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Impact of market and organizational determinants on voluntary disclosure in Egyptian companies

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Abstract

Purpose – The purpose of this paper is to investigate the impact of market and organizational determinants on the voluntary disclosure level of Egyptian companies.

Design/methodology/approach – Uses a disclosure index of voluntary disclosure that is based upon the following information categories: strategic information; financial information; non-financial information; and future prospect information to rate the level of disclosure. Multivariate analysis, voluntary disclosure determinants: earnings quality; ownership structure; competition intensity; information asymmetry, and possible relationships with disclosure level provide the basis for discussion.

Findings – It is found that the level of voluntary disclosure in the emerging market of Egypt ranges from low to moderate level. There is no significant relationship between a company's voluntary disclosure level and earnings quality and competition intensity, while this relationship is significant for information asymmetry and ownership structure.

Research limitations/implications – The results are constrained by the proxies that represent non-financial factors of the market.

Originality/value – This paper extends prior studies on voluntary disclosure in Egypt by looking at a comprehensive set of market and organizational factors that might affect the disclosure level, based on a structured disclosure index of strategic, financial and non-financial, and future prospect information. The findings would help boards of directors to explain the adoption of certain disclosure strategies, and understand the corporate disclosure behavior.

Keywords Egypt, Disclosure, Corporate governance, Public companies, Voluntary disclosure, Earnings quality, Management ownership, Block-holder ownership, Government ownership, Competition intensity, Information asymmetry, Listed companies

Paper type Research paper

1. Introduction

Nowadays companies are facing many challenges to keep their position in the market. These challenges include competition intensity, market globalization and rapid changes in economic conditions. All these circumstances led to increased complexity in the business environment. In addition, it led to increase in investors' desire to be confronted with an abundance of information concerning myriad corporate activities in order to take sound investment decisions.

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Since corporate disclosure is critical for the functioning of an efficient capital market, companies are engaging in two types of disclosure; mandatory disclosure and voluntary disclosure. Companies are disclosing information on a voluntary basis presumably in the hopes that this further information will hasten the stock market to recognize hidden elements of corporate value (Schuster and O'Connell, 2006). Therefore, corporate voluntary disclosure has become an important element of capital market dynamics. This mix of communication sources and the quantity and quality of information disclosed are influenced by many factors that need to be examined in order to thoroughly understand disclosure choices (Archambault and Archambault, 2003).

Voluntary disclosure in the context of globalization of the world's financial markets has received considerable attention in the accounting literature in recent years, especially in developed countries. In emerging economies, as Egypt, few studies examined the voluntary disclosure level in annual reports as Abdel-Fattah (2008), Hassan *et al.* (2009), Elsayed and Hoque (2010), Ismail *et al.* (2010) and Samaha and Dahawy (2010). The results reveal that the majority of prior studies examine the impact of few determinants on the disclosure level. There is no comprehensive empirical study that explores the relationship between financial and non-financial determinants of voluntary disclosure in the Egyptian context. Hence, the current study fills this gap by examining the effects of market and organizational factors on the voluntary disclosure. Our study differs from prior research on voluntary disclosure in emerging markets in a number of ways. For example, we extend the study of Samaha and Dahawy (2010) by looking at the impact of non-financial characteristics on VDL. Additionally, our study examines this impact based on a longitudinal analysis that covers three years to have further insight. Hassan *et al.* (2009) linked the VDL with firm value, but they do not examine a wide array of internal or external characteristics in general and the effect, if any, on VDL as our study did. Abdel-Fattah (2008) examines the impact of board characteristics, ownership structure and firm characteristics on VDL. Unlike Abdel-Fattah (2008), the current study focuses on the impact of non-financial factors that might affect VDL.

We believe that the impact of market and organizational determinants on disclosure level is too important to leave unaddressed. Hence, there is an opportunity to carry out in-depth investigation on this line of research on Egyptian practices to pinpoint the determinants of voluntary disclosure.

This paper seeks to find answers to the following questions:

Q1. Do market factors affect voluntary disclosure of Egyptian companies?

Q2. Do organizational factors affect voluntary disclosure of Egyptian companies?

The main objective of the paper is to provide further insights and evidence on the effects of market and organizational factors on the voluntary disclosure. It is expected that the results of this study would be of interest to regulators, preparers, and existing and potential investors. The findings would help regulators to pinpoint areas where efforts are needed to improve the disclosure regulatory regime in Egypt. Preparers of annual reports will be able to benchmark their disclosure strategies against counterparts firms in an attempt to attract many investments. The results might be of interest to potential investors who will be able to diversify their investment in a way that minimizes risks based on disclosure practices of listed companies in Egypt.

The remainder of this paper is structured as follows: Section 2 discusses Egyptian stock market and disclosure. Section 3 provides a reviewing of literature on disclosure in Egypt and emerging economies. The research method is followed in Section 4, data analysis and discussion of findings are explained in Section 5, and then Section 6 includes conclusions and recommendations for future research.

2. Egyptian stock market and disclosure requirements

In Egypt, the capital market dates back to 1882, it was ranked the fifth most active market in the world in the 1950s (ACCA 1995 as in Abd-Esalam and Weetman (2003)). From the late 1950s to the late 1980s, the stock exchange became inactive due to the nationalization process that took place in Egypt at that period of time (Abd-Elsalam and Weetman, 2003). The Capital Market Authority (CMA)[1] that was established in 1979 by Presidential Decree No. 520 regulates the stock market. In consistency with Egypt's new era of economic reform and restructuring undertaken in 1991, the role of the Egyptian Exchange (EGX) was re-activated in 1992, with the issuance of the Capital Market Law No. 95 of 1992, which laid the regulatory framework for the financial intermediaries, brokers, fund management firms, venture-capital firms, underwriters, and listed companies and financial institutions.

The CMA is a governmental body that protects the investors' interest and maintaining transparency and fairness of the capital market. In addition, it is seeking to develop Egyptian capital markets to be more efficient and competitive in attracting and directing both local and foreign savings for investment in Egypt (CMA, 2007). The role of the CMA was not significant until the early 1990s due to the absence of regulating securities laws, accordingly, existing financial disclosure was inadequate.

However, the Egyptian stock exchange is the second largest in Africa by both capitalization and turnover. For much of its existence, however excessive bureaucracy and regulation, and the financial distress of a large proportion of the listed companies have stifled its role. Nevertheless, recent moves towards deregulation and privatization have given the market a boost. Recent changes include revised listing requirements and exchange membership rules and the introduction of new systems for information dissemination, settlement of transactions and automated trading (Jefferis and Smith, 2005).

In 2010, an array of rules and regulations of the capital market was reviewed. In that respect, the year 2010 has witnessed amendments in the listing and disclosure rules. The Egyptian market ranked third among Arab markets, after Qatar and Casablanca, which recorded 25 and 15 percent growth, respectively, (EGX, 2010).

Prior studies regarding the efficiency of the Egyptian stock market have concluded that it was characterized by a weak form but it is on the way to achieve some developments over time (Asal, 1998). Mecagni and Sourial (1999) found that the stock returns are characterized by a distribution departing from the normal one. They indicated that the rejection of the market efficiency hypothesis implies that addressing trading frictions and promoting timely disclosure and dissemination of information to the public on the performance of listed companies are key elements of a strategy aimed at promoting the development of the Egyptian stock market. Tooma (2003) investigated the Egyptian stocks and found that the Egyptian stock market exhibit significant departure from the efficient market hypothesis. In addition, Jefferis and Smith (2005) indicated that Morocco and Egypt stock markets become weak forms in 2001. However, Abdmoulah (2010) results revealed a clear departure from weak-form efficiency and indicated that the stock markets of Saudi Arabia, Egypt and Dubai show a steady improvement of their efficiency until mid-2002, end 2004 and end 2007, respectively.

With regard to the value relevance of accounting information disclosed and stock valuation, Ragab and Omran (2006) provide evidences of the value relevance of accounting information in Egypt based on both return and price models. More importantly, the results suggest that stock prices in Egypt are less informative about the future value of the firm than is accounting information. The study states that it is perhaps unreasonable to conclude that accounting information has higher value relevance in Egypt because financial reporting is of higher quality. It might however, imply that competing information sources such as earnings forecasts, firm research by financial analysts, management conference calls are far less prevalent in Egypt. A likely policy implication of that study is that the Egyptian stock market needs complementary information sources other than published accounting reports, to become more efficient in information dissemination.

To conclude, Egyptian listed companies must adhere to the Egyptian Accounting Standards (EAS)[2] and the EFSA requires that material information be disclosed to the respective exchange, in the form of a quarterly and annual reports. In summary, financial reporting is guided by standards adopted from International Financial Reporting Standards (IFRS). While compliance with approved EAS is mandatory, companies may send voluntary signals about their activities and performance using voluntary information. Voluntary disclosure is expected to improve users' perception about the underlying economic value and performance of companies. However, due to the fact that mandatory disclosure do not adequately reduces the information asymmetry, companies rely on voluntary disclosure to convey information to investors in an attempt to provide non-financial information that helps to maintain investor relations. Voluntary disclosure aims to provide a clear view to stakeholders about the business long-term sustainability, and reduce information asymmetry and agency conflicts between managers and investors (Healy and Palepu, 2001; Graham *et al.*, 2005).

3. Literature review and hypotheses development

In developed economies, as the USA; the UK; Australia and The Netherlands, the impact of the determinants of voluntary disclosure on the level of disclosure has attracted researches as Eng and Mak (2003), Al-Razeen and Karbhari (2004), Luo *et al.* (2006), Petersen and Plenborg (2006), and Arya and Mittendorf (2007). Results reveal that the voluntary disclosure level might be influenced by many factors as the mandatory disclosure level, corporate governance practices, firm size, earnings quality, ownership structure, industry type, competition intensity, information asymmetry and changes in government regulations.

In emerging economies, as Egypt, few studies examined the voluntary disclosure level in annual reports as Abdel-Fattah (2008), Hassan *et al.* (2009), Elsayed and Hoque (2010), Ismail *et al.* (2010) and Samaha and Dahawy (2010). The results of previous studies in the Egyptian context reveal that:

- levels of voluntary disclosure were low;
- internal factors that might affect voluntary disclosure level are firm size, profitability, liquidity, leverage, ownership structure, audit committee, audit type, industry type; and
- external factors that might affect voluntary disclosure level are international socio-political institutions, international accounting standards, international financial institutions.

Additionally, voluntary disclosure was subject for empirical studies in some emerging economies as Al-Shammari (2008) in Kuwait with emphasis on the impact of cross-listing of companies on disclosure level and Dal-Ri Murcia and Paulo (2010) who discuss the impact of governance, stock issuing and growth opportunities on the disclosure level of Brazilian companies.

Reviewing the literature on voluntary disclosure practices in emerging economies, including Egypt, reveal that the majority of studies examine the impact of few determinants on the disclosure level. Hence, the current study fills this gap by examining the effects of market and organizational factors on the voluntary disclosure. We derive an index of four dimensions of information that are expected to be discretionary disclosed by Egyptian companies with concentrating on non-financial items, where such items have more driving power towards business excellence than financial ones. We believe that the impact of such determinants on disclosure level is too important to leave unaddressed. Next, we discuss the hypotheses.

This paper discusses and analyses the impact of relevant markets and organizational determinates on the voluntary disclosure level in Egyptian setting. Hence, several hypotheses are developed to identify and link specific market and organizational determinants of voluntary disclosure level.

3.1 Earnings quality

Prior literature provides conflicting predictions about how earnings quality influences firms' disclosure decisions. The results of the relationship between earnings surprise (good or bad) and voluntary disclosure revealed that managers do not disclose earnings' good and bad news in the same manner. Previous empirical research supports that good news firms make more voluntary disclosures than bad news firms do. For example, several studies found that firms with stronger and more persistent earnings news are more likely to provide forward-looking disclosures (Miller and Piotroski, 2000; Lundholm and Myers, 2002; Francis *et al.*, 2008), where managers increase voluntary disclosures of future earnings to the market in an attempt to correct the pessimistic outlook when investor sentiment is low, while managers reduce voluntary disclosure about their firms' future earnings when investor sentiment is high, in an attempt to maintain the high sentiment (Bergman and Roychowdhury, 2008).

In contrast, other studies indicated that bad news firms release information significantly more than good news firms. In other words, firms facing earnings decline or disappointments were more likely to make a disclosure (Kasznik and Lev, 1995; Hsu, 2009). Zhou and Lobo (2001) and Jo and Kim (2007) tested the relationship between earnings management and disclosure. The results suggest that earnings management and disclosures are negatively related, where firms with lower disclosure ratings tend to engage more in earnings management and firms that engage more in earnings management tend to have lower quality disclosures

In conclusion, the relationship between earnings quality and disclosure in previous studies yield different conflicting results. Therefore, the relationship between earnings quality and voluntary disclosure need investigation in the Egyptian context. Hence, the following hypothesis is formulated:

H_1. There is no association between earnings quality and voluntary disclosure level.

3.2 Ownership structure
Ownership structure would affect the disclosure level, where disclosure level might increase/decrease with increases/decreases in ownership structure. Agency theory underlines that widely held firms are more likely to disclose voluntary information due to the effort of managers to prove that they do not act self-centered. Companies with wide share diffusion are expected to present a higher level of disclosure. The equity ownership diffusion and type can be considered as influential factors on the level of disclosure (Haniffa and Cooke, 2002; Abdelsalam and Street, 2007; Chau and Gray, 2002; Eng and Mak, 2003; Arcay and Vàzquez, 2005; Barako, 2007; Jiang and Habib, 2009).

It is worth mentioning that the data about ownership structure in Egypt is very limited, hence, ownership diffusion forms a proxy comprised of three sub-variables: management ownership, block-holders ownership and government ownership.

With respect to management ownership and its effect on disclosures level, it is found that firms with lower levels of management ownership have high disclosures rates (Gelb, 2000). In contrast, other studies showed that management ownership is associated with increased voluntary disclosure (Narayanan, 2000; Eng and Mak, 2003; Jiang and Habib, 2009). As the enforcement of insider trading laws and penalties induce managers to disclose more information (Narayanan, 2000).

In relation to block-holder ownership or dispersion ownership, a positive association between wider ownership and the extent of voluntary disclosure was found (Chau and Gray, 2002; Arcay and Vàzquez, 2005). Eng and Mak (2003) concluded that block-holder ownership is not related to disclosure.

Regarding the relationship between government ownership and disclosure level, Eng and Mak (2003) found that significant government ownership is associated with increased voluntary disclosure in Singapore. Further, Wang *et al.* (2008) concluded that the level of voluntary disclosure is positively related to the proportion of state ownership in China. Jiang and Habib (2009) indicated that firms with government controlled ownership structure report increased (reduced) voluntary disclosures at high (low) ownership concentration levels in New Zealand. Ghazali and Weetman (2006) reveal different result, where government ownership is not a significant variable that enhance companies towards greater transparency.

In the light of the above discussion, the conflicting results of previous studies on the effect of each type of ownership structure on the disclosure level provide motives to test this relationship in Egyptian context, hence, the following hypotheses are formulated:

H_2. There is no association between management ownership and voluntary disclosure level.

H_3. There is no association between block-holder ownership and voluntary disclosure level.

H_4. There is no association between government ownership and voluntary disclosure level.

3.3 Competition intensity
Firms' decisions to disclose information to investors are influenced by the concern that such disclosure can damage their competitive position in product markets and that they have an incentive not to disclose information that will reduce their competitive position (Verrecchia, 1983; Darrough and Stoughton, 1990; Gigler, 1994).

However, this incentive appears to be sensitive to the nature of the competition, in particular whether firms face existing competitors or merely the threat of entry, and whether firms compete primarily on the basis of price or long-run capacity decisions (Healy and Palepu, 2001).

Firms engaged in capacity competition were found to disclose relatively more information than those engaged in price competition (Shin, 2002). Ackert *et al.* (2000) tested firms' voluntary disclosure behavior under imperfect competition and found that when the firm receives private information about industry wide cost, unfavorable (favorable) information is disclosed (withheld) and the rival adjusts production accordingly. In contrast, when the firm receives private information about firm-specific cost, disclosure behavior is not affected by the favorableness of the information and the rival's production decision is insensitive to the firm's disclosure choice.

The relationship between disclosing financial information including segmental data and competitive disadvantage will be affected by the proprietary cost, where companies have an incentive to disclose more financial information to the market in order to reduce information asymmetry in the absence of proprietary costs (Talha *et al.*, 2006).

While publicly revealing pertinent information may give a competitor an advantage, it can also induce herding on the part of third parties. Such herding may actually help the firm keep its competitive edge (Arya and Mittendorf, 2005). However, Talha *et al.* (2006) provided a mixed pattern yet comprehensive understanding of the relationship between segmental information disclosure and competitiveness level. The analysis of the literature indicated that few studies tested how competition intensity affects the level of voluntary disclosure and concluded with mixed results. Therefore, this relationship needs further investigation especially in the Egyptian context. The following hypothesis to be tested:

H_5. There is no association between competition intensity and voluntary disclosure level.

3.4 Information asymmetry

Information asymmetry is a major issue between managers and shareholders. Healy and Palepu (2001) argued that demand for financial reporting and disclosure arises from information asymmetry and agency conflicts between managers and outside investors. Hence, it is often argued that firms might find it advantageous to provide additional pieces of information (i.e. voluntary disclosure) to investors and analysts through the annual report (Petersen and Plenborg, 2006).

Prior literature (Heflin *et al.*, 2000; Lim *et al.*, 2003; Petersen and Plenborg, 2006; Brown and Hillegeist, 2007) support that there is a negative association between the level of voluntary disclosure and information asymmetry. Brown and Hillegeist (2007) concluded that disclosure quality and information asymmetry are endogenously related. If better voluntary disclosure quality leads to less information asymmetry, then high asymmetry firms will have stronger incentives to choose a higher disclosure quality to reduce the level of asymmetry.

In the light of the above discussion, it can be noted that the information asymmetry might influence the voluntary disclosure; hence, the following hypothesis is formulated:

H_6. There is no association between information asymmetry and voluntary disclosure level.

4. Method

4.1 Variables measurement

The current study comprises several variables as: dependent variable, independent variables, and control variables. These variables are expressed as follows.

4.1.1 Dependent variable. The voluntary disclosure is the dependent variable to be used in examining its relationship with the independent variables. The voluntary disclosure index used in this paper is inspired by earlier studies of Meek and Gray (1989), Hossain *et al.* (1994) and Botosan (1997). Furthermore, we consider modifications recommended by Chau and Gray (2002), Eng and Mak (2003), Ghazali and Weetman (2006), Barako (2007), Banghøj and Plenborg (2008), and Francis *et al.* (2008) to establish a disclosure index, where four main categories of information to be considered:

(1) strategic information;

(2) financial information;

(3) non-financial information; and

(4) projected information.

Therefore, this paper has developed a voluntary disclosure index using the same four categories as shown in Table I.

Scoring for companies was based on un-weighted index that assumes that all items included are of equal importance. This is considered an appropriate method for a study that is not focused on the information needs of any specific groups (Chau and Gray, 2002; Ghazali and Weetman, 2006).

4.1.2 Independent variables. This paper employs two groups of independent variables; market related; comprises of competition intensity variable, and organization related; comprises of five variables: earning quality, management ownership, block-holder ownership, government ownership and information asymmetry. Table II summarizes all the variables that are employed.

4.1.3 Control variables. Among the variables that have been identified in the prior literature as being associated with the voluntary disclosure are firm size and audit type, therefore, we employ the two control variables in this study.

The relationship between market and organizational determinants of voluntary disclosure (earning quality, ownership structure, competition intensity, and information asymmetry) and disclosure level is examined by estimating the coefficients in the following multiple regression model after considering independent variables and control variables:

$$\begin{aligned} VDIS = {} & \beta_0 + \beta_1 EARNQ + \beta_2 MOWN + \beta_3 BOWN + \beta_4 GOWN + \beta_5 COMPI \\ & + \beta_6 INFASY + \beta_7 FSIZE + \beta_8 AUDIT + \varepsilon \end{aligned}$$

Definitions of the market and the organizational determinants of voluntary disclosure and control variables included in the regression model are presented in Table II.

4.2 Sample selection and data sources

The population of this study consists of all companies listed on the Egyptian stock market in years following the releasing of the newly EAS in June 2006. Therefore, the years 2007-2009 were selected because they are the most recent. Due to lack

Disclosure items	Examples of studies
A. Strategic information	
General corporate information	
Brief history of company	Chau and Gray (2002), Eng and Mak (2003), Ghazali and Weetman (2006), Barako (2007), Francis *et al.* (2008), Jiang and Habib (2009)
Organizational structure/chart	
General description of business/activities	
Principal products/services	
Principal markets	
Corporate strategy	
Actions taken to achieve the corporate goals	Chau and Gray (2002), Eng and Mak (2003), Ghazali and Weetman (2006), Petersen and Plenborg (2006), Barako (2007), Banghøj and Plenborg (2008), Wang *et al.* (2008), Jiang and Habib (2009)
Statement of corporate goals or objectives	
General statement of corporate current strategy	
Impact of strategy on current results	
Impact of strategy on future results	
General statement of corporate future strategy	
Competition and outlook	
Estimation of market size	Petersen and Plenborg (2006), Banghøj and Plenborg (2008), Francis *et al.* (2008), Wang *et al.* (2008)
Estimation of market growth	
Market share analysis	
Barriers to entry	
Competitive environment	
Impact of competition on profit	
B. Key nonfinancail information	
Employee information	
Number of employees	Chau and Gray (2002), Eng and Mak (2003), Ghazali and Weetman (2006), Petersen and Plenborg (2006), Barako (2007), Banghøj and Plenborg (2008), Francis *et al.* (2008), Wang *et al.* (2008), Jiang and Habib (2009)
Categories of employees by sex or function	
Average compensation per employee	
Value-added per employee	
Productivity indicator	
Nature of training	
Policy on training	
Recruitment policy	
Other non-financial information	
Safety of products/services	Chau and Gray (2002), Ghazali and Weetman (2006), Barako (2007), Wang *et al.* (2008)
Environmental protection programs	
Charitable donations	
Statement of internal control	
Statement of corporate social responsibility	
C. Financial information	
Performance indicators	
Historical figures for last five years or more	Chau and Gray (2002), Francis *et al.* (2008), Eng and Mak (2003), Petersen and Plenborg (2006) Barako (2007), Wang *et al.* (2008), Jiang and Habib (2009)
Shareholders' funds	
Earnings per share	
Cost of capital	
Effects of interest rates on results	
Effects of interest rates on future operation	
Effects of foreign currency fluctuations on current results	
Effects of foreign currency fluctuations on future results	
Share price information	
Distribution of shareholdings	

(*continued*)

Table I.
Voluntary disclosure index

Disclosure items	Examples of studies
Financial ratios	
Return on assets Return on equity Liquidity ratio	Chau and Gray (2002), Eng and Mak (2003), Ghazali and Weetman (2006), Barako (2007), Wang *et al.* (2008)
D. Projected information	
New product/service development Cash flow forecast Capital expenditure forecast R&D expenditure forecast Sales forecast Profit forecast	Chau and Gray (2002), Eng and Mak (2003), Ghazali and Weetman (2006), Barako (2007), Francis *et al.* (2008), Wang *et al.* (2008), Jiang and Habib (2009)

Table I.

Variable	Definition	Measurement
Dependent variable		
VDIS	Voluntary disclosure score	The ratio of actual voluntary disclosure scores assigned to the company to the maximum possible score
Independent variables		
EARNQ	Earnings quality	The ratio of operating cash flow to net income (a higher ratio means that the firm's earnings are of a higher quality)
MOWNS	Management ownership	The proportion of ordinary shares held by CEO and executive directors and shares in which they are deemed to have interest
BOWNS	Block-holder ownership	The proportion of ordinary shares owned by substantial shareholders
GOWNS	Government ownership	The proportion of ordinary shares owned by the government institutions
COMPI	Competition intensity	Total company performance index (operating margin + ROA)
INFASY	Information asymmetry	The share turnover ratio that is the average annual traded shares/float
Control variables		
FSIZE	Firm size	The log of book value of total assets
AUDIT	Audit type	The variable is a dummy variable, where a value of (1) is assigned if the firm's external auditor is one of the Big4 and (0) otherwise

Table II.
Summary of the study variables

of a comprehensive database of all information required for this study, we select a sample of listed companies. The following criteria should be satisfied to include a company in the sample:

- The company is among the list of the most active and largest 100 companies, in any of the years from 2007 to 2009, according to the market capitalization and volume of transactions.
- The main activity of the company does not belong to banking and financial institutions sector, where it is governed by further regulations of disclosure that are not required by other types of companies.

It is expected that the largest 100 have the highest pressure for greater transparency and voluntary disseminate information to maintain investor relations. The sample size that represents a population is calculated using the following formula[3] (Yamane, 1967, Manly, 1992):

$$n = \frac{N}{Nd^2 + 1}$$

Accordingly, the initial sample size that is subject for the analysis is 52 companies (where $N = 218$, $d = 12$ percent[4]) in 2009. The sample comprises the 26 largest and the 26 smallest companies from the list of the 100 most active public-listed companies (by market capitalization) at the end of 2009. The decision to select the top 26 and the bottom 26 companies was to consider the variation in corporate size among the sample companies. After excluding the banking and financial institutions, the final sample consists of 43 companies in a wide spectrum of non-financial sectors with 129 firm-year observations for the three years from 2007 to 2009. Table III summarizes the sample selection.

The data needed to test the possible association between market and organizational determinants and the disclosure level are obtained from the annual reports of the most active 100 Egyptian listed companies that are available from the Egyptian Company for Information Dissemination (EGID); a subsidiary of the Egyptian stock exchange market. Annual reports are used since they are perceived as the most important source of information for investors in many developing countries. Additionally, the data disclosed in the disclosure book issued by the Egyptian stock market was reviewed as a main source of many of the financial ratios that are used in this paper. The trading volume data of each company for the whole year that is used in calculating the average trading volume was obtained from one of the brokerage security company called "Namaa".

5. Data analysis and discussion of findings

5.1 Descriptive statistics

Panel A of Table IV shows the descriptive statistics of disclosure levels of companies, dependent variables of earnings quality, ownership structures, information asymmetry, competitions intensity, and control variables of firms size and audit type. The descriptive analysis shows statistics such as mean, median, standard deviation, quartile 1, and quartile 3 of each of the model variables.

The mean for the overall voluntary disclosure score of the 129 companies is 50.8 percent; which is generally low. The results suggest that the overall disclosure level of the sample companies is ranged between 24.97 and 75.51 percent.

Number of listed companies as of end of December 2009	218
Exclude less active listed companies as of end of December 2009	(*118*)
Number of most active companies as of end of December 2009	*100*
Exclude companies not recommended for selection	(*48*)
Initial sample	52
Excluding banks and financial institutions	(*9*)
Final sample companies	43
Number of firm-year observations (from 2007 to 2009)	129

Table III. Sample selection

	Panel A. Polled sample				
	Mean	*Median*	*SD*	*Quartile 1*	*Quartile 3*
Voluntary disclosure	0.508	0.510	0.144	0.404	0.633
Earnings quality	0.472	0.836	11.056	−0.059	1.592
Management ownership	0.107	0.026	0.165	0	0.146
Block-holder ownership	0.453	0.384	0.218	0.28	0.603
Governmental ownership	0.23	0.055	0.026	0.002	0.391
Competition intensity	0.185	0.217	0.602	0.072	0.444
Information asymmetry	0.021	0.017	0. 017	0.006	0.031
Firm size	9.023	9.044	0.805	8.428	9.506
Audit type	0.44	0	0.499	0	1

	Panel B. Group samples					
	Companies with the lower disclosure scores (< 0.51) (61 companies)		Companies with the higher disclosure scores (≥ 0.51) (68 companies)			
	Mean	*SD*	*Mean*	*SD*	*t-statistic*	*p-value*
Earnings quality	1.337	8.349	−0.0347	13.031	−0.841	0.402
Management ownership	0.065	0.094	0.144	0.203	2.775	0.006*
Block-holder ownership	0.567	0.22	0.35	0.157	−6.497	0.000*
Governmental ownership	0.148	0.22	0.303	0.347	3.005	0.003*
Competition intensity	0.257	0.331	0.119	0.765	−1.303	0.195
Information asymmetry	0.023	0.016	0.019	0.017	−1.321	0.189
Firm size	8.698	0.592	9.314	0.860	4.684	0.000*
Audit type	0.260	0.444	0.60	0.494	4.108	0.000*

Note: Significant at: *0.05 level

Table IV.
Descriptive statistics

Regarding the earnings quality, proxied by the ratio of operating cash flow to net income, the average mean is 47.2 percent, which means that the firms' earnings are of moderate quality. The percentage of management's equity share is 10.7 percent on average and the percentage of government owned of share is 23 percent. Almost the average proportions of block-holders whose ownership are equal to or exceed 5 percent of the total number of shares issued are 45.3 percent. As can be noted, block-holder ownership is the most dominant form of ownership structure in the sample companies. The average mean of competition intensity, proxied by total company performance index, is 18.5 percent, which indicates that the competitiveness level of companies is low and does not encourage them to disclose more information voluntarily. Furthermore, 44 percent of the sample companies are audited by one of the Big4 audit firm affiliations.

To investigate differences between companies in the sample, it was stratified into those companies with lower disclosure scores (i.e. below the median; 0.51) and those with higher disclosure scores (i.e. above the median; 0.51). As shown in panel B of Table IV, this process generated 61 companies of lower disclosure scores and 68 companies of higher disclosure scores. *t*-statistics are used to test whether there are statistically significant differences between the low and high disclosing companies. The results reveal that there is a significant difference in the average mean of five out of the eight independent variables; where the average means of management ownership, block-holder ownership, government ownership, firm size and audit type, are somewhat different in lower and higher disclosure scores companies. The *t*-test statistics reveal significant results where *p*-values were below the 0.05 significant levels.

5.2 Pearson correlation test

Table V shows the results of testing the correlation among the study variables; voluntary disclosure level (VDIS), earnings quality (EARNQ), management ownership (MOWNS), block-holder ownership (BOWNS), government ownership (GOWNS), competition intensity (COMPI), information asymmetry (IAFASY), audit type (AUDIT), and firm size (FSIZE). The most correlated variables with voluntary disclosure level are the management ownership, block-holder ownership, firm size and the audit type (significant at the 0.01 level). The information asymmetry and government ownership are significant at the 0.05 level. In addition, the Pearson coefficients indicate that the relationship between the voluntary disclosure and the management ownership, government ownership, firm size and audit type is positive, while it is negative for information asymmetry and block-holder ownership.

5.3 Variance inflation factors analysis

Further analysis was carried out to check the presence of serious multicolinearity in the determinants of voluntary disclosure level. The presence of multicollinearity within the set of independent variables can cause a number of problems in understanding the significance of individual independent variables in the regression model. A tolerance of less than 0.20 or 0.10 and/or a VIF of 5 or 10 and above indicates a multicollinearity problem (Sekaran, 2000). The VIF analysis is conducted to test if there is a multicolinearity problem between the independent variables in the regression model.

As shown in Table VI, the tolerance values of the independent variables are greater than 0.10 and 0.20, as well as, the (VIF) values of all variables are less than 5 or 10. The results suggest that there is no multicolinearity problem between the independent variables.

5.4 Multivariate analysis

We conducted a multivariate regression analysis to take into consideration the relationship between market and organizational factors and voluntary disclosure level. The results in Table VII reveal that the full regression model explains 58 percent of the variations in the voluntary disclosure level. Earnings quality is found to have insignificant relationship with the voluntary disclosure level. Hence, the first hypothesis is accepted; where there is no relationship between earnings quality and voluntary disclosure. This finding is consistent with those of Kasznik and Lev (1995) and Miller and Piotroski (2000) who found that some firms prefer to remain silent and do not provide any voluntary information in relation to its earnings performance, therefore, there is no relation between changes in earnings and voluntary disclosure behavior. Our result is also consistent with Aljifri (2008) on companies in the United Arab Emirates, where the firms' profitability level has insignificant association with the level of voluntary disclosure.

The three types of ownership structure that are tested in this study; namely, management ownership, block-holder ownership and government ownership have a significant relationship with the voluntary disclosure level. More specifically, it is found that block-holder ownership has a negative significant relationship with the voluntary

Table V.
Correlation among variables

		VDIS	EARNQ	MOWNS	BOWNS	GOWNS	COMPI	INFASY	AUDIT	FSIZE
VDIS	P correlation	1.000								
	Sig. (two-tailed)									
EARNQ	P correlation	−0.060	1.000							
	Sig. (two-tailed)	0.501								
MOWNS	P correlation	0.371	0.008	1.000						
	Sig. (two-tailed)	0.000**	0.929							
BOWNS	P correlation	−0.499	−0.015	−0.060	1.000					
	Sig. (two-tailed)	0.000**	0.868	0.498						
GOWNS	P correlation	0.188	−0.015	−0.378	−0.542	1.000				
	Sig. (two-tailed)	0.033*	0.865	0.000**	0.000**					
COMPI	P correlation	0.038	0.018	0.060	−0.176*	−0.014	1.000			
	Sig. (two-tailed)	0.673	0.840	0.501	0.045	0.879				
INFASY	P correlation	−0.183*	−0.049	−0.23*	0.267	0.031	−0.130	1.000		
	Sig. (two-tailed)	0.038	0.581	0.008**	0.002**	0.727	0.141			
AUDIT	P correlation	0.433	0.037	0.302	−0.119	−0.385	0.084	−0.284	1.000	
	Sig. (two-tailed)	0.000**	0.680	0.000**	0.180	0.000**	0.344	0.001**		
FSIZE	P correlation	0.478	−0.087	0.158	−0.504	0.069	0.207	−0.418	0.381	1.000
	Sig. (two-tailed)	0.000**	0.328	0.075	0.000**	0.437	0.019*	0.000**	0.000**	

Note: Correlation is significant at: *0.05 and **0.01 levels (two-tailed)

	Collinearity statistics Tolerance	VIF
Earnings quality	0.427	2.654
Management ownership	0.731	1.369
Block-holder ownership	0.416	2.405
Government ownership	0.403	2.479
Competition intensity	0.938	1.066
Information asymmetry	0.781	1.281
Firm size	0.584	1.712
Audit type	0.639	1.566

Table VI. Variance inflation factors analysis

Panel A. Model summary

R	R^2	*Adjusted* R^2	*SE*
0.761	0.580	0.552	0.09617619

Panel B. Coefficients

	Unstandardized coefficients		Standardized coefficients		
Independent variables	*B*	*SE*	β	*t*-value	*Sig.*
Constant	0.171	0.145		1.179	0.241
Earning quality	−0.006	0.001	−0.053	−0.877	0.382
Management ownership	0.317	0.060	0.364	5.250	0.000**
Block-holder ownership	−0.191	0.061	−0.290	−3.152	0.002*
Government ownership	0.142	0.044	0.301	3.228	0.002*
Competition intensity	−0.019	0.015	−0.081	−1.331	0.186
Information asymmetry	−1.170	0.563	−0.140	−2.078	0.040*
Firm size	0.032	0.014	0.179	2.280	0.024*
Audit type	0.111	0.021	0.384	5.182	0.000**

Note: Significant at: *0.05 and **0.01 levels

Table VII. Multiple regression analysis of the determinants of voluntary disclosure

disclosure level, which is consistent with results of Arcay and Vàzquez (2005), hence the third hypothesis is rejected. Furthermore, the results revealed a positive significant relationship between voluntary disclosure level and both managerial ownership and government ownership, which is consistent with Eng and Mak (2003), Ghazali and Weetman (2006), Abdel-Fattah (2008) and Jiang and Habib (2009). Therefore, the second and the forth hypotheses are rejected, where there is a significant relationship between management and government ownership structure and voluntary disclosure level.

Competition intensity found to have insignificant relationship with the voluntary disclosure level. Therefore, the fifth hypothesis is accepted, where there is no relationship between competition and voluntary disclosure level. This result is justified in the light of the mixed results revealed by Talha *et al.* (2006) concerning the relationship between competitive disadvantage and disclosure level in Malaysia.

Information asymmetry has a significant negative relationship with the voluntary disclosure level. Hence, the sixth hypothesis is rejected. This result is in line with Petersen and Plenborg (2006), and Brown and Hillegeist (2007) who found that voluntary disclosure is negatively associated with proxies for information asymmetry and provided evidence that disclosure quality and information asymmetry were endogenously related. If better voluntary disclosure quality leads to less information asymmetry, then high asymmetry firms will have stronger incentives to choose a higher disclosure quality to reduce the level of asymmetry.

Regarding the results of the two control variables, it is found that firm size has a positive significant relationship with the voluntary disclosure level, which is consistent with the results of Hail (2002), Easton (2004), and Francis *et al.* (2003). Audit type has a significant positive relationship with the voluntary disclosure level, which is consistent with those of Lang and Lundholm (1993), Camfferman and Cooke (2002), Street and Gray (2002), Agca and Onder (2007), and Oliveira *et al.* (2006).

6. Conclusions and recommendations for future research

The objective of this paper is twofold:

(1) to investigate the extent to which Egyptian listed companies voluntarily disclose strategic information, financial information, non-financial information and future prospect information; and

(2) to test the impact, if any, of the market and organizational factors on the voluntary disclosure level of Egyptian companies.

A total number of six market and organizational factors namely: earning quality, management ownership, block-holder ownership, government ownership, competition intensity and information asymmetry, were set as independent variables in a regression model using a sample consists of 129 firm-year observations that has been selected from the largest and the smallest companies from the list of the 100 most active public-listed companies (by market capitalization) at the end of 2009.

The findings showed in emerging markets like Egypt, listed companies are disseminating additional information on a voluntary basis beyond those mandatory required in order to attract investors and increase their awareness of the business performance. Even if the moderate rate of voluntary disclosure of the sample companies found to be 50.8 percent in average, this level could be low compared to voluntary disclosure levels in developed countries. However, this result can be justified on the ground that the mandatory disclosure level in Egypt is even low, as reported by Ismail *et al.* (2010), therefore, it is not surprising to reveal a low level of voluntary disclosure.

The results of the statistical analysis suggest that the two organizational factors that found to have a significant relationship with the voluntary disclosure level are ownership structure and information asymmetry. It was found that the block-holder ownership to have a negative significant relationship with the disclosure level. This result is due to the low pressure the block-holders have on companies in the emerging market of Egypt. The results show that management ownership is positively related to the voluntary disclosure level. According to agency theory, management ownership should reduce conflict between the management and shareholders, leading to improved performance, hence in Egypt, the cultural dimension of managers is to use the voluntary disclosure as a means to maximize their interests, where they promote for investor relations in an attempt to shed the light on the quality of management in operating the companies effectively.

With regard to the information asymmetry, the results support that companies provide additional information voluntarily to mitigate the effects of such asymmetry in the market, hence, the Egyptian stock market is attempting to fulfill the efficient market features. On the other hand, earnings quality and competition intensity were found to have insignificant relationship with the voluntary disclosure level.

However, our findings on voluntary disclosure level is supported by Ismail and Shehata (2012), who investigated the reporting environment in Egyptian context and concluded that the reasons behind the low level of disclosure are:

- presence of uniform, secretive, and conservative accounting practices;
- absence of a unified law governing Egyptian companies' activities and transactions; and
- lack of strict enforcements imposed by the Egyptian CMA on non-complying companies to comply with the mandatory requirements of the EAS.

As is the case in most research in social sciences, this paper has some limitations; where it tests the impact of market and organizational factors on voluntary disclosure using the EGX of 100 listed companies, hence, results obtained do not necessarily reflect practices among the rest of Egyptian listed companies. Furthermore, the results are constrained by the proxies that represent non-financial factors of the market.

In Egypt, there is a need to enhance board of directors, practitioners and accounting professional bodies awareness of benefits of voluntary disclosure, therefore the governors, regulators, and accounting bodies should put emphasis on such a type of disclosure that is ignored completely in developing countries, where most concentration is on the mandatory disclosure to comply with regulations imposed by the governmental bodies and regulators of the stock market. The EFSA should play an active role in motivating and encouraging companies to provide voluntary disclosure.

There are opportunities to carry out future research to consider a wide range of market and organizational determinants that might affect voluntary disclosure levels. Additionally, corporate governance mechanisms might enhance voluntary disclosure and therefore is a rich avenue for in-depth future research.

Notes

1. Currently referred to as the Egyptian Financial Supervisory Authority (EFSA).
2. In 2006, an entire set of EAS were released to replace those of 1997 and 2002 (Ministry of Investment, 2006). The complete set of the new EAS; comprising 35 standards that are based on the International Accounting Standards (currently referred to as the IFRS), with the exception of four standards; EAS 1, 10, 19, and 20 representing financial statements presentation, fixed assets and depreciation, disclosure in financial statements of banks and similar financial entities, and rules and accounting standards related to finance lease transactions, respectively.
3. n = sample size, N = population size, d = precision level.
4. Since the population size is considered low with respect to sample size tables, a highest precision level to be selected (Arkin, 1984). Therefore, this paper considers a precision level of 12 percent (the minimum recommended level is 10 percent).

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