560	480

Notes: P-values are in parentheses. Following Peterson (2009), the coefficients are estimated by using the robust *Clustered Standard Errors* technique. ***, **, and * denote significant at the 1%, 5%, and 10% levels, respectively. Variables are defined as follows: Saudi corporate governance disclosure index (SCGI); government ownership (GONR); institutional ownership (IONR); block ownership (BONR); audit firm size (AFZ) board size (BSZ); presence of a corporate governance committee (CGC); capital expenditure (CEXC); dividend payment status (DV); firm size (FSZ); leverage (LVG); and sales growth (SGR). Table 2 fully defines all the variables used.