Corporate boards, ownership structures and corporate disclosures

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

1. Introduction

The quality and quantity of information disclosed in a company's annual report depends on a country's rules and regulations. Such factors include the: (i) level of economic development; (ii) development of the accounting profession; (iii) legislation in force; and (iv) existence of a sophisticated financial market (Chen & Roberts, 2010). This reflects the current situation in Libya, where changes in the economy, regulations relating to financial reporting, and laws have affected financial reporting practices (Kribat *et al.,* 2013). As such, the Libyan context arguably offers an interesting setting for further analysis for a number of reasons. First, the Libyan economy used to be unique due to the peculiar characteristics of its previous political regime and the general rise in contribution of the petroleum sector to its economy over the last 30 years. 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. Third, the use of Libyan Commercial Law (LCL) in 1954 was a pioneering effort in the corporate governance field. The establishment of the LCL in 1954 facilitated the development of corporate governance in Libya. In particular, it provided guidelines for establishing, registering, managing, governing and dissolving all forms of firms. Moreover, it also recommended the kind and type of sanctions that may be imposed on companies if they fail to meet the requirements of the law. Fourth, despite the growth in the economy, the accounting profession in Libya is still relatively under-developed. Finally, corporate ownership is largely concentrated in the form of government, family (directors) and foreign institutional investors. As such, these Libyan specific issues arguably offer an interesting setting to examine the drivers of corporate disclosures. Consequently, the current study seeks to examine the extent to which corporate board mechanisms, ownership structures, and firm-level characteristics, may influence the level of corporate disclosures in this distinct corporate context.

Not surprisingly, there has been increasing interest in the issue of corporate governance, accountability, disclosure and transparency in recent years (Aljifri *et al.,* 2014; Wang & Hussainey, 2013). However, a careful assessment of this literature reveals a number of discernible weaknesses. Firstly, there is growing consensus that corporations engage in

increased financial and non-financial disclosures for a multiple of theoretical reasons. This implies that the ability of any single theory to explain the varied motivations underlying corporate disclosures is limited. However, existing studies are either largely descriptive in nature (Cooke, 1989a, b, Inchausti, 1997, Ho & Shun, 2001) or underpinned often by a single theoretical framework (Chen & Roberts, 2010). Arguably, this limits current understanding of the various motivations underlying corporate disclosures. Secondly, although corporate reporting consists of mandatory and voluntary disclosures, existing studies have focused almost exclusively on understanding the determinants of, and motivations for, corporate voluntary disclosures (Al-Janadi *et al.,* 2016; Choi, 1973; Gray *et al.,* 1995). Thirdly, although the majority of corporations are not listed, existing studies examining the motivations for, and determinants of, corporate disclosures have focused mainly on listed corporations (Barako *et al.,* 2006). By contrast, there is an acute dearth of studies analysing corporate disclosures in non-listed corporations (Cooke, 1989a, b; Ho & Shun, 2001; Inchausti, 1997; Meek *et al.,* 1995), and thereby impairing current understanding of corporate disclosure behaviour with respect to non-listed firms. 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 (Ntim & 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 a complete understanding of corporate disclosure behaviour (Aljifri *et al.,* 2014; Cooke, 1989a; Wang & Hussainey, 2013).

Consequently, this paper seeks to extend, as well as contribute to the current literature in a number of ways. Firstly and unlike many prior studies that have simply examined how firm-level characteristics, such as firm size and industry, affect corporate disclosure behaviour, this study examines how corporate boards, executives and owners in addition to firm-level features drive the level of corporate disclosure. Secondly, distinct from prior studies, the current study examines the antecedents of both mandatory and voluntary disclosures. Finally, in contrast to previous studies, this study analyses both listed and non-listed firms, and

thereby providing 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 presents a review of the relevant literature and hypotheses development. The research method is outlined in section 3. Section 4 presents the empirical results. The final section (section 5) presents the conclusions, policy implications of the results, and directions for future research.

2. Empirical literature and hypotheses development

2.1 *Corporate governance characteristics and disclosure*

Board size: According to agency theory, board size is a key determinant in monitoring managers. Samaha et al. (2012) suggest that organisations that have larger boards are less likely to be dominated by senior executives, and as a result, are more likely to disclose more financial and non-financial information than organisations with smaller boards. On the other hand, others claim that larger boards are often associated with poor communication and monitoring, including corporate disclosures, and therefore having a negative impact on the level of corporate disclosure (Jensen, 1993). 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 through enhanced disclosures.

Empirically, most prior research supports a positive association between board size and corporate disclosure behaviour (Laksmana, 2008; Samaha *et al.,* 2015; Wang & Hussainey, 2013). However, some researchers found no relationship between board size and disclosure level (e.g., Ebrahim & Fattah, 2015), whilst others argue that board size may have a negative impact on the board effectiveness. This is because free riding tends to be common within larger boards, whereby leading members tend to be less motivated to take part in decision making, which can lead to low levels of disclosure (Yermack, 1996; Byard *et al.,* 2006). Thus, we hypothesise that:

H_1: There is a significant positive association between board size and the level of corporate disclosure.

CEO Role Duality: Chief Executive Officer (CEO) role duality is where the CEO of a firm also serves as the chairman of the board. From the agency perspective, such duality in position provides the CEO with power that might negatively affect the board's control. It is argued that effectiveness in board monitoring can be achieved by having a large number of independent directors, which can lead to greater transparency and disclosure (Gul & Leung, 2004). From a 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. As such, CEO duality may negatively impact on the objectivity of a CEO's decisions (Freeman & Reed, 1983; Ntim et al, 2012b).

Prior empirical research has provided mixed results regarding the role duality–disclosure nexus. For example, some past studies have reported no significant association between these two variables (Arcay & Muiño, 2005; Ho & Shun, 2001), whilst others have found a negative relationship between the two variables (e.g., Eng & Mak, 2003; Gul & Leung, 2004; Ntim & Soobaroyen, 2013a). Hence, we hypothesise that:

H_2: There is a significant negative association between role duality and the level of disclosure.

Board composition: Fama and Jensen (1983) argue that corporate boards with a higher proportion of independent non-executive directors (NEDs) are more influential in monitoring and controlling managerial decisions. 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 mitigating agency problems between managers and shareholders, but also acting as a mechanism to advance the interests of other stakeholders, such as employees and communities (Chen & Roberts, 2010).

Empirically, the findings of some studies indicate a positive association between NEDs and voluntary disclosure (e.g., Ntim *et al.,* 2012b; Samaha *et al.,* 2015), whilst other researchers found either no association (Aljifri *et al.,* 2014; Ho & Shun, 2001) or a negative association (e.g., Ghazali & Weetman, 2006; Gul & Leung, 2004). Therefore, we conjecture that:

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

Frequency of meetings: Ntim and Osei (2011) and Laksmana, (2008) report a positive relationship between the frequency of board meetings and the level of disclosure. In contrast, Vafeas, (1999) and Alhazaimeh et al. (2014) find no significant relationship between the frequency of board meetings and voluntary disclosure. Thus, we hypothesise that:

H_4: There is a significant positive association between the number of board meetings and the level of disclosure.

Existence of audit committee: According to agency theory, the existence of an audit committee can help firms to reduce agency conflicts. 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 (Arcay & Muiño, 2005; Fama, 1980).

Empirically, Ho and Shun (2001), Barako et al. (2006), 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 have reported no association between disclosure and the presence of an audit committee (Alhazaimeh *et al.,* 2014; Aljifri *et al.,* 2014). Hence, we hypothesise that:

H_5: There is a significant positive association between the existence of an audit committee and the level of disclosure.

2.2 *Ownership structure variables and disclosure*

Foreign ownership: 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. Thus, we hypothesise that:

H_6: There is a significant positive association between foreign ownership and the level of disclosure.

Government ownership: High levels of government ownership with a strong political connection can offer protection against greater scrutiny and discipline by weak regulatory

framework, which can lead to low levels of disclosure in such firms. Theoretically, firms with higher state ownership may easily obtain funding from the government, and therefore, these firms tend to attract investors with less incentive to disclose increased information. Conversely, these firms are under greater public scrutiny, leading to pressure to disclose more information.

Empirically, Alhazaimeh et al. (2014), 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 an insignificant association, and Ebrahim and Fattah (2015) report a negative association between government ownership and voluntary disclosure. Therefore, we hypothesise that:

H_7: There is a significant positive association between government ownership and the level of disclosure.

Institutional ownership: Institutional investors play an influential role in the structure of corporate governance. From an agency theory perspective, institutional ownership is considered as a key part of effective control over a company, whereby managers, as influential stakeholders (stakeholder theory), disclose more information to meet the informational needs of institutional shareholders.

Empirically, 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 level of institutional ownership in Libyan privatised firms. Therefore, we expect firms with high institutional ownership to disclose more information. Hence, we hypothesise that:

H_8: There is a significant positive association between institutional ownership and the level of disclosure.

Director ownership: Agency theory suggests that there is a contradictory association between voluntary disclosures and director ownership. The extent of managerial ownership can serve as a way of aligning the interests of managers with those of shareholders, and thereby leading to an increase in the level of disclosure (Jensen & Meckling, 1976). Empirically, Eng and

Mak (2003) and Wang and Hussainey (2013) found a negative association between director ownership and voluntary disclosure. Thus, we hypothesise that:

H₉: There is a significant negative association between director ownership and the level of disclosure.

3. Research methodology

3.1 *Data collection and sampling*

This paper examines Libyan companies' annual reports in terms of the association between corporate governance characteristics, ownership structure and the extent of disclosure. A disclosure index is developed to measure the level of disclosure[1]. In order to provide a comprehensive picture of corporate reporting in the Libyan context, annual reports of three sectors namely; banks, manufacturing and services were collected. The rationale for choosing these sectors is that "after the oil and gas sector", they are the dominant sectors 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) were collected from the LSM, company websites, Audit Bureau, and Tax Authority. Out of 28 listed companies on the LSM, the annual reports of 22 companies were obtained. In addition, we collected annual reports from 23 large non-listed firms from the Audit Bureau. The period (2006-2010) was selected as 2006 witnessed the emergence of the LSM. Also, due to the Libyan uprising, which started in 2011, annual reports from 2011 onwards were not available. Consequently, a total of 211 annual reports were collected, of which 193 were usable.

3.2 *Variable measurement and model specification*

3.2.1 *Dependent variable: construction of the disclosure index*

[1]For the individual items contained in the index, see the additional supplementary materials available on the Journal's webpage.

As there is a lack of a general theoretical framework regarding the choice and selection of items to be included in a disclosure index, the extant Libyan government regulations and laws were used to construct the disclosure index. As this part of the study did not focus on a specific user group, an un-weighted index was applied. The following rules were used to build a comprehensive index: (i) the items required by statutory regulations (e.g., ITL); (ii) a review of relevant disclosure literature to identify items specific to this study; and (iii) items included in the annual reports published by Libyan companies (e.g., Elmagrhi *et al.,* 2016; Ntim *et al.,* 2012a, b; Wang & Hussainey, 2013).

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 the annual reports of Libyan firms. A binary coding scheme was used in which the presence of an item is scored 1, otherwise 0. Thus, with this unweighted scoring scheme, the higher a firm's score, the better its disclosure will seem to be and vice-versa.

3.2.2 *Reliability and validity of the disclosure index*

The final index was subjected to extensive review by three accounting specialists, one of them in the area of disclosure and transparency and two accountants at the LSM. These reviews resulted in adding four voluntary items and eliminating seven other items. In addition, each report was reviewed twice. Firstly, the annual reports were reviewed in order to familiarise ourselves with a firm's business and activities, and thus assess the relevance of the index to that 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 the mandatory items was determined by Libyan legislations, whilst voluntary items were similar to those used in previous studies.

3.2.3 *Regression model*

The multiple regression model employed is as follows:

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

where,

DL denotes MD (the mandatory disclosure); *VD* (the voluntary disclosure) and *ODL* (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. A summary of the definition and measurement of the variables is shown in Table 2.

TABLE 2 HERE

4. Empirical results

4.1 *Descriptive statistics*

Table 3 illustrates the descriptive statistics of the variables. The table indicates that the level of compliance of the Libyan firms with the mandatory requirements is 77%. This level is still lower than the finding of previous studies (Gao & Kling, 2012; Omar & Simon, 2011). 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 of 59 items. The average level of *VD* (65%) is higher when compared with previous studies (Omar & Simon, 2011). 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 & Simon, 2011). Regarding the independent variables, the average board size is eight members. Approximately 36% of the companies CEOs serve also as board chairmen, and the mean percentage of NEDs on the board is approximately 15%.

TABLE 3 HERE

4.2 *Correlation analysis*

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.

TABLE 4 HERE

Table 4 shows further 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*. On the other hand, role duality and government ownership are negatively correlated with the *ODL*.

4.3 *Multivariate regression results and discussion*

The results of the regression analysis of the determinants of corporate disclosure are shown in Table 5. 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 could be explained by the nine independent variables together with the inclusion of eight control variables. These results are similar to those of Haniffa and Cooke (2002) of 46%, as well as Samaha et al.'s (2012) reported finding of 62%.

Generally, the results indicate that the corporate governance variables are associated with the *ODL*. First, the analysis finds that the coefficient estimate on *BoardS* is negative and statistically significant with the *ODL*. This finding provides evidence that small boards of directors are more effective and supports previous studies that reported similar findings (Yermack, 1996; Byard et al., 2006). Theoretically, this is consistent with the predictions of agency theory, which suggest 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.

TABLE 5 HERE

Secondly, the study does not find any significant association between CEO role duality and the *ODL*. This result is in line with the findings of previous studies that found no significant association between the extent of disclosure and role duality, such as Arcay and Muiño

(2005), and Ghazali and Weetman (2006). Similarly, the study finds that the coefficient estimate on *BoCo* is negative and statistically significant with the *ODL*. 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, but it is inconsistent with the findings of Wang and Hussainey (2013) and Samaha et al. (2015), who reported a positive link between outside directors and disclosure. This negative association contradicts the predictions of agency, stakeholder and legitimacy theories regarding the presence of outside directors on corporate boards. This contradiction may be related to the cultural influence in such countries, where the appointment of independent non-executive directors is often based heavily on the social connections instead of the individuals' professional competency. Further, the analysis finds that the coefficient estimate of *FreMee* is positive and statistically significant with the *ODL*. This finding supports H_4. This implies that a higher frequency of board meetings contributes towards improving the quality of managerial monitoring, and therefore results in a positive influence on corporate disclosure.

Thirdly, our findings suggest that there is a significant positive association between *AuCo* and the *ODL*. This means that hypothesis H_5 is empirically supported. Our findings regarding the role of audit committee in explaining the *ODL* is consistent with those of Barako et al. (2006), and Samaha et al. (2015). Theoretically, this finding implies that the existence of an audit committee seems to help firms in reducing agency conflicts, particularly if non-executive directors dominate it. With regard to the ownership structure variables, Table 5 does not show any statistically significant evidence regarding the association between ownership structure variables and the *ODL* (including *MD* and *VD*). Therefore, our results do not support H_6, H_7, H_8 or H_9. Our results are in line with Ghazali and Weetman (2006), who found that there was no association between ownership structure and the extent of voluntary disclosure in Malaysia.

The findings contained in Table 6 for listed firms are largely consistent with our primary findings in Table 5. With regard to non-listed companies, board composition (*BoCo*) and frequency of meetings (*FreMee*) are statistically significant with the *ODL* only, whilst the results are generally similar to those presented in Table 5.

4.4 *Additional analyses*

We conducted a number of additional analyses to check the robustness of the results. A number of past studies have shown that endogeneity can be a major problem within accounting and finance research of this nature, and therefore there is the need to sufficiently address any such potential endogeneity problems. We address potential endogeneity problems in this study as follows. Firstly, an instrumental variable is created using an alternative weighted index to test for endogeneity. Each sub-group is assigned an equal weight to the total. For example, the *ODL* consists of two groups in which 50 per cent is awarded to each group. Our results are presented in Columns 7, 8 and 9 of Table 6. The results are consistent with those reported in Table 5. This suggests that our evidence is largely robust to sub-group 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, we first regress the unstandardized predicted values against the unstandardized residuals to check for any potential correlations (e.g., Elmagrhi *et al.,* 2016). The results of *2SLS* are presented in Table 6. The results in Table 7 support the primary results reported in Table 5 with no evidence of association except for government ownership (*GovOwn*) with a statistically significant association with the *ODL* (apart from observable minor sensitivities in the magnitude of the coefficients).

Thirdly, we divided our sample into financial and non-financial companies as suggested by previous research (Elmagrhi *et al.,* 2016). Table 7 indicates that, for non-financial companies, the results are consistent with our primary findings in Table 5. With regard to financial companies, board size (*BoardS*), and role duality (*DualP*) are positively and statistically significant with the *ODL*. For ownership variables, 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*.

Finally, previous studies argued that there is a non-linear relationship between board characteristics and ownership variables and corporate disclosure practices (Elmagrhi *et al.,* 2016). To detect the presence of non-linear relationship between corporate governance

variables and the extent of corporate disclosure, this study re-estimated the *ODL* by including the squared values of $BoardS^2$, $ForOwn^2$, $GovOwn^2$, $InstOwn^2$ and $DirOwn^2$. The last Column in Table 7 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 reported previously 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*.

5. Conclusion

This paper investigates the association between corporate governance characteristics, ownership structure and corporate disclosure behaviour in Libya. Generally, the results suggest that the corporate governance variables are significant in explaining the extent of corporate disclosure in an annual report. Firstly, we can conclude that board size and board composition are found to be negatively related to the overall disclosure level, whilst the frequency of meetings and audit committee have a positive and statistically significant association with the overall disclosure level. With regard to ownership structure variables, no relationship is 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 ownership of government enterprises to private investors ("privatization"), none of the ownership variables were found to support the agency relationship within the Libyan context.

This paper extends, as well as makes a number of new contributions to the existing literature. Unlike previous 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 and ownership structure 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. Furthermore, distinct from prior studies that have focused mainly on examining the determinants of only voluntary disclosure, the current research examines the antecedents of

both mandatory and voluntary disclosures. Finally, this study has analysed both listed and non-listed firms, and thereby it has allowed for new empirical insights relating to the disclosure behaviour of both listed and non-listed firms in a developing country.

The results have a number of implications. The results show that the disclosure level varies substantially among Libyan listed and unlisted firms. This provides Libyan authorities with a strong motivation to strengthen legal enforcement more by enhancing corporate governance and disclosure practices by establishing a compliance committee. This implies that Libyan authorities should consider imposing further mandatory requirements on Libyan firms to further protect investors and stakeholders. Further, the results reveal that ownership concentration has a negative effect on corporate disclosure. This suggests regulatory authorities may need to further reduce ownership concentration by amending listing rules that set a greater requirement for outside shareholders.

Finally, there are a number of avenues for future research. There is an opportunity for future research to investigate disclosure practices using other channels of corporate disclosure, such as corporate websites in order to ascertain whether they have the same explanatory variables, as those of 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.

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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
Less: Small and medium companies		
Industrials	115	575
Financial	4	20
Services	86	430
	(205)	(1025)
Less: Missing data		
Industrials	2	10
Financial	3	15
Services	2	7
	(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
Dependent variable			
MD	Total mandatory disclosure	Percentage of scored mandatory disclosure	
VD	Total voluntary disclosure	Percentage of scored voluntary disclosure	
ODL	Overall disclosure level	Percentage of overall disclosure items	
Independent variables			
BoardS	Board size	The number of board members	+
DualP	Duality in position	1 if company's CEO serves as a board chairman, 0 otherwise	_
BoCo	Board composition	Ratio of the number of non-executive directors to the total number of the directors	+
FreMee	Frequency of meetings	Number of board meetings during the year	+
AuCo	Audit committee	1 if an audit committee exists, 0 otherwise	+
ForOwn	Foreign ownership	Foreign ownership to total owners' ratio	+
GovOwn	Government ownership	Government ownership to total owners' ratio	+
InstOwn	Institutional ownership	Institutional ownership to total owners' ratio	+
DirOwn	Director ownership	The percentage of shares outstanding held by the board of directors	-
Control variable			
FS	Firm size	The natural logarithm of total assets	+
FA	Firm age	Number of years since foundation	+
Gearing	Gearing	The ratio of total debt to equity	+
Prof	Profitability	Net profit to total shareholders' equity	+
Liq	Liquidity	Company's current assets to current liabilities	+
List	Listing status	1 if the company is listed and 0 otherwise	+
IndTyp	Industry type	1 = Financial (banks or insurance), 0 otherwise	+
AudTyp	Auditor type	1 = a company audited by one of the big four, 0 otherwise	+
YD	Year	Dummies for each of the five years 2006 - 2010	

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

Variables		Mean	Median	Standard deviation	Minimum	Maximum	N
MD		76.97	0.07	2.21	22.00	32.00	193
VD	*Dependent*	65.13	0.06	6.53	59.00	85.00	193
ODL		67.90	0.06	8.38	81.00	114.00	193
Boards		8.05	8.00	2.45	3.00	14.00	193
DualP		0.36	0.00	0.48	0.00	1.00	193
BoCo		0.15	0.17	0.12	0.00	0.43	193
FreMee		6.21	6.00	1.59	3.00	12.00	193
AuCo	*Independent*	0.54	1.00	0.49	0.00	1.00	193
ForOwn		0.23	0.25	0.19	0.00	0.75	193
GovOwn		0.31	0.30	0.25	0.00	1.00	193
InstOwn		0.29	0.25	0.20	0.00	0.75	193
DirOwn		0.34	0.27	0.28	0.00	0.46	193
FS		237.36	19.12	217.21	34.86	986.75	193
FA		0.22	23.00	7.85	7.00	39.00	193
Gearing		0.32	0.33	0.07	0.12	0.54	193
Prof		0.41	0.40	0.09	0.22	0.51	193
Liq	*Control*	0.25	0.25	0.09	0.04	0.45	193
List		0.51	1.00	0.50	0.00	1.00	193
IndTyp		0.34	1.00	0.47	0.00	1.00	193
AudTyp		0.52	1.00	0.50	0.00	1.00	193

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

Notation: *, ** significant at the 0.05 and 0.01 levels (2−tailed) respectively.

Table 5: Regression analysis of the determinants of corporate disclosure

Variables	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: T-statistics are in parenthesis. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Coefficients are in front of parenthesis.

Table 6: Additional analyses of the determinants of corporate disclosure

Variables	Listed			Non-listed			Weighted Index		
	MD	VD	ODL	MD	VD	ODL	MD	VD	ODL
Corporate governance variables									
BoardS	.043**	.024**	.014**	.194	.469	.323	.039**	.084*	.035**
	-.201	-.102	-.138	-.118	-.050	-.071	-.119	-.067	-.081
DualP	.379	.001***	.089*	.967	.338	.464	.662	.118	.231
	-.082	.149	.090	.004	-.072	-.057	-.024	.057	.043
BoCo	.769	.650	.664	.004***	.027**	.008***	.128	.264	.156
	-.032	-.022	-.026	-.329	-.195	-.243	-.097	-.048	-.061
FreMee	.238	.000***	.004***	.323	.038**	.053**	.097*	.002***	.001***
	.123	.178	.174	.096	.157	.151	.096	.126	.126
AuCo	.077*	.002***	.004***	.951	.074*	.158	.122	.020**	.014**
	.181	.148	.168	.006	.136	.111	.088	.090	.094
Ownership variables									
ForOwn	.528	.273	.728	.496	.495	.758	.952	.164	.243
	.076	-.060	-.024	-.108	.083	.039	-.005	.072	.059
GovOwn	.102	.452	.688	.451	.481	.428	.376	.646	.906
	.237	-.049	.033	-.107	-.077	-.089	.069	-.024	-.006
InstOwn	.591	.896	.839	.718	.837	.967	.819	.546	.559
	.077	-.008	.016	-.057	.025	.005	.020	.036	.034
DirOwn	.915	.261	.452	.819	.312	.389	.852	.394	.434
	.014	.068	.057	.025	.084	.074	.012	.038	.034
Control variables									
FS	.195	.144	.824	.317	.249	.568	.136	.593	.996
	-.181	.093	.017	-.107	.095	.049	-.104	.025	.000
FA	.523	.058**	.131	.993	.418	.531	.466	.122	.123
	.062	.084	.083	-.001	.062	.050	.041	.059	.058
Gearing	.057**	.185	.069**	.516	.770	.989	.011**	.793	.313
	.210	.066	.113	.064	-.022	-.001	.155	.011	.041
Prof	.162	.083*	.071*	.289	.198	.511	.038**	.904	.457
	.164	.093	.120	.107	-.100	-.052	.135	.005	.032
Liq	.005***	.031**	.005***	.000***	.105	.013**	.000***	.007***	.001***
	.347	.121	.196	.430	.138	.223	.245	.117	.149
List	-	-	-	-	-	-	.012**	.090*	.027**
	-	-	-	-	-	-	.210	.095	.124
IndTyp	.000***	.000***	.000***	.070*	.000***	.000***	.000***	.000***	.000***
	.536	.575	.602	.207	.370	.352	.404	.279	.318
AudTyp	.180	.002***	.009***	.222	.043**	.049**	.244	.004***	.005***
	.139	.150	.157	.136	.175	.176	.101	.170	.164
YD	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
F-value	3.768	33.259	20.049	3.656	8.619	7.781	11.335	33.785	34.840
Adj. R^2	0.363	0.869	0.797	0.372	0.630	0.602	0.542	0.790	0.795
N	*98*			*95*			*193*		

Notation: T-statistics are in parenthesis. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 7: Additional analyses of the determinants of corporate disclosure

Variables	2SLS			Financial			Non-financial			NLM
	MD	VD	ODL	MD	VD	ODL	MD	VD	ODL	ODL
Corporate governance variables										
BoardS	0.743	0.021**	0.072*	0.793	0.009***	0.033**	0.023**	0.031**	0.013**	0.543
	-0.308	-1.283	-1.081	0.028	0.140	0.117	-0.192	-0.105	-0.137	0.148
$BoardS^2$										0.364
										-0.220
DualP	0.877	0.025**	0.093*	0.908	0.002***	0.015**	0.413	0.152	0.182	0.480
	-0.594	-5.093	-4.124	0.009	0.126	0.100	-0.071	-0.072	-0.076	0.025
BoCo	0.890	0.059**	0.191	0.571	0.074*	0.102	0.114	0.073*	0.055*	0.009***
	-0.039	0.316	0.236	0.073	0.115	0.109	-0.154	-0.101	-0.123	-0.109
FreMee	0.891	0.055**	0.148	0.574	0.093*	0.324	0.153	0.001***	0.004***	0.001***
	-0.220	-1.828	-1.482	-0.057	0.085	0.051	0.119	0.161	0.158	0.126
AuCo	0.143	0.502	0.274	0.299	0.433	0.961	0.165	0.001***	0.005***	0.003***
	0.464	0.125	0.220	-0.112	0.041	0.003	0.118	0.158	0.156	0.109
Ownership structure variables										
ForOwn	0.716	0.019**	0.064*	0.117	0.002***	0.002***	0.825	0.602	0.652	0.170
	-0.309	-1.180	-1.001	0.294	0.289	0.303	-0.026	-0.035	-0.034	-0.161
$ForOwn^2$										0.094*
										0.188
GovOwn	0.016**	0.000***	0.000***	0.809	0.124	0.298	0.910	0.635	0.789	0.219
	-0.292	-0.325	-0.330	-0.049	0.153	0.106	0.016	-0.038	-0.024	-0.146
$GovOwn^2$										0.183
										0.141
InstOwn	0.916	0.045**	0.136	0.448	0.028**	0.041**	0.782	0.011**	0.064*	0.805
	0.096	1.082	0.868	0.153	0.223	0.214	-0.031	-0.169	-0.139	-0.026
$InstOwn^2$										0.444
										0.075
DirOwn	0.931	0.033**	0.114	0.758	0.209	0.269	0.437	0.671	0.523	0.066*
	0.233	3.383	2.696	0.059	0.118	0.107	-0.077	-0.024	-0.041	0.269
DirOwn2										0.088*
										-0.254
Control variables										
FS	0.928	0.058**	0.183	0.214	0.592	0.805	0.141	0.363	0.955	0.101
	-0.134	1.658	1.256	-0.169	0.035	-0.017	-0.144	0.051	-0.004	0.080
FA	0.977	0.054**	0.160	0.780	0.418	0.451	0.420	0.291	0.282	0.251
	-0.040	-1.581	-1.242	0.030	0.043	0.042	0.067	0.050	0.058	0.042
Gearing	0.709	0.020**	0.066*	0.016**	0.154	0.837	0.949	0.703	0.820	0.353
	0.395	1.459	1.241	0.223	-0.063	0.009	0.006	-0.020	-0.013	0.038
Prof	0.847	0.010**	0.052**	0.165	0.066*	0.037**	0.272	0.631	0.861	0.266
	-0.152	-1.203	-0.977	0.184	0.120	0.142	0.097	-0.024	0.010	0.047
Liq	0.661	0.154	0.396	0.155	0.086*	0.044**	0.000***	0.002***	0.000***	0.000***
	0.272	-0.520	-0.334	0.324	0.193	0.235	0.308	0.156	0.210	0.181
List	0.963	0.030**	0.112	0.009***	0.079*	0.008***	0.278	0.042**	0.063*	0.003***
	-0.093	-2.579	-2.034	0.297	0.096	0.153	0.133	0.144	0.150	0.161
AudTyp	0.180	0.002***	0.009***	0.841	0.001***	0.006***	0.096*	0.118	0.071*	0.222
	0.139	0.150	0.157	0.022	0.198	0.160	0.222	0.120	0.157	0.136
YD	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
D-W	1.728	2.059	1,998	1.800	2.171	2.069	1.626	2.044	1.844	1.983
F-value	3.768	33.259	20.049	9.463	46.453	43.095	4.419	24.260	17.619	3.656
Adj. R^2	0.363	0.869	0.797	0.726	0.934	0.929	0.350	0.786	0.724	0.372
N	193	193	193	65	65	65	128	128	128	193

Notation: T-statistics are in parenthesis. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. D-W: Durbin-Watson.

Appendix: Disclosure index

Mandatory Disclosure Items		
No	Information item	Score
1-	Balance sheet	0-1
2-	Income statement or profit and loss account	0-1
3-	Cash flow statement	0-1
4-	Statement of changes in equity	0-1
5-	Board of Directors' report	0-1
6-	Notes to the financial statements	0-1
7-	External auditor's report	0-1
8-	Firm name	0-1
9-	Firm's legal form (Does the paid up share capital equal or exceed 30% of the subscribed share capital?)	0-1
10-	Amounts claimed from shareholders and not yet paid	0-1
	Balance sheet items	
11-	Properties	0-1
12-	Movables, fixed constructions and equipment	0-1
13-	Industrial patents and rights of utilisation of intellectual products	0-1
14-	Concessions, registered marks and economic value of the shop	0-1
15-	Raw materials and goods	0-1
16-	Money and paper money available at hand or deposited with a third party	0-1
17-	Financial security of fixed and variable profits	0-1
18-	Partnerships with statement of what is purchased by the company of their shares	0-1
19-	Debts on company clients	0-1
20-	Debts of the company to banks	0-1
21-	Other debts claimed from third parties	0-1
22-	Firm capital	0-1
23-	Legal reserve balance	0-1
24-	Reserve provided for in the Memorandum and optional reserve	0-1
25-	Amounts of depreciation and impairments	0-1
26-	Amounts allocated for compensation of firm employees	0-1
27-	Debts restricted with guarantees in kind	0-1
28-	Debts claimed by suppliers	0-1
29-	Debts of the firm to banks or other suppliers	0-1
30-	Debts claimed by related companies.	0-1
31-	Loan securities issued and still existing	0-1
32-	Other debts claimed from the firm	0-1
33-	What is deposited optionally or compulsory by third parties	0-1
Total		33

Voluntary Disclosure Items		
	General information	
1-	Brief history of the firm	0-1
2-	Description of organizational structure	0-1
3-	Firm address/telephone/fax/Email	0-1
4-	Firm Website address	0-1
5-	Purpose of the firm's activity and vision	0-1
6-	Date and details of establishment	0-1
7-	General outlook of business activities	0-1
8-	List of branches location	0-1
9-	The period covered by financial statement.	0-1
10-	Comparative financial statements	0-1

continued ...

11-	The currency used for the preparation of financial statements	0-1
12-	firm plans for the following years and future capital expenditures	0-1
	Corporate governance	
13-	List of board members	0-1
14-	Board member qualifications and experience	0-1
15-	Duties of board of members	0-1
16-	Information about changes in board members	0-1
17-	Classification of managers as executive or outsider	0-1
18-	Number of board of members meetings held and date	0-1
19-	Number of shares held by members of the board	0-1
20-	Compensation policy for top management.	0-1
21-	Information on audit committee and its members	0-1
22-	Composition of board of directors: executives and non-executives	0-1
23-	Number of employees	0-1
24-	Chairman's statement	0-1
25-	External auditors' report	0-1
	Accounting policies	
26-	Compliance with IASs	0-1
27-	Accounting valuation (historical, current or replacement cost)	0-1
28-	Foreign currency transactions, translation and differences treatment	0-1
29-	Events after the balance sheet date	0-1
30-	Revenue recognition	0-1
31-	Valuation of property, plant and equipment and depreciation	0-1
32-	Inventory physical count and valuation	0-1
33-	Research and development costs	0-1
34-	Treatment of other intangible assets	0-1
35-	Tax treatment	0-1
36-	Long-term contracts	0-1
37-	Changes in accounting policies and reasons	0-1
	Balance sheet	
38-	Assets and liabilities grouped according to their nature	0-1
39-	Assets and liabilities listed in order of their liquidity	0-1
40-	Assets and liabilities should not be offset	0-1
41-	Cash	0-1
42-	Investments	0-1
43-	Accumulated depreciation for each item of fixed assets	0-1
44-	Proportion of fixed assets leased	0-1
45-	Schedule of movement in fixed assets	0-1
46-	Amount of Intangible assets	0-1
47-	Investments in projects under construction	0-1
48-	Market values of investments	0-1
49-	Total value of current assets	0-1
50-	Total value of inventories	0-1
51-	Market value of inventories	0-1
52-	Breakdown of inventories	0-1
53-	Market values of marketable securities	0-1
54-	Balances of receivables	0-1
55-	Breakdown of receivables into trade and others	0-1
56-	Bank balance	0-1
57-	Bank balance breakdown (current and deposit)	0-1
58-	Liabilities order	0-1
59-	Liabilities classification	0-1
60-	Total value of loans and long term Liabilities	0-1
61-	Total value of current Liabilities	0-1
62-	Classified current liabilities	0-1
63-	Tax liabilities	0-1
64-	Instalments of long term loans payable	0-1

continued ...

65-	Dividends Payable	0-1
66-	Accrued expenses	0-1
67-	Stockholders' equity	0-1
68-	Issued capital	0-1
69-	Legal reserve and other reserves	0-1
70-	Retained earnings	0-1
	Income statement	
71-	Revenue of the ordinary activity	0-1
72-	Non–operating revenues and gains	0-1
73-	Analysis of costs	0-1
74-	Operating profit or loss	0-1
75-	Finance costs	0-1
76-	Profit or loss from ordinary activities before tax	0-1
77-	Income tax expense	0-1
78-	Net profit or loss for the period	0-1
79-	The amount of dividends per share	0-1
80-	Fundamental errors and how it is treated	0-1
81-	Effect of significant changes in accounting policies	0-1
82-	Capital transactions with owners: issues and purchase of own shares	0-1
83-	Distributions to owners (e. g. dividends)	0-1
84-	The number of shares authorized and breakdown into paid and not paid	0-1
85-	Percentage of equity owned by management	0-1
	Cash flow statement	
86-	The main items of cash inflows	0-1
87-	The main items of cash outflows	0-1
88-	Cash flows from/for investment activities	0-1
89-	Net cash inflow from operating activities	0-1
90-	Adjusted by non–cash transactions (depreciation)	0-1
91-	Cash flows from and to finance activities	0-1
	Notes to the financial statements	
92-	Balances with local and foreign banks	0-1
93-	Local investment	0-1
94-	Loans and facilities after deducting provisions	0-1
95-	Debtors and other debtor accounts	0-1
96-	Fixed assets after deducting depreciation	0-1
97-	Buildings under construction	0-1
98-	Customer deposits	0-1
	CSR information	
99-	Environmental information	0-1
100-	Community involvement	0-1
101-	Charitable donations and sponsorship	0-1
102-	Health and safety information	0-1
103-	Award/ ratings received and attempts to get or sustain it	0-1
	Future prospects	
104-	Discussion of future industry trend	0-1
105-	New developments	0-1
106-	Forecast of earnings/profits	0-1
107-	Forecast of cash flows	0-1
108-	Future risks and firm opportunities	0-1
Total	Potential Score	108