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Corporate Boards, Ownership Structures and Corporate Disclosures: Evidence from a Developing Country

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Abstract

Purpose: This paper investigates the effect of corporate board attributes, ownership structure and firm-level characteristics on both corporate mandatory and voluntary disclosure behaviour in annual reports of Libyan firms.

Design/methodology/approach: Multivariate regression techniques are used to estimate the effect of corporate board and ownership structures on mandatory and voluntary disclosures of a sample of Libyan firms between 2006 and 2010.

Findings: First, we find that board size, board composition, the frequency of board meetings and the presence of an audit committee have an impact on the level of corporate disclosure. Second, this study finds an evidence that director ownership, foreign ownership, government ownership and institutional ownership have a non-linear effect on the level of corporate disclosure. Finally, we find that firm age, liquidity, listing status, industry type and auditor type are positively associated with the level of corporate disclosure.

Limitation: Future research could investigate disclosure practices using other channels of corporate disclosure, such as corporate websites. Useful insights may be offered also by future studies by conducting in-depth interviews with corporate managers, directors and owners regarding these issues.

Implication: Investors may also rely on such corporate governance characteristics to shape expectations about voluntary and/or mandatory information disclosure.

Originality/value: Existing disclosure studies have mainly examined governance and voluntary disclosure relationship in non-listed firms. Our study, therefore, extends, as well as contributes to the existing literature by the examining the governance-disclosure nexus relating to both mandatory and voluntary disclosures in both listed and non-listed firms.

Keywords: Corporate governance; Board and ownership structures; Corporate disclosure behaviour; Multi-theoretical perspective.

Paper type: Research Paper

1. Introduction

The quality and quantity of information disclosed by companies in annual reports in a particular country depends heavily on its level of economic development, the development of the accounting profession, the legislation in force and the existence of a sophisticated financial market (Saudagaran and Biddle, 1992, Jaggi and Pek Yee, 2000, Roberts *et al*., 2005; Elghuweel et al., 2017). In this vein, following recent changes and reforms of both the Libyan economy and legislation of financial reporting, government legislation and laws have played a major role in shaping the current financial reporting practices in Libya (Kribat *et al*., 2013). In this case, Libyan context specific issues offer an interesting setting for many reasons. First, the economy of Libya used to be unique in many aspects due to the peculiar characteristics of its political regime and the rise in contribution over the last 30 years of the petroleum sector to its economy. A large proportion of this source of income has been used to establish industrial companies in non-oil sectors over the last two decades (Almehdi, 1997). Second, the Libyan legal system developed from a combination of Islamic legal principles and French Civil law with all the main laws, including the Civil Code, Income Tax Law (ITL), Libyan Banking Law (BL) and the Libyan Commercial Law (LCL) having undergone substantial amendments since 1954 (El-Firjani *et al*., 2014; La Porta *et al*., 1997; Elmghaamez & Ntim, 2016). Third, the use of LCL in 1954 was a pioneer effort in the corporate governance field. Specifically, the LCL consists of a number of Articles that demonstrate the main corporate governance principles. For example, it highlighted the main responsibilities, working mechanism and structure of the board of directors and the monitoring committee (Abdul Karim, 2005; El-Firjani *et al*., 2014; Shernanna, 2013).

Fourth, despite the growth in the economy, the accounting profession in Libya is still relatively under developed. The Libyan Accountants and Auditors Association was established in 1973. However, it only prepared its first Libyan Accounting Standards draft, which included 29 accounting standards, in 2006. Fifth, the establishment of the LCL in 1953 was the cornerstone of corporate governance in Libya providing guidelines for establishing, registering, managing, governing and dissolving all forms of firms. Moreover, it also establishes the sanctions that may be imposed on companies for any failure to satisfy any requirements of the law. Finally, corporate ownership is largely concentrated in the form of government, family (directors) and foreign institutional investors (Halal *et al*., 2014). Together, these Libyan context specific issues offer an interesting setting to examine the drivers of corporate disclosures. The researchers, therefore, seek to examine the extent to which corporate board mechanisms, ownership structures, and firm-level characteristics, may impact on the level of corporate disclosures in this distinct corporate context.

To-date, prior research has provided inconclusive definition of disclosure. According to Cooke (1992, p. 231) disclosure can be defined as *"consisting of both voluntary and mandatory items of information provided in the financial statements, notes to the accounts, management's analysis of operations for the current and forthcoming year and any supplementary information"*. Similarly, Gibbins et al (1990, p. 122) defined financial disclosure as *"any deliberate release of financial information, whether numerical or qualitative, required or voluntary, or via formal or informal channels"*. On the other hand, a comprehensive definition of financial disclosure was provided by Choi (1973, p. 160) *"the publication of any economic information relating to a business enterprise, qualitative or otherwise, which facilitates the making of investment decisions"*. In the same vein, von Alberti-Alhtaybat *et al*. (2012), Abdul Karim (2005), and Al-Janadi *et al*. (2016) further subdivided disclosure into (i) textual and financial, (ii) voluntary and mandatory, and (iii) in print and/ or internet disclosures. However, von Alberti-Alhtaybat *et al.* (2012) have argued that a complete and perfect accounting financial information is presumably depended on users' needs, as well as it is influenced by managers' incentives. Thus, it could be argued that disclosure is often aimed at providing high quality financial information that can reduce information asymmetry and thus useful for market efficiency and decision-making (Abdul Karim, 2005, 2012; Al-Janadi *et al*., 2016; Al-Janadi et al., 2013; von Alberti-Alhtaybat *et al*., 2012).

In this paper, the researchers seek to contribute to the extant corporate governance and disclosure literature by examining the extent to which corporate governance, ownership structure and firm-level characteristics can influence both corporate mandatory and voluntary disclosure behaviour using a sample of Libyan listed and non-listed firms. The past decades have witnessed the collapse of a number of large global corporations in both developed and developing countries, such as China Forestry, Enron and WorldCom (Barako *et al*., 2006, Bozec and Bozec, 2007). These corporate failures have often been attributed to poor accountability, corporate governance, disclosure and transparency practices (Branco and Rodrigues, 2008, Chen and Roberts, 2010, Fifka, 2013; Ntim, 2012a, b, 2013a, b, c). Not surprisingly, there has been increasing interest in the issue of corporate governance, accountability, disclosure and transparency in recent years (Aljifri, 2008, Aljifri et al., 2014, Benjamin and Stanga, 1977, Cooke, 1989a, Inchausti, 1997, Wang and Hussainey, 2013). Indeed, a number of studies have been conducted, which have aimed at providing an understanding of the factors influencing corporate disclosure practices (Benjamin and Stanga, 1977, Cooke, 1989a, b, Ho and Shun, 2001, Inchausti, 1997, Meek et al., 1995; Al-Bassam et al,. 2017; Al-Bassam and Ntim, 2017).

However, a careful assessment of this literature reveals a number of discernible weaknesses. Firstly, despite increasing suggestions that corporations may engage in disclosures for a multiple of theoretical reasons and therefore the ability of any single theoretical framework to fully explain the motivations underlying corporate disclosures is limited, existing studies are either largely descriptive in nature (Benjamin and Stanga, 1977, Cooke, 1989a, b, Meek et al., 1995, Inchausti, 1997, Owusu-Ansah, 1998, Ho and Shun, 2001) or underpinned by single theoretical framework (Chen and Roberts, 2010, Watts and Zimmerman, 1990). This limits current understanding of the various motivations underlying corporate disclosures. Secondly, although corporate disclosures typically consist of mandatory and voluntary ones, existing studies have focused almost exclusively on understanding the determinants of, and motivations for, corporate voluntary disclosures to the neglect of mandatory disclosures (Abdul Karim, 2005, 2012; Al-Janadi et al., 2016; Al-Janadi et al., 2013; Abdullah et al., 2015, Choi, 1973, Gray et al., 1995, Tsalavoutas, 2011, Shehata et al., 2014). Thirdly, although the majority of corporations are non-listed, existing studies examining the motivations for, and determinants of, corporate disclosures have focused mainly on listed corporations (Barako et al., 2006, Bozec and Bozec, 2007). By contrast, there is an acute dearth of studies analysing corporate disclosures in non-listed corporations (Benjamin and Stanga, 1977, Cooke, 1989a, b, Ho and Shun, 2001, Inchausti, 1997, Meek et al., 1995, Owusu-Ansah, 1998), and thereby impairing current understanding of corporate disclosure behaviour with respect to non-listed firms is inevitable.

Fourthly, despite increasing theoretical and empirical suggestions that corporate decisions, including those relating to disclosure are often taken by corporate boards and owners (Eng and Mak, 2003, Ntim et al., 2012a, b, 2013), existing studies have focused primarily on examining how firm-level characteristics, such as firm size and industry, drive corporate disclosures. In contrast, studies investigating the extent to which corporate governance and ownership structures can influence the extent of corporate disclosures are rare (Collett and Hrasky, 2005), and thereby limiting current understanding of how and why corporate governance and ownership structures may influence corporate disclosure behaviour. Finally, despite increasing importance of developing countries around the world, existing studies examining corporate disclosure behaviour are primarily concentrated in developed countries with largely similar institutional and contextual characteristics (Fifka, 2013, Ntim and Soobaroyen, 2013a, b). In contrast, developing countries, such as Libya have different economic, institutional, legal and political environments and thus, the effect of corporate governance, ownership and firm-level variables on corporate disclosure can be expected to be different from those that have been found for firms operating in developed countries. Therefore, an examination of the various factors that may influence corporate disclosure behaviour in developing countries, where empirical evidence is limited can help in providing full understanding of corporate disclosure behaviour around the world (Aljifri, 2008, Aljifri et al., 2014, Benjamin and Stanga, 1977, Cooke, 1989a, Inchausti, 1997, Wang and Hussainey, 2013; Ntim et al., 2017a, b).

Consequently, this paper seeks to examine the effect of corporate governance, ownership structure and firm-level characteristics on the extent of disclosure of Libyan companies, and thereby extending, as well as making a number of new contributions to the extant literature. Firstly and unlike most prior studies that have examined how firm-level characteristics, such as firm size and industry, affect corporate disclosure behaviour, the current study examines how corporate boards, executives and owners in addition to firm-level features drive the level of corporate disclosure. Thus, this contributes to a small, but gradually increasing number of studies that have evaluated the effect of corporate governance and ownership structures on the level of corporate disclosure (Barako et al., 2006, Eng and Mak, 2003, Ntim et al., 2012a, b, 2013, Ntim and Soobaroyen, 2013a, b). Secondly, distinct from prior studies that have focused mainly on examining the determinants of only voluntary disclosure, the researchers examine the antecedents of both mandatory and voluntary disclosures. Thirdly, our analyses are informed by a number of theoretical perspectives, including agency, resource dependence, legitimacy and stakeholder theories. This distinguishes our study from much of the existing studies that are either largely descriptive or informed by a single theoretical perspective. Finally, distinct from most prior studies, our analyses cover both listed and non-listed firms, and thereby allowing us to provide new empirical insights relating to the disclosure behaviour of both listed and non-listed firms.

The remainder of the paper is organised as follows. Section 2 explores the theoretical framework. Section 3 presents a review of relevant literature and hypotheses development. The research method is outlined in Section 4. Section 5 presents the empirical results. Finally, Section 6 presents the conclusions, policy implications of the results, and directions for future research.

2. Theoretical framework

Prior studies (Alhazaimeh et al., 2014, Barako et al., 2006, Elzahar and Hussainey, 2012, Laksmana, 2008, Ntim and Soobaroyen, 2013a, b, Ntim et al., 2012a, b, 2013, Samaha et al., 2012, Samaha et al., 2015, Wang and Hussainey, 2013; Elmagrhi et al., 2016, 2017) have relied on a number of theories, such as agency, legitimacy, resource dependence and stakeholder theories to inform and interpret the motivations of managers to engaging in mandatorily and voluntarily disclosures. These theories may inform and interpret the motivations differently.

Firstly, more engage in mandatorily and voluntarily disclosures may decrease agency conflicts (e.g., Elzahar and Hussainey, 2012, Jensen and Meckling, 1979, Ntim et al., 2013). Hence, enhanced mandatorily and voluntarily disclosures may decrease information asymmetry between managers and firm stockholders and develops the shareholders ability to monitor management's practices (Beekes et al., 2016). In this context, agency theory suggests a monitoring role of the CG mechanisms to monitor managerial behaviours influencing shareholders (Fama and Jensen 1983). This role confirms that the managers interest in line with shareholders (Fama 1980, Fama and Jensen 1983). Thus, CG practices may minimize agency costs and how successfully monitors whether managers to work their opportunistic behaviour rather than the shareholders' interests. However, agency theory was criticized because it focuses on the opportunistic behaviour assumption and ignore other stakeholders. Also, shareholders monitoring through more disclosures can be costly and may reveal information which could be damaging to the firm's competitive position (Beekes et al., 2016, Verrecchia, 1983).

Secondly, and from a legitimacy perspective (Asforth and Gibbs, 1990, Ntim et al., 2012a, b, Suchman, 1995), engaging in more mandatorily and voluntarily disclosures practices may deliberately enhance firm legitimacy to the larger society that may achieve sustainable growth by increasing firm reputation. Specifically, legitimacy theory offers that there is a social agreement between firms and society. Consequently, firms should act consistently with social values, ethics and expectations (Branco and Rodrigues, 2008), and should be responsive to social pressures. Firms which disclose more information to fulfil those contracts may experience an increase in social acceptance, leading to bridge the legitimacy gap (Branco and Rodrigues, 2008). For example, firms may legitimate their survival by disclosing their activities as making a contribution to health, charity and environment to society as a whole. But legitimacy theorist could not precisely determine firm stakeholders, as well as over explanations of managerial behaviour towards stakeholders instead of balancing between stockholders and stakeholders returns (e.g., Kiliç et al., 2015, Ntim et al., 2013).

Thirdly, and from a resource-dependence view, better mandatorily and voluntarily disclosures (Elzahar and Hussainey, 2012, Oliveira et al., 2011, Pfeffer and Salancik 1978, Pirson and Turnbull, 2011) may give firms more chance to obtain crucial resources with better costs by improving and signalling corporate quality and reputation (Pfeffer and Salancik, 1978, Branco and Rodrigues, 2006). In this context, reduce information asymmetry through better mandatorily and voluntarily disclosures may leads to better financing, investment and liquidity effects (Botosan, 1997, Beretta and Bozzolan, 2004, Brown et al., 2009). Specifically, better mandatorily and voluntarily disclosures may lead to lower capital restrictions, enhanced finance access, and conveys financial benefits in the future (e.g., Cheng et al., 2014, Hoang et al., 2016). Resource dependence theory suggests that improving CG mechanisms is likely to affect firm's financial returns (Hafsi and Turgut 2013). Resource dependence theory suggests that the CG is a firm resource, consist of expertise, image, and information links (Hoang et al., 2016). Thus, CG can leads to improvement in mandatorily and voluntarily disclosures. However, the resource-dependence theory relevance in clarifying the disclosure motivations has been suggested to be weakened because it is heavily focused on firm corporate strategic reasons rather than showing accountability and liability to other stakeholders.

Fourthly, stakeholder theory implies that engaging in improved mandatorily and voluntarily disclosures (Claessens and Yurtoglu, 2013, Elzahar and Hussainey, 2012, Kiliç et al., 2015) might be strategic approach to obtain the support of key stakeholders, such as, potential investors, creditors, customers, suppliers, auditors, employees and government (Freeman, 1984, Donaldson and Preston, 1995), who are essential to the firm ability for sustainability conducting their operations. These stakeholders have expectations regarding disclosure practices of the firms, such as accounting policies, corporate governance, CSR, and future prospects. Firms should meet the stakeholders' expectations to achieve sustainable growth by using mandatorily and voluntarily disclosures as a communication channel (Barako and Brown, 2008, Kiliç et al., 2015). Thus, working responsibly to firms' stakeholders and confirming sound connections will develop the firm's performance and build strategic benefits for its shareholders and other stakeholders sequentially (Claessens and Yurtoglu, 2013, Kiliç et al., 2015). However, stakeholder theorist also could not specifically determine powerful stakeholders, as well as over explanations of managerial behaviour towards stakeholders instead of stockholders returns.

As briefly discussed, there are obvious limits with each distinct theoretical viewpoint's ability to inform and interpret the motivations of managers to engaging in mandatorily and voluntarily disclosures, thus, this paper implement a multi-theoretical frame that consider these theories to be complementary instead of competing ideas. The researchers debate that a joined consideration will offer better basis for understanding and explaining the motivations for mandatorily and voluntarily disclosures within the Libya context. The researchers, therefore, draw from these theories in developing our hypotheses. However, as these theories have widely been discussed in the extant literature, this paper does not offer detailed expatiations on their underlying assumptions and meanings.

3. Empirical literature and hypotheses development

Firstly, prior studies (Alhazaimeh et al., 2014, Barako et al., 2006, Elzahar and Hussainey, 2012, Laksmana, 2008, Ntim and Soobaroyen, 2013a, b, Ntim et al., 2012a, b, 2013, Samaha et al., 2012, Samaha et al., 2015, Wang and Hussainey, 2013) have relied on a number of theories, such as agency, legitimacy, resource dependence and stakeholder theories to inform and interpret their finding. The researchers, therefore, draw from these theories in developing our hypotheses. However, as these theories have widely been discussed in the extant literature, this paper does not offer detailed expatiations on their underlying assumptions and meanings. Secondly, although extensive research has been carried out investigating the impact of corporate governance mechanisms and ownership structure on corporate disclosure practices (Chen and Jaggi, 2000, Haniffa and Cooke, 2002, Eng and Mak, 2003, Gul and Leung, 2004, Arcay and Muiño, 2005, Cheng and Courtenay, 2006, Ghazali and Weetman, 2006), most of these studies focus on developed countries leading to inadequate evidence from developing countries. Thirdly, whilst a number of studies have been conducted in a number of developing countries, these are limited to countries, such as Kenya by Barako et al. (2006), UAE by Adawi and Rwegasira (2011) and Aljifri et al. (2014), South Africa by Ntim et al. (2012a, b), Egypt by Samaha et al. (2012), Tunisia by Fathi (2013), and Jordon by Alhazaimeh et al. (2014). The researchers, therefore, examine the effect of board variables (i.e., board size, CEO role duality, board composition, frequency of board meetings and the existence of an audit committee) and ownership mechanisms (director ownership, foreign ownership, government ownership and institutional ownership) on the level of corporate disclosure in Libya. To the best of our knowledge, this will be the first attempt to investigating the effect of board and ownership mechanisms on the level of corporate disclosure in Libya, and thus offers vital opportunities to extend, as well as make a number of new contributions to the extant corporate governance and disclosure literature.

In terms of corporate governance and in particular, the responsibilities of the board of directors (consisting of a balance in terms of executive and non-executive directors), the LCL does not specify the exact number of directors that should form corporate boards, instead it leaves this to the general assembly of a firm to decide, including the power to appoint the board members. With regard to the appointment of the chairman of the board by the general assembly, the members of the board are in position, where they have the right to elect one of the members to be the chairman. The roles of the chairman and CEO is expected to be held by two different people (The New Libyan Legislation Code, 1972. Article 172). In addition, according to the LCL, managing and establishing the general policy of a firm is the responsibility of the board of directors, which needs to be approved by its general assembly. Furthermore, the LCL requires every company to establish an audit committee, as well as expecting corporate boards to meet at least six times in a year (Articles 35 and 38 of the 1970 Commercial Act). Similar to other developing countries, but different from most developed countries, corporate ownership is largely concentrated in the form of government, family (directors) and foreign institutional investors (Halal et al., 2014). Together, these Libyan context specific issues offer an interesting setting to examine the drivers of corporate disclosures. The researchers, therefore, seek to examine the extent to which corporate governance, ownership and firm-level characteristics may impact on the level of corporate disclosures in this corporate context.

3.1 *Corporate governance characteristics*

As the objective of this paper is to assess how corporate governance mechanisms influence corporate disclosure practices in Libya, five related corporate governance variables are being investigated, namely board size, CEO role duality, board composition, the frequency of board meetings and existence of an audit committee.

Board size: According to agency theory, board size is a key determinant in monitoring its activities and decision making. Board size is measured by the number of both executive and non-executive directors (NEDS) on the board. It has been argued by Laksmana (2008) that a large board leads to a higher opportunity to have diversity of experts in areas, such as financial reporting. More importantly, Samaha et al. (2012) suggest that larger boards are less likely to be dominated by senior executives. As a result, firms with larger board size are more likely to disclose more information than those with smaller board size. By the same token, stakeholder theory assumes that firms with larger boards can get greater access to their external environment, which as result secures resources such as finance and business contracts and reduces uncertainties (Jia et al., 2009). On the other hand, others claim that larger boards are associated with poor communication and monitoring leading to a negative impact on firms' disclosure behaviour (Herman, 1981, Jensen, 1993; Ntim, 2016). In addition, resource dependence theory postulates that larger boards are more likely to consist of greater diversity of expertise and stakeholder representation, which can contribute to improved corporate reputation (Lajili and Zéghal, 2005, Linsley and Shrives, 2006).

Empirically and although most prior research supports the positive association between board size and corporate disclosure behaviour (Barako et al., 2006, Gao and kling, 2012, Laksmana, 2008, Wang and Hussainey, 2013, Samaha et al., 2015). For instance, Gao and kling, 2012 examine the relationship between board size and disclosure level using Chinese companies from 2001 to 2007. Using constructed disclosure index, Gao and kling, 2012 find that board size is positively infelunce disclosure level.However, some researchers found no relationship between board size and disclosure level (Lakhal, 2005, Othman et al., 2014, Ebrahim and Fattah, 2015). On the other hand, some studies argue that board size may have a negative impact on the board effectiveness, leading members to be less motivated to take part in decision making and resulting in low levels of disclosure (Yermack, 1996, Byard et al., 2006). Although, the LCL does not specify the exact number of directors that should form a corporate board, the researchers expect a positive association between board size and corporate disclosure. Based on the above discussion, the researchers propose the following hypothesis:

H_1: There is a significant positive association between board size and the level of corporate disclosure in annual reports of Libyan companies.

CEO Role Duality: CEO role duality is where the Chief Executive Officer (CEO) of a firm also serves as the chairman of the board. Theories such as agency, stakeholder and resource-dependence theories postulate that duality in position of CEO can have a negative impact on corporate performance and disclosure (Reverte, 2009). From the agency perspective, duality in position provides the CEO with a power that might negatively impact on the board's control. It is argued that effectiveness in board monitoring can be by having a large number of independent directors, which can lead to greater transparency and disclosure (Gul and Leung, 2004). By the same token, Fama and Jensen (1983) state that independence of directors is a key determinant in the process of monitoring managers' performance and earnings. From resource-dependence theory perspective, separating the board chairman and CEO positions can improve a firm's legitimacy in its environment (legitimacy theory) as well as stakeholders' participation (stakeholder theory) by encouraging equality and fairness in executive decision making (Elzahar and Hussainey, 2012).

With regard to the empirical relationship between role duality and the extent of corporate disclosure, prior research has provided mixed results divided into two streams. The first stream finds that there is no significant association between these two variables (Ho and Shun, 2001, Arcay and Muiño, 2005, Cheng and Courtenay, 2006). The other stream finds a negative relationship between the two variables (Eng and Mak, 2003, Gul and Leung, 2004, Elzahar and Hussainey, 2012, Michelon and Parbonetti, 2012, Ntim and Soobaroyen, 2013a, Ebrahim and Fattah, 2015, Samaha et al., 2015). In the Libyan corporate context, the LCL fails to discuss the important issue of CEO role duality. Based on the above theoretical underpinning and empirical findings, the researchers submit the following hypothesis:

H_2: There is a significant negative association between role duality and the level of disclosure in annual reports of Libyan companies.

Board composition: Fama and Jensen (1983) argue that boards composed of a higher proportion of independent NEDs are more influential in monitoring and controlling managerial decisions than those with lower proportion. According to agency and stakeholder theories, the board of directors is perceived not only as a key mechanism of internal control for monitoring managers and to mitigate agency problems between managers and shareholders, but also as a mechanism to advance the interests of other stakeholders, such as employees and communities (Chen and Roberts, 2010, Ntim et al., 2013). In this regard, the increased independence associated with NEDs assumes that their presence may enhance corporate response to stakeholders' informational needs (Lopes and Rodrigues, 2007). Similarly, legitimacy theory argues that the legitimacy concern of modern companies comes from the separation of ownership from control (Jensen and Meckling, 1976). This legitimacy gap is thought to be alleviated through appointing independent NEDs to ensure stakeholders' interests are achieved (Freeman and Reed, 1983).

Empirically, a range of board decisions are found to be influenced by independent directors. This argument was clearly supported by the findings of Beasley (1996), when he reported that boards with higher proportion of outside directors are less likely to witness financial statement fraud, and Dechow et al. (1996) found that firms with boards dominated by management have more likelihood to experience accounting enforcement actions by the SEC. Consistent with the theoretical predictions, prior research has provided mixed results regarding association between the proportion of NEDs and voluntary disclosure. Some studies found evidence of positive association between NEDs and voluntary disclosure (Chen and Jaggi, 2000, Leung and Horwitz, 2004, Barako et al., 2006, Ntim et al., 2012b, Alhazaimeh et al., 2014, Samaha et al., 2015). Conversely, other researchers found either no association (Ho and Shun, 2001, Aljifri et al., 2014, Ebrahim and Fattah, 2015) or negative association between the two (Ho and Shun, 2001, Eng and Mak, 2003, Gul and Leung, 2004, Ghazali and Weetman, 2006). With regard to the LCL, the law does not discuss the proportion of non-executive directors on the board. Therefore, based on the above theoretical and empirical evidence, the researchers set the following hypothesis:

H_3: There is a significant positive association between the proportion of non-executive directors and the level of disclosure in annual reports of Libyan companies.

Frequency of meetings: Ntim and Osei (2011) argue that frequency of board meetings measures the intensity of a board's activities and the quality or effectiveness of its monitoring. As a board of directors needs to be timely updated regarding firm background and activities, frequent board meetings can put greater pressure on management to provide additional information. Brick and Chidambaran (2010) argue that frequent board meetings are a continuous commitment to share information with management. From a positive theoretical perspective, a higher frequency of board meetings can help to improve the quality of managerial monitoring which in turn has a positive impact on corporate performance (Ntim and Osei, 2011). One the other hand, others argue that board meeting cannot be guaranteed to be beneficial to shareholders' interests. For example, Vafeas (1999) claims that the limited time directors spend together is used for routine tasks, such as presentation of management reports rather than exchange of ideas and suggestions, which consequently shrink the amount of time that outside directors have to monitor management. Empirically, the positive argument of this relationship was supported by the findings of Allegrini and Greco (2013), Laksmana, (2008) and Barros et al. (2013) who found that a lower frequency of board meetings is associated with the extent of disclosure. However, Alhazaimeh et al. (2014), find that there is no significant relationship between frequency of meeting of the board and voluntary disclosure. The related empirical evidence is in line with the above theoretical evidence, and thus the researchers test the following hypothesis:

H_4: There is a significant positive association between number of board meetings and the level of disclosure in annual reports of Libyan companies.

Existence of audit committee: Firms form audit committees voluntarily as an essential mechanism to monitor agency costs and improve the quantity as well as the quality of information that is disclosed for the various corporate stakeholders (Samaha et al., 2012, Othman et al., 2014). According to agency theory, the existence of an audit committee can help firms to reduce agency costs particularly if it is dominated by NEDs. It is considered to be an important element for the board of the directors to internally control decision making and enhance the quality of information flow between owners and managers (Fama, 1980, Arcay and Muiño, 2005). Empirically, Ho and Shun (2001), Barako et al. (2006), Al-Shammari and Al-Sultan (2010) and Samaha et al. (2015) find that the presence of an audit committee has a positive impact on corporate disclosure behaviour. On the other hand, others do not find such association between the two variables (Allegrini and Greco, 2013, Alhazaimeh et al., 2014, Aljifri et al., 2014). Based on the above theoretical and empirical evidence, the fifth hypothesis is formulated below as:

H_5: There is a significant positive association between the existence of audit committee and the level of disclosure in annual reports of Libyan companies.

3.2 *Ownership structure variables*

Foreign ownership: From a theoretical perspective, agency theory postulates that ownership becomes dispersed as result of an increase in the number shareholders, leading to an increase in the demands for more information disclosure (Fama and Jensen, 1983). According to Bradbury (1992), corporate disclosure is expected to be higher in widely-held firms, which can consequently lead to an increase in information demand from foreign investors because of the separation between owners and management. Empirically, Alhazaimeh et al. (2014) and Haniffa and Cooke (2002) find that there is a significant positive association between foreign ownership and the extent of corporate voluntary disclosure. However, Aljifri et al. (2014) find no association between foreign ownership and corporate financial disclosure.

In the Libyan context, foreign shareholders are expected to face higher levels of information asymmetry due to the language barrier and differences in accounting practices. Therefore, firms with higher foreign ownership are expected to advance their disclosure practices and information quality such as presenting the annual reports in the English language. This was supported by Xiao et al. (2004) when they found that foreign ownership not only improves information disclosure, but also encourages firms to prepare English websites to facilitate disclosure of information in English. In this regard, a positive association is assumed and the researchers propose the following hypothesis:

H_6: There is a significant positive association between foreign ownership and the level of disclosure in the annual reports of Libyan companies.

Government ownership: high level of government ownership with strong political connection can offer a protection against greater scrutiny and discipline by weak regulatory frameworks which in result leads to low disclosure levels in such firms (Ntim et al., 2013). It has been argued that the degree of conflicts amongst powerful stakeholders (stakeholder theory), such as government and private owners, can lead to higher need for resolution through increasing disclosure level (Eng and Mak, 2003). Theoretically, different views exist that attempt to underpin the association between government ownership and corporate disclosure practices. One assumes that firms with higher state ownership can easily obtain funding from government, so these firms attract investors with less incentive to disclose more information. Conversely, from another perspective, these firms are under more public scrutiny, leading to pressure to disclose more information.

Prior literature, to some extent, is mixed regarding the association between government ownership and the extent of corporate disclosure. Alhazaimeh et al. (2014), Eng and Mak (2003), Ntim et al. (2012b) and Khan et al. (2013) report a positive association between government ownership and voluntary disclosure. However, Ghazali and Weetman (2006) find insignificant association between state ownership and the extent of information disclosure by Malaysian companies, while Ebrahim and Fattah (2015) and Dam and Scholtens (2012) report a negative association between government ownership and voluntary disclosure.

The Libyan government started a privatisation programme to drive the economy from a socialist to a market oriented economy by transferring the ownership of government enterprises to foreign and institutional investors in order to improve the Libyan economy and attract capital. The emergence of the LSM in 2006 was one of the important steps towards the implementation of the privatization agenda. The Libyan government is expected to be a powerful stakeholder that helps in legitimising their operations and enables access to additional resources (De Villiers and van Staden, 2006). Based on the above discussion, the researchers articulate the following hypothesis:

H_7: There is a significant positive association between government ownership and the level of disclosure in the annual reports of Libyan companies.

Institutional ownership: Generally, in large firms a large proportion of shares are owned by institutional investors. This large ownership provides institutional investors with the right to play an influential role in the structure of corporate governance. Therefore, they are privileged to have information advantages over the rest of the minority shareholders. From an agency theory perspective, institutional ownership is considered as a key part of effective control over the company, whereby managers disclose more information to meet the informational needs of institutional shareholders as influential stakeholders (stakeholder theory). In addition, legitimacy theory postulates that firms with high institutional ownership are keen to disclose more information to gain their support to justify their continued stewardship.

Empirically, Xiao et al. (2004) report that there is a positive association between the proportion of institutional ownership and the level of internet voluntary disclosure. Similarly, Bushee and Noe (2000) and Ebrahim and Fattah (2015) provide evidence that suggests a positive association between institutional investors' ownership and the extent of voluntary disclosure. However, Alhazaimeh et al. (2014) and Ntim and Soobaroyen (2013a) find a negative association between institutional ownership and the level of disclosure. With regard to the Libyan context, the government's plan to privatise its enterprises has led to an increase in the institutional ownership in Libyan privatised firms. Therefore, the researchers expect firms with high institutional ownership to disclose more information. Accordingly, the researchers test the following hypothesis:

H_8: There is a significant positive association between institutional ownership and the level of disclosure in the annual reports of Libyan companies.

Director ownership: As a result of directors' ownership, agency costs can be reduced, because director ownership can lead to alignment of the interests of owners and management (Jensen and Meckling, 1976). This can help in reducing the need for incurring monitoring and bonding costs and thus disclosure. As a result, shareholders will bear the increase in agency costs (Eng and Mak, 2003, Ghazali and Weetman, 2006). The increase in monitoring costs of a firm will encourage managers to disclose more voluntary information. Therefore, director ownership is perceived as an alternative corporate governance mechanism to disclosure, in which the need for more monitoring and disclosure decreases with higher director ownership. Agency theory suggests that there is a contradictory association between voluntary disclosures and director ownership. The extent of managerial ownership serves a way to align the management's interests with those of other shareholders leading to an increase in disclosure level (Jensen and Meckling, 1976). It argues that firms with higher proportion of director ownership are associated with less information asymmetry between the principal and the agent. Empirically, Eng and Mak (2003), Nagar et al. (2003) and Wang and Hussainey (2013) found a negative association between director ownership and corporate voluntary disclosure. Based on the above, the researchers set hypothesis as follows:

H_9: There is a significant negative association between director ownership and the level of disclosure in the annual reports of Libyan companies.

3.3 *Control variables*

In line with prior research, company characteristics are included in this study as control variables (Bradbury, 1992, Ho and Shun, 2001, Haniffa and Cooke, 2002, Barako et al., 2006, Ghazali and Weetman, 2006, Hassan et al., 2009). These are firm size, firm age, gearing, profitability, liquidity, listing status, industry type and auditor type. According to agency theory, large firms are more likely to be associated with agency costs due to the separation of management from ownership. Therefore, larger firms are more motivated to disclose more information than smaller firms (Watts and Zimmerman, 1990).

Furthermore, firm age, gearing and profitability are expected to be positively associated with corporate disclosure practices. Also, listing status, industry type and auditor type can influence the extent of disclosure in annual reports. With regard to the association between corporate characteristics and disclosure, previous research provides mixed evidence regarding the association corporate characteristics and corporate disclosure behaviour. Naser (1998) found a positive relationship between leverage and corporate disclosure, whereas Bradbury (1992) found no significant relationship. By the same token, Inchausti (1997) observed a positive association between the type of auditor and disclosure level. On the other hand, Haniffa and Cooke (2002) report no association.

4. Research methodology

4.1 *Data collection and sampling*

In this paper, secondary data is drawn from the annual reports of Libyan companies. Since this research aims to examine the association between corporate governance characteristics and ownership structure and the extent of disclosure in Libyan companies' annual reports, a disclosure index is developed to measure disclosure level. In order to provide a comprehensive picture of corporate reporting in the Libyan context, annual reports of three sectors namely; banks, manufacturing and services are collected. The rationale behind this is that these are the dominant sectors "after the oil and gas sector" in the Libyan economy in terms of their contribution to the total gross domestic product. The oil and gas sector is excluded as most of the companies operating in this sector are either foreign companies or partners of foreign companies with more advanced accounting and reporting practices.

TABLE 1 HERE

Annual reports for five years (2006-2010) are collected from the LSM, company websites, Audit Bureau, and Tax Authority. Out of 28 listed companies in the LSM, the annual reports of 22 companies are obtained, while the annual reports of 23 the big non-listed companies are obtained based on the classification of the Audit Bureau. Our sample is drawn from both listed (98 reports) and non-listed (95 reports) firms. The sample of non-listed firms is selected from data obtained from the Audit Bureau. The period (2006-2010) is selected due to the following reasons. Firstly, 2006 is chosen because it witnessed the emergence of the LSM. Secondly, 2010 is selected as it was the last year that annual reports were available at time of data collection. Thirdly, due to the Libyan uprising which started in 2011, annual reports from 2011 onwards are not available. A total of 211 annual reports are collected with 193 (65 financial and 128 non-financial[1]) usable annual reports.

4.2 *Variable measurement and model specification*

4.2.1 *Dependent variable: construction of the disclosure index*

A disclosure index is identified as a checklist of selected information items that are expected to appear in companies' annual reports in a single country or across countries (Cooke, 1989a, Marston and Shrives, 1991). The majority of previous corporate disclosure studies have used this measurement index (Cooke, 1989a, Meek et al., 1995, Akhtaruddin, 2005, Aljifri, 2008, Hassan et al., 2009, Hossain and Hammami, 2009, Omar and Simon, 2011). The disclosure index can consist of mandatory and/or voluntary informational items. There are two types of indices, namely weighted and un-weighted indices. Since, there is no general theory regarding the selection of items to be included in a disclosure index, prior research has inclined to consider a wide number of relevant information items.

Due to the fact that, there is a lack of a theoretical framework regarding the choice and selection of items to be included in a disclosure index, and the absence of a uniform set of accounting standards in Libya, extant government regulations and laws have been used to construct the disclosure index. As this part of the study does not focus on a specific user group, an un-weighted index is applied. The following rules are used to build a comprehensive index: the items required by statutory regulations (for example ITL, LCL and BL); a review of relevant disclosure literature to identify items specific to this study; and items included in the annual reports published by Libyan companies (e.g., Elmagrhi et al., 2016, Laksmana, 2008, Ntim and Soobaroyen, 2013a, b, Ntim et al., 2012a, b, 2013, Samaha et al., 2012, Samaha et al., 2015, Wang and Hussainey, 2013).

[1] Non-financial: 65 annual reports from manufacturing sector and 63 annual reports from services sector.

This resulted in an index, consisting of 141 information items divided into mandatory and voluntary items. The mandatory list (MD) consists of 33 items, whilst the voluntary list (VD) is made up of 108 items that are expected to be disclosed in annual reports of Libyan firms. A binary coding scheme is used in which the presence of an item is scored 1, otherwise 0 and thus, with this unweighted scoring, the higher a firm's score, the better its disclosure will seem to be and vice-versa.

4.2.2 *Reliability and validity of the disclosure index*

The reliability of a measurement tool refers to its ability to provide similar results to measure disclosure, when applied by different researchers (Marston and Shrives, 1991). Omar and Simon (2011) argue that the reliability of using disclosure indices may have some issues, such as scoring non-disclosed items. Therefore, in order to improve the reliability of the study's disclosure index, the final index is subject to review by three accounting specialists, one of them in the area of disclosure and transparency and two accountants in the LSM. These reviews resulted in adding four voluntary items and eliminating other seven items.

In addition each report was reviewed twice, firstly, for familiarisation of the firm's business and activities and relevance of the index to the firm. The reliability of this index was piloted for a sample of 40 annual reports. Secondly, the annual reports were scored again to ensure consistency with the original scoring. The relevance of mandatory items was determined by Libyan legislation (LCL, ITL and BL), whilst voluntary items were considered appropriate unless irrelevant to activities.

4.2.3 *Regression model*

A linear-multiple OLS regression was employed to examine the association between the independent variables of corporate governance attributes and ownership structure and the dependent variable of corporate disclosure. As the dependent variable in this paper is divided into mandatory and voluntary disclosure, three regression models are employed for each of mandatory disclosure, voluntary disclosure and overall combined disclosure. The estimated regression models are presented as follows:

$$MD = \beta_0 + \beta_1 Boards + \beta_2 DualP + \beta_3 BoCo + \beta_4 FreMee + \beta_5 AuCo + \beta_6 ForOwn + \beta_7 InstOwn + \beta_8 GovOwn + \beta_9 DirOwn + \beta_{10} FS + \beta_{11} FA + \beta_{12} Gaering + \beta_{13} Prof + \beta_{14} Liq + \beta_{15} Lis + \beta_{16} IndTyp + \beta_{17} AudTyp + \beta_{18} Year + e \quad \text{... (1)}$$

$$VD = \beta_0 + \beta_1 Boards + \beta_2 DualP + \beta_3 BoCo + \beta_4 FreMee + \beta_5 AuCo + \beta_6 ForOwn + \beta_7 InstOwn + \beta_8 GovOwn + \beta_9 DirOwn + \beta_{10} FS + \beta_{11} FA + \beta_{12} Gaering + \beta_{13} Prof + \beta_{14} Liq + \beta_{15} Lis + \beta_{16} IndTyp + \beta_{17} AudTyp + \beta_{18} Year + e \quad \text{... (2)}$$

$$ODL = \beta_0 + \beta_1 Boards + \beta_2 DualP + \beta_3 BoCo + \beta_4 FreMee + \beta_5 AuCo + \beta_6 ForOwn + \beta_7 InstOwn + \beta_8 GovOwn + \beta_9 DirOwn + \beta_{10} FS + \beta_{11} FA + \beta_{12} Gaering + \beta_{13} Prof + \beta_{14} Liq + \beta_{15} Lis + \beta_{16} IndTyp + \beta_{17} AudTyp + \beta_{18} YD + e \quad \text{... (3)}$$

where,
MD is the mandatory disclosure; *VD* is the voluntary disclosure; *ODL* is the overall disclosure level; β_0 is the constant term; *Boards* is the board size; *DualP* is the role duality; *BoCo* is the board composition; *FreMee* is the frequency of meetings; *AuCo* is the auditor committee; *ForOwn* is foreign ownership; *InstOwn* is institutional ownership; *GovOwn* is government ownership; *DirOwn* is director ownership; *FS* is firm size; *FA* is firm age; Prof is profitability; *Liq* is liquidity; *Lis* is listing status; *IndTyp* is industry type; *AudTyp* is auditor type, *YD* is the year; and e is the error term.

TABLE 2 HERE

The explanatory variables: a summary of the definition and measurement of the variables used in this paper are shown in Table 2.

5. Empirical results

5.1 *Descriptive statistics*

Table 3 illustrates the descriptive statistics of the variables. The table indicates that the level of average *MD* approximately 77% with a minimum score of 22 items and maximum score of 32 items out of the overall 33 mandatory items required by the Libyan authorities. It can be said that the level of compliance of the Libyan firms with the mandatory requirements is 77% representing a weak compliance with the Libyan laws and regulations. Although, the level of compliance with *MD* is high (77%), it is still lower than the finding of Kribat et al. (2013) who reported the level of *MD* to be 89%. Broadly speaking, the average compliance level with *MD* is low comparing with previous studies (Glaum and Street, 2003, Naser and Nuseibeh, 2003, Omar and Simon, 2011, Gao and Kling, 2012). However, this finding compares favourably to Akhtaruddin (2005) where the mean score was 43.53%.

With regard to the *VD*, Table 3 indicates that the extent of *VD* in the annual reports of the Libyan firms is 65% with a minimum score 59 items and maximum score of 85 items out of 108 voluntary information items included in the disclosure index. The extent of VD is higher when compared with the findings of Kribat et al. (2013), who reported a low level of voluntary disclosure. The evident increase in *VD* in this study clearly shows the impact of the LSM on disclosure practices in the country. Surprisingly, the average level of *VD* (65%) is high when compared with previous studies (Hossain and Hammami, 2009, Adelopo, 2011, Omar and Simon, 2011, Madi et al., 2014). The overall disclosure level is nearly 68% with a minimum score of 81 items and maximum of 114 items out of the total of 141 items of the disclosure index. There has been a steady increase in corporate disclosures *MD*, *VD* and *ODL* over time, consistent with previous studies (Omar and Simon, 2011). This steady increase is also articulated in Kribat et al. (2013), who focused on Libyan banks, as well as agency, legitimacy, resource dependence and stakeholder theoretical predictions, which indicate that firms may choose to improve trust of stockholders, powerful stakeholders such as government and employers, by engaging in mandatorily and voluntarily disclosures to signal their performance and management quality to investors and comply with government reforms, which may help in acquiring resources from the external environment. Regarding the independent variables, the average board size is 8 members and ranges between 3 and 14 members. Approximately 36% of companies' CEOs serve as board chairmen and the mean percentage of NEDs on the board is approximately 15%. The average of board frequency of meetings is 6 meetings per year with a minimum of 3 meetings and a maximum of 12 meetings annually. Similarly, approximately 54% of the sample firms have an audit committee. Concerning ownership structure variables, Table 3 shows that foreign investors own an average of 23% of the firms' shares, while the government owns an average of 31% of the firms' shares. On average, institutional investors own what is equal to 30% of the chosen sample. Directors hold 34% of the outstanding shares.

TABLE 3 HERE

The average firm size measured by the natural log of total assets is 237.36 million Libyan Dinar (LD) ranging widely from 34.856 to 986.754 million LD. The Skewness of firm size variable is alleviated by utilizing natural logarithm of size in the regression analysis, in line with prior studies (Glaum and Street, 2003, Hossain and Hammami, 2009). Firm age for the whole sample ranges from 7 to 39 years with a mean of 22 years. Gearing ranges widely from 12% to 54% with an average of 32.51%. Profitability measured by return on equity (*ROE*) ranges from 22% to 51% with a mean of 41%. The overall liquidity (current ratio) is 25.5%. Table 3 also shows that half the sampled firms are listed in the LSM. With regard to the industry type, 34% of the chosen sample is financial firms, while 66% are non-financial firms (manufacturing and services), and the annual reports of 52% of our sampled firms are audited by big audit 4 firms with an international affiliation with foreign auditing firms.

5.2 *Correlation analysis*

An initial diagnostic analysis of our variables is conducted to test the assumption of the inferential analysis. There are a number of assumptions that should be tested before performing our *OLS* model analysis. Pearson's product moment correlations test is performed to assess if there is a correlation between the study's variables. Table 4 shows the correlation analysis between all variables of the study. Since there is no high correlation among the variables, our analysis shows that there is no serious multicollinearity problem present among the independent variables. In addition to this, regression diagnostics, including *Q-Q* normality plots, histograms of all dependent variable, scatter plots of residuals against the predicted values, and the Kolmogorov–Smirnov *Z*-test for each independent and dependent variable are performed for normality, linearity and homoscedasticity assumptions (Cooke, 1993, Neter et al., 1996, Cooke, 1998). The results show no statistically harmful violation of any of these assumptions.

TABLE 4 HERE

From an overall view of corporate disclosure in the Libyan context, Table 4 shows that board size, board composition, frequency of meetings, audit committee, foreign ownership, firm size, gearing, profitability, listing status, industry type and auditor type are significantly and positively correlated with the overall disclosure level *ODL*. The univariate analysis supports our hypotheses H_1 *(BoardS)*, H_3 *(BoCo)*, H_4 *(FreMee)*, H_5 *(AuCo)* and H_6 *(ForOwn)*. These findings of correlations are compatible with previous studies H_1, H_4, H_5 and H_6 (Barako et al., 2006, Samaha et al., 2012, Ntim et al., 2013), while H_3 is inconsistent with Eng and Mak (2003). On the other hand, role duality *DualP* and government ownership *GovOwn* are negatively correlated with the *ODL*. These findings support H_2 consistent with Samaha et al. (2012) and Wang and Hussainey (2013), and H_7 consistent with Ebrahim and Fattah (2015) and (Dam and Scholtens, 2012)

Table 4 also shows that, with regard to *MD*, there is a statistically significant correlation between *MD* and the explanatory variables and control variables. It shows that frequency of board meetings, audit committee, gearing, profitability, listing status, industry type and auditor type are positively and significantly correlated with *MD*, while role duality and government ownership are negatively correlated with *MD*. For the *VD*, all corporate governance variables, foreign ownership, government ownership, firm size, gearing, profitability, listing status, industry type and auditor type are linked to the extent of *VD*. All these explanatory variables are significantly and positively correlated with the extent of *VD* except role duality and government ownership where they are negatively correlated with the extent of *VD* in Libyan firms' annual reports.

5.3 *Multivariate regression results and discussion*

To recap, our study aims to study the association between corporate governance attributes and ownership structure variables and the extent of corporate disclosure. To achieve this aim, a multiple linear regression is used to examine if there is any association between the explanatory variables and the extent of corporate disclosure. The results of the regression analysis of the determinants of corporate disclosure are shown in Table 5. In this paper, corporate disclosure is divided into three types, namely *MD*, *VD* and overall *ODL* (mandatory + voluntary). Columns 2, 3 and 4 present the results of the employed OLS regression for the three regression models. *MD* requirements are considered as the main drivers for firms to comply with these requirements rather than their own decisions. On the other hand, within *VD* firms have the right to disclose or not depending on such factor as corporate governance structure, ownership structure and organisational attributes. Therefore, the results associated with Model 3 (*ODL*) are considered for the acceptance or rejection of our hypotheses.

The results presented in Table 5 show that approximately 54%, 85% and 82% of the variation in the disclosure index (*MD*, *VD* and *ODL*, respectively) between the sample companies can be explained by the nine independent variables with the inclusion of eight firm characteristics as control variables. These results in social science research are considered highly acceptable, as they are above 20% (Anderson et al., 1993, Abd-Elsalam and Weetman, 2003, Aljifri et al., 2014). Also, these results are considered favourable compared with similar studies applying disclosure indices, such as Haniffa and Cooke (2002) at 46%, Akhtaruddin (2005) at 56% and Samaha et al. (2012) at 62%.

Generally, the results indicate that corporate governance variables are associated with the *ODL*. Firstly, and for the board size, the analysis finds that the coefficient estimate on *BoardS* is negative and statistically significant with the *ODL* at the 5% level. As such, based on this empirical finding the researchers reject hypothesis H_1 that firms with large board size disclose more information than those with smaller board size. This finding provides evidence that small boards of directors are more effective and supports the findings of Yermack (1996), and is also consistent with the findings reported by Byard et al. (2006). Conversely, this finding contradicts the findings of Beasley (1996) and Samaha et al. (2015), who reported a significant and positive association between board size and the extent of disclosure. Theoretically, this is consistent with the predictions of agency theory, which suggests that larger boards are associated with poor communication, co-ordination and free-riding problems, often leading to poor monitoring of corporate executives, and thereby impacting negatively on corporate disclosures. It is, however, not compatible with the predictions of resource dependence and stakeholder theories, which suggest that larger boards are likely to engage in higher levels of disclosure because of greater stakeholder pressure that is often associated with larger boards.

TABLE 5 HERE

Secondly, and with regard to hypothesis H_2, the study does not find any significant association between CEO role duality and the *ODL*. This result is in line with the studies that found no significant association between the extent of disclosure and role duality, such as Arcay and Muiño (2005), Barako et al. (2006), Cheng and Courtenay (2006) and Ghazali and Weetman (2006). In relation to the theoretical underpinnings, this finding is not compatible with agency, stakeholder theories and resource-dependence theory, in which they assume duality in position of CEO can have a negative impact on corporate performance and disclosure as stated above in the development of the hypothesis. For the board composition, the study finds that the coefficient estimate on *BoCo* is negative and statistically significant with the overall disclosure level at the 5% level. This finding rejects hypothesis H_3. This finding is in line with the findings of Eng and Mak (2003) and Barako et al. (2006) who reported the same negative association, and inconsistent with the findings of Wang and Hussainey (2013) and Samaha et al. (2015). This negative association contradicts with the theoretical underpinnings driven from agency, stakeholder and legitimacy theory. This contradiction may be related to the cultural influence in such countries, where appointing independent non-executive directors relies heavily on the social environment instead of competency. For frequency of board meetings (*FreMee*), the analysis finds that the coefficient estimate of *FreMee* is positive and statistically significant at the 1% level with the *ODL*. As anticipated, this finding lends support to hypothesis H_4. Theoretically, this is in line with the positive prediction which suggests that a higher frequency of board meetings contributes towards improving the quality of managerial monitoring leading to a positive influence on corporate disclosure.

Thirdly, and in relation to the existence of an audit committee *AuCo*, our findings suggest that there is a significant positive association between *AuCo* and the *ODL* at the 1% level (0.001). Therefore, the researchers accept hypothesis H_5. Our findings regarding the role of audit committee in explaining the *ODL* is consistent with Ho and Shun (2001), Barako et al. (2006), and Samaha et al. (2015). Theoretically, this finding supports the prediction of agency theory, which assumes that the existence of an audit committee helps firms to reduce agency costs particularly if it is dominated by non-executive directors. With regard to the ownership structure variables, Table 5 does not show any evidence regarding the association between ownership structure variables (*ForOwn*, *GovOwn*, *InstOwn* and *DirOwn*) and the *ODL* neither *MD* nor *VD*. Therefore, our results do not support hypotheses H_6, H_7, H_8 and H_9. Our results are in line with Ghazali and Weetman (2006) who found there is no association between ownership structure and the extent of voluntary disclosure in Malaysia. The rejection of hypothesis H_8 is not in line with the findings of Barako et al. (2006) and Ntim et al (2012a, b).

Theoretically, the finding related to H_6 contradicts with the prediction from an agency theory perspective, which suggests that ownership becomes dispersed as result of an increase in the number shareholders, allowing an increase in foreign ownership, leading to an increase in the demands for more information disclosure. For H_7, the finding is consistent with the argument that firms with higher state ownership can easily obtain funding from government, so these firms attract investors with less incentive to disclose more information. Regarding institutional ownership H_8, the finding contradicts with agency, stakeholders and legitimacy theory, which all of them agree on that managers disclose more information to meet the informational needs of institutional shareholders as influential stakeholders (stakeholder theory) and gain their support to justify their continued stewardship. The rejection of H_9 does not support the prediction of agency theory which postulates that firms with higher proportion of director ownership are associated with less information asymmetry between the principal and the agent. Our findings in relation to the control variables conclude that, firm size (*FS*), gearing (*Gear*) and profitability (*Prof*) are not associated with and the *ODL*, while firm age (*FA*), liquidity (*Liq*), listing status (*List*) and industry type (*IndTyp*) are statistically associated with the *ODL*. Finally, the analysis finds that the coefficient estimates on auditor type (*AudTyp*) is positive but not statistically significant with the *ODL* at the 10% level (0.082).

Regarding the disaggregated level (*MD* and *VD*), Table 5 shows that, for the *MD*, two out of the five corporate governance variables (*BoardS* and *BoCo*) are negatively associated with the *MD* at the 5% and 10% level, respectively, while only frequency of board meetings (*FreMee*) is positively associated with the *MD* at the 10% level. For the *VD*, consistent with the *MD*, board Size (*BoardS*) and board composition (*BoCo*) are found to be negatively associated with the *VD* at 10% and 5% level, respectively, while frequency of board meetings (*FreMee*) and audit committee (*AuCo*) are significantly and positively associated with the *VD* at the 1% level. Consistent with the *ODL*, Table 5 indicates that ownership variables (*ForOwn*, *GovOwn*, *InstOwn* and *DirOwn*) are not associated with neither the *MD* nor the *VD*.

Our findings in relation to the control variables suggest that, the coefficient estimate on firm size (*FS*) is found to be positively significant at the 1% (0.007) level only with the level of *VD*. This finding is supported by the evidence of Hassan et al. (2006) suggesting that *FS* has a negative influence on *MD* but a positive impact on *VD*. On the other hand, this contradicts with the findings of Meek et al. (1995) and Ntim et al. (2012a). For firm age (*FA*), the coefficient estimate is found to be positively associated with the *VD* and the *ODL* at the 5% (0.088) and 10% (0.094) level respectively. This finding is consistent with the findings of Hossain and Hammami (2009). For gearing the coefficient estimate is only positively associated with the *MD* at the 5% (0.030) level. Similarly, the coefficient estimate on profitability (*Prof*) is found to be positively significant only with the *MD* at the 5% (0.020) level. Table 5 also shows that, liquidity (*Liq*), listing status (*List*) and industry type (*IndTyp*) are positively and significantly associated with both *MD* (0.000, 0.015 and 0.000, respectively) and *VD* disclosure (0.002, 0.014 and 0.000 respectively).

In addition, the two regression models are employed by splitting our sample into listed and non-listed companies. Table 6 indicates that, for listed companies, consistent with our primary findings in Table 5, board size (*BoardS*) is negatively and statistically significant with the *ODL* at the 5% level. Frequency of board meetings (*FreMee*) and audit committee (*AuCo*) are found to be positively and statistically significant with the *ODL* at the 1% level, the same as those reported in Table 5. With regard to non-listed companies, board composition (*BoCo*) and frequency of meetings (*FreMee*) are statistically significant with the *ODL* at the 1% and 5% level, negatively and positively, respectively. For ownership variables, noticeably, the results presented in Table 6 are generally similar to those presented by *OLS* in Table 5, where no evidence of association is found.

5.4 *Additional analyses*

The researchers conducted a number of additional analyses to check the robustness of the results. A large volume of recent studies seeking to address apparent concerns of endogeneity within the accounting and finance literature is highlighting this issue for further investigation (Brown et al., 2011, Gippel et al., 2015). Firstly, instrumental variable is created using an alternative weighted index to test for endogeneity. Although, all 141 items are weighted equally, the number of items varies across the sub-groups of *MD*, *VD* and *ODL*. This variation leads to differences in the assigned weights for each group. Therefore, to deal with this issue, an alternative *MD*, *VD* and *ODL*, in which each group is assigned an equal weight to the total. For example, *MD* consists of two groups in which 50 per cent is awarded to each group. Our results are presented in Table 6 in Columns 7, 8 and 9. The results are consistent with those reported in Table 5. Board size (*BoardS*), frequency of meetings (*FreMee*) and audit committee (*AuCo*) are statistically significant with the *ODL*. With regard to ownership variables, the results in Table 6 confirm the primary results reported in Table 5 with no evidence of association (apart from observable minor sensitivities in the magnitude of the coefficients). This suggests that our evidence is largely robust to sub-groups estimations.

TABLE 6 HERE

Secondly, two-stage least squares (*2SLS*) is employed to check for any potential endogeneity. To ensure that the *2SLS* is appropriate, the analysis first regresses the unstandardized predicted values against the unstandardized residuals to check any potential correlation (Elmagrhi et al., 2016, Larcker and Rusticus, Ntim et al., 2013, Sun et al., 2015). The researchers employ their predicted parts as instruments and re-estimate the three primary equations *MD*, *VD* and *ODL*. The results did not find any evidence of significant correlation between the unstandardized predicted values and the unstandardized residuals. The results of *2SLS* are presented in Table 6 in Columns 10, 11 and 12. The results indicate that board size (*BoardS*) is statistically significant with the *ODL*. With regard to ownership variables, the results in Table 6 confirm the primary results reported in Table 5 with no evidence of association except for government ownership (*GovOwn*) with a statistically significant association at the 1% level with the *ODL* (apart from observable minor sensitivities in the magnitude of the coefficients).

Thirdly, we separated our sample into financial and non-financial companies as suggested by prior research (Elmagrhi et al., 2016, Ntim et al., 2013). Table 7 indicates that, for non-financial companies, consistent with our primary findings in Table 5, board size (*BoardS*) is negatively and statistically significant with the *ODL* at the 5% level. Frequency of board meetings (*FreMee*) and audit committee (*AuCo*) are found to be positively and statistically significant with the *ODL* at the 1% level, the same as those reported in Table 5. With regard to financial companies, board size (*BoardS*), and role duality (*DualP*) are positively and statistically significant with the *ODL* at the 5% level. For ownership variables, apparently, the results presented in Table 7 are generally similar to those presented by *OLS* in Table 5, where no evidence of association is found. Interestingly, Table 7 indicates that foreign ownership *(ForOwn)* and institutional ownership *(InstOwn)* are positively and statistically significant with the *ODL* at the 1% and 5% level, respectively.

Finally, Previous studies argued that there is a non-linear relationship between board characteristics and ownership variables and corporate disclosure practices (Sun et al., 2015, Elmagrhi et al., 2016). To detect the presence of non-linear relationships between corporate governance variables and the extent of corporate disclosure, this study re-estimate the *ODL* by including the squared values of $BoardS^2$, $ForOwn^2$, $GovOwn^2$, $InstOwn^2$ and $DirOwn^2$. The last Column in Table 6 presents the results of the non-linear model *NLM*. The coefficients on $BoardS^2$, $GovOwn^2$, and $InstOwn^2$ are statistically insignificant. However, the coefficients on $ForOwn^2$ and $DirOwn^2$ are significant indicating an evidence of non-linearity between these two variables and the dependent variable *ODL*. The findings of the remaining variables are still the same as our findings in Table 5 (apart from observable minor sensitivities in the magnitude of the coefficients). As a result, these findings support the probability of the presence of non-linearity link only between $ForOwn^2$ and $DirOwn^2$ and the *ODL*.

6. Conclusion

Although, a large volume of empirical research has focused on the association between corporate governance mechanisms and corporate disclosure practices, limited studies have focused on developing countries. This paper sought to empirically investigate the association between corporate governance characteristics and ownership structure and corporate disclosure behaviour, and contributes to the literature by providing evidence on this association from a sample of large firms in the Libyan context. This is the first paper to investigate the influence of corporate governance mechanisms on corporate disclosure practices with a focus on listed and non-listed firms, including financial and non-financial ones in Libya, as well as both mandatory and voluntary disclosures.

With regard to the extent of corporate disclosure, our findings indicate that the level of overall disclosure is generally low at nearly 68%. In relation to mandatory disclosure, firms fail to fully comply with the minimum level required by the Libyan authorities. Generally, the results suggest that the corporate governance variables are significant in explaining the extent of corporate disclosure. To start with, board size and board composition are found to be negatively related to the overall disclosure level, while frequency of meetings and audit committee have a positive and statistically significant association with the overall disclosure level. To some extent, these findings of corporate governance characteristics are surprising in the Libyan context, in which the related laws are weak in governing the corporate governance practices. With regard to ownership structure variables, including foreign, government, institutional and director ownership, no relation found between these variables and the overall level of disclosure. Despite the changes taking place during the investigated period (2006-2010) when the Libyan economy started to witness a huge transfer of the ownership of government enterprises to private investors "Privatization", none of the ownership variables were found to support the agency relationship in the Libyan context. With regard to firm's characteristics, the results find that liquidity, listing status and industry type have a positive and significant relationship with the overall disclosure level. Firm age and auditor type have positive but not statistically significant impact on the level of disclosure.

This paper extends, as well as make a number of new contributions to the extant literature. Firstly, and unlike most prior studies that have examined how firm-level characteristics, such as firm size and industry, affect corporate disclosure behaviour, the current study examines how corporate boards, executives and owners in addition to firm-level features drive the level of corporate disclosure. Thus, this contributes to a small, but gradually increasing number of studies that have evaluated the effect of corporate governance and ownership structures on the level of corporate disclosure (Barako et al., 2006, Eng and Mak, 2003, Ntim et al., 2012a, b, 2013, Ntim and Soobaroyen, 2013a, b). Secondly, distinct from prior studies that have focused mainly on examining the determinants of only voluntary disclosure, the researchers examine the antecedents of both mandatory and voluntary disclosures. Finally, distinct from most prior studies, our analyses cover both listed and non-listed firms, and thereby allowing us to provide new empirical insights relating to the disclosure behaviour of both listed and non-listed firms in one of developing countries.

Furthermore, this paper's results have a number of implications. First, the results show that the disclosure level varies substantially among the Libyan listed and unlisted firms. This provides Libyan authorities with a vigorous motivation to strengthen legal enforcement more by enhancing CG and disclosure by establishing a compliance committee. This implies that Libyan authorities should consider imposing further mandatory requirements on Libyan firms to further protect investors and to avoid negative effects that may arise from non-disclosure compliance. The results reveal that ownership concentration hinder the process of disclosing more transparent information in general.

This implies that Libyan policymakers may need to seek to implement further requirements on Libyan firms to further protect minority shareholders.

The researches’ results support the directors’ role in improving the process of disclosing more information rather than mandating of disclosure. However, the findings reveal a need for further enhancements in the Libyan context. The results rationalize the controversy over the influence improved CG has on disclosure practices, in general, and particularly within the Libyan context, which may lead Libyan policymakers to implement more CG reforms. Investors may also rely on such CG characteristics (e.g., board size and board independence) to shape expectations about the voluntary and/or mandatory information that is revealed. Our results shed new insights on the importance of corporate governance mechanisms in improving disclosure and accountability. Finally, evidence provided in this paper offers potential theoretical and empirical insights for future studies. In terms of theoretical implication, the results indicate that future studies may arguably improve their theoretical insights by relying on the other closely related theories, including neo-institutional, and stewardship theories, when exploring variables, which can influence CG and disclosure practices compliance.

There is an opportunity for future research to investigate disclosure practices using other channels of corporate disclosure such as corporate websites; to investigate if they have the same explanatory variables as annual reports. Future research, in Libya, could extend the sample size as the sample size for this study was limited by data availability and constraints of manual data collection. Useful insights may be offered also by future studies by conducting in-depth interviews with corporate managers, directors and owners regarding these issues. A comparative study with other countries in the region, with alternative or more advanced accounting and governance practices would provide an opportunity for further research. These suggestions offer a useful insight into disclosure practices by Libyan firms and provide a starting point for future research that might be necessary to deal with on-going changes that are likely to reverberate for many years to come.

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TABLES

Table 1. Sample Selection Process

	Number of firms	Number of observations
Industrials	130	650
Financial	20	100
Services	100	500
Initial sample	250	1250
Criteria leading to exclusion of firms:		
Less:		
Industrials	115	575
Financial	4	20
Services	86	430
Small and medium companies	(205)	(1025)
Industrials	15	75
Financial	16	80
Services	14	70
Big companies	45	225
Less:		
Industrials	2	10
Financial	3	15
Services	2	7
Missing data	(7)	(32)
Industrials	13	65
Financial	13	65
Services	13	63
=Final sample	39	193

Table 2: Definition and measurement of variables

Abbreviated name	Full name	Description	Predicted sign	Data source
Dependent variable				
MD	Total mandatory disclosure	Percentage of scored mandatory disclosure		Annual reports
VD	Total voluntary disclosure	Percentage of scored voluntary disclosure		Annual reports
ODL	Overall disclosure level (mandatory and voluntary)	Percentage of overall applicable disclosure items		Annual reports
Independent variables				
BoardS	Board size	The number of board members	+	Board of directors' report
DualP	Duality in position	Dummy variable; 1 if company's CEO serves as a board chairman, 0 otherwise	_	Board of directors' report
BoCo	Board composition	Ratio of the number of non-executive directors to the total number of the directors	+	Board of directors' report
FreMee	Frequency of meetings	Number of board meetings during the year	+	Board of directors' report
AuCo	Audit committee	Dummy variable; 1 if an audit committee exists, 0 otherwise	+	Board of directors' report
ForOwn	Foreign ownership	Foreign ownership to total owners' ratio	+	Ownership structure information
GovOwn	Government ownership	Government ownership to total owners' ratio	+	Ownership structure information
InstOwn	Institutional ownership	Institutional ownership to total owners' ratio	+	Ownership structure information
DirOwn	Director ownership	The percentage of shares outstanding held by the board of directors	-	Ownership structure information
Control variable				
FS	Firm size	Measured by the natural logarithm of total assets	+	Annual report: Financial statements
FA	Firm age	Number of years since foundation	+	Annual report: Financial statements
Gearing	Gearing	Measured by the ratio of total debt to equity	+	Annual report: Financial statements
Prof	Profitability	Return on equity = net profit/total shareholders' equity	+	Annual report: Financial statements
Liq	Liquidity	Measured as the ratio of company's current assets to current liabilities	+	Annual report: Financial statements
List	Listing status	1 if the company is listed and 0 otherwise	+	General information
IndTyp	Industry type	1 = Financial (banks or insurance), 0 = Non-financial (manufacturing and service)	+	General information
AudTyp	Auditor type	1 = a company audited by one of the big four with international affiliation (Big Four), 0 = a company audited by local auditor without international affiliation	+	Auditor report
YD	Year	Dummies for each of the five years 2006 - 2010		Annual report

Notation: A total of 211 annual reports are collected with 193 (65 financial and 128 non-financial) usable annual reports for listed and non-listed Libyan companies. Annual reports for five years (2006-2010) are collected from the LSM, company websites, Audit Bureau, and Tax Authority. Variables are defined as follows: MD is the mandatory disclosure; VD is the voluntary disclosure; ODL is the overall disclosure level; β0 is the constant term; Boards is the board size; DualP is the role duality; BoCo is the board composition; FreMee is the frequency of meetings; AuCo is the auditor committee; ForOwn is foreign ownership; InstOwn is institutional ownership; GovOwn is government ownership; DirOwn is director ownership; FS is firm size; FA is firm age; Prof is profitability; Liq is liquidity; Lis is listing status; IndTyp is industry type and AudTyp is auditor type.

Table 3: Descriptive statistics for dependent, independent and control variables

Variables		Mean	Median	Standard deviation	Minimum	Maximum	N
MD		76.97	.0669	2.2082	22.00	32.00	193
VD	*Dependent*	65.13	.0604	6.5253	59.00	85.00	193
ODL		67.90	.0594	8.3775	81.00	114.00	193
Boards		8.0466	8.000	2.4479	3.00	14.00	193
DualP		0.3575	0.000	0.4805	.00	1.00	193
BoCo		0.1518	0.1666	0.1164	.00	.43	193
FreMee		6.2073	6.000	1.5905	3.00	12.00	193
AuCo	*Independent*	0.5389	1.000	0.4997	.00	1.00	193
ForOwn		0.2316	0.2500	0.1973	.00	0.75	193
GovOwn		0.3145	0.3000	0.2504	.00	1.00	193
InstOwn		0.2985	0.2500	0.2023	.00	0.75	193
DirOwn		0.3415	0.2700	0.2845	.00	0.46	193
FS		237.36	19.12	217.212	34.856	986.754	193
FA		0.2235	23.0000	7.850	7.00	39.00	193
Gearing		0.3251	0.3340	0.0755	.12	0.54	193
Prof		0.4109	0.4010	0.0956	.22	0.51	193
Liq	*Control*	0.2548	0.2515	0.0996	.04	0.45	193
List		0.5078	1.000	0.5012	.00	1.00	193
IndTyp		0.3368	1.000	0.4738	.00	1.00	193
AudTyp		0.5233	1.000	0.5007	.00	1.00	193

Notation: A total of 211 annual reports are collected with 193 (65 financial and 128 non-financial) usable annual reports for listed and non-listed Libyan companies. Annual reports for five years (2006-2010) are collected from the LSM, company websites, Audit Bureau, and Tax Authority. Variables are defined as follows: MD is the mandatory disclosure; VD is the voluntary disclosure; ODL is the overall disclosure level; β0 is the constant term; Boards is the board size; DualP is the role duality; BoCo is the board composition; FreMee is the frequency of meetings; AuCo is the auditor committee; ForOwn is foreign ownership; InstOwn is institutional ownership; GovOwn is government ownership; DirOwn is director ownership; FS is firm size; FA is firm age; Prof is profitability; Liq is liquidity; Lis is listing status; IndTyp is industry type and AudTyp is auditor type.

Table 4: Correlations matrix of all variable

	MD	VD	ODL	BoardS	DualP	BoCo	FreMee	AuCo	ForOwn	GovOwn	InstOwn	DirOwn	FS	FA	Gearing	Prof	Liq	List	IndTyp	AudTyp
MD	1.000																			
VD	.831**	1.000																		
ODL	.897**	.990**	1.000																	
BoardS	.166*	.301**	.279**	1.000																
DualP	-.220**	-.246**	-.249**	-.172*	1.000															
BoCo	.154*	.277**	.257**	.124	-.032	1.000														
FreMee	.234**	.377**	.357**	.304**	-.147*	.192**	1.000													
AuCo	.265**	.393**	.373**	.064	-.112	.135	.244**	1.000												
ForOwn	.175*	.245**	.235**	-.030	-.077	.018	.022	.127	1.000											
GovOwn	-.330**	-.397**	-.394**	-.170*	.107	-.072	-.168*	-.109	-.441**	1.000										
InstOwn	.002	-.022	-.018	.043	.040	-.192**	.060	-.116	-.315**	-.320**	1.000									
DirOwn	.031	.073	.068	.103	-.030	.424**	.086	.029	.153*	-.276**	-.025	1.000								
FS	.136	.293**	.264**	.040	-.131	.068	.158*	.248**	.319**	-.001	-.196**	-.251**	1.000							
FA	.059	.110	.109	-.117	-.029	.220**	-.054	-.081	.056	-.166*	.007	.228**	.097	1.000						
Gearing	.265**	.275**	.281**	.105	-.038	.100	.166*	.011	.099	.020	-.323**	-.119	.331**	-.072	1.000					
Prof	.440**	.489**	.492**	.233**	-.215**	.142*	.065	.267**	.216**	-.226**	-.056	-.035	.268**	.056	.061	1.000				
Liq	.040	-.109	-.070	-.089	.023	.082	-.108	-.041	-.070	.063	-.110	.187**	-.124	.148*	-.137	-.156*	1.000			
List	.560**	.631**	.635**	.440**	-.304**	.285**	.278**	.150*	.162*	-.450**	-.034	.189**	.120	.012	.266**	.342**	-.146*	1.000		
IndTyp	.383**	.470**	.455**	.231**	-.074	-.027	-.007	.109	.108	-.084	-.067	-.259**	.309**	-.119	.301**	.437**	-.518**	.373**	1.000	
AudTyp	.574**	.727**	.715**	.398**	-.327**	.303**	.362**	.220**	.243**	-.473**	.069	.153*	.180*	.108	.190**	.403**	-.130	.720**	.285**	1.000

Notation: *, ** significant at the 0.05 and 0.01 levels (2−tailed) respectively. A total of 211 annual reports are collected with 193 (65 financial and 128 non-financial) usable annual reports for listed and non-listed Libyan companies. Annual reports for five years (2006-2010) are collected from the LSM, company websites, Audit Bureau, and Tax Authority.Variables are defined as follows: MD is the mandatory disclosure; VD is the voluntary disclosure; ODL is the overall disclosure level; β0 is the constant term; Boards is the board size; DualP is the role duality; BoCo is the board composition; FreMee is the frequency of meetings; AuCo is the auditor committee; ForOwn is foreign ownership; InstOwn is institutional ownership; GovOwn is government ownership; DirOwn is director ownership; FS is firm size; FA is firm age; Prof is profitability; Liq is liquidity; Lis is listing status; IndTyp is industry type and AudTyp is auditor type.

Table 5: Regression analysis of the determinants of corporate disclosure

Variable construct	MD		VD		ODL	
	Coefficients	*P*-value	Coefficients	*P*-value	Coefficients	*P*-value
Corporate governance variables						
BoardS	-.122	**.035****	-.059	**.079***	-.078	**.032****
DualP	-.011	.834	.051	.101	.037	.276
BoCo	-.118	**.065***	-.076	**.038****	-.091	**.024****
FreMee	.103	**.076***	.140	**.000*****	.137	**.000*****
AuCo	.081	.153	.113	**.001*****	.110	**.002*****
Ownership structure variables						
ForOwn	-.001	.988	-.012	.803	-.009	.854
GovOwn	.085	.275	-.056	.211	-.021	.663
InstOwn	.026	.766	-.017	.737	-.006	.909
DirOwn	-.019	.777	.024	.524	.014	.736
Control variables						
FS	-.077	.291	.114	**.007*****	.069	.133
FA	.060	.284	.055	**.088****	.058	**.094***
Gearing	.132	**.030****	-.005	.877	.031	.418
Prof	.152	**.020****	.020	.594	.055	.173
Liq	.264	**.000*****	.114	**.002*****	.158	**.000*****
List	.204	**.015****	.118	**.014****	.146	**.005*****
IndTyp	.537	**.000*****	.512	**.000*****	.540	**.000*****
AudTyp	.219	**.059****	.081	.225	.121	**.096***
YD	Included		Included		Included	
Std. error	.04519		.02345		.02510	
Durbin-Watson	1.568		1.666		1.620	
F-value	10.954		48.069		39.436	
R^2 *Adj*.	.544		.849		.822	

Notation: A total of 211 annual reports are collected with 193 (65 financial and 128 non-financial) usable annual reports for listed and non-listed Libyan companies. Annual reports for five years (2006-2010) are collected from the LSM, company websites, Audit Bureau, and Tax Authority. The table above provides OLS for each type of disclosure for the three models presented below:

$$MD = \beta_0 + \beta_1 Boards + \beta_2 DualP + \beta_3 BoCo + \beta_4 FreMee + \beta_5 AuCo + \beta_6 ForOwn + \beta_7 InstOwn + \beta_8 GovOwn + \beta_9 DirOwn + \beta_{10} FS + \beta_{11} FA + \beta_{12} Gaering + \beta_{13} Prof + \beta_{14} Liq + \beta_{15} Lis + \beta_{16} IndTyp + \beta_{17} AudTyp + \beta_{18} Year + e$$

$$VD = \beta_0 + \beta_1 Boards + \beta_2 DualP + \beta_3 BoCo + \beta_4 FreMee + \beta_5 AuCo + \beta_6 ForOwn + \beta_7 InstOwn + \beta_8 GovOwn + \beta_9 DirOwn + \beta_{10} FS + \beta_{11} FA + \beta_{12} Gaering + \beta_{13} Prof + \beta_{14} Liq + \beta_{15} Lis + \beta_{16} IndTyp + \beta_{17} AudTyp + \beta_{18} Year + e$$

$$ODL = \beta_0 + \beta_1 Boards + \beta_2 DualP + \beta_3 BoCo + \beta_4 FreMee + \beta_5 AuCo + \beta_6 ForOwn + \beta_7 InstOwn + \beta_8 GovOwn + \beta_9 DirOwn + \beta_{10} FS + \beta_{11} FA + \beta_{12} Gaering + \beta_{13} Prof + \beta_{14} Liq + \beta_{15} Lis + \beta_{16} IndTyp + \beta_{17} AudTyp + \beta_{18} YD + e$$

T-statistics are in parenthesis. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Coefficients are in front of parenthesis. Variables are defined as follows: MD is the mandatory disclosure; VD is the voluntary disclosure; ODL is the overall disclosure level; β0 is the constant term; Boards is the board size; DualP is the role duality; BoCo is the board composition; FreMee is the frequency of meetings; AuCo is the auditor committee; ForOwn is foreign ownership; InstOwn is institutional ownership; GovOwn is government ownership; DirOwn is director ownership; FS is firm size; FA is firm age; Prof is profitability; Liq is liquidity; Lis is listing status; IndTyp is industry type; AudTyp is auditor type and YD is the year dummy variable. The sample consists of 193 observations.

Table 6: Additional analyses of the effects of corporate governance and ownership on corporate disclosure practices of Libyan firms

Variable construct	Listed			Non-listed			Weighted Index			2SLS			NLM
	MD	VD	ODL	MD	VD	ODL	MD	VD	ODL	MD	VD	ODL	ODL
Corporate governance variables													
BoardS	.043**	.024**	.014**	.194	.469	.323	.039**	.084*	.035**	.743	.021**	.072*	.543
	-.201	-.102	-.138	-.118	-.050	-.071	-.119	-.067	-.081	-.308	-1.283	-1.081	.148
$BoardS^2$	-	-	-	-	-	-	-	-	-	-	-	-	.364
	-	-	-	-	-	-	-	-	-	-	-	-	-.220
DualP	.379	.001***	.089*	.967	.338	.464	.662	.118	.231	.877	.025**	.093*	.480
	-.082	.149	.090	.004	-.072	-.057	-.024	.057	.043	-.594	-5.093	-4.124	.025
BoCo	.769	.650	.664	.004***	.027**	.008***	.128	.264	.156	.890	.059**	.191	.009***
	-.032	-.022	-.026	-.329	-.195	-.243	-.097	-.048	-.061	-.039	.316	.236	-.109
FreMee	.238	.000***	.004***	.323	.038**	.053**	.097*	.002***	.001***	.891	.055**	.148	.001***
	.123	.178	.174	.096	.157	.151	.096	.126	.126	-.220	-1.828	-1.482	.126
AuCo	.077*	.002***	.004***	.951	.074*	.158	.122	.020**	.014**	.143	.502	.274	.003***
	.181	.148	.168	.006	.136	.111	.088	.090	.094	.464	.125	.220	.109
Ownership variables													
ForOwn	.528	.273	.728	.496	.495	.758	.952	.164	.243	.716	.019**	.064*	.170
	.076	-.060	-.024	-.108	.083	.039	-.005	.072	.059	-.309	-1.180	-1.001	-.161
$ForOwn^2$	-	-	-	-	-	-	-	-	-	-	-	-	.094*
	-	-	-	-	-	-	-	-	-	-	-	-	.188
GovOwn	.102	.452	.688	.451	.481	.428	.376	.646	.906	.016**	.000***	.000***	.219
	.237	-.049	.033	-.107	-.077	-.089	.069	-.024	-.006	-.292	-.325	-.330	-.146
$GovOwn^2$	-	-	-	-	-	-	-	-	-	-	-	-	.183
	-	-	-	-	-	-	-	-	-	-	-	-	.141
InstOwn	.591	.896	.839	.718	.837	.967	.819	.546	.559	.916	.045**	.136	.805
	.077	-.008	.016	-.057	.025	.005	.020	.036	.034	.096	1.082	.868	-.026
$InstOwn^2$	-	-	-	-	-	-	-	-	-	-	-	-	.444
	-	-	-	-	-	-	-	-	-	-	-	-	.075
DirOwn	.915	.261	.452	.819	.312	.389	.852	.394	.434	.931	.033**	.114	.066*
	.014	.068	.057	.025	.084	.074	.012	.038	.034	.233	3.383	2.696	.269
$DirOwn^2$	-	-	-	-	-	-	-	-	-	-	-	-	.088*
	-	-	-	-	-	-	-	-	-	-	-	-	-.254
Control variables													
FS	.195	.144	.824	.317	.249	.568	.136	.593	.996	.928	.058**	.183	.101
	-.181	.093	.017	-.107	.095	.049	-.104	.025	.000	-.134	1.658	1.256	.080
FA	.523	.058**	.131	.993	.418	.531	.466	.122	.123	.977	.054**	.160	.251
	.062	.084	.083	-.001	.062	.050	.041	.059	.058	-.040	-1.581	-1.242	.042
Gearing	.057**	.185	.069**	.516	.770	.989	.011**	.793	.313	.709	.020**	.066*	.353
	.210	.066	.113	.064	-.022	-.001	.155	.011	.041	.395	1.459	1.241	.038
Prof	.162	.083*	.071*	.289	.198	.511	.038**	.904	.457	.847	.010**	.052**	.266
	.164	.093	.120	.107	-.100	-.052	.135	.005	.032	-.152	-1.203	-.977	.047
Liq	.005***	.031**	.005***	.000***	.105	.013**	.000***	.007***	.001***	.661	.154	.396	.000***
	.347	.121	.196	.430	.138	.223	.245	.117	.149	.272	-.520	-.334	.181
List	-	-	-	-	-	-	.012**	.090*	.027**	.963	.030**	.112	.003***
	-	-	-	-	-	-	.210	.095	.124	-.093	-2.579	-2.034	.161

continued ...

IndTyp	.000*** .536	.000*** .575	.000*** .602	.070* .207	.000*** .370	.000*** .352	.000*** .404	.000*** .279	.000*** .318	.638 .617	.002*** 2.372	.017** 2.010	.000*** .429
AudTyp	.180 .139	.002*** .150	.009*** .157	.222 .136	.043** .175	.049** .176	.244 .101	.004*** .170	.005*** .164	.956 -.089	.032** -2.069	.116 -1.635	.001*** .182
YD	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Durbin-Watson	1.728	2.059	1,998	1.983	1.848	1.807	1.700	1.632	1.657	1.670	1.701	1.677	1.781
F-value	3.768	33.259	20.049	3.656	8.619	7.781	11.335	33.785	34.840	11.697	49.408	41.181	34.299
Adj. R^2	0.363	0.869	0.797	0.372	0.630	0.602	0.542	0.790	0.795	0.539	0.841	0.815	8.18
N	*98*			*95*			*193*			*193*			*193*

Notation: T-statistics are in parenthesis. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. A total of 211 annual reports are collected with 193 (65 financial and 128 non-financial) usable annual reports for listed and non-listed Libyan companies. Annual reports for five years (2006-2010) are collected from the LSM, company websites, Audit Bureau, and Tax Authority. Variables are defined as follows: Listed is regression model for listed companies; Non-listed is regression model for non-listed companies; Weighted index is instrumental variable created using an alternative weighted index; 2SLS is two-stage least squares; NLM is non-linear model re-estimated by including the squared values of BoardS, ForOwn, GovOwn, InstOwn and DirOwn; MD is the mandatory disclosure; VD is the voluntary disclosure; ODL is the overall disclosure level; β0 is the constant term; Boards is the board size; DualP is the role duality; BoCo is the board composition; FreMee is the frequency of meetings; AuCo is the auditor committee; ForOwn is foreign ownership; InstOwn is institutional ownership; GovOwn is government ownership; DirOwn is director ownership; FS is firm size; FA is firm age; Prof is profitability; Liq is liquidity; Lis is listing status; IndTyp is industry type and AudTyp is auditor type.

Table 7: The effects of corporate governance and ownership on corporate disclosure practices of Financial vs. Non-financial Libyan firms

Variable construct	Financial			Non-financial		
	MD	VD	ODL	MD	VD	ODL
Corporate governance variables						
BoardS	0.793	0.009***	0.033**	0.023**	0.031**	0.013**
	0.028	0.140	0.117	-0.192	-0.105	-0.137
DualP	0.908	0.002***	0.015**	0.413	0.152	0.182
	0.009	0.126	0.100	-0.071	-0.072	-0.076
BoCo	0.571	0.074*	0.102	0.114	0.073*	0.055*
	0.073	0.115	0.109	-0.154	-0.101	-0.123
FreMee	0.574	0.093*	0.324	0.153	0.001***	0.004***
	-0.057	0.085	0.051	0.119	0.161	0.158
AuCo	0.299	0.433	0.961	0.165	0.001***	0.005***
	-0.112	0.041	0.003	0.118	0.158	0.156
Ownership structure variables						
ForOwn	0.117	0.002***	0.002***	0.825	0.602	0.652
	0.294	0.289	0.303	-0.026	-0.035	-0.034
GovOwn	0.809	0.124	0.298	0.910	0.635	0.789
	-0.049	0.153	0.106	0.016	-0.038	-0.024
InstOwn	0.448	0.028**	0.041**	0.782	0.011**	0.064*
	0.153	0.223	0.214	-0.031	-0.169	-0.139
DirOwn	0.758	0.209	0.269	0.437	0.671	0.523
	0.059	0.118	0.107	-0.077	-0.024	-0.041
Control variables						
FS	0.214	0.592	0.805	0.141	0.363	0.955
	-0.169	0.035	-0.017	-0.144	0.051	-0.004
FA	0.780	0.418	0.451	0.420	0.291	0.282
	0.030	0.043	0.042	0.067	0.050	0.058
Gearing	0.016**	0.154	0.837	0.949	0.703	0.820
	0.223	-0.063	0.009	0.006	-0.020	-0.013
Prof	0.165	0.066*	0.037**	0.272	0.631	0.861
	0.184	0.120	0.142	0.097	-0.024	0.010
Liq	0.155	0.086*	0.044**	0.000***	0.002***	0.000***
	0.324	0.193	0.235	0.308	0.156	0.210
List	0.009***	0.079*	0.008***	0.278	0.042**	0.063*
	0.297	0.096	0.153	0.133	0.144	0.150
AudTyp	0.841	0.001***	0.006***	0.096*	0.118	0.071*
	0.022	0.198	0.160	0.222	0.120	0.157
YD	Included	Included	Included	Included	Included	Included
Durbin-Watson	1.800	2.171	2.069	1.626	2.044	1.844
F-value	9.463	46.453	43.095	4.419	24.260	17.619
Adj. R^2	0.726	0.934	0.929	0.350	0.786	0.724
N	65	65	65	128	128	128

Notation: T-statistics are in parenthesis. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. A total of 211 annual reports are collected with 193 (65 financial and 128 non-financial) usable annual reports for listed and non-listed Libyan companies. Annual reports for five years (2006-2010) are collected from the LSM, company websites, Audit Bureau, and Tax Authority. Variables are defined as follows: Listed is regression model for listed companies; Non-listed is regression model for non-listed companies; Weighted index is instrumental variable created using an alternative weighted index; 2SLS is two-stage least squares; NLM is non-linear model re-estimated by including the squared values of BoardS, ForOwn, GovOwn, InstOwn and DirOwn; MD is the mandatory disclosure; VD is the voluntary disclosure; ODL is the overall disclosure level; β0 is the constant term; Boards is the board size; DualP is the role duality; BoCo is the board composition; FreMee is the frequency of meetings; AuCo is the auditor committee; ForOwn is foreign ownership; InstOwn is institutional ownership; GovOwn is government ownership; DirOwn is director ownership; FS is firm size; FA is firm age; Prof is profitability; Liq is liquidity; Lis is listing status; IndTyp is industry type and AudTyp is auditor type.