BOARD COMPOSITION, OWNERSHIP STRUCTURE AND VOLUNTARY DISCLOSURE: AN EMPIRICAL STUDY OF THE LISTED COMPANIES IN EGYPT

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Abstract

The aim of this study is to examine the relationship between board composition and ownership structure variables on the level of voluntary information disclosures of companies listed on the Egyptian Stock Exchange. Board composition is examined in terms of board independence; board size; and CEO duality; also, ownership structure is examined in terms of ownership concentration; institutional ownership; and managerial ownership. The results show that there is a significant negative relationship between CEO duality and voluntary disclosures. However, board independence; board size; ownership concentration; institutional ownership; and managerial ownership are not associated with voluntary disclosures. Also, the results of the regression analyses show that size and leverage of firms are significantly and positively associated with the level of voluntary information disclosures. Profitability of a firm is not significantly associated with voluntary disclosures. Finally, this paper indicates the relationship among board composition, ownership structure and corporate voluntary disclosure, and provides evidence for Egyptian regulators to improve corporate governance and optimize ownership structure.

Keywords: Voluntary Disclosure, Boards of Directors, Ownership Structure, Egypt

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1. Introduction

Emerging markets have become the focus of international corporations, personal and institutional investors due to their high rates of economic growth (Millar *et al.*, 2005). However, they suffer from low investor protection practices, especially expropriation of minority shareholders both by managers and controlling shareholders (Gonenc and Aybar, 2006). They have higher information asymmetry between managers and investors (Gul and Leung, 2004; Chau and Gray, 2010), and have lower level of disclosure than those in developed market economies (Salter, 1998; Wang *et al.*, 2008; and Tower *et al.*, 2011), whereas high-growth firms need more voluntary disclosure than low-growth firms due to their need for external finance (Core, 2001).

At the same time, when the owner's holding increases, convergence of interest between the controlling shareholders and outside investors occurs. When investment decisions are more likely to be made to maximize the insiders' wealth, at the expense of outside investors, outsiders will find it necessary to supervise owner managers by increasing the extent of disclosures (Chau and Gray, 2010). Board of director composition and company ownership structure are acknowledged to be important governance mechanisms. The present corporate governance literature recognizes that importance, however, the impact of board composition and ownership structure on corporate voluntary disclosure practices, remains unexplored in emerging stock markets.

There has been considerable number of researches on the relationship between board composition; and ownership structure on the level of voluntary disclosure. However most of these researches have been concentrated on developed countries and unfortunately what is true for a developed country can be completely different for a developing country or vice versa. Therefore motivation of this study is to examine the extent of voluntary disclosure in annual reports and web-sites of companies and to find out whether the variables of board composition and ownership structure have found to be significant in explaining voluntary disclosure practices in developed countries apply in a developing country such as Egypt. Therefore, the problem discussed in this study is exemplified through answering the following question: what are the impacts of board composition and ownership structure on enhancement of the level of voluntary disclosure in the more active 50 non-financial companies listed at Egyptian stock exchange?

In this study, board composition is examined in terms of board independence; board size; and CEO duality, also, ownership structure is examined in terms of ownership concentration; institutional ownership; and managerial ownership. To analyse the level of voluntary disclosure, we built an index through a list of items, within six categories. We employed multivariate regressions to examine the determinants of voluntary disclosure and its different categories. In our work an important aspect is the definition of "voluntary disclosure". Consistently with prior definitions in different regulatory national environments (Meek *et al.*, 1995; Depoers, 2000; Allegrini and Greco, 2013), we consider voluntary disclosure as the information released to the outside deriving from management's insider knowledge of the company, which are not required to be published in regulated reports. Voluntary disclosure is, therefore, produced by a management's reporting decision (Meek *et al.*, 1995; Healy and Palepu, 2001; and Allegrini and Greco, 2013).

This study proceeds as follows. The next section provides a literature review and development of hypothesis. Section three describes the methodology, and the data. Section four reports the empirical results and the robustness checks. Finally, section five concludes the paper.

2. Literature Review and Development of Hypothesis

Corporate voluntary disclosure and its determinants have been identified as an important research area and have attracted both analytical and empirical researchers in accounting since the 1970s. Analytical research includes agency theory (Jensen and Meckling, 1976), signaling theory (Hughes, 1986) and competition theory (Verrecchia, 1983). In the literature, a number of studies have been undertaken to examine the relationship between corporate governance mechanisms and voluntary disclosure. Corporate governance mechanisms, examined in these studies, include ownership structure, board composition, and the audit committee characteristics. Ho and Wong (2001) examined the relationship between four major corporate governance mechanisms and the extent of voluntary disclosures in Hong Kong. The results showed that the existence of an audit committee, is significantly and positively related to the extent of voluntary disclosure, while the percentage of family members on the board, is negatively related to the extent of voluntary disclosure.

Eng and Mak (2003) examined the relationship between ownership structure and voluntary disclosures in Singapore. Their results revealed a significant negative relation between managerial ownership and level of voluntary disclosure, and a significant positive relation between government ownership and voluntary disclosure. However, they found no significant association between blockholder ownership and voluntary disclosures. Makhija and Patton (2004) examined the impact of ownership structure, on the extent of voluntary financial disclosure by Czech firms. They found that the extent of disclosure is positively related to investment fund ownership, at low levels of fund ownership but is negatively related to investment fund ownership at high levels of ownership. Barako, *et al*, (2006) examined the association between various corporate governance variables and voluntary corporate disclosure in Kenya. The results showed that the existence of an audit committee, foreign ownership, institutional ownership, firm size and leverage, have a significant positive relation with the level of voluntary disclosures.

Ghazali and Weetman (2006) address the relationship between ownership and voluntary disclosure in the annual reports of Malaysian companies. They outline several aspects of ownership, ownership concentration (the 10 largest shareholders), number of shareholders, director ownership and governmental ownership. They conclude that director ownership is significantly negatively associated with the extent of voluntary disclosure. On the other hand they report that other aspects of ownership are found to have insignificant association with the extent of voluntary disclosure.

Donnelly and Mulcahy (2008) reported clear evidence that voluntary disclosure increases with the number of nonexecutive directors on the board. Firms that have a nonexecutive chairman make greater voluntary disclosures than other firms. Also, their results showed there is no association between the extent of voluntary disclosure and ownership structure. Samaha and Dahawy (2012) examined the impact of a comprehensive set of corporate governance attributes on the extent of corporate governance voluntary disclosure in Egypt. Their results showed that the extent of governance disclosure is lower for companies with duality in position and higher ownership concentration as measured by blockholder ownership and increases with the proportion of independent directors on the board and also firm size. Alves *et al.*, (2012), examined the relations between corporate governance variables and voluntary disclosure in Portugal and Spain. Their results indicated that the main determinants of voluntary disclosure are firm size, growth opportunities, organizational performance, board compensation and the presence of a large shareholder.

2.1 Board Composition and Voluntary Disclosure

Fama (1980) suggested that the board of directors, which is elected by the shareholders, is the central internal control mechanism for monitoring managers. In this study board of directors characteristics include board independence; board size; and CEO Duality.

Board Independence and Voluntary Disclosure

Fama (1980) suggested that the board of directors, which is elected by the shareholders, is the central internal control mechanism for monitoring managers. Chau and Gray (2010) suggest that boards with a higher proportion of outside or independent directors will increase the quality of monitoring over management, because “they are not related to the company as officers or employees, and thus are independent representatives of the shareholders’ interests” (Penno., 1997).

Empirical results show a positive correlation between the proportion of independent directors on the board and the amount of voluntary information disclosed by the companies (Chen and Jaggi, 2000: Arcay and Vázquez, 2005; and Patelli and Principe, 2007). On the other hand, Eng and Mak (2003) find significant negative association of outside directors on the board and voluntary disclosure in Singapore. Also, Ho and Wong (2001) conclude that the ratio of independent directors has insignificant association with the extent of voluntary disclosure in Hong Kong.

In Egypt, there is no rule or criterion to choose the independent non- executive directors. In most cases it depends on the previous relationship between the candidate and the chairman or executive directors. At the same time, in the Egyptian situation, Samaha and Dahawy (2011) find that the relationship between board independence and voluntary disclosure in Egypt is positive. In view of the mixed evidence from literature, the hypothesis relating board independence to voluntary disclosure is as follows:

H1. There is a significant positive relationship between the proportion of board independence and the level of voluntary disclosure.

Board Size and Voluntary Disclosure

Agency theory suggests that large boards can play an important role in monitoring the board and in making strategic decisions. In addition, it suggests that large boards are less likely to be controlled by the management (Hossain, and Reaz, 2007). Furthermore, large boards lead to increase the expertise diversity in the board including financial reporting expertise (Yermack, 1996; and Laksmana, 2008).

Majority of previous studies find a positive relationship between board size and voluntary disclosure (Barako *et al.*, 2006; and Laksmana, 2008). On the other hand, some studies did not find any relationship between board size and disclosure (Evans, 2004; and Lakhal, 2005). In the Egyptian situation, Ezat and El-Masry (2008) find that board size is positively connected with levels of corporate voluntary disclosure. In view of the mixed evidence from literature, the hypothesis relating board size to voluntary disclosure is as follows:

H2. There is a significant positive relationship between the board size and the level of voluntary disclosure.

CEO Duality and Voluntary Disclosure

Fama and Jensen (1983) point out that CEO duality signals the absence of separation of decision control and decision management. The result of CEO duality is the concentration of decision-making power, which could constrain board independence and reduce its ability to execute its oversight and governance roles and prove detrimental to disclosure levels and quality, especially voluntary disclosure (Ho and Wong, 2001).

Previous research on the relationship between duality in position and corporate voluntary disclosure is mixed. Some studies find a negative relationship between the two variables (Lakhal, 2005; Laksmana, 2008; Eng and Mak, 2003; Gul and Leung, 2004). Other studies did not find any significant relationship between the two variables (Arcay & Vazquez, 2005; Ghazali and Weetman, 2006; Ho and Wong, 2001). In the Egyptian situation, Ezat and El-Masry (2008) find that dual role is negatively connected with levels of corporate voluntary disclosures, but the relationship is not statistically important at an acceptable level. Based on the above dissection, this study suggests that firms with CEO duality are more likely to be associated with lower levels of voluntary disclosures. The hypothesis is thus:

H3. There is a significant negative relationship between the CEO duality and the level of voluntary disclosure.

2.2 Ownership Structure and Voluntary Disclosure

Although ownership structure has been examined as an explanatory variable of disclosure level in previous disclosure studies (Raffournier, 1995 in Switzerland and Depoers, 2000 in France), the increasing attention to corporate governance has added to its importance. In this study, ownership structure include ownership concentration; institutional ownership; and managerial ownership.

Ownership Concentration and Voluntary Disclosure

The ownership variable is relevant to explain transparency, because when ownership is highly concentrated, there is less demand of information (Arcay and Vázquez, 2005). Agency theory suggests that companies will disclose more information where there is diffused ownership (Jensen and Meckling, 1976). Compared to companies with concentrated ownership, there is greater potential for agency conflict with diffuse ownership since the divergence of interests between the contracting parties is likely to be wider. Disclosure may reduce agency costs since it helps solve the monitoring problems experienced by diffuse owners. Omran *et al.*, (2008) argue that the ownership concentration phenomenon is due to several factors. It is a response to the legal system which does not protect the minority investors. In the developing countries, ownership concentration may also be due to the nature of their poorly developed financial markets.

Bushman et *al.*, (2004) argue that firms with a concentrated ownership structure are less motivated to disclose as long as the shareholders of these companies can obtain information directly from the company. Similarly, Haniffa and Cooke (2002) assert the existence of a negative relationship between ownership concentration and disclosure extent. Therefore, information voluntary disclosure is likely to be more intense in the private enterprises with a largely diffused capital. In general, previous studies have found a negative association between ownership concentration and the extent of voluntary disclosure. It is assumed that the shareholding dissemination increases both the agency conflicts and the information asymmetry. In the light of what precedes, we formulate the following hypothesis.

H4. There is a significant negative relationship between ownership concentration and the level of voluntary disclosure.

Institutional ownership and Voluntary Disclosure

Institutional investors generally hold a large portion of shares in large companies. The extent of their property allows them to be the most important players in the structure of corporate governance. Thus, these investors are privileged to have an informational benefit over the minority shareholders. Furthermore, they have an advantage in obtaining private information (Raïda and Hamadi, 2012).

The relationship between institutional ownership and voluntary disclosure has been examined in prior studies, the evidence is mixed. Barako *et al*., (2006) find a positive association between institutional ownership and the extent of voluntary disclosure in Kenyan corporate annual reports. Also, In Taiwan Guan *et al.*, (2007) document positive association of institutional ownership and the aggregate extent of disclosure in the annual reports and website. On the other hand. Schadewitz and Blevins (1998) address interim disclosures in Finnish firms and provide evidence of negative association between institutional ownership concentration and disclosure.

In Egypt, the percentage of institutional ownership, in Egypt, has increased over the last few years.

One of the reasons of this increase is that the large privatization deals were mainly conducted by institutions (Abdel Shahid, 2003). In view of the mixed evidence from literature, the hypothesis relating ownership concentration to voluntary disclosure is as follows:

H5. There is a significant positive relationship between the institutional ownership and the level of voluntary disclosure.

Managerial Ownership and Voluntary Disclosure

The managerial ownership came to reduce the agency problems and the managerial opportunism caused by the separation between ownership and control. When the managerial ownership is high, the agency conflicts between the shareholders administrators and the shareholders non administrators prevail but not the conflicts between the managers and the shareholders.

Baek *et al.*, (2009) find that, for firms with low levels of managerial ownership, there is a negative relationship between the level of managerial ownership and the level of disclosure (Raïda and Hamadi, 2012). In an Egyptian situation, Samaha and Dahawy (2011) find a negative relationship between the ownership of management and the voluntary corporate disclosures made by the top 30 Egyptian-listed companies. Thus, we expect that voluntary disclosure in the annual reports increases with decreases in managerial ownership. We suggest, then, testing the following hypothesis.

H6. There is a significant negative relationship between managerial ownership and the level of voluntary disclosure.

3. Research design

3.1 Sample

The sample in the current study consists of the Egyptian companies from amongst the top 50 most active-traded companies listed in the Egyptian Stock Exchange over the period 2007-2010. Following the majority of disclosure literature (e.g. Wallace and Naser, 1995; Haniffa and Cooke, 2002; and Ghazali and Weetman, 2006) financial companies; e.g. banks, insurance companies, and leasing companies; were excluded from the sample due to the different requirements of disclosure and corporate governance. Hence their annual reports may be not comparable to those of other companies. This gave us a sample of 40 firms. As no relevant Data Stream exists in Egypt, the annual reports, covering the four year period 2007-2010, were purchased from the Egyptian Company for Information Dissemination (EGID) to extract the information on the variables needed to test each of the research hypotheses. Also, this study used the companies' web-sites for collecting data.

3.2 Construction of the disclosure Index

The voluntary disclosure index (VDISCL) is based on the information firms provide in their annual reports to shareholders. The index is similar to that in Eng and Mak (2003); Peterson and Plenborg (2006); and Alivar (2006). Common to these studies is that they focus on investors' needs. The disclosure index is based on the following six categories: strategy, market and competition, management and production, marketing, future perspective and human capital. A score sheet was designed for scoring firms on the amount and the level of detail of disclosures. A total of 60 indicators within the six groups have been identified (See appendix A). The disclosure index is un-weighted as it assumes that each indicator of each disclosure category is equally important (Gray *et al.*, 1995). The disclosure level of a company was calculated by dichotomous procedure which assigns a score of 1 if a corporation discloses an item and a score of 0 if it does not (Cooke, 1989; Gul and Leung, 2004; and Hossain and Hammami, 2009). For each firm, a disclosure index was computed as the ratio of the actual score given to the firm divided by the maximum score. Accordingly, the voluntary disclosure index for each company was calculated as follows (Cooke, 1989; and Hossain and Hammami, 2009):

$$\text{VDISCL} = \sum_{n=1}^{dj/n} \qquad (1)$$

Where: VDISCL is voluntary Disclosure index level, dj = 1 if the item j is disclosed; 0 if the item j is not disclosed; n is number of items.

This study proceed to the validation of the voluntary disclosure index, following Botosan (1997), based on the following points: comparison with similar studies using voluntary disclosure indexes; positive statistically significant correlations between the number of analysts and the voluntary disclosure scores; an accepted value for the Cronbach's alpha coefficient; and similar results with previous studies of the correlation between the voluntary disclosure level and firm characteristics.

3.3 Controlling Variables

The firm size (FSIZ) is considered as the one of the most important variables related with the level of transparency and disclosure (Lang and Lundholm, 1993). Several authors find evidence of a positive relationship between the size of the firm and the release of information (Botosan and Plumlee, 2002). Size is measured as the logarithm of total assets to reduce the effect of inaccurate data in the statistical analysis. This measure of size is frequently used, such as in the studies of Lim *et al.*, (2007), and Raïda and Hamadi, (2012). Also, the results concerning the relationship between information disclosure and the firm leverage (FLEV) are not agreeable. Some authors find a positive relationship between the two variables and others found a negative relation. In this study, leverage is measured by the ratio of total debt/total assets, like in the studies of Depoers (2000), and Baek *et al.*, (2009). Finally, Signaling theory suggests that managers of firms with good performance are motivated to disclose additional information in order to signal quality of management. Empirical evidence indicates mixed results in the relationship between the extent of disclosure in company annual reports and profitability. In this study, profitability (PROF) is measured by return on asset.

3.4 Definition of Variables

The explanations of dependent; independent and control variables are presented in Table 1. Most measurements and expected relations are consistent with prior research (Cooke, 1989; Gul and Leung, 2004; Hossain and Hammami, 2009; and Raïda and Hamadi, 2012).

There are a number of companies that were in the top 50 most active-traded companies listed in the Egyptian Stock Exchange in 2007 that are not in 2010 raising concerns regarding the effect that non-surviving firms have on the results. To control the effect of non-survivorship firms on the results, a dumpy variable (FSUR) is created which is equal to 1 if the firm is continuously present in all the years of the sampling period from 2007 to 2010, otherwise it is equal to 0.

3.5 Model development

In order to examine the relationship between board composition; ownership structure variables and the extent of voluntary information disclosures of Egyptian companies, the following multiple regression model is estimated:

$$\begin{aligned} \text{VDISCL} &= \beta 0+\beta 1\text{BIND} + \beta 2\text{BSIZ} + \beta 3\text{CEOD} \\ &+ \beta 4\text{OCON} + \text{B5INOW} + \text{B6MAOW} \qquad (2) \\ &+ \text{B7CSIZ} + \text{B8LEV} + \text{B9PRO} + \beta 10\text{FSUR} + \varepsilon \end{aligned}$$

Where: VDISCL, voluntary disclosure index level; BIND, board independence; BSIZ, board size; CEOD, CEO-duality; OCON, ownership concentration; INOW, institutional ownership; MAOW, managerial ownership; CSIZ, company size; LEV, leverage; PRO, profitability; FSUR, firm survival; and ε, the error term, normally distributed about a mean of 0.

Table 1. Dependent; Independent and Control Variables

Variables	Indicators	Expected Signs	Measurement
Dependent Variables (Voluntary Disclosure)			
Voluntary Disclosure index level	VDISCL		Which assigns a score of 1 if a firm discloses an item and a score of 0 if it does not. For each firm, a disclosure index was computed as the ratio of the actual score given to the firm divided by the maximum score.
Independent Variables (Board Composition and Ownership Structure)			
Board Independence	BIND	+	The proportion of independent members of the Board of Directors to the total members of the Board of Directors.
Board Size	BSIZ	+	Total members of the Board of Directors at the end of the year.
CEO Duality	CEOD	–	Dummy variable takes the value (1) in the case of a dual role, and value (0) otherwise.
Ownership Concentration	OCON	–	Dummy variable takes the value (1) if there is presence of a shareholder who has 50 % or more of the capital and value (0) if not.
Institutional Ownership	INOW	+	The percentage of shares held by the institutional investors.
Managerial Ownership	MAOW	–	Percentage owned by the senior management of the total number of shares that the company issued
Control Variables			
Company Size	CSIZ	+	Natural log of total assets.
Leverage	LEV	+	Total liability divided by total assets at year end.
Profitability	PRO	+	The average of company *i* return on assets.

4. Results discussion

4.1 Descriptive statistics

Table 2 provides the minimum, maximum, mean, and standard deviation of the variables in the study. The table indicates that the level of average voluntary disclosure in the sample companies is 32%. It is consistent with Leventis and Weetman (2004) in Greece (37%); Al-Shammari (2008) in Kuwait (46%); Ghazali and Weetman (2006) in Malaysia (31%); and Hossain and Hammami (2009) in Qatar (37%). The low amount of voluntary information disclosed in the body of financial reports could be explained on the basis that this type of information is voluntary in nature, and no effective regulations enforce firms to reveal it. It appears from the Table regarding the composition of the board of directors, the average ratio of independent directors is (72%). The results also, reveal that the maximum size of board of directors was 13 members, while the minimum size was 4 members at the end of year, and the average was 6, 67. The data also shows that nearly 47% of the firms have their chairman who also acts as CEO duality.

Regarding the ownership structure variables, Table 2 shows that the average ratio of ownership concentration is (53%). The data also shows that, nearly (52.43%) of the sample firms owned by institutional investors with a standard deviation of 0.301. Finally, it appears from the Table regarding managerial ownership that the average is (24.81%) with a standard deviation of 0.1641.

Table 2. Descriptive statistics for study variables

	VDISCL	*BIND*	*BSIZ*	*CEOD*	*OCON*	*INOW*	*MAOW*	*CSIZ*	*LEV*	*PRO*
Mean	31.92	0.721	6.671	0.474	0.532	0.524	0.2481	13.92	0.35	16.65
Maximum	64.86	1	13	1	1	0.950	0.510	17.82	0.98	28.20
Minimum	21.11	0.621	4	0.00	0.00	0.10	0.00	9.96	0.12	-21.88
St. Dev.	13.6684	0,108	4,987	0,4887	0.446	0.301	0.1641	2.6087	0.3155	10.634

Where: VDISCL, voluntary disclosure index level; BIND, board independence; BSIZ, board size; CEOD, CEO-duality; OCON, ownership concentration; INOW, institutional ownership; MAOW, managerial ownership; CSIZ, company size; LEV, leverage; and PRO, profitability

4.2 Correlation matrix and multicollinearity analysis

Multicollinearity in explanatory variables has been diagnosed through analyses of correlation factors and Variable Inflation Factors (VIF), consistent with Al-Shammari (2008); and Hossain and Hammami (2009). Table 3 presents the correlation matrix of the dependent and independents variables, from which, it has been observed that the highest simple correlation between independent variables was 0.447 between ownership concentration (OCON) and managerial ownership (MAOW). Bryman and Cramer (1997) suggest that simple correlation between independent variables should not be considered harmful until they exceed 0.80 or 0.90. This confirms that there is no multicollinearity among the variables.

Table 3. Correlation coefficients Matrix of the variables used in the study

	VDISCL	*BIND*	*BSIZ*	*CEOD*	*OCON*	*INOW*	*MAOW*	*CSIZ*	*LEV*	*PRO*
VDISCL	1									
BIND	-0.142	1								
BSIZ	0.230	0.152	1							
CEOD	-0.276	-0.154	0.171	1						
OCON	-0.091	0.240	-0.257	-0.039	1					
INOW	-0.142	0.277	0.444	0.301	-0.140	1				
MAOW	-0.061	0.241	-0.415	-0.016	0.447	-0.241	1			
CSIZ	0.339	0.130	0.300	-0.202	-0.271	-0.125	-0.007	1		
LEV	0.204	-0.248	-0.267	0.022	0.080	-0.239	0.253	0.002	1	
PRO	0.111	-0.194	0.143	-0.53	0.103	-0.083	0.074	0.015	0.425	1

Where: VDISCL, voluntary disclosure index level; BIND, board independence; BSIZ, board size; CEOD, CEO-duality; OCON, ownership concentration; INOW, institutional ownership; MAOW, managerial ownership; CSIZ, company size; LEV, leverage; and PRO, profitability

4.3 Multivariate analysis

As in many previous disclosure studies, regression analysis has been preferred to investigate the relationship between board composition and ownership structure on the voluntary disclosure level of Egyptian companies. Results of an Ordinary Least Square (OLS) regression in Table 4 show that the F-ratio is 13.49 (P = 0.00). The result statistically supports the significance of the model.

Also, we found that the value of the coefficient of determination R square of the model is equal to 0.504, and this means that 50.4% of the variance of the independent variable explained by the independent variables included in the model. The other 49.6% of the variance that occur in the level of disclosure in financial reports was a result of other variables. The further confirmation of mutlitolinearity assumption is checked by variance inflation factor (VIF). The (VIF) in excess of 10 should be considered an indication of harmful multicollinearity (Neter *et al.*, 1989). Table 4 shows that the average VIF (1.32) is close to 1 and this confirms that collinearity is not a problem for this model. These findings suggest that multicollinearity between the independent variables is unlikely to pose a serious problem in the interpretation of the results of the multivariate analysis.

4.4 Results of Regression Model

Table 4 provides the results of the OLS regression for the model using the stepwise method. Firm characteristics including firm size; profitability; and age of firm have positive and significant relationship with voluntary disclosure index. While auditor size has positive but insignificant relationship with voluntary disclosure index. Unless otherwise noted, the following discussion refers to the normal scores-regression results which are in complete agreement from the rank regression results.

The findings in Table 3 and 4 of multivariate analysis suggest that the extent of total voluntary disclosure decrease with the higher percentage of board independence. This result is consistent with the finding of Eng and Mak (2003) and Barako *et al.*, (2006) who provide evidence of negative significant association of outside directors on the board and voluntary disclosure in Singapore and Kenya respectively. However, it is in contrast to the findings of Chen and Jaggi (2000) and Cheng and Courtenay (2006) who document positive association and also in contrast with Haniffa and Cooke (2002) who report negative but insignificant association. The different findings may be attributed to the different role that non-executive directors play on the board in different countries. The members of the board are selected by the main shareholders, block holders, or the chairman of the board. As such non-executive directors may know each other as well as knowing the directors of the company before appointment. Consequently, their independence that may lead to the expected high level of disclosure and transparency is questionable. The findings of the current study confirm these arguments especially in emerging capital markets and developing countries. Table 3 and 4 show that there is a negative relation between the independence of board of directors in the Egyptian most active fifty companies and the level of disclosure in financial reports , but with no statistical evidence (p-value = 0.601 > 0.05), therefore the hypothesis H1 is rejected.

Table 4. Regression Results

VDISCL = β0+ β1BIND + β2BSIZ + β3CEOD + β4OCON + B5INOW+ B6MAOW + B7CSIZ + B8LEV + B9PRO + β10FSUR + ε				
Variable	*β*	*t-value*	*Sig.*	*VIF*
Constant	-8.287	-3.936	0.000	
BIND	-0.015	-0.525	0.601	1.38
BSIZ	0.001	0.895	0.372	1.42
CEOD	0.020	-3.614	0.000	1.23
OCON	0.005	-0.798	0.426	1.49
INOW	-0.023	-0.625	0.533	1.87
MAOW	0.030	-0.690	0.090	1.77
CSIZ	0.008	4.466	0.000	1.86
LEV	0.001	2.030	0.044	1.39
PRO	0.030	1.955	0.053	1.24
Model Summary				
R				0.687
R square				0.504
Adjusted R square				0.484
F-value				13.49
Sig.				0.000

Dependent variable: VDISCL Significant at .05%

Where: VDISCL, voluntary disclosure index level; BIND, board independence; BSIZ, board size; CEOD, CEO-duality; OCON, ownership concentration; INOW, institutional ownership; MAOW, managerial ownership; CSIZ, company size; LEV, leverage; and PRO, profitability

The empirical evidence derived from the regression model results in Table 3 and 4 indicate that board size is statistically related to the level of voluntary disclosure by the sample of companies in their annual reports. But it is non-significant at .05% level. This finding lends nonsupport to Hypothesis 2. The explanation of this positive association may be based on the expertise diversity on the board; including financial reporting expertise; that provides greater knowledge base. With such knowledge base the members are willing to legitimize themselves and their company by disclosing more information voluntarily as a signal directed to the stakeholders. The finding is contradictory to the evidence presented by Arcay and Vazquez (2005) and Cheng and Courtenay (2006) of no association between board size and the level of voluntary disclosure.

The hypothesis H3 predicted statistical negative relation between CEO duality and voluntary disclosure. This study result supports the previous hypothesis. The results in Table 3 and 4 suggest that the variation in the extent of voluntary disclosure in the annual reports of the most active Egyptian listed companies explained by the separation between the CEO and the chairman. This result is inconsistent with Arcay and Vazquez (2005) in Spain; Cheng and Courtenay (2006) in Singapore, Ghazali and Weetman (2006) in Malaysia and Barako *et al.*, (2006) in Kenya; who report lack of a significant relationship between role duality and the extent of voluntary disclosure. However, it contradicts with the findings of Haniffa and Cooke (2002) and Gul and Leung (2004) who reported a significant negative relationship between role duality and the extent of voluntary disclosure in the annual reports.

In this study the results of the multiple-regression proved that there is a negative relation between ownership concentration and the level of disclosure in the financial reports but with no statistical evidence (p-value = 0.426 > 0.05), and the value of the regression coefficient is negative therefore, the hypothesis H 4 is rejected. The results of insignificance of ownership concentration in explaining disclosure in annual reports are similar to those found in either developed (Depoers, 2000) or emerging capital markets (Ghazali and Weetman, 2006). However, the insignificant negative association between ownership concentration and voluntary disclosure is inconsistent with the findings of Haniffa and Cooke (2002) and Barako *et al.*, (2006).

Previous researches by Samaha and Dahawy (2011) indicated a negative relation between institutional ownership and voluntary disclosure, while Haniffa and Cooke (2002) found a positive relation. In this study, the results of the multiple-regression in Table 3 and 4 showed a negative relation between the institutional ownership of the most active fifty companies and the level of disclosure in the financial reports but with no statistical evidence (p-value = 0.533 > 0.05) therefore, the hypothesis H5 is rejected. However, the study result is contradictory to the evidence provided by Barako *et al.,* (2006); in Kenya; and Guan *et al.,* (2007) in Taiwan; who provide evidence for the positive association between institutional ownership and the extent of voluntary disclosure. It is also contrast to the negative association reported by Schadewitz and Blevins (1998) in Finnish firms. The non-significant association between financial institutional ownership and voluntary disclosure in the current study may be attributable to the accessibility of information that financial institutional investors have through their representative on the board.

Early studies by Samahs and Dahawy (2011) show a relation between the ownership of management and the voluntary corporate disclosure made by the top 30 Egyptian-listed companies. In this study as show in Table 3 and 4 the results of the multiple-regression showed a relation between the ownership of management of the public Egyptian companies and the level of disclosure in the financial reports but with no statistical evidence (p-value = 0.090 > 0.05) and the value of the regression coefficient is negative therefore, the hypothesis H6 is rejected. This result is inconsistent with Meek *et al.,* (1995) in their findings that the extent of shareholding by management is positively associated with the amount of information disclosed about earnings.

Finally, regarding the control variables, the results in Table 3 and 4 proved that there is a relation between the size of the company of the public shareholding companies and the level of disclosure in the financial reports with statistical evidence. The results are consistent with the evidence from prior disclosure studies about the positive association between firm size and voluntary disclosure, for example Barako *et al.,* (2006); and Hossain and Hammami (2009). Table 3 and 4 show that there is a positive relation between leverage and the level of disclosure in the financial reports with statistical evidence. The results are consistent with the evidence of some studies find a positive relationship between the two variables (Taylor *et al.,* 2008). Also, the results of the multiple-regression proved that there is a positive relation between profitability and the level of disclosure in the financial reports with no statistical evidence. The results are consistent with other studies provide evidence of insignificance relationship between profitability and disclosure (Meek *et al.,* 1995).

Conclusion

This study reports on the level of voluntary disclosure of a sample of non-financial Egyptian firms listed on the Egyptian Stock Exchange over the period 2007-2010 and, then investigates the association between board composition and ownership structure on the level of voluntary disclosure. Unweight disclosure index, compiled of 60 voluntary items, and was computed for each firm. The study found that firms, on average, report 0.32 percent of the voluntary information. The low disclosure level most likely relates to the fact that this type of information is voluntary in nature, and no existing disciplines set out by the authoritative accounting and reporting bodies in Egypt require public firms to display such information. In other words, voluntary disclosure is left to the discretion of management. Further, in an effort to examine the relationship between board composition and ownership structure on the voluntary disclosure level, the results show that there is a significant negative relationship between CEO-duality ownership and voluntary disclosures. However, board independence; board size; ownership concentration; institutional ownership; and managerial ownership are not associated with voluntary disclosures. Also, the results of the regression analyses show that size and leverage of firms are significantly and positively associated with the level of voluntary information disclosures. Profitability of a firm is not significantly associated with voluntary disclosures. This study recommends to management and auditors of Egyptian companies to improve the quality and reporting of voluntary disclosure in their annual reports. This will enhance the confidence of their investors, satisfying their creditors and customers, improve their profitability and value of shares.

As with any research, this study has some limitations. The following limitations are the most pertinent. First, the items constituting the disclosure index were subjectively assembled from three prior studies. The choice of the items, however, does not reflect their level of importance as perceived by financial information users. Second, annual reports have been used as the sole source of data gathering, others such as web sites and press releases could be used in for non-listed companies. Finally, this study is using a small sample of 40 companies. This sample may be small in size and, by construction, composed of the most active Egyptian listed companies and thus may not be representative of the population of Egyptian firms, consequently, caution should be considered in evaluating the results. Thus, it might have been better to look at companies from a wider range.

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Appendix A

Table A. 1. List of Voluntary Disclosure Items

Category	Voluntary disclosure items
Strategy 15 items	General presentation of the company's strategy Main corporate goals or objectives Main actions taken to achieve the corporate goals Definition of the deadline for each corporate goal Corporate position related to ethic/social questions Corporate position related to environment issues Detailed segment/unit performance Evaluation of the commercial risk Evaluation of the financial risk Evaluation of other risks Corporate I&D/Innovation policy Organizational Culture Main events of the current year Information about annalists Other important strategic information
Market and Competition 11 items	Identification of the principal markets Specific characteristics of these markets Dimension of the markets Identification of the main competitors Market shares Forecast of market growth Forecast of share market growth Impact of competition on profits Identification of markets' barriers to entry Impact of markets barriers to entry on future profits Impact of competition on future profits
Management and Production 11 items	Identification of the principal products/services Specific characteristics of these products/services Proposal for new products/services Changes in production/services methods Investment in production/services Norms of the quality of the product/service Rejection/defect rates (when applicable) Input/output rates (when applicable) Volume of materials consumed (when applicable) Change in product materials (when applicable) Life cycle of the product (when applicable)
Future perspective 8 items	Result application proposal New action/initiative/event Forecasts of sales/results/cash flows Investment forecasts Return rates for each investment project Hypothesis considered in forecast Dividend policy Macroeconomic background
Marketing 7 items	Disclosure of marketing strategy Disclosure of sales strategy Disclosure of distribution channels Disclosure of sales and marketing costs Disclosure of brand equity/visibility ratings Disclosure of the costumer satisfaction level Disclosure of customer mix
Human capital 8 items	Description of workforce Description of the remuneration/ compensation system Qualification policy of workers Value created by worker Employee retention rates Productivity indicators Strategies to measure human capital Other measures of Human capital