
Original Article

Determinants of CSR disclosure quantity and quality: Evidence from non-financial listed firms in Saudi Arabia

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ABSTRACT The purpose of this study is to examine the practice of Corporate Social Responsibility (CSR) Disclosure in a Saudi Arabian context. This study has two particular objectives. First, it aims to measure the level of CSR disclosure quantity and quality. Second, it aims to investigate the determinants of CSR disclosure quantity and quality in a Saudi Arabian context. The study examined a sample from Saudi non-financial listed firms covering the period of 2013–2014. In addition, it develops CSR disclosure indices to measure the level of quantity and quality of CSR disclosure. The study found that Saudi Arabian firms provided higher levels of CSR disclosure quantity; however, the quality of the disclosure was relatively low. In addition, the study found that CSR disclosure quantity was positively associated with board size and the size of audit committee. However, it is negatively associated with percentage of governmental ownership and size of remuneration committee. In contrast, the quality of CSR disclosure was positively associated with the board size and the percentage of managerial ownership. However, the study found a negative association with the percentage of independent directors. The results suggest that Saudi Arabia provides higher levels of disclosure with a lower quality. In addition, the levels of CSR disclosure quantity and quality have different drivers.

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INTRODUCTION

This study aims to address two objectives. First, it aims to measure the level of Corporate Social Responsibility (CSR) disclosure quantity and quality in Saudi Arabian non-financial firms. Second, it aims to identify the factors that may

drive managers of Saudi Arabian firms to provide different levels of CSR disclosure quantity and quality.

CSR disclosure is considered the main communication tool for stakeholders of firms regarding CSR activities (Belal and Cooper, 2011). The last few decades have witnessed an increased interest in CSR (Arvidsson, 2010). Today, a number of stakeholders are demanding social and environmental information, such

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as information related to the environment, society and pollution damage. This information would help companies to justify their activities to a wide range of stakeholders by providing a higher level of CSR disclosure regarding a number of social and environmental issues, beyond simply the economic environment of the firm (Daub, 2007).

The CSR is considered a fundamental tool used by companies for public relations to communicate and create a mutual understanding, managing potential conflicts and providing legitimacy to the stakeholders and society as a whole (Golob and Bartlett, 2007). It is evidenced that this form of voluntary disclosure has attracted wider interest in research studies; however, earlier research highlights some issues relating to the CSR disclosure level of the company's annual report in developed countries (for example, Saudi Arabia).

Currently, the CSR is highly recognised across developed countries, it is not an additional policy option that firms apply in providing disclosure, that is, companies do not consider the CSR disclosure to be a luxury nor do they feel that by providing disclosure it somehow enhances their goodwill when dealing with society. However, firms today consider the CSR to be a main part of their policies and strategies. Although, firms in developing countries are still in the early stages of adopting the CSR into their strategies and policies as well as integrating it into the firm's activities. This study aims to explore the level of CSR disclosure quantity and quality in a Saudi Arabian context and will aim to identify the determinants of CSR disclosure quantity and quality within Saudi Arabian non-financial listed firms.

Saudi Arabia is considered as a member of the Gulf Cooperation Council. It hosts many industries such as petrochemicals, customer services and cement, refining and healthcare. Recently, firms in Saudi Arabia have started to pay much more attention to the CSR activities in their annual reports. Furthermore, the Saudi Arabian governance code has considered the disclosure of CSR activities to be part of the required disclosure that should be provided by firms. This in turn provides

value-relevant information to different stakeholders and contributes to the society as a whole. However, there is no guidance available in the theoretical and practical frameworks that have examined this phenomenon, particularly within the Saudi Arabian context.

Further, there are several motivations in examining the level of CSR disclosure quantity and quality and in identifying the determinants of CSR disclosure in a Saudi Arabian context. First, Saudi Arabia established a corporate governance code in 2007; the code was significantly affected by the country's Islamic principles that led to an introduction of Islamic characteristics appearing in the governance code (Albassam, 2014).

Second, Saudi Arabia's economy is considered huge, and it has vast economic prominence in the Arab region. In 2010, it represented 25 per cent of the total Arab Gross Domestic Product and 44 per cent of the total Arab market capitalisation (Alshehri and Solomon, 2012; Albassam, 2014). Furthermore, Saudi Arabia contains a quarter of the world's oil reserves and is considered to be one of the largest oil producers in OPEC. Its oil production in 2010 was about 31 per cent of the total OPEC production (Albassam, 2014; Habbash *et al*, 2015).

Third, the ownership structure of firms listed in Saudi Arabia is family- and state-concentrated. This means that family-owned firms represent more than 70 per cent of the listed firms. In addition, the Saudi government owns more than 30 per cent of the Saudi Arabian firms (Report on the Observance of Standards and Codes (ROSC), 2009; Baydoun *et al*, 2013; Albassam, 2014; Habbash *et al*, 2015).

Finally, to the best of our knowledge, only three studies have previously examined the drivers of voluntary disclosure in Saudi Arabia, namely, Al-Janadi *et al* (2013), Alsaed (2006) and Habbash *et al* (2015). This study adds major contributions to research on CSR disclosure as the voluntary disclosure in Saudi Arabia as follows: First, we have used data from more wide-ranging and more recently listed non-financial firms covering the period of 2013–2014. Whereas Al-Janadi *et al* (2013)

covered the period 2002–2003, Alsaeed (2006) covered the period 2006–2007 and Habbash *et al* (2015) covered the period 2007–2011. Second, Al-Janadi *et al* (2013) examined the impact of corporate governance on voluntary disclosure, whereas Alsaeed (2006) examined the impact of firm characteristics on voluntary disclosure, and Habbash *et al* (2015) examined the determinants of voluntary disclosure in Saudi Arabia. Furthermore, there is limited research in this particular area of investigating CSR disclosure in the Saudi listed firms, namely, Abbas *et al* (2012) examined the nature of CSR and how this evolving concept took root in an emerging oil-rich country like Saudi Arabia. In addition, Mandurah *et al* (2012) examined the CSR among Saudi Arabian firms, and Nalband and Al-Amri (2013) examined the CSR perception, practices and performance of listed companies of Saudi Arabia. Consequently, all of them used a qualitative method to investigate the CSR disclosure in terms of knowledge, awareness and understanding the managers had towards the CSR.

Our study investigates CSR disclosure-level quantity and quality and identifies the determinants of the CSR disclosure quantity and quality of non-financial firms listed in Saudi Arabia. This study covers 171 observations carried out in various firms during the period of 2013–2014. All of these factors motivate us to examine the determinants of CSR disclosure in Saudi Arabia. In addition, it is argued that the area of voluntary disclosure (in general) is still under researched (Habbash *et al*, 2015).

Saudi Arabia provides a unique country context within which the CSR disclosure can be analysed. This is because of the following reasons. First, Saudi Arabia is a country with an emerging economy. It has different religious, social and political systems as well as traditions that differ from developed countries. For instance, the Islamic principles in Saudi Arabia affect the daily life, business, law, economics and political aspects of the whole of Saudi society. Second, Saudi Arabia enhanced its corporate governance code in 2012; this

enhanced code requires companies to disclose their CSR activities in their annual reports. In addition, this code is affected by the country's Islamic principles, which resulted in the introduction of Islamic governance characteristics (Albassam, 2014). This in turn may affect the level of CSR disclosures of Saudi Arabian firms.

However, there is limited research that examines the practice of CSR disclosure in developing countries as stated in the annual report by Hussainey *et al* (2011) and Nalband and Al-Amri (2013). Existing research on the determinants of CSR disclosure in developing countries is rare, particularly in Saudi Arabia. Furthermore, in Saudi Arabia there is a lack of concern among regulatory bodies regarding CSR disclosure; this may be because they feel that CSR disclosure is not relevant for investors. Therefore, this article aims to examine the practice of CSR in a developing country, particularly Saudi Arabia.

This study develops two disclosure indices, one for measuring the level of CSR disclosure quantity and the other for measuring the level of CSR disclosure quality. It uses samples from non-financial firms listed in Saudi Arabia over the period of 2013–2014. This study found that Saudi Arabian firms provide higher levels of CSR disclosure quantity; however, the quality of this disclosure is relatively low. In addition, the CSR disclosure quantity is positively (negatively) associated with board size, (that is, the percentage of governmental ownership), the size of the audit committee and (size of remuneration committee). However, the quality of CSR disclosure is positively (negatively) associated with board size, (the percentage of independent directors) and by percentage of managerial ownership.

This study offers the following contributions to the CSR disclosure literature in general and corporate governance in particular. First, it introduces a new measure of CSR disclosure quantity on the basis of the previous study carried out by Ng (1985) and Hackston and Milne (1996). This measure will take the Islamic culture of Saudi Arabia into account

and add some additional factors to the measure of CSR disclosure quantity that are consistent with the Saudi environment, such as the existence of charitable societies that support activities like the memorisation of The Holy Quran (details are included in Appendix A). Second, this is the first study to measure the CSR disclosure quality on the basis of the qualitative characteristics of financial information. Third, to the best of our knowledge, this is the first study to examine the determinants of both the quantity and quality of the CSR disclosure in a Saudi Arabian context, as one of the developing countries. Furthermore, it offers evidence that CSR disclosure quantity is not a proxy of CSR disclosure quality.

The remainder of this article is structured as follows. 'Theoretical Framework: Csr Disclosure, Theory, Literature and Hypothesis Development' provides the theoretical framework; it draws on the definitions of CSR disclosure quantity and quality and theories. 'Hypotheses Development And Literature' discusses the research literature and hypothesis development. 'Research Design' presents the research design. 'Result Analysis' reports the results, and, finally, 'Conclusion' presents a conclusion.

THEORETICAL FRAMEWORK: CSR DISCLOSURE, THEORY, LITERATURE AND HYPOTHESES DEVELOPMENT

This section provides an overview of the CSR disclosure quantity and quality, and introduces theories that explain the need for CSR disclosure and summarises the literature and presents the research hypotheses.

CSR disclosure: Quantity and quality

CSR is one of the new accounting concepts that have not only economic and legal responsibilities but also social and moral responsibilities to other parties concerned (stakeholders), such as customers, employees, communities, investors, governments, suppliers and even

competitors (Anwar *et al*, 2010). CSR can be defined as actions on the part of a firm that appear to further some social good beyond the immediate interests of a firm and beyond legal requirements (McWilliams and Siegel, 2001). The CSR disclosure is considered a key concept in many fields of research, such as quality of life, quality of food and quality of service. In some cases, there are conflicts regarding the context and subject of the CSR concept (Carroll, 1983). Accordingly, it is argued that disclosure indices combine measures of different dimensions into one single abstract value that has a limited appeal. Galbreath (2010) further states that: 'CSR comprises the economic, legal, ethical and discretionary responsibilities firms assume towards their stakeholders'.

The concept of quality of the CSR disclosure is a debated issue in the existing disclosure literature. From a business perspective, it is defined as 'the extent to which a product or service meets user expectations'. According to ISO 9001 (2008), it is defined as *the degree to which a set of inherent characteristics meet certain requirements*. More specifically, the concept of disclosure quality reflects the level of disclosure that meets the user's needs. However, the disclosure quality is still debated to identify the definition and measurements (Botosan, 1997; Beretta and Bozzolan, 2004; Anis *et al*, 2012; Beest and Braam, 2013).

The Saudi corporate governance code (SCGC)

It is stated that the SCGC is considered to be a key driver in applying good corporate governance practices across Saudi listed firms (Albassam, 2014). The code contains many parts, for instance, Part 3 of the SCGC emphasises specifically to increase corporate transparency and voluntary disclosure. In addition, this part of the code requires inclusion and classification of some of the variables of the code such as the board size, executive directors, non-executive directors, independent directors and CEOs. The companies also have to provide information regarding the sizes of their audit and

remuneration committees, as well as information about the meeting of board of directors. The SCGC seeks to reduce agency conflicts between managers and shareholders through improving transparency, accountability and responsibility of corporate board of directors (ROSC, 2009; Alshehri and Solomon, 2012). In addition, the code encourages firms to be more socially responsible. Consequently, Article 10 of the code (which covers social responsibility) governs to protect other stakeholders such as local communities, employees and the environment.

Theories

Legitimacy and stakeholder theories

As stated earlier, the legitimacy and stakeholder theories are used to explain the practice of CSR; however, the legitimacy theory offers a far superior explanation (Gray *et al.*, 1996). According to the legitimacy theory, the CSR disclosure aims to legitimise the behaviour of the firm through providing information, which is intended to affect the stakeholders and society's perception about the firms (Hooghiemstra, 2000).

The legitimacy theory is closely related to the stakeholder theory. The demand for CSR disclosure has been driven by the increasing popularity of stakeholders (Boesso and Kumar, 2007). Overall, companies can provide the social information in their annual reports to enhance the firm's reputation in the eyes of its stakeholders and to satisfy the community's need (Hassan and Marston, 2010).

Signalling theory

The signalling theory suggests that managers of firms are more likely to disclose more information in order to signal their favourable results (Hassanein and Hussainey, 2015). Accordingly, firms may use CSR disclosure to signal to their investors that they have favourable results, which in turn enhance their image in the market (Sun *et al.*, 2010). In addition, the CSR disclosure is a way of signalling to investors and

other stakeholders that the company is actively taking part in the CSR activities. Furthermore, participating in the CSR activities helps the company to establish a good reputation for reliability in the capital markets.

Agency theory

Jensen and Meckling (1976, p. 308) define the agency relationship as 'a contract under which one or more persons (the principals) engage another person (the agent) to perform some service on their behalf, which involves delegating some decision-making authority to the agent'. It is concerned with the problems of information asymmetries in markets (Morris, 1987). Agency theory suggests that firms may use a compensation plan or provide voluntary disclosure to reduce the agency costs. The CSR activities require firms to be more accountable to its stakeholders and to the whole of society. This in turn will divert the attention of shareholders from monitoring earning manipulation to other issues, which in turn enhances the share price of the firm. In addition, the CSR activities may help the company to retain superior profits in the market. Consequently, this reduces any agency conflict between company management and its shareholders (Sun *et al.*, 2010).

HYPOTHESES DEVELOPMENT AND THE LITERATURE

Board size

The agency theory suggests that board size is a potential variable of corporate governance to monitoring management performance (Fama and Jensen, 1983; Allegrini and Greco, 2013). There are debates about the size of a board of directors. Some prior research argues that the board size promotes more effective decision-making and develops information-processing capabilities. However, in contrast, others argue that a larger board, in order to increase the opportunity for manipulation, can be less participating between

members (Ho and Williams, 2003). Healy and Palepu (2001) indicated that nominating a board of directors, who deed on behalf of investors, is an efficient mechanism that affects managers' voluntary disclosure decisions and controls the agency problem. Ntim *et al* (2012a) find that board size is a vital determinant of voluntary corporate disclosure. In the context of the expected impact of board size on CSR disclosure, Halme and Huse (1997) argued that in a large board there is a higher probability of a broader range of stakeholders, which indicates that a higher level of environmental attention can be expected (Halme and Huse, 1997, p. 142). More specifically, they present a positive and significant association between board size and voluntary corporate disclosure among 169 South African firms. Furthermore, Albassam (2014) shows that, in the Saudi corporate context, the relationship between board size and voluntary corporate disclosure is not well-documented. For instance, Al-Moataz and Lakhil (2012) find no significant relationship between board size and corporate governance practices. In addition, other prior research finds a positive relationship between board size and voluntary disclosure (for example, Laksamana, 2008; Hussainey and Al-Najjar, 2011). Therefore, on the basis of the above discussion, this study hypothesises that:

Hypothesis 1a: There is an association between board size and CSR disclosure quantity.

Hypothesis 1b: There is an association between board size and CSR disclosure quality.

Independent directors

The agency theory explains the relationship between the principle and agent (Eisenhardt, 1989; Bruton *et al*, 1997). Forker (1992) finds a positive association between the percentage of outside directors on the boards and the comprehensiveness of financial disclosure. Furthermore, other research reports the same results

(for example, Arcay and Vazquez, 2005; Cheng and Courtenay, 2006; Boesso and Kumar, 2007; Laksamana, 2008). In addition, Chen and Jaggi (2000), and Gul and Leung (2004) suggest that a higher number of independent directors sitting on a board makes it become more effective, and consequently this board improves the levels of corporate transparency and disclosure.

On the other hand, further research finds a negative relationship between outside directors sitting on the boards and the levels of voluntary disclosure (for example, Eng and Mak, 2003; Barako *et al*, 2006; Hoitash *et al*, 2009). Other studies find insignificant associations between the two variables (for example, Hoe and Wong, 2001; Haniffa and Cooke, 2002).

Rose (2007, p. 321) suggests that 'reported that new regulations, requiring more independent directors, are a major step in improving corporate ethics and social responsibility'. Therefore, an increase in the percentage of independent directors on the board encourages companies to deal positively with social pressure and increases the level of CSR disclosure. This research attempts to examine the association between CSR disclosure and board independence in Saudi listed companies. Therefore, the following research hypotheses are developed:

Hypothesis 2a: There is an association between independent directors and CSR disclosure quantity.

Hypothesis 2b: There is a relationship between independent directors and CSR disclosure quality.

Government ownership

The stakeholder theory suggests that governmental ownership is a key factor that influences on the corporate governance disclosure, particularly, in developing countries like Saudi Arabia, which are profoundly building up on the ownership structure (Shleifer, 1998; Cornett *et al*, 2010; Al-Moataz and Hussainey, 2012).

Eng and Mak (2003) find that agency problems are more likely to increase with ownership size, such as government ownership. In addition, it is argued that government ownership normally leads to intervention by the government in the running of the firm, which can lead to poor corporate governance practices (for example, Bolton and Thadden, 1998; Konijn *et al.*, 2011). Eng and Mak (2003) have studied the association between government ownership and voluntary disclosure using a sample of 158 firms listed in the Singapore Stock Exchange in the period 1995. They find that higher government ownership is positively associated with corporate voluntary disclosure. Consistently, Conyon and He (2011) examined a sample of 1342 firms from the Chinese listed firms during 2001–2005. They found that there is a relationship between ownership and corporate governance practices. Similarly, Ntim *et al.* (2012a) shows that the government ownership is positively associated with voluntary corporate disclosure among 169 South African listed firms. The Saudi government has high ownership stakes in a considerable number of firms, representing an average of 42 per cent of the total value of the Saudi stock market. Apart from Al-Moataz and Lakhali (2012), no study has explored the impact of government ownership on CSR disclosure. On the basis of the above discussion, the current study hypothesises the following:

Hypothesis 3a: There is an association between Government ownership and CSR disclosure quantity.

Hypothesis 3b: There is a relationship between Government ownership and CSR disclosure quality.

Managerial ownership

The agency theory indicates that the increase of managerial ownership levels could be of interest to managers and stakeholders, in particular to the shareholders. This may be because firms

with a higher percentage of managerial ownership are likely to align the interests of both managers and shareholders, and consequently they would have lower agency costs (Jensen and Meckling, 1976). Hence, a positive association is expected between managerial ownership and corporate voluntary disclosure. Prior studies showed a positive association between managerial ownership and corporate voluntary disclosure (for example, Chau and Gray, 2002; Jaing and Habib, 2009). In contrast, Eng and Mak (2003) found a negative relationship between managerial ownership and the quality of corporate disclosures.

On the basis of the agency and stakeholder theories, it is anticipated that managers with a high interest in the company's engagements could be motivated to extend the level of the quantity and quality of CSR disclosures. This conduct would be explained by the manager's objective to reduce the agency problem (agency theory) and to achieve the vital information the stakeholders' need (stakeholder theory). Thus, the following hypothesis is formulated:

Hypothesis 4a: There is an association between Managerial ownership and CSR disclosure quantity.

Hypothesis 4b: There is a relationship between Managerial ownership and CSR disclosure quality.

CEO duality

Chief executive officer (CEO) duality is considered to be a suitable system for operating a company (Donaldson and Davis, 1991; Siebels and Knyphausen-Aufse, 2012). Particularly, when the agents have access to the information, this increases their ability to work towards firm's welfare (Nicholson and Kiel, 2007). In addition, the CEO duality is an important factor of corporate governance because of its sensitive nature, the association between the agents and principles (Davis and Greve 1997; Krause *et al.*,

2014). The agency theory suggests that CEO could run a firm to achieve the satisfaction of shareholders (Jensen and Meckling, 1976; Chen *et al*, 2011). Prior research (for example, Lipton and Lorsch, 1992; Mashayekhi and Bazaz, 2008) suggests that the role of CEO duality can offer some opportunities to self-serving CEOs. This means they have control over board meetings and therefore, may negatively affect the corporate financial performance. Moreover, CEOs attempt to protect their reputation and to find ways of improving their chances in the future (Conyon and He, 2011). Consequently, they attempt to do their best for their firms to acquire more profit and increase the value of their firms (Davis and Greve 1997; Nicholson and Kiel, 2007; Siebels and Knyphausen-Aufseb, 2012). Christensen *et al* (2014a, b) find that the separation of the roles of CEO and chairman is significantly associated with higher earning quality among 660 Australian companies between the periods of 2001 and 2004. In contrast, some previous research shows a positive association between CEO duality and a firm's financial performance. For instance, Brickley *et al* (1997) find that CEO duality roles have a positive impact on the financial performance of a firm. On the basis of the above discussion, the current study develops the following hypotheses:

Hypothesis 5a: There is an association between CEO Duality and CSR disclosure quantity.

Hypothesis 5b: There is a relationship between CEO Duality and CSR disclosure quality.

Board meeting frequency

The frequent board meeting is an essential tool to a corporate governance mechanism because it helps the directors of the board to control operation of the firm effectively. Thus, active and frequent meetings of the board can monitor the financial reporting of an entity. Consistently,

some prior research finds a positive association between board meetings and financial reporting of a company. This is also consistent with signalling theory. However, there is limited literature that examines the association between frequency of board meetings and corporate disclosure in the United Kingdom (Alzahr, 2013). Laksamana (2008) reports a positive association between board meetings and the transparency of compensation disclosure. Anis *et al* (2012) reported that one of the board duties is to oversee management practices, and one of these practices is the disclosure of voluntary information. Therefore, the higher the frequency of meetings, the more effective the board will be or, more specifically, more time will be expected to be allocated for overseeing voluntary disclosure, and this will consequently promote disclosure quality. In addition, Anis *et al* (2012) finds a positive relationship between the frequency of board meetings and the level of disclosure quality. Accordingly, with the consensus about the positive influence of board meeting frequency, on the basis of the above findings, the current study hypothesises the following:

Hypothesis 6a: There is an association between board meetings and CSR disclosure quantity.

Hypothesis 6b: There is a relationship between board meetings and CSR disclosure quality.

Audit committee size

The audit committee has an essential role in improving disclosure levels of financial reports (Al-Janadi *et al*, 2013). The agency theory plays a role to explain the problem between the principal and the agent (Bruton *et al*, 1997). However, there is limited research to study the association between voluntary disclosure and the audit committee. In addition, some research argues that the audit committee is considered to be the monitoring tool that improves the quality of corporate disclosure that in turn

reduces the agency costs. Furthermore, Hoe and Wong (2001) report that the existence of an audit committee significantly affects the level of corporate disclosure. Moreover, small audit committees may not be in a position to have enough resources. Consequently, this may adversely affect the quality of their oversight (Fleo *et al*, 2009). In addition, organisational behaviour research maintains that large audit committees are likely to be less productive (Jensen, 1993; Karamanou and Vafeas, 2005).

Some previous research (Li *et al*, 2008; O'Sullivan *et al*, 2008) reports that a positive association exists between the audit committee size and the levels of voluntary disclosure. Similarly, another study finds a positive relationship between the audit committee size and corporate reporting (Albassam, 2014). Thus, the following hypotheses are formulated:

Hypothesis 7a: There is an association between audit committee size and CSR disclosure quantity.

Hypothesis 7b: There is a relationship between audit committee size and CSR disclosure quality.

Remuneration committee size

One of the corporate governance mechanisms is the remuneration committee size. However, there is no theory, nor a well-acknowledged argument that explains the association between the number of members of a remuneration committee and the quality of disclosure (Anis *et al*, 2012). Prior research suggests that there is insignificant relationship between remuneration committee size and disclosure quality. This is because it is indicated that 6 per cent of the sample falls less than the governance code (2008)¹ that requires the size of the remuneration committee to consist of at least three members. The governance code (2008) holds that 'The board should establish an audit committee of at least three or in the case of smaller companies' two, independent non-executive

directors' (FRC, 2008; Paragraph C.3.1). Moreover, prior research that examines the association between the size of the remuneration committee and voluntary disclosure is limited. It finds no significant relationship between the remuneration committee size and the quality of disclosure. However, it is argued that it might be likely that a higher committee size may positively affect the level of quality of disclosure (Anis *et al*, 2012). Although of Anis *et al* (2012) argument, there is no strong evidence regarding the association between the remuneration committee and disclosure quality. Obviously, it is argued that there is little evidence about the effectiveness of remuneration committees in the United Kingdom (Ezzamel and Watson, 1997). Therefore, on the basis of the above discussion, the current study develops the following hypotheses:

Hypothesis 8a: There is an association between remuneration committee size and CSR disclosure quantity.

Hypothesis 8b: There is a relationship between remuneration committee size and CSR disclosure quality.

Auditor type

Prior research suggests that the quality of the auditor is an important factor in improving the firms' overall reporting practices (for example, Hail, 2002; Hussainey *et al*, 2011; Hassanein and Hussainey, 2015). In addition, it is anticipated that big auditing firms are more likely to facilitate the diffusion of innovative practices such as CSR disclosure (Xiao *et al*, 2004). However, previous studies reports mixed results in terms of the association between disclosure and audit type (for example, Ahmed and Nicholls, 1994; Raffournier, 1995; Xiao *et al*, 2004). They find a positive relationship between auditor type and disclosure of voluntary information. In addition, some prior research finds a positive relationship between auditor type and voluntary disclosure

(for example, Abd-Elsalam and Weetman, 2003); Hossain *et al*, 1995; Wallace *et al*, 1994).

Samaha and Dahawy (2011) and Aly *et al* (2010) find no association between the disclosure of CSR information and auditor type in the Egyptian context. They examine the association between auditor type and the overall disclosure quality in order to improve the quality and to provide accurate information that it enhances the stakeholder's decision. It is essential to the stakeholders to be concerned with specific social and environmental aspects of performance (Adams, 2002). Therefore, this study develops the following hypotheses:

Hypothesis 9a: There is an association between auditor type and CSR disclosure quantity.

Hypothesis 9b: There is a relationship between auditor type and CSR disclosure quality.

RESEARCH DESIGN

Sample

This study uses samples from the annual reports of Saudi Arabian firms listed in the Tadawul Stock Exchange over the period 2013–2014. This period is chosen because it is quite close to the declaration of the Saudi governance code that includes the social contribution. Furthermore, it is the most recent annual report containing enhanced quality and quantity CSR, and its impact is expected given that the code has been adopted since 2010. In addition, non-financial companies are more likely to be utilised with social and economic environments (Brammer and Pavelin, 2008).

The sample is composed of 171 Saudi non-financial companies. Following prior research (for example, Elshandidy *et al*, 2013; Elzahar *et al*, 2015; Hassanein and Hussainey, 2015), financial firms are excluded. In addition, we have excluded firms with missing financial data. This leaves us with 171 firm-year observations.

Table 1: Sample classification among industries

<i>Industry</i>	<i>N</i>	<i>Percentage</i>
Basic Material	28	16.4
Consumer goods	27	15.8
Consumer services	35	20.5
Industrials	66	38.6
Real estates	4	2.3
Telecommunication	7	4.1
Utilities	4	2.3
Total	171	100

Table 1 shows the final sample sorted by industries.

Annual reports are collected from companies' official websites. Governance data is manually collected from the companies' annual reports. All financial data is collected from DataStream.

CSR disclosure index

This study develops two disclosure indices, one to measure the level of CSR disclosure quantity and the other to measure the level of CSR disclosure quality. The disclosure index of CSR disclosure quantity is based on prior research (for example, Ng, 1985, Hackston and Milne, 1996); Hall, 2002; Newson and Deegan, 2002). This index consists of seven disclosure categories, which are: (i) employees, (ii) communities, (iii) environmental issues, (iv) products and services, (v) energy, (vi) customers, and (vii) other disclosure items that are consistent and compatible with the Saudi Arabian culture and its economic environment. In addition, this index uses the Unweigh measure to identify the level of CSR disclosure quantity; if the annual report exists the items will takes '1', otherwise '0'. Appendix A details the disclosure index for CSR disclosure quantity.

In terms of the index that measures CSR disclosure quality, it is based on the qualitative characteristics of accounting information suggested in the conceptual framework of the International Financial Reporting Standards

(IFRS) (2010a). Following prior research (for example, Jonas and Blanchet, 2000; Botosan, 2004; Beest *et al.*, 2009), this study develops a disclosure index to measure the level of CSR quality on the basis of the qualitative characteristics of information discussed in the conceptual frameworks. In addition, Beest *et al.* (2009) develop a comprehensive measure to operationalise and to enhance the qualitative characteristic of annual report information.

Following Beest *et al.* (2009) and Chakroun and Hussainey (2014), this study measures the level of quality of CSR disclosure in Saudi Arabian firms weighted on the basis of the qualitative characteristics of the financial information. Consequently, the study adopted 4 themes (characteristics), which are 'Relevance', 'Faithful representation', 'Understandability' and 'Comparability',² to assess the level of quality of CSR disclosure in the annual report. It has some questions to identify the level of CSR disclosure quality, and each question has 5 likerts. Moreover, if the annual report discloses about the items that it is identify the CSR disclosure quality.

Prior research (for example, Milne and Adler, 1999; Haji, 2013; Hassanein and Hussainey, 2015) suggest that the researchers should pay attention to the reliability and validity of their disclosure indices. Consequently, the CSR disclosure indices of the quantity and quality have been tested for reliability and validity.

The checklists were improved through revising the draft twice before making it final, to enhance the criterion and content validity. Accordingly, we ensured that the drafts of the CSR disclosure indices were discussed in BAFA conferences, where comments were received from experienced researchers in the field of CSR. Following previous studies, (for example, Ng, 1985; Abdurouf, 2011; Haji, 2013) after designing the initial checklist, it was reviewed independently by both the principal and the second supervisor in order to achieve instrument validity. All suggestions and comments were discussed and considered in order to improve the validity of the instrument.

Further, following prior research (for example, Botosan, 1997) we use analytical analysis to check the validity of the CSR disclosure score. This is done by examining the association between CSR disclosure scores (quantity and quality) and the firm characteristics. Further, in the empirical results in 'Research Design', the study finds that CSR disclosure quantity is positively associated with board size, audit committee size and company size, and negatively associated with governmental ownership, remuneration committee size, firm leverage and dividends paid. In addition, the CSR disclosure quality is positively associated with board size, managerial ownership, firm size and firm leverage, and negatively associated with independent directors and dividends paid. These results add validity to our disclosure indices (quantity and quality).

This study ensures the reliability of the disclosure indices (quantity and quality) in the following way. Following the previous research (for example, Linsley and Shrives, 2006), decision rules were produced and used as a coding reference to improve the reliability. Then, the researcher and the two supervisors coded the annual reports of the sample in the pilot study, independently. This procedure aimed to ensure consistency in applying the checklist of CSR disclosure based on the qualitative characteristics to measure the CSR disclosure quality. Finally, the results obtained were checked and found to be close.

Regression model

To test the hypotheses related to the association between CSR disclosure quantity and governance mechanisms (Hypothesis 1a, Hypothesis 2a, Hypothesis 3a, Hypothesis 4a, Hypothesis 5a, Hypothesis 6a, Hypothesis 7a, Hypothesis 8a and Hypothesis 9a), the study controls for some firm specific characteristics that are identified in prior research as determinants of CSR disclosure. These variables are firm profitability, size, liquidity, leverage and dividends. Moreover, the CSR disclosure may be affected by the implementation of some accounting regulations or may be affected by some industry-specific

characteristics. Because of this reason, the year and industry fixed effects are used to control for variations in CSR disclosures. Equation (1) summarises the empirical model.

$$\begin{aligned} CSR_{Quan} = & \beta_0 + \beta_1 BSIZE + \beta_2 INDTO \\ & + \beta_3 GOVWN + \beta_4 MANOW + \beta_5 CEOD \\ & + \beta_6 BMET + \beta_7 ACZISE \\ & + \beta_8 REMCOSZE + \beta_9 AUDYPE \\ & + \beta_{10} PROF + \beta_{11} SIZE + \beta_{12} LIQ + \beta_{13} LEV \\ & + \beta_{14} DIVI + \text{Year Fixed Effect} \\ & + \text{Industry Fixed Effect} \end{aligned} \quad (1)$$

where

CSR_{Quan} is the quantity of CSR disclosure; BSIZE is the total number of directors on the board; INDTO is the number of independent directors in the firm's board of directors; GOVWN is percentage of shares owned by government; MANOW is the aggregate percentage of shares held by major shareholders (with at least 3 per cent ownership); CEOD is a dummy variable, equals 1 if the chairman is the same person as the CEO of the firm, 0 otherwise. BMET is the total number of board meetings during the year; ACSZE is the total number of directors in audit committee; REMCOSZE is the number of members of the firm remuneration committee; AUDYPE is a dummy variable that is equal to 1 if the firm is audited by one of the big 4 audit firms and 0 otherwise. PROF is firm profitability, measured using returns on the assets ratio; SIZE is the firm size, measured using the value of total assets; LIQ is firm liquidity, measured using the current ratio (current assets/current liabilities); LEV is firm leverage, measured using the ratio of total liabilities to total assets; and DIVI is the total dividends paid to common shareholders.

Consistently, to test the hypotheses related to the association between CSR disclosure quality and governance mechanisms (Hypothesis 1b, Hypothesis 2b, Hypothesis 3b, Hypothesis 4b, Hypothesis 5b, Hypothesis 6b, Hypothesis 7b, Hypothesis 8b and Hypothesis 9b), the study controls for some firm specific characteristics that have been identified in prior research as determinants of CSR disclosure. These variables are firm profitability, size, liquidity,

leverage and dividends. Besides, the CSR disclosure may be affected by the implementation of some accounting regulations or may be affected because of some industry-specific characteristics. Because of this reason, the year and industry fixed effects are used to control for variations in CSR disclosures. Equation (2) summarises the empirical model.

$$\begin{aligned} CSR_{Qual} = & \beta_0 + \beta_1 BSIZE + \beta_2 INDTO \\ & + \beta_3 GOVWN + \beta_4 MANOW + \beta_5 CEOD \\ & + \beta_6 BMET + \beta_7 ACZISE \\ & + \beta_8 REMCOSZE + \beta_9 AUDYPE \\ & + \beta_{10} PROF + \beta_{11} SIZE + \beta_{12} LIQ + \beta_{13} LEV \\ & + \beta_{14} DIVI + \text{Year Fixed Effect} \\ & + \text{Industry Fixed Effect} \end{aligned} \quad (2)$$

where

CSR_{Qual} is the quality of CSR disclosure; BSIZE is the total number of directors on the board; INDTO is the number of independent directors in the firm board of directors; GOVWN is the percentage of shares owned by government; MANOW is the aggregate percentage of shares held by major shareholders (with at least 3 per cent ownership); CEOD a dummy variable, equals 1 if the chairman is the same person as the CEO of the firm, 0 otherwise. BMET is the total number of board meetings during the year; ACSZE is the total number of directors in audit committee; REMCOSZE is the number of members in the firm remuneration committee; AUDYPE is dummy variable that is equal to 1 if the firm is audited by 1 of the big 4 audit firms and 0 otherwise. PROF is firm profitability, measured using returns on the assets ratio; SIZE is the firm size, measured using the value of total assets; LIQ is firm liquidity, measured using the current ratio (current assets/current liabilities); LEV is firm leverage, measured using the ratio of total liabilities to total assets; and DIVI is the total dividends paid to common shareholders.

RESULT ANALYSIS

Descriptive statistics

Table 2 details the descriptive statistics of all variables. The mean value of the CSR

Table 2: Sample descriptive statistics

	<i>N</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Minimum</i>	<i>25 per cent</i>	<i>Medium (50 per cent)</i>	<i>75 per cent</i>	<i>Maximum</i>
CSRQuan	171	9.433	9.517	0.000	2.000	6.000	15.000	51.0
CSRQual	171	0.334	0.141	0.100	0.20000	0.325	0.425	1.300
BSZE	171	8.485	1.606	4.0	7.000	9.000	9.000	12.0
INDTOR	171	4.064	1.587	0.000	3.000	4.000	5.000	11.0
GOVWN	171	0.032	0.134	0.000	0.000	0.000	0.000	0.7431
MANOWR	171	0.055	0.126	0.000	0.000	0.000	0.045	0.7000
CEOD	171	0.357	0.480	0.000	0.000	0.000	1.000	1.0
BMET	171	5.292	2.323	0.000	4.000	5.000	6.000	16.0
ACSZE	171	3.316	0.929	0.000	3.000	3.000	4.000	6.0
REMUCOSZE	171	3.368	1.067	0.000	3.000	3.000	4.000	7.0
AUDYPE	171	0.632	0.483	0.000	0.000	1.000	1.000	1.0
PROF	171	13.242	15.597	-60.94	0.000	13.010	20.570	59.410
SIZE	171	14.720	1.622	11.268	13.80	14.551	15.280	19.643
LIQ	171	1.393	1.275	0.070	0.480	0.960	1.770	5.770
LEV	171	57.961	67.515	0.000	8.20	32.760	87.490	354.910
DIVI	171	493 507	1 858 755	0.000	23.000	65 000	306 000	18 502 401

Notes: CSRQuan refers to the quantity of CSR disclosure; CSRQual is the quality of CSR disclosure; BSZE is the total number of directors on the board; INDTO is the number of independent directors in the firm’s board of directors; GOVWN is the percentage of shares owned by government; MANOW is the aggregate percentage of shares held by major shareholders (with at least 3 per cent ownership), CEOD is a dummy variable, equals 1 if the chairman is the same person as the CEO of the firm, 0 otherwise; BMET is the total number of board meetings during the year; ACSZE is the is the total number of directors in audit committee; REMCOSZE is the number of members in the firm remuneration committee; AUDYPE is a dummy variable that is equal to 1, if the firm is audited by one of the big 4 audit firms and 0 otherwise; PROF is firm profitability, measured using returns on the assets ratio; SIZE is the firm size, measured using the value of total assets; LIQ is firm liquidity, measured using the current ratio (current assets/current liabilities); LEV is firm leverage, measured using the ratio of total liabilities to total assets; DIVI is the total dividends paid to common shareholders.

This table provides the descriptive statistics of CSR disclosure quantity and quality, in addition to explanatory variables.

disclosure quantity (CSRQuan) is 9.433 (0.334), which reveals that the value of the CSR disclosure quantity in Saudi Arabian firms, is higher than the value of the CSR disclosure quality. In addition, the minimum and maximum values of the CSR disclosure quantity range from 0.000 to 51.00, respectively. However, the minimum and maximum values of the CSR disclosure quality range from 1.00 to 1.3, respectively.

In terms of governance mechanisms, the mean value of board size (BSZE) is 8.485 with a

minimum value of 4.0 and a maximum value of 12.0. This means that the board size of Saudi Arabian firms ranges from 4 members on the board to 12 members. The mean value of the percentage of independent directors (INDTOR) on the board is 4.064 with a minimum value of 0.00 and a maximum value of 11.0. In terms of ownership structure, the mean value of governmental ownership (GOVWN) is 0.032, and minimum and maximum values are 0.000 and 0.743, respectively. In addition, the mean value of managerial ownership (MANOWR) is 0.055,

and the minimum is 0.000, whereas the maximum is 0.700. The mean value of the role duality of CEO (CEOD) is 0.357 with a minimum value of 0.000 and a maximum value of 1.0. The mean value of board meeting (BMET) is 5.292, whereas the minimum value is 0.000, and the maximum value is 16.0. The audit committee size (ACSZE) of Saudi Arabian firms has a mean value of 3.316 and its minimum value is 0.000 and its maximum value is 6.0. Furthermore, the mean value of remuneration committee size (REMUCOSZE) is 3.368, and the minimum value is 0.000 and the maximum value is 7.0. Finally, the auditor type (AUDYPE) has a mean value of 0.632 with minimum and maximum values of 0.000 and 1.0, respectively.

With regard to firm characteristics, the mean value of firm profitability (PROF) is 13.242, with a minimum value of -60.94 and a maximum value of 59.410. Firm size (SIZE) has a minimum value of 11.268, a maximum value of 19.643 and a mean value of 14.720. Firm liquidity (LIQ) has minimum and maximum values of 0.070 and 5.770, respectively. Firm leverage (LEV) has a minimum value of 0.000 and a maximum value of 354.910, with a mean value of 57.961. The dividends paid (DIVI) have a mean value of 493 507, and a minimum and maximum of 0.000 and 18 502 401, respectively

Correlation analysis

According to Gujarati and Porter (2009), high correlation among variables might cause a problem of multicollinearity.³ If there is problem of multicollinearity, the reliability of the estimates is affected (Acock, 2008). Moreover, the problem of multicollinearity might cause a problem in terms of evaluating the significance variables in regression. Therefore, it is required to match the aggregate correlation among all the independent variables (Tabachnick and Fidell, 2007).

The Pearson correlation matrix is a basic tool to detect the multicollinearity problem. Gujarati

and Porter (2009) pointed that variables have a high correlation if the correlation is bigger than 0.80. Therefore, multicollinearity among variables is accepted if the correlation coefficients are less than 0.80.

Table 3 shows the Pearson correlation matrix among all the independent and dependent variables used in this study. Pearson coefficients are relatively low among all variables, less than 0.80, indicating that there is no multicollinearity problem.

An additional check for multicollinearity is performed by calculating the Variance Inflation Factor (VIF) after each regression model. Prior research indicates that, if the VIF value is more than 10, there is a multicollinearity problem. The mean and maximum values of the VIF tests are tabulated with the regression result and show that there is no concern about this problem (Field, 2009).

The Pearson correlation matrix is also used to measure the strength and direction of the linear relationship between two variables. It provides evidence that CSR quantity is statistically correlated positively with some corporate governance variables such as BSZE at 0.182 (10 per cent significance level), CEOD at 0.191 (10 per cent significance level) and ACSZE at 0.173 (10 per cent significance level), and with firm characteristics such as firm size at 0.273 (5 per cent significance level) and dividends paid at 0.287 (5 per cent significance level). However, the CSR disclosure quality is associated positively with board size at 0.155 (10 per cent significance level), managerial ownership at 0.216 (5 per cent significance level) and with firm characteristics such as firm size at 0.206 (5 per cent significance level) and dividend paid at 0.292 (10 per cent significance level).

Moreover, the Pearson correlation matrix indicates significant association between CSR disclosure quantity and quality with some firm characteristics variables. This study finds that there is a positive relationship between CSR disclosure quantity and quality, which both are significantly correlated with firm size and

Table 3: Pearson correlation matrix

<i>N</i>	<i>CSRQuan</i> 171	<i>CSRQual</i> 171	<i>BSZE</i> 171	<i>INDTO</i> 171	<i>GOVWN</i> 171	<i>MANOW</i> 171	<i>CEOD</i> 171	<i>BMET</i> 171	<i>ACSZE</i> 171
CSRQuan	1	0.605** 0.000	0.182* 0.017	0.001 0.991	0.079 0.301	0.021 0.788	0.191* 0.012	0.063 0.414	0.173* 0.024
CSRQual		1	0.155* 0.043	-0.095 0.217	0.072 0.351	0.216** 0.004	0.079 0.301	-0.036 0.639	0.107 0.166
BSZE			1	0.352** 0.000	0.089 0.245	-0.020 0.798	0.049 0.527	0.047 0.543	0.165* 0.031
INDTO				1	-0.099 0.200	0.049 0.525	-0.038 0.622	0.011 0.888	0.062 0.421
GOVWN					1	-0.107 0.163	-0.022 0.771	0.119 0.122	0.278** 0.000
MANOW						1	-0.050 0.514	-0.155* 0.043	-0.098 0.202
CEOD							1	-0.073 0.343	0.062 0.418
BMET								1	0.172* 0.024
ACSZE									1
REMCOSZE									
AUDYPE									
PROF									
Size									
LIQ									
LEV									
DIVI									

<i>N</i>	<i>REMCOSZE</i> 171	<i>AUDYPE</i> 171	<i>PROF</i> 171	<i>SIZE</i> 171	<i>LOQ</i> 171	<i>LEV</i> 171	<i>DIVI</i> 171
CSRQuan	0.000 0.996	0.068 0.377	0.135 0.077	0.273** 0.000	-0.095 0.216	-0.08 0.914	0.287** 0.000
CSRQual	0.042 0.587	0.103 0.181	0.078 0.312	0.206** 0.825	-0.099 0.196	0.017 0.007	0.292** 0.000
BSZE	0.286** 0.000	0.216** 0.004	0.136 0.076	0.392** 0.000	0.081 0.291	-0.004 0.956	0.088 0.253
INDTO	-0.018 0.820	-0.092 0.234	0.054 0.480	0.046 0.546	-0.074 0.339	-0.066 0.390	-0.087 0.257
GOVWN	0.254** 0.001	0.185* 0.015	-0.104 0.177	0.459** 0.000	0.22* 0.003	-0.030 0.701	0.495** 0.000

Table 3 *continued*

<i>N</i>	<i>REMCOSZE</i> 171	<i>AUDYPE</i> 171	<i>PROF</i> 171	<i>SIZE</i> 171	<i>LOQ</i> 171	<i>LEV</i> 171	<i>DIVI</i> 171
MANOW	-0.089 0.246	0.023 0.767	0.179* 0.019	-0.070 0.362	-0.069 0.369	-0.064 0.408	-0.070 0.365
CEOD	-0.017 0.826	0.037 0.628	0.149 0.052	0.037 0.630	-0.147 0.055	-0.033 0.670	0.177* 0.021
BMET	0.189* 0.013	0.013 0.869	0.007 0.925	0.156* 0.042	-0.073 0.346	-0.113 0.143	0.158* 0.040
ACSZE	0.635** 0.000	0.064 0.406	0.018 0.815	0.307** 0.000	0.121 0.116	0.001 0.986	0.216** 0.004
REMCOSZE	1	0.128 0.096	0.121 0.115	0.253** 0.001	0.090 0.241	-0.021 0.786	0.249** 0.001
AUDYPE		1	0.123 0.109	0.291** 0.000	0.165 0.031	-0.029 0.705	0.154* 0.044
PROF			1	0.034 0.663	-0.273 0.000	0.124 0.107	0.117 0.128
Size				1	-0.301 0.000	-0.096 0.210	0.122 0.111
LIQ					1	0.498 0.000	-0.060 0.437
LEV						1	0.482 0.000
DIVI							1

*, **, *** indicate significance at 0.01, 0.05 and 0.1 level.

Notes: CSRQuan refers to the quantity of CSR disclosure; CSRQual is the quality of CSR disclosure; BSZE is the total number of directors on the board; INDTO is the number of independent directors in the firm's board of directors; GOVWN is the percentage of shares owned by government; MANOW is the aggregate percentage of shares held by major shareholders (with at least 3 per cent ownership), CEOD is a dummy variable, equals 1 if the chairman is the same person as the CEO of the firm, 0 otherwise; BMET is the total number of board meetings during the year; ACSZE is the total number of directors in an audit committee; REMCOSZE is the number of members of the firm remuneration committee, AUDYPE is a dummy variable that is equal to 1, if the firm is audited by one of the largest four audit firms and 0 otherwise; PROF is firm profitability, measured using returns on the assets ratio; SIZE is the firm size, measured using the value of total assets; LIQ is firm liquidity, measured using the current ratio (current assets/current liabilities); LEV is firm leverage, measured using the ratio of total liabilities to total assets; DIVI is the total dividends paid to common shareholders.

This table reports the Pearson correlation matrix among all variables.

dividend paid, respectively, 0.206 and 0.292 (5 per cent significance level).

This result is consistent with some prior research (for example, Laksamana, 2008; Hussainey and Al-Najjar, 2011) that suggest that the corporate governance variables are

associated with firm disclosure. Regarding previous research, the firm characteristics results by Wang and Hussainey (2013) and Abdul Nasser *et al* (2006) suggest the firm characteristics relationship with firm disclosure.

Regression analysis

Table 4 summarises the results of OLS regression analysis of the relationship between CSR disclosure and corporate governance mechanisms. Panel A reports the results of the CSR disclosure quantity (Model 1), whereas panel B reports the results of the CSR disclosure quality (Model 2). It is apparent that the *F*-values of Models 1 and 2 are 5.800 (at 1 per cent significance level) and 2.564 (at 1 per cent significance level), respectively. These values indicate that both model 1 and model 2 are statistically significant. Moreover, the adjusted R^2 values of models 1 and 2 are 0.37.2 and 16 per cent, respectively. These values imply that model 1 explains 37 per cent of total variation in CSR disclosure quantity and model 2 explains 16 per cent of the CSR disclosure quality. In sum, both Models 1 and 2 are statistically effective for explaining the variation in the extent of CSR disclosure quantity and quality. Overall, their values imply a good fit of the models.

The coefficient for CSRQuan on BSZE is 0.826 and is statistically significant at 10 per cent level of significance. This result indicates that CSR quantity is positively associated with board size. In other words, the result suggests that the quantity of CSR disclosure increases as long as the board size increases. Therefore, the researcher accepts the Hypothesis 1a that an association exists between CSR disclosure quantity and board size. In addition, it finds that the coefficient for CSRQual on the BSZE is 0.016 and is statistically at 10 per cent level of significance. This result indicates that CSR disclosure quality is positively associated with board size, meaning that the quality of CSR disclosure quality increases as long as the size of the board of directors increases. Therefore, the researcher accepts Hypothesis 1b that an association exists between CSR disclosure quality and board size.

The results are consistent with the expectations of the agency and the signalling theories. Shareholders of a firm expect a high-level and quality of disclosure from the board of directors,

as they have been selected to represent their interests (Davidson *et al*, 1998). In addition, the agency theory proposes that board size is a crucial factor in monitoring management behaviour (Fama and Jensen, 1983; Allegrini and Greco, 2013). Furthermore, on the basis of the signalling theory, a positive association between board size and voluntary disclosure is expected.

The results are also consistent with prior research (for example, Brammer and Pavelin, 2006, 2008; Laksamana, 2008; Hussainey and Al-Najjar, 2011, Schiehl *et al*, 2013) that find a positive association between voluntary disclosure and board size. However, some prior research provides a negative relationship between board size and voluntary disclosure (for example, Cerbioni and Parbonetti, 2007). Others find there to be no significant impact in terms of board size on corporate disclosure (for example, Lakhali, 2005; Cheng and Courtenay, 2006).

The coefficient of CSRQuan on INDTOR is -0.367 and is not statistically significant at any level of significance. This result indicates that the CSR disclosure quantity is not significantly associated with the percentage of independent directors. Therefore, the researcher rejected the Hypothesis 2a that an association exists between the CSR disclosure quantity and independent directors. In contrast, the coefficient of CSRQual on INDTOR is -0.015 and is statistically at 5 per cent level of significance. This result indicates that the CSR quality is negatively associated with the percentage of independent directors, meaning that the existence of independent directors on the board of directors decreases the quality of the CSR disclosure. Therefore, the Hypothesis 2b is accepted in that an association exists between the CSR disclosure quality and the percentage of independent directors.

The results could be explained according to the agency theory and some prior research. Study by Beak *et al* (2009) established a positive association between the amount of outside directors on boards and the comprehensiveness of financial disclosure. In addition, some studies



Table 4: Regression results: Determinates of CSR disclosure quantity and quality

	Panel A (Disclosure quantity)				Panel B (Disclosure quality)			
	Unstandardised coefficients		t-statistics	Significance	Unstandardised coefficients		t-statistics	Significance
	B	Standard error	VIF	Collinearity statistics	B	Standard error	VIF	Collinearity statistics
Constant	-35.848***	9.035	-3.968	0.000	-0.083	0.156	-0.536	.593
BSZE	0.826*	0.476	1.733	0.085	0.016*	0.008	1.959	0.052
INDTOR	-0.367	0.417	-0.881	0.380	-0.015**	0.007	-2.073	0.040
GOVWN	-16.550**	6.558	-2.524	0.013	-0.168	0.113	-1.489	0.139
MANOWR	-1.777	4.981	-0.357	0.722	0.233***	0.086	2.713	0.007
CEOD	1.911	1.326	1.441	0.152	-0.002	0.023	-0.084	0.933
BMET	0.299	0.290	1.030	0.305	-0.003	0.005	-0.509	0.611
ACSZE	1.617*	0.893	1.810	0.072	0.015	0.015	1.000	0.319
REMUCOSZE	-2.494***	0.776	-3.216	0.002	-0.019	0.013	-1.420	0.158
AUDYPE	-0.494	1.335	-0.370	0.712	0.009	0.023	0.398	0.691
PROF	-0.060	0.047	-1.279	0.203	-0.001	0.001	-1.539	0.126
SIZE	3.351***	0.707	4.740	0.000	0.028**	0.012	2.278	0.024
LIQ	-0.368	0.531	-0.692	0.490	-0.003	0.009	-0.327	0.744
LEV	-0.034**	0.013	-2.580	0.011	0.000*	0.000	-1.966	0.051
DIVI	-0.006***	0.000	2.840	0.005	-0.008***	0.000	2.741	0.007
Fixed effect			Year and industry				Year and industry	
Adjusted R ²			0.372				0.162	
F-test			5.800***				2.564***	
F Significance			0.000				0.001	
Durbin-Watson			1.483				1.424	
Observation			171				171	

* **, *** indicate significance at 0.01, 0.05 and 0.1 level.

Notes: CSRQuan refers to the quantity of CSR disclosure; CSRQual is the quality of CSR disclosure; BSZE is the total number of directors on the board; INDTO is the number of independent directors in the firm's board of directors; GOVWN is the percentage of shares owned by government; MANOW is the aggregate percentage of shares held by major shareholders (with at least 3 per cent ownership); CEOD is a dummy variable, equals 1 if the chairman is the same person as the CEO of the firm, 0 otherwise; BMET is the total number of board meetings during the year; ACSZE is the total number of directors in audit committee; REMCOSZE is the number of members of the firm's remuneration committee; AUDYPE is a dummy variable that is equal to 1, if the firm is audited by one of the largest four audit firms and 0 otherwise; PROF is firm profitability, measured using returns on the assets ratio; SIZE is the firm size, measured using the value of total assets; LIQ is firm liquidity, measured using the current ratio (current assets/current liabilities); LEV is firm leverage, measured using the ratio of total liabilities to total assets; DIVI is the total dividends paid to common shareholders.

This table reports the Regression Results of the Determinates of CSR disclosure quantity

find a negative association between outside directors on the boards and the levels of voluntary disclosure (Barako *et al.*, 2006; Hoitash *et al.*, 2009). Other studies find no association between the CSR disclosure and independent directors (for example, Hoe and Wong, 2001; Haniffa and Cooke, 2002).

This study finds that the coefficient for CSRQuan on GOVWN is -0.165 and is statistically significant at 5 per cent level of significance. This result indicates that the CSR disclosure quantity is negatively associated with governmental ownership, meaning that the quantity of the CSR disclosure is reduced when governmental ownership exists. Therefore, the Hypothesis 3a is accepted. However, the coefficient of CSRQual on GOVWN is -0.168 and is not statistically significant at any level of significance. This result suggests that there is no impact of governmental ownership on the CSR disclosure quality. Therefore, the Hypothesis 3b is rejected.

From a stakeholder theory perspective, state (government) ownership is a key factor influencing corporate governance disclosure; particularly in emerging countries where concentrated ownership structures are widespread (Shleifer, 1998; Cornett *et al.*, 2010; Al-Moataz and Hussainey, 2012). Some prior research finds that a positive relationship exists between governmental ownership and voluntary disclosure (Baek *et al.* 2009; Makhija and Patton, 2004). However, the result is consistent with prior research (for example, Barth *et al.*, 1999; Liu *et al.*, 2014; Similarly, Luo and Bhattacharya, 2006) that find a negative association between voluntary disclosure and governmental ownership.

The coefficient for CSRQuan on MANOWR is -1.77 and is not statistically significant at any level of significance. This result indicates that the percentage of managerial ownership has no effect on the level of the CSR disclosure quantity. Therefore, the researcher rejects the Hypothesis 4a that an association exists between the CSR disclosure quantity and managerial ownership. However, the coefficient of CSRQual on MANOWR is 0.233 and is statistically significant at 10 per cent level of

significance. This suggests that the CSR disclosure quality increases as long as the percentage of managerial ownership increases. Therefore, the researcher accepted the Hypothesis 4b.

According to the agency theory, firms with a higher level of managerial ownership would align the interests of managers and shareholders, and hence may have lower agency costs (Jensen and Meckling, 1976). Hence, a positive association is expected between managerial ownership and voluntary disclosure. However, the findings of previous research into this relationship are mixed. Nevertheless, the result is consistent with prior research (for example, Chau and Gray, 2002; Jaing and Habib, 2009; Wang and Hussainey, 2013) that find that a positive association exists between voluntary disclosure and managerial ownership. In contrast, Eng and Mak (2003) reported a negative relationship between managerial ownership and the quality of corporate disclosures.

The study finds that the coefficient for CSRQuant on ACSZE is 1.617 and is statistically significant at 10 per cent level of significance. This result indicates that the quantity of the CSR disclosure rises when the audit committee size increases. Therefore, the researcher accepted the Hypothesis 7a that an association exists between CSR disclosure quantity and audit committee size. However, the coefficient of CSRQual on ACSZE is 0.015 and is not statistically significant at any level of significance. This result indicates that the CSR disclosure quality is not associated with the audit committee size. Therefore, the researcher rejects the Hypothesis 7b that an association exists between the CSR disclosure quality and audit committee size.

The agency theory suggests that firms with a good audit committee will give higher disclosure of information in order to reduce agency costs and information asymmetry. In addition, CSR disclosure is another means of mitigating the agency problem, where managers disclose more CSR information to reduce the agency costs (Barako *et al.*, 2006), as well as to convince the external users that managers are acting in an

optimal way (Watson *et al*, 2002). In addition, this result is also consistent with the signalling theory that indicates that firms disclose CSR information in order to reduce the information asymmetry problem and to signal their favourable results to investors (Oyeler *et al*, 2003). The results are also consistent with some previous research on voluntary disclosure. For instance, O'Sullivan *et al*, (2008), Fleo *et al*, (2009) and Li *et al*, (2012) find a positive association between the disclosure of voluntary information and the audit committee.

The study finds that the coefficient for CSRQuan on REMUCOSZE is -2.494 and is statistically significant at 1 per cent level of significance. This result indicates that the CSR disclosure quantity is negatively associated with the remuneration committee, meaning that the quantity of the CSR disclosure reduces when the size of the remuneration committee increases. Therefore, the researcher accepted the Hypothesis 8a that an association exists between the CSR disclosure quantity and remuneration committee. Conversely, the coefficient of CSRQual on REMUCOSZE is -0.019 and is not statically significant at any level of significance. The result shows that there is no association between the CSR disclosure quality and remuneration committee size. The Hypothesis 8b is therefore rejected.

Furthermore, the coefficients of the CSR disclosure quantity (quality) on CEOD, BMET and AUDYPE are -0.494 (-0.002), 0.299 (-0.003) and 1.911 (0.009), respectively, and they are not statistically significant at any level of significance. This result suggests that CSR disclosure (quantity or quality) is not affected by the role of CEO duality, board meetings or by auditor type.

In terms of firm characteristics, the study finds that the coefficient for CSRQuan on SIZE is 3.351 and is statistically significant at 1 per cent level of significance. This result indicates that a positive association exists between firm CSR disclosure quantity and firm size. In other words, the result suggests that the quantity of the CSR disclosure increases when the

firm size increases. In addition, the coefficient of CSRQual on SIZE is 0.028 and is statistically significant at 5 per cent level of significance. This result indicates that a positive association exists between firm CSR disclosure quality and firm size. In other words, the result suggests that the quality of CSR disclosure increases when the firm size increases. This result is consistent with prior research (for example, Watson *et al*, 2002; Boesso and Kumar, 2007; Taurangana and Mangena, 2009; Wang and Hussainey, 2013) that find that a positive relationship exists between firm size and disclosure of voluntary information.

The study finds that the coefficient for CSRQuan on LEV is -0.034 and is statistically significant at 5 per cent level of significance. This result indicates that the CSR quantity is negatively associated with firm leverage, meaning that a negative association exists between firm CSR quantity and firm leverage. In other words, the result suggests that the quantity of the CSR disclosure increases when firm leverage decreases. Furthermore, the CSRQual on LEV is 0.000 and is statistically significant at 1 per cent level of significance. This result indicates that CSR disclosure quality is positively associated with firm leverage. The results are consistent with some previous research on voluntary disclosure. For instance, Taurangana and Mangena (2009), Hussainey and Al-Najjar (2011), and Boubaker *et al* (2011) find a positive association between the disclosure of voluntary information and firm leverage.

The study finds that the coefficient for CSRQuan on DIVI is -0.006 and is statistically significant at 1 per cent level of significance. This result indicates that CSR quantity is negatively associated with dividends paid, suggesting that the quantity of the CSR disclosure increases when dividends paid are decreased. The result is not consistent with some previous research on voluntary disclosure. For instance, Abdul Nasser *et al* (2006), Hussainey and Al-Najjar (2011), Wang and Hussainey (2013) find a positive association between the disclosure of voluntary information and dividends paid.

Finally, the coefficients of CSR disclosure quantity (quality) on PROF and LIQ are -0.060 (-0.001) and -0.368 (-0.003), respectively, and they are not statistically significant at any level of significance. This result suggests that the CSR disclosure (quantity and quality) is not affected by firm profitability and firm liquidity.

CONCLUSION

This is the first study that empirically investigates the CSR disclosure in Saudi Arabian firms distinguishing between the quantity and quality of CSR disclosure. The study aims to measure the quantity and quality of CSR disclosure and to identify the determinants of CSR disclosure quantity and quality. It uses a sample from Saudi Arabian non-financial listed firms over the period of 2013–2014. The study develops a CSR disclosure index to measure the CSR disclosure quantity and quality.

This study finds that Saudi Arabian firms provide higher levels of CSR disclosure; however, the quality of this disclosure is low. In addition, it finds that the quantity of CSR disclosure is positively (negatively) associated with board size, (percentage of governmental ownership), size of the audit committee and size of the remuneration committee. In contrast, the quality of the CSR disclosure is positively (negatively) associated with board size, (percentage of independent directors) and with the percentage of managerial ownership.

The results of the current study suggest important implications for users of the annual reports from Saudi Arabian non-financial firms. The research focusses on the two important themes, which are CSR disclosure quantity and quality, and the corporate governance mechanism. Clearly, there is limited literature on those two issues, particularly in developing countries (for example, Saudi Arabia). The study develops two measures for CSR disclosure quantity and quality, which are helpful for users to evaluate the practice of CSR disclosures from Saudi Arabian firms. In addition, these measures help to

enhance the reporting practices of companies concerning CSR disclosure when they present them in their annual reports. It also provides useful information to a wide range of stakeholders, particularly to those who are in developing Islamic countries.

However, the current study has some limitations that have to be considered as potential avenues for future research. First, the current study focusses on a cross sectional variation across firms ignoring the differences that may result in CSR disclosure because of the differences in the sectors. This is may be a crucial avenue for future research to analyse sectors separately. Second, this study focusses only on one country, which is Saudi Arabia. Future research may expand the design of the research by adding more countries to the analysis.

NOTES

- 1 This is the same governance code applied to companies in Saudi Arabia.
- 2 Definition of each characteristics is included in Appendix B.
- 3 Multicollinearity (also, multicollinearity or colinearity) exists when two or more variables are highly correlated, meaning that one can be linearly predicted from the other (Tabachnick and Fidell, 2007; Gujarati and Porter, 2009).

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APPENDIX A

Table A1: CSR disclosure quantity index

1. <i>Employee</i>	5. <i>Environmental issues</i>
Employee data	Environmental policy statement
Training and development	Designing facilities harmonious with environment
Employees benefit	Using recycling material
Pension	Sponsoring environmental activities
Work place	pollution
2. <i>Community</i>	Waste management
Community investment	Conservation of natural resources
Contribution to national economy	6. <i>Energy</i>
Education	Disclosing the company energy policies
Health and safety	Conservation of energy
Social Loan	Disclosing increased energy efficiency of products
Social activities support	7. <i>Other Disclosures regarding to Saudi environment</i>
Funding scholarship programs	Charitable society for the holy Quran memorisation
Human rights	Ongoing charity (WAGFF)
Charity and donation	Hajj donations
volunteering	Others disclosure related to Sharia activities
Establish non-profit project	
3. <i>Products and services</i>	
Developing and innovating new products	
Products and services quality	
ISO and other awards	
Guidance campaigns	
4. <i>Customer</i>	
Information of commercial and marketing	
Meeting customer needs	
customer feedback	
Customer service	
Customer satisfaction	
Existing of certificated systems of quality	

APPENDIX B

Table A2: The index to measure of CSR disclosure quality index

<i>Relevance</i>			
<i>Question</i>	<i>Question</i>	<i>Likert's</i>	<i>Literature</i>
<i>no</i>			
R1	To what extent does the company disclosed the CSR in the annual report?	1 = No disclose about CSR 2 = Disclosed of CSR information limited (boilerplate paragraph). 3 = Disclosed for forward-looking information. 4 = Apart subsection of CSR. 5 = Extensive information useful for making expectation.	For example, Jonas and Blanchet (2000) Chakroun and Hussainey (2014)
R2	To what extent does the presence of non-financial company in terms of business opportunities and to what extent contribute to the society and environment?	1 = No non-financial information 2 = Little non-financial information, not useful for forming expectations 3 = Useful non-financial information 4 = Useful financial information, helpful for developing expectations 5 = Non-financial information presents additional information which helps developing expectations	For example, Jonas and Blanchet (2000) Chakroun and Hussainey (2014)
<i>Faithful representation</i>			
F1	To what extent does the company, in the discussion of CSR in the annual report, highlight the positive events as well as the negative events?	1 = No positive and negative events are mentioned 2 = Negative events only mentioned in footnotes 3 = Emphasise on positive events 4 = Balance positive/negative events of CSR 5 = Impact of positive/negative events of CSR is also explained	For example, Chakroun and Hussainey (2014)
F2	To what extent does the company provide more explain of CSR information?	1 = No description of CSR 2 = Information on CSR limited, 3 = Apart subsection of CSR 4 = Extra attention paid to information concerning CSR 5 = Comprehensive description of CSR	For example, Jonas and Blanchet (2000)

Table A2 *continued*

<i>Relevance</i>			
<i>Question no</i>	<i>Question</i>	<i>Likert's</i>	<i>Literature</i>
<i>Understandability</i>			
U1	To what extent is the annual report presented of CSR in a well-organized manner?	1 = Very bad presentation (no text of CSR) 2 = Bad presentation (text only) 3 = Poor presentation (text and graphs) 4 = Good presentation (text, graphs and ratio) 5 = Very good presentation (full paragraph with more descriptive)	For example, Jonas and Blanchet (2000) Chakroun and Hussainey (2014)
U2	To what extent does the presence of graphs and tables clarifies the presented information of CSR?	1 = No graphs 2 = 1–5 graphs 3 = 6–10 graphs 4 = 11–15 graphs 5 = > 15	For example, Jonas and Blanchet (2000)
<i>Comparability</i>			
C1	To what extent is the information of CSR in the annual report comparable to information provided by other organisations?	1 = No comparability (no paragraph) 2 = Limited comparability (one paragraph) 3 = Moderate comparability (two paragraph) 4 = Very much comparability (two paragraph with numbering) 5 = Very extensive comparability (more than above)	For example, IASB (2008); Jonas and Blanchet (2000). Chakroun and Hussainey (2014)
C2	To what extent does the company presents financial index numbers of CSR and ratios in the annual report?	1 = No ratios 2 = 1–2 ratios 3 = 3–5 ratios 4 = 6–10 ratios 5 = > 10 ratios	For example, Cleary (1999)



Relevance

Information is considered to be relevant when it has high ability of making difference in many of the decisions taken by users (. IASB, 2010, p. 17). IFRS progress that 'Financial information is able to make a difference in decision-making'.

Faithful representation

For information to be faithfully representative, it should be complete, natural and free of material misstatement (IASB, 2010).

Understandability

The IASB (2010) define the understandability as understanding of knowledge regarding the

quality of the information that enabled users to understand their meaning. IASB (2010) suggest that understandability is enhanced when information is classified, characterised and presented clearly and concisely.

Comparability

The Comparability is considered to be the quality of information that enables users to identify similarities in, and differences between, two sets of economic phenomena characteristic (IASB, 2010). In addition, it helps users to identify the key trends and analyse the performance of the company over time (ASB, 2006).