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DETERMINANTS OF THE EXTENT OF VOLUNTARY DISCLOSURE IN THE ANNUAL REPORTS OF THE TUNISIAN FIRMS

Raïda CHAKROUN[1]
High Institute of Business Administration, University of Sfax, Tunisia

Hamadi MATOUSSI
High Institute of Accounting and Administration, University of Manouba, Tunisia

ABSTRACT

The main purpose of this paper is to analyze the interactions between the external and internal mechanisms of governance and voluntary disclosure in the annual reports (external mechanism of governance) in the Tunisian emerging market. Our investigation is specifically about the study of the direct links between the regulatory reform, competition on the market of goods and services, ownership structure, composition of the board of directors, and the extents of voluntary disclosure in the annual reports either closely linked to mandatory disclosure or not. We conducted our statistical analysis on a sample of Tunisian listed firms of the non-financial sector of 144 observations (firm-years) during the period 2003-2008. The results of this study show that the firms of our sample tend to disclose voluntary information closely linked to mandatory disclosure rather the one not closely linked. Moreover, the results provide a strong support that both indexes of voluntary disclosure (closely linked to mandatory disclosure and the one not closely linked) are affected by the external and internal mechanisms of governance. Specifically, governance mechanisms sometimes represent substitutes and sometimes complements to both measures of the voluntary disclosure extents. Nevertheless, we find that the impacts of the institutional and managerial ownership on the extent of both the voluntary disclosure not closely linked to mandatory disclosure and the one closely linked are similar. However, the effects of the other variables are different either in significance, in sign, or in magnitude.

Voluntary disclosure, mandatory disclosure, annual reports, external mechanisms of governance, internal mechanisms of governance

[1] *Corresponding address:* Raïda Chakroun, High Institute of Business Administration, University of Sfax, Tunisia, Email: raida_c@yahoo.fr; Tel: (+216) 98 953 605.

INTRODUCTION

The corporate disclosure is of critical importance for the efficient functioning of stock markets. Voluntary disclosure refers to additional information delivered by firms beside the mandatory information. To reduce the information asymmetry between a leader and an investor, we must have the case where the former discloses voluntary information to the latter. This is essentially going to contribute to the alleviation of problems of adverse selection and of moral risk. Voluntary disclosure is regarded as an external mechanism for the control of the leaders, a protection of the shareholders, and a decrease of the agency costs resulting from the asymmetry of information between the insiders and the outsiders. Giving this crucial role of voluntary corporate reporting policy, a considerable research area has been developed in order to identify factors that have the potential of affecting corporate voluntary disclosure practices in both emerging and developed markets. Although many factors have been identifies, the empirical evidence is rather mixed.

The deliberate supply of information is a set of conflicts between incentive and deterrent forces Graham *et al.* (2005). Voluntary disclosure of information policy is the result of a trade-off between these forces. This voluntary disclosure policy varies from a company to another. This study can be considered as an extension to works of Li & Qi (2008), Lim *et al.* (2007), Patelli & Prencipe (2007), Barako *et al.* (2006), Arcay & Vázquez (2005), Gul & Leung (2004), Eng & Mak, (2003) and Chen & Jaggi (2000) who examined the association between the controlling mechanisms of the leaders (internal and external) and the extent of voluntary disclosure of information in the annual reports (external control mechanism).

In this paper, we are interested in the phenomenon of voluntary disclosure in the Tunisian context. Tunisia is an Arab African emerging country which belongs to the MENA (Middle East and North Africa) zone, in which the economic and legal environment has gone through major changes in the previous years. This is particularly reflected in the promulgation of Law No. 2005-96 concerning the strengthening of financial security, in the publication by the Arab Institute of Business Leaders (AIBL), in 2008, of a Guide About Good Governance Practices of Companies (GGGPC) and of the Guide of the Annual Report of the Tunisian Companies in 2009 (GARTC); as well as in the establishment of the Tunisian Centre of Company Governance (TCCG), in 2009.

In an international conference entitled Investment and Good Practices of Governance, organized in Egypt by The Egyptian Institute of Directors (EIoD), the Egyptian Minister of Investment claimed that the improvement of disclosure practices in the MENA zone improves the quality of governance and therefore contributes to attracting international investors. In Tunisia, the CEO of the chemical company Alkimia claims that: “the main handicap of the listed companies is the lack of will to communicate and the conviction about the utility of financial communication. The day when managers understand some of the issues and the importance of communication, they will get organized" (Gharbi, 2004). In addition, the study of Ben Othman and Zéghal (2010), which is based on the annual reports of 216 companies from 13 emerging countries of the MENA zone, proves that the level of disclosure and transparency, in the countries which had been colonized by Great Britain and marked by an Anglo-American Business culture (i.e. Egypt, Jordan and the Gulf countries), is greater than that of the countries which had been colonized by France and marked by a French business culture (i.e. Morocco, Tunisia and Lebanon).

This evidence made us identify two findings on which this paper is based. The first one is that several Tunisian companies are still unwilling to issue voluntary information in their annual reports (Nekhili & Fakhfakh, 2008). The second can be seen in the real crisis of confidence that the external users of the annual reports test due to their dissatisfaction of voluntary disclosure in these reports (Yaich, 2006). These findings highlight that the voluntary disclosure of the Tunisian companies in the annual reports does not meet the expectations of their external users, and this in spite of the regulations and recommendations of certain organizations calling for more transparency, This problem generates our research question: To what extent do mechanisms of governance interact with the supply of voluntary information closely and not closely linked to the mandatory disclosure in the annual reports of the listed companies in the Tunisian Stock Exchange (TSE)?

Disclosure in the management annual report is a form of disclosure which is not yet strictly regulated in Tunisia, the thing which makes the research, in this area, necessary. Actually, what is nowadays disclosed on a voluntary basis is likely to be included in the foundations of standardization and the future regulations (at the time of the possible harmonization with the international financial reporting standards in 2014). This could be achieved as a response to the needs of the Tunisian external users of the annual reports since their need for information is constantly growing. The contributions of our research are at different levels. We have adapted Botosan's index to the Tunisian context. First, our grid was constructed based on the five categories of information of Botosan (1997) and includes the three categories of additional information we have provided such as "information about intangible assets", "social and environmental information" and "information about governance". Second, it contributes to the analysis of changes in the behavior of firms of our sample over time in terms of voluntary disclosure in the annual reports. Finally, we contribute to the literature related to the determinants of voluntary disclosure by seeking to identify the links between the extents of voluntary disclosure closely or not closely linked to mandatory disclosure and the governance mechanisms.

To achieve our objectives, we have relied on a sample of firms listed on the TSE of the non-financial sector tracked over the period 2003-2008 and conducted a survey through a questionnaire directly circulated to a sample of financial analysts and portfolio managers working on behalf of stockbrokers in Tunisia (privileged users of annual reports). The choice of the analysis period is motivated by the study of discretionary behavior of voluntary disclosure prior to and following the promulgation of Law No. 2005-96 on financial security strengthening.

This paper is organized as follows; the first section is devoted to the presentation of the study framework. The formulation of hypotheses through a synthesis of the literature review is dealt with in the second section. The methodology of the study is highlighted in the third section. Finally, the empirical results are presented and discussed in the fourth one.

1. SURVEY BACKGROUND AND THEORETICAL FRAMEWORK

1.1. Legal arrangements and regulatory framework of corporate financial reporting in Tunisia

In Tunisia, the legal obligations for the annual reports are set by the Code of Commercial Companies (which have a field of application covering most of the trading companies), the firms' accounting system and the regulation of the Financial Market Council (of which the fields of application extend to all the companies publicly appealing to savings). Nevertheless, we should point out that no Tunisian company was punished for its non compliance with the compulsory notices set by legislation. Among the compulsory documents communicated to the shareholders by the board of directors of the company is the management annual report. However, article 201 of the Code of Commercial Companies (CCC) gives no precision about the form and content of this report, but only about the fact that it must be “detailed”.

The Tunisian accounting system (1997) was established through standards in harmony with those of the IASB. The Tunisian legislator has given no specification about the information to be provided concerning the management annual report. In this way, the conceptual framework of the Tunisian accounting highlights, in its paragraph 83, the importance of information which goes beyond the financial dimension to reach other dimensions such as the social, ecological, as well as the technological dimension.

Unlike the financial statements, which have a rich legal basis and in a continuous evolution, there are no similar norms governing firms' complementary information which are to be presented in the management annual report. Only article 44 of the regulation of the Financial Market Council (FMC), which relates to public offering approved by the April 7, 2000 order of the finance minister, lists the compulsory information to be provided in the management annual report.

1.2 Voluntary disclosure: A recent history in Tunisia

The TSE was set up in February 1969. The regulatory system of capital market is relatively recent [Law No. 1994-117, November 14, 1994]. Despite the development programs and financial liberalization achieved in the previous decade, the market is still characterized by a low number of listed companies (52 companies up to December 31st, 2009). The FMC is the public body responsible for monitoring, regulating the financial market and protecting savings invested in securities. The Tunisian context is unique due to the elements characterizing the system of the investors' protection. In countries with Civil Law such as Tunisia, the minority shareholders' protection is considered very low compared to that in the countries with Common Law. The results of Ben Othman & Zéghal (2010) suggest that the strategy of economic communication in Tunisia is aligned with that of its former colonizer who has a culture characterized by aversion to uncertainty, by discretion and conservatism.

We are witnessing, in these recent decades, some changes characterizing the economic environment in Tunisia. Several working groups were created to reflect upon the mechanisms to be set up in order to promote good corporate governance beyond the legal obligations of disclosure.

The cell of young members of the AIBL set up a project allowing, among other things, the publication of GGGPC (2008). In this sense, the GGGPC (2008), and in Chapter 1, "Shareholders' rights" and in paragraph "The right of shareholders to information" (p. 7), emphasizes the right of shareholders to information. It states that any company which decides to adopt the guide should ensure equal treatment for all its shareholders and must ensure they all have the required information and all the means which help them exercise their rights properly.

The same cell of the AIBL, in collaboration with the International Center of Private Enterprise, set up a project aiming at the publication of GARTC (2009). According to the GARTC (2009) preamble, and on page 3, it is stated that the guide is intended to give basic guidelines about the content of the different sections of the annual report. This guide may help the preparers of the annual reports, who are preoccupied about the determination of the extent of information to disclose to the partners of the companies. It also aims at facilitating the reading of the annual reports, harmonizing and ensuring a greater consistency of their contents. According to the GARTC (2009) preamble, and on page 4, it is noted that its application by companies making public offerings will undoubtedly enrich the information environment of the mentioned companies, to further embed the culture of transparency and disclosure and boost the financial market.

Additionally, the TCCG was inaugurated on June 25, 2009 within the company house (the AIBL). This center was designed as a permanent forum for debates, meetings, reflections, exchanging ideas and accompanying the firm's senior officials. The TCCG aims to work for a growing awareness of the importance of good governance in order to preserve the investors' confidence.

1.3 Agency theory versus stewardship theory

The study of voluntary information as a means of reducing agency costs is based on the contractualized design of the company according to which any organization is regarded as a set of relationships "principal / agent" (Jensen & Meckling, 1976). Indeed, when the leader is no longer the sole owner of his company, he no longer fully bears the management consequences, whether good or bad. He can, in this case, experience a decline in his motivation and be tempted to make less effort (moral risk).

Agency problems type I (due to the separation between ownership and management) tend to be less intense in family businesses. Ali *et al.* (2007) explain this by the fact that families are encouraged to properly control the leaders and tend to make choices in management with a long term vision. However, agency problems type II (which are caused by the conflicts between shareholders-directors and shareholders non directors) tend to be intense in family businesses. Ali *et al.* (2007) explain this by the fact that deeply rooted family members do not take into account the interests of the minority shareholders non directors.

Agency theory focuses mainly on the allocation of financial resources and takes only a little account of the non-financial items (family motivation, family project) that can gather the principal and the agent. In this situation, the notion of agency costs is irrelevant since they are determined through the divergence of interests between the owners and managers of the company. It seems that the stewardship theory developed by Donaldson in 1985 is better suited to the peculiarities of family businesses. For this type of business, the family project guides the actions of the family members who are involved in their company's management.

Similarly Klein *et al.* (2005) argue that in family businesses, the same actors play both the role of the shareholder and that of the leader. Thus, according to Trébucq (2003), the agency theory becomes inoperative when the leader prioritizes the public interest or gets a personal satisfaction from the success of the organization he directs. Based on Morck & Yeung (2004), stewardship theory was introduced to study the relationships between the actors of the company by relying on behavioral assumptions different from those of the dominant paradigm (based on agency theory). Based on the "stewardship theory", the leaders do not always intend to maximize their personal interests. As being "stewards", they can have the same concerns as the shareholders (Ngobo & Capiez, 2004).

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Impact of the external mechanisms of governance on voluntary disclosure

External governance mechanisms play an important role in determining the voluntary disclosure policy of firms. The external mechanisms we are considering are: the legal and regulatory environment (legislative reform) and the market of goods and services.

Owusu-Ansah & Yeoh (2005) analyzed the effect of the financial reporting Law enacted in 1993 on mandatory disclosure practices of the listed companies in New Zealand. They showed that the degree of compliance of the level of mandatory disclosure with the financial reporting standards after the promulgation of the Law is significantly higher than the one before it. In the same direction, Cheng and Courtenay (2006) show that companies in Singapore have increased their level of voluntary disclosure following the publication of the report of the Committee on Corporate Finance. This report recommends a regulatory reform based on authority by replacing it with a regulatory framework based on the market (or disclosure) which is similar to that of the United States or Great Britain markets. Based on this framework, investors and shareholders set the level of approval of the company transactions and activities and therefore an increased disclosure is necessary for the market to control the company business.

Over the last decade, Tunisia, being inspired by foreign experience in this field, has experienced a vast movement for greater corporate communication. From 2005, disclosure of information in Tunisia has drawn the attention of the regulators. More precisely, Law No. 2005-96 of October 18, 2005, about the strengthening of financial security, has introduced measures putting a greater obligation to make the auditors aware of the management tasks. In this Act, the legislator attempted to follow the international trends in information disclosure. He aimed, through the enactment of this Act, at reshaping the financial disclosure requirements at the expense of the publicly traded companies. In addition, this Act has brought several changes to the CCC and introduced a series of measures to enhance the market transparency and good corporate governance.

Based on the previous discussion, we expect firms to engage in a process of coercive isomorphism reflecting an increase in the extent of voluntary disclosure after the promulgation of the Act on financial security. What is stated above leads us to formulate the following hypothesis.

H1.1: The extents of voluntary disclosure closely linked and not closely linked to the mandatory one in the annual reports increased after the enactment of the Law No. 2005-96, dated 18/10/2005, on strengthening the security of financial relations.

The opening and globalization have made the market of goods and services an effective medium for controlling the managers' behavior. Competition in the market of goods and services makes a natural selection of poorly managed companies and removes the benefit of the most competitive ones. Thus, the stronger competition is the more effective this mechanism will be. Voluntary disclosure can be managed according to the leaders' estimates of the state of the market competition. Therefore, these leaders can engage in voluntary disclosure when this does not cause a loss of competitive advantage. In this case, the decision to disclose certain information is not affected by the risks and damages of loss of competitive position. In other words, when propriety costs are low (non-competitive sector or high barriers to entry), companies will be encouraged to disclose voluntary information.

Depoers (2000b) asserts the existence of a positive relationship between the extent of voluntary disclosure and the entry barriers in the sector. That is to say that companies operating in markets with high barriers to entry are willing to disclose more voluntary information. He argues that the potential entry of new competitors in a market will affect the future cash flows of companies established in this market. Therefore, companies which are protected in their business by high barriers to entry are the most likely to disclose more information than the others. It should be noted that the risk of adverse action is usually observed through the entry of new firms into the sector. These entries are even higher when the barriers to entry are low. In addition, Hossain & Hammami (2009) confirm the existence of a positive and significant relationship between the extent of voluntary disclosure and the assets in place in their sample of the Qatari listed companies.

Based on the previous arguments and findings, we expect that the behavior of voluntary disclosure is related to the competitive state of the company. Therefore, we expect that the existence of high barriers to entry acts as a means to protect the company against its competitors (risk of adverse action) the thing which may encourages it to increase the extent of its voluntary disclosure. We propose, then, to test the following hypothesis.

H1.2: There is a positive relationship between the entry barriers in the sector and the extents of voluntary disclosure closely linked and not closely linked to the mandatory one in the annual reports.

2.2 Impact of the structure of the Board on voluntary disclosure

The preparation of the annual report, which contains the voluntary information, falls within the discretion of the Board. The way the board is composed affects the extent of voluntary disclosure in this report. The board is placed at the heart of the internal control mechanisms of the leaders. It is a mechanism for resolving conflicts of interest. Its role is to monitor and discipline the company management and therefore ensure that managers work for the benefit of the shareholders. We examine the following board characteristics: its independence, its size, the presence of a leadership structure and the administrators' ownership.

The agency theory assumes that the presence of outside administrators leads to a reduction of the agency problems between the managers and shareholders thanks to their independence and objectivity. The independent non-executive directors are considered as a tool for controlling the behavior of the leader. They are seen to be a means of internal control and their presence helps make the system of corporate governance more effective. In Tunisia, the concept of independent administrators was introduced by Article 196 of the CCC. In addition, a shareholder's quality is not a condition for the membership of a public company board.

Felo (2009) argues that the presence of independent administrators (not having any link with the company) who have a financial expertise is related to a greater transparency of disclosure. Similarly, Patelli & Prencipe (2007) show a positive relationship between the independence of the board and voluntary disclosure in the Italian companies characterized by the presence of a dominant shareholder.

Similarly, results from previous empirical studies such as Apostolou & Nanopoulos (2009), Lim *et al.* (2007), Cheng & Courtenay (2006) and Chen & Jaggi (2000) show a positive relationship between the independence of the board and the volume of voluntary information disclosed. Indeed, independent administrators, thanks to their control and dominance over the decisions of the company, could be the source of a better external voluntary disclosure. Then, we assume that when the board is independent, this will lead to a better control of management and therefore to a high extent of voluntary disclosure. This expectation is expressed in the following hypothesis:

H 2.1: There is a positive relationship between the board independence and the extents of voluntary disclosure closely linked and not closely linked to the mandatory one in the annual reports.

The relationship between the size of the board and voluntary disclosure is complex. There are conflicting evidences in the empirical disclosure literature. A large–sized board faces a coordination difficulty in determining the extent of voluntary disclosure. However, the high number of administrators makes it very probable to have administrators who encourage voluntary disclosure. In this sense, Felo (2009) argues that companies having a large-sized board disclose more information than those with a small-sized board.

According to Article 189 of the CCC, the number of administrators is deliberately fixed in the statutes of the company and must be between 3 members at least and 12 at most. As the culture of voluntary disclosure is not deeply rooted in the minds of most of the Tunisian leaders, it is very likely to see, in the large-sized boards, members who favor the increase of the voluntary disclosure extent in the annual reports. Therefore, we expect that companies with large-sized boards will disclose more voluntary information. This leads us to formulate the following hypothesis.

H 2.2: There is a positive relationship between the size of the board and the extents of voluntary disclosure closely linked and not closely linked to the mandatory one in the annual reports.

The leadership position enables a same person to closely know the company and to direct it by taking into account all the shareholders' interests. According to the stewardship theory, there is a convergence between the interests of the dominant personality in the company, who combines the functions of the general manager (GM) and those of the board chairman (CH) besides his being a shareholder, and the interests of the other shareholders. Since the interests of the dominant personality in the company are aligned with those of the other shareholders, the presence of such personality could lead to the increase of the voluntary disclosure extent.

Morck *et al.* (1988) and Bozec (2008) show that a deep-rooted shareholder who holds internal functions within the company, such as management positions (CEO or administrator), has a more important power in the decision making. An internal dominant shareholder (administrator), in contrast to an external dominant one (not administrator), is more likely to be in a position to influence the process of preparing the company's annual report. Based on the theory of stewardship, Fu (2006) argues that the dominant personality has enough information which enables him to make decisions suitable for the shareholders. Similarly, Felo (2009) argues that combining the roles of (GM) / (CH) leads to a better transparency of the company disclosure. Contrary to the prediction of the agency theory, according to which combining the roles (GM) / (CH), this might adversely affect the major role of the board namely the advisory one. Barako (2007) emphasizes, in his sample of Kenyan firms, the existence of a positive and significant relationship between the leadership structure and the three sub-indexes of voluntary disclosure connected to the general and strategic information, the financial and social information and the information about the board.

According to the assumption of interest alignment of the dominant personality with those of the other shareholders in the company, we expect that the existence of a leadership structure within the company helps the extent of voluntary disclosure to rise. Therefore, it is hypothesized that:

H 2.3: The extents of voluntary disclosure closely linked and not closely linked to the mandatory one in the annual reports are higher in firms where there is a leadership structure than in the other companies.

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. In this case, the administrators are more aware of the interests of the other shareholders (who are not administrators).

The higher the administrator's ownership is, the lower he will be inclined to make disastrous decisions for the company because he will have to bear, as a shareholder, an important part of the consequences of those decisions (Jensen & Meckling, 1976). According to the alignment assumption (or convergence) of interest, the more the part held by the administrators-shareholders is important, the weaker the divergences of interests between them and the other shareholders are. The significant part of the capital held by the former can help avoid the administrator's opportunistic behavior since his wealth is connected with the company value (especially if the portfolios of these administrators-shareholders are not diversified). In this case, the administrators-shareholders can reduce the problems of information asymmetry by encouraging the increase of voluntary disclosure extent. In this regard, Li and Qi (2008) argue that companies with a high managerial ownership have a high level of voluntary disclosure.

A high managerial ownership can help increase the extent of voluntary disclosure of the company since the administrators-shareholders seek to increase the value of their shares. Based on the assumption of alignment of interests, when administrators hold a significant part in the company, ownership and management are held by the same people whose interests converge with those of the shareholders non-administrators. Voluntary disclosure in the annual reports is of major interest for these shareholders non-administrators. Thus, we expect that voluntary disclosure in the annual reports increases with increases in managerial ownership. We suggest, then, testing the following hypothesis.

H 2.4: There is a positive relationship between the managerial ownership and the extents of voluntary disclosure closely linked and not closely linked to the mandatory one in the annual reports.

2.3 Impact of the Ownership Structure on voluntary disclosure

We focus on three aspects of ownership structure of companies that are likely to affect the extent of voluntary disclosure. These aspects are: concentration of ownership, ownership of institutional investors and family control.
According to Bolbol *et al.* (2004), capital structure of the listed Tunisian firms is characterized by a high concentration as it is the case for the other Arab countries. In line with this 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. Referring to the agency theory, the demand for information about a company is very intense when the information asymmetry between the dominant shareholders and the small ones is important. By referring to Patelli & Prencipe (2007) and Ho & Wong (2001), in situations where the capital is held by a small number of shareholders, conflicts of interest are no longer between the leaders and shareholders (agency problems type I), but rather between the majority and the minority shareholders (agency problems type II). More specifically, these small shareholders "outsiders" do not have enough power and means to dictate the type of information they receive and therefore they are forced to rely on information disclosed in the annual reports. In this case, a dominant shareholder can be an expropriation threat for the minority shareholders when his presence causes a low extent of voluntary disclosure in the annual reports.

Bushee *et al.* (2003) 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 (or scattered) capital. Besides, Khlifi and Bouri (2008), who are interested in the Tunisian firms, show that an increase in ownership concentration of 10% is associated with a decrease in the level of voluntary disclosure of 23.2%.

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.

H 2.5: The extents of voluntary disclosure closely linked and not closely linked to the mandatory one in the annual reports in firms having a dominant shareholder are lower than that in the other companies.

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.

Xiao *et al.* (2004) find that the extent of voluntary disclosure via the Internet is positively related to the proportion of institutional ownership. This means institutional investors are interested in the content of the website of the company of which they are the owners. Based on Ben Ali *et al.* (2009), institutional investors, thanks to their experience and authority over the managers, have the means to enforce and apply the principles of "good corporate governance" in order to protect the shareholders' rights and wealth. Therefore they claim more transparent business communication and a wide range of voluntary disclosure.

The Tunisians institutional investors can play a positive role in supervising management and encouraging voluntary disclosure of information in order to meet their fiduciary responsibilities and improve the performance of their portfolios. Therefore, we expect that a high ownership of institutional investors may be a guarantee in the financial market so that the company protects the interests of its minority shareholders by increasing the extent of voluntary disclosure. We would, subsequently, formulate the following hypothesis.

H 2.6: There is a positive relationship between the ownership of institutional investors and the extents of voluntary disclosure closely linked and not closely linked to the mandatory one in the annual reports.

According to Ali *et al.* (2007), the U.S. family firms face fewer classic agency problems (type I) than other firms due to the low separation between ownership and management. However, these companies are more faced with agency problems (Type II) between administrators-shareholders and other shareholders than the other companies as the shareholders- administrators being family members neglect the interests of the minority shareholders who are not members of the family. This is due to the domination of the boards of the family businesses by family members who hold a significant stake in the company.

According to Villalonga & Amit (2006), shareholders who control the firm's disclosure strategy tend to reduce its corporate disclosure so that they can avoid the protests of the minority shareholders. Similarly, Chen *et al.* (2006) argue that family businesses provide less voluntary information than the non family ones. These authors were based on 4415 observations (1311 firms in the S&P 1500 and observed over the period 1996-2000). In the same way, Chau and Gray (2002) assert the existence of a negative relationship between the business family control and voluntary disclosure. Besides, Ho & Wong (2001) show that companies with a large proportion of family members in their boards are most likely to have a low extent of disclosure. In the Tunisian context, Fekih Ahmed (2007) showed the existence of a negative and significant effect of family property on the level of voluntary disclosure of the 62 Tunisian companies in his sample (of which 38 companies resorting to public offering).

In a family-run business, the members are involved in its management. Due to their position in the company, they can get all the information they need. A family-run business needs less external funds and subsequently the demand for information is lower than that of other companies. In addition, the agency conflicts type II, between the leaders-shareholders (family control) and the non-executive minority shareholders, seem unlikely to encourage the former ones to provide information to the latter ones. Thus, the firms whose are controlled by families are expected to disclose less voluntary disclosure. So we can formulate the following hypothesis.

H 2.7: The extents of voluntary disclosure closely linked and not closely linked to the mandatory one in the annual reports are lower for firms controlled by families than in the other companies.

3. RESEARCH DESIGN AND METHODOLOGY

3.1 Voluntary disclosure indexes construction

Several studies, such as the studies of Singleton & Globerman (2002) and Rahman (2002), are based on the index of Botosan (1997). However, the use of this index to quantify the extent of voluntary disclosure may be criticized. In fact, it was specifically designed to fit the American context. Thus, changes have to be made to develop an appropriate disclosure index to meet the expectations of the users of the annual reports in Tunisia. In this respect, Patelli and Prencipe (2007) applied the index developed by Botosan (1997) by fitting it to the Italian context. Similarly, Gul and Leung (2004) used it while changing its items, taking into account the environmental disclosure in Hong Kong.

Based on index of Botosan (1997), we have constructed a voluntary disclosure index centered on five categories of information out of which we have taken eight items not disclosed by any company in the sample. The grid of items proposed should be as exhaustive as possible. We had to ensure that no information relevant to financial analysis is omitted. We have therefore reviewed the previous studies to identify the information they used and which were not included in the initial grid. In this sense, we have added three categories of information: information on intangible assets, social and environmental information and information on governance. These items of information are added to close the gaps in the index of Botosan (1997). They enable to better represent information needs of the external users of annual reports in Tunisia that have been identified through questionnaires conducted with financial analysts and portfolio managers in Tunisia. Hence, a list of information likely to be disclosed voluntarily by the Tunisian firms is preset.

Naser and Nuseibeh (2003) have constructed three indexes of disclosure. The first is an index of mandatory disclosure, the second is of voluntary disclosure related to the mandatory one and the third is of voluntary disclosure unrelated to the mandatory one. Similarly, Al-Razeen and Karbhari (2004) have constructed three indexes of disclosure related to the mandatory one, to the voluntary disclosure closely linked to the mandatory one and the voluntary disclosure that is not closely linked to the mandatory one.

We classify the items of our analytical grid into two indexes (see the Appendix). The first index includes items with voluntary disclosure but closely linked to the mandatory disclosure. The disclosure of these items is mandatory under the Article 44 of the FMC Regulation relating to the public offering that has been approved by the April 7, 2000 order of the finance minister. This Article lists the compulsory items of information to be provided in the management annual reports of the companies making public offering. Several of these items has been mentioned in the Tunisian General Accounting Standard No. 1. The disclosure of these items is legally required, but it should be noted that the ministerial orders were not a major legal force such as the laws. Thus, these items are in the area of legal requirements but above the minimum requirements. Then, all the information included in the annual report has the vocation of volunteers, others than those included in the financial statements. In addition, no Tunisian company was sanctioned for its failure to comply with mandatory information envisaged by the legislation. It is to be announced that the first index, which represents the disclosure items that usually related to the mandatory items, is composed of 23 items.

The second index includes items with voluntary disclosure not closely linked to the mandatory one. These items were checked against the mandatory disclosure requirements of Tunisia in order to make sure that there are no mandatory items. Therefore, these items are not required by any regulation in Tunisia and have no connection with mandatory disclosure. This index consists of 49 items.

3.2 Calculation of the indexes of voluntary disclosure

The methodology consists in reading the annual reports of the companies in the sample and comparing the information presented in them with that on the drawn up list. After the content analysis, an index is calculated for each company. The method of awarding points can be with or without weights.

According to the dichotomous approach, the list of voluntary items is compared to the information existing in the annual reports of companies. For each company, a disclosure score is calculated. The first procedure used is dichotomous or binary: an item takes value '1' if disclosed and '0' otherwise. This method does not reflect the relative utility of each item and admits that all items provide the same utility to the user of the annual report.

The level of disclosure is measured by the ratio between the acquired score and the maximum possible one for each company. Companies will not, therefore, be penalized for non-disclosing items when they are not relevant to their activities. The unweighted disclosure index, which will be our first 'proxy' about the extent of voluntary disclosure in the annual reports, is calculated as follows:

$$\text{IDIS unweighted}_i = \sum_{J=1}^{72} x_{ji} / M_i$$

With: M_i: maximum number of items of which disclosure is possible for company 'i';

$M_i \leq 72$, x_{ij} = "1" if j^{th} item is disclosed and = '0' otherwise.

We use one more weighted index since we have chosen financial analysts and portfolio managers as a particular group of users of annual reports. We have directly circulated 62 questionnaires to the population of financial analysts and portfolio managers. We obtained a response rate standing at 64.51%. The sample size, which our study is about, consists of 40 financial analysts and portfolio managers working on behalf of 21 stockbrokers in the TSE.

In our study, respondents were asked to give their opinion about how useful the items in our grid are by assigning a score. Specifically, the survey respondents were asked to rate the usefulness they attach of the items included in our grid on a Likert scale of 1-5. The values attached to the items which could be disclosed in the annual reports of listed on the TSE are 1 (Not useful at all), 2 (Little useful), 3 (Somewhat useful), 4 (Useful) and 5 (Very useful). The weights were extracted from the responses of our sample of financial analysts and portfolio managers. Thus, the weight of each item is the sum of points assigned by the survey respondents to the item divided by the number of the respondents. It represents the arithmetic average of the points awarded by the analysts' sample to the item. This approach is to assign each item a weight reflecting its usefulness according to the chosen group of the annual reports' users (Barako *et al.* 2006; Prencipe, 2004; Bertrand, 2000; Michailesco, 1999; Firth, 1984; Baker & Haslem, 1973).

The second used procedure is as follows: an item takes the 'weight' which it has been allotted by analysts if it is disclosed and '0' otherwise. Thus, disclosure weighted index which will be our second 'proxy' of the extent of the voluntary disclosure in the annual reports is calculated as follows:

$$\text{IDIS weighted}_i = \sum_{J=1}^{72} x_{ij} {*} P_j \ / \sum_{J=1}^{Mi} P_j$$

With: M_i: number of maximum items whose disclosure is possible for company 'i';

$M_i \leq 72$; x_{ij} = '1' If the j^{th} item is disclosed and = '0' otherwise;

P_j: j^{th} item weight (arithmetic average of the points awarded by the analysts to the item).

3.3 Sample selection and data sources

The sample consists of companies listed on TSE. It appears relevant to focus on the listed companies that are careful about their disclosure policy and more specifically about the informational content of their management annual reports. The sample is limited to all companies of the non-financial sector (industry and services), and this is similar to what was stated by Apostolou & Nanopoulos (2009), Hassan *et al.* (2006), Hasnan (2005), Leventis & Weetman (2004), Naser & Nuseibeh (2003), Bertrand (2000) and Depoers (2000a), due to the specificity of the financial disclosure of the banking sector and that of the financial services and insurance.

The observation period of our study covers the years: 2003-2008. We have chosen to conduct this study over a period of six years to include the pre-and post- periods of Law No. 2005-96 enactment on strengthening financial security. We have chosen years that are quite further apart (2003 and 2008) to apprehend the possible change in the behavior of managerial discretion voluntary disclosure. Indeed, the pre-enactment period covers the following three years: 2003, 2004 and 2005 and the post-enactment one covers the years: 2006, 2007 and 2008. Our sample consists of 144 observations. The data are of a quantitative nature: continuous and discontinuous. These data have two dimensions: an individual dimension and a temporal one. They are organized in the form of panel data. The studies of Barako *et al.* (2006) and Hassan *et al.* (2006) are based on panel data to examine the determinants of voluntary disclosure.

Our data were extracted from the annual reports of companies in our sample and from information of the listed companies in the website of the TSE. The collection of the companies' annual reports was not an easy task as these ones are not directly downloadable through the Internet. Almost all the reports have been photocopied from the FMC and next to the stockbrokers in the market. Table 1 shows the number of firms in our sample by year of study.

Table 1. **Distribution of observations (firms-years)**

Years	2003	2004	2005	2006	2007	2008	Total
Number of firms	21	20	23	26	26	28	144

3.4 Presentation of empirical models

We would like to explain the extent of voluntary disclosure closely and not closely linked to mandatory disclosure through the internal and external mechanisms of corporate governance. Table 2 summarizes the explanatory variables, their indicators, the measures used, their availability and the expected relation signs.

Table 2. **Summary of the measures of explanatory variables and expected signs**

Explanatory variables	Indicators	Measures used and Availability	Expected signs
Variables related to external mechanisms of governance			
Regulatory reform	**RR**	= 0 in the pre-enactment period and = 1 in the post-enactment period	Positive
Competition on the market for goods and services	**CMGS**	(Net tangible assets / Total assets)*100 (companies' annual reports)	Positive
Variables related to the characteristics of boards			
Independance of the board	**INDB**	(Number of outside administrators / Total number of administrators)*100 (the website of the TSE)	Positive
Size of the board	**LSIB**	Log (Total number of administrators) (the website of the TSE)	Positive
Combination of functions of GM and CH	**COMFUN**	= 1 if a person combine the functions GM and CH and = 0 if not (the website of the TSE)	Positive
Managerial ownership	**MAN**	The percentage of shares held by the administrators (the website of the TSE)	Positive
Variables related to ownership structure			
Concentration of ownership	**CONC**	= 1 if there is presence of a shareholder who has 50 % or more of the capital and = 0 if not (the website of the TSE)	Negative
Institutional ownership	**INST**	The percentage of shares held by the institutional investors (the website of the TSE)	Positive
Family control	**FAM**	= 1 if the firm is controlled by a family and = 0 if not (the website of the TSE)	Negative
Control variables			
Size of business	**LSIZE**	Log (Total assets) (companies' annual reports)	Positive
Indebtedness of the company	**INDEB**	(Total liabilities / Total assets)*100 (companies' annual reports)	Positive
Age of the company	**LAGE**	Log (Duration of quotation of the company out of Stock Exchange in years) (the website of the TSE)	Positive
Quality of auditor	**QAU**	= 1 if the firm is audited at least by a « Big 4 » and = 0 if not (the website of the TSE)	Positive

We are concerned about the direct effects of interactions (complementarily / substitution) between the external and internal mechanisms of corporate governance and voluntary disclosure (multiple regression model). This will allow us to check the group of hypotheses H 1 (H 1.1 and H 1.2) relating to the effects of external mechanisms of governance on the extent of voluntary disclosure and the group of hypotheses H 2 (H 2.1, H 2.2, H 2.3, H 2.4, H 2.5, H 2.6 and H 2.7) on the effects of internal governance on the extent of voluntary disclosure. It is about applying two multiple regressions on panel data: the first regression has, as a dependent variable, the index of voluntary disclosure closely linked to the mandatory disclosure and the second regression has, as a dependent variable, the index of voluntary disclosure not linked to mandatory disclosure. Table 3 presents the empirical models relating to the study of the interaction between corporate governance mechanisms and the areas of voluntary disclosure.

Table 3. **Overview of multiple regression models**

$\mathbf{IDIS_{1,2\ it} = \beta_0 + \beta_1\ RR_{\ it} + \beta_2\ CMGS_{\ it} + \beta_3\ INDB_{\ it} + \beta_4\ LSIB_{\ it} + \beta_5\ COMFUN_{\ it} + \beta_6\ MAN_{\ it} + \beta_7\ CONC_{\ it} + \beta_8\ INST_{\ it} + \beta_9\ FAM_{\ it} + \beta_{10}\ LSIZE_{\ it} + \beta_{11}\ INDEB_{\ it} + \beta_{12}\ LAGE_{\ it} + \beta_{13}\ QAU_{\ it} + \varepsilon_{it}}$ i and t correspond to the company and year (2003-2008)
$IDIS_1$ = Index of voluntary disclosure closely linked to the mandatory one. **$IDIS_2$** = Index of voluntary disclosure not closely linked to the mandatory one. **RR** = 0 in the pre-enactment period and = 1 in the post-enactment period. **CMGS** = (Net tangible assets / Total assets)*100. **INDB** = (Number of outside administrators / Total number of administrators)*100. **LSIB** = Log (Total number of administrators). **COMFUN** = 1 if a person combine the functions (GM) and (CH) and = 0 if not. **MAN** = The percentage of shares held by the administrators. **CONC** = 1 if there is presence of a shareholder who has 50 % or more of the capital and = 0 if not. **INST** = The percentage of shares held by the institutional investors. **FAM** = 1 if the firm is controlled by a family and = 0 if not. **LSIZE** = Log (Total assets). **INDEB** = (Total liabilities / Total assets)*100. **LAGE** = Log (Duration of quotation of the company out of Stock Exchange in years). **QAU** = 1 if the firm is audited at least by a « Big 4 » and = 0 if not.

4. EMPIRICAL RESULTS AND DISCUSSION

4.1 Descriptive Statistics

Table 4 presents a summary of the descriptive statistics for the unweighted and weighted variables $IDIS_1$ and $IDIS_2$.

Table 4. **Descriptive statistics of both indexes of voluntary disclosure ($IDIS_1$ and $IDIS_2$)**

Variables	Mean	Median	Standard deviation	Minimum	Maximum	N
$IDIS_1$ unweighted	67.44	69.56	16.65	26.08	95.65	144
$IDIS_1$ weighted	68.06	70.16	16.42	26.49	95.95	144
$IDIS_2$ unweighted	37.47	38.09	13.54	2.04	68.42	144
$IDIS_2$ weighted	37.77	38.46	13.57	2.17	66.97	144

$IDIS_1$ = Index of voluntary disclosure closely linked to the mandatory one.
$DISI_2$ = Index of voluntary disclosure not closely linked to the mandatory one.

It appears that the extent of voluntary disclosure closely linked to the mandatory one is high (the averages and medians of variable $IDIS_1$ are of 70%), which means that the companies of our sample tend to disclose information closely linked to mandatory disclosure. Moreover, the deviation values are not very high compared to the average, which means that the behavior of the firms in the sample for voluntary disclosure closely linked to the mandatory one tends to converge. For the variable $IDIS_2$, we notice that the extent of voluntary disclosure not closely linked to the mandatory one is relatively low (the averages and medians of the variable $IDIS_2$ are of the order of 38%). In other words, the firms in our sample tend to weakly disclose voluntary information not closely linked to mandatory one. We can conclude that our sample firms tend to disclose voluntary information linked to the mandatory one rather than voluntary information not linked to mandatory disclosure.

In addition, results (not represented) show that firms in our sample increased (sharply raised) the extent of their voluntary disclosure closely linked to the mandatory one (voluntary disclosure not closely linked to the mandatory one) in 2008 compared to 2003.

Pearson's correlation coefficients between the weighted and unweighted $IDIS_1$ and between the weighted and unweighted $IDIS_2$ (not represented results) stand respectively at 96% and 99.6% and they are significant at 1%. It is preferable, then, to use a single measure of the extent of disclosure (weighted or unweighted) in our multivariate analyses.
Table 5 summarizes the descriptive statistics of the continuous independent variables.

Table 5. **Summary of the descriptive statistics for continuous independent variables**

	N	Mean	Median	Standard deviation	Minimum	Maximum
Continuous variables of interest						
CMGS (%)	144	30.05	29.50	16.39	1.22	68.34
INST (%)	144	15.35	9.59	17.87	0	81.65
SIB	144	9.06	9	2.13	3	12
LSIB	144	2.17	2.19	0.28	1.09	2.48
INDB (%)	144	24.07	22.22	22.02	0	77.77
MAN (%)	144	59.46	63.69	18.67	0	100
Continuous variables of control						
AGE	144	8.29	8	4.74	1	19
LAGE	144	1.88	2.07	0.76	0	2.94
INDEB (%)	144	49	49.77	24.66	5.95	155.35
SIZE	144	122.277.244.712	53.508.373	242.651.683.484	13.054.594	1.306.175.638
LSIZE	144	17.96	17.79	0.91	16.38	20.99

CMGS = (Net tangible assets / Total assets)*100.
INST = The percentage of shares held by the institutional investors.
SIB = Total number of administrators.
LSIB = Log (Total number f administrators).
INDB = (Number of outside administrators / Total number of administrators)*100.
MAN = The percentage of shares held by the administrators.
AGE = Duration of quotation of the company out of Stock Exchange in years.
LAGE = Log (Duration of quotation of the company out of Stock Exchange in years).
INDEB = (Total liabilities / Total assets)*100.
SIZE = Total assets (in Tunisian Dinar).
LSIZE = Log (Total assets)

The average amounting to 30.05% and the median to 29.50% variable CMGS show that, generally, the studied companies are characterized by moderate barriers to entry for the new firms that enter their activity sector. A significant difference between the average and the median of the INST variable is noticed. In addition, its minimum is 0%, while its maximum is 81.65%. This shows a large variability between the companies concerning the institutional investors' ownership.

Our review of the SIB variable reveals that the boards of directors of the companies in our sample tend to be large. The average of this variable is 9.06 and its median is 9.

We notice that the boards of directors of the companies in our sample are not generally independent: the average and the median of the INDB variable rise respectively to 24.07% and 22.22%. The standard deviation of this variable is very close to its average and stands at 22.02. This could be explained by the variability between the firms in the sample regarding the independence of their boards.

We think that the firms in the sample are characterized by a very strong property of administrators: the average and the median of the MAN variable are respectively 59.46% and 63.69%. These results enable us to ascertain that the shareholding of the surveyed companies is concentrated in the hands of the members of their boards of directors. This justifies the existence of dominating personalities who combine the holding of a major part of the capital and the participation in management positions in the board.

Table 6 provides a summary of the descriptive statistics for the dichotomous independent variables.

Table 6. **Summary of the descriptive statistics for the dichotomous independent variables**

Dichotomous variables	**N**	**Variable = 1**	**Variable = 0**
RR	144	80 (55.55%)	64 (44.44%)
COMFUN	144	96 (66.66%)	48 (33.33%)
CONC	144	35 (24.30%)	109 (75.69%)
FAM	144	50 (34.72%)	94 (65.27%)
QAU	144	51 (35.41%)	93 (64.58%)

RR = 0 in the pre-enactment period and = 1 in the post-enactment period.

COMFUN = 1 if a person combine the functions (GM) and (CH) and = 0 if not.

CONC = 1 if there is presence of a shareholder who has 50 % or more of the capital and = 0 if not. **FAM** = 1 if the firm is controlled by a family and = 0 if not.

QAU = 1 if the firm is audited at least by a « Big 4 » and = 0 if not.

According to the review of the statistics relating to the CONC variable, we notice that in 24.30% of the companies in our sample there is a shareholder who owns more than 50% of the capital. This justifies that ownership is highly concentrated in Tunisia. As for the FAM variable, we can say that more than the third of the observations represents the companies controlled by one family. This high proportion reflects a feature of the Tunisian economic tissue which is the sway of the family businesses.

By looking at the RR variable, we can see that almost half of the observations, (44.44%,) exists in the pre-enactment period of the Law about strengthening the security of the financial relations In contrast, the other half of the observations, (55.55%), is in the post-enactment period. As for the COMFUN variable, we notice that 66.66% of the observed companies have a chairman who is at the same time the general manager. Mak & Li (2001) argue that the combination of functions is more common in companies with a strong blockholders' ownership. For the QAU variable, we notice that only 35.41% of the observed companies have a Big 4 auditor.

4.2 Results and discussion of the multivariate analysis

We have not detected any unreasonable observations for the multiple-regression model having $IDIS_1$ as the dependent variable. Nevertheless, we have detected six unreasonable observations for the multiple- regression model which has $IDIS_2$ as the dependent variable. In order to have not biased results, we dismissed these six observations.
The matrix coefficients of Spearman correlation between the different explanatory variables showed no correlation greater than 0.6. We calculated the Variance Inflation Factors (VIF). They are below the threshold value 3 for all the variables. The (VIF) average is equal to 1.60. We can confirm, then, the absence of the multicollinearity problem in our multiple regression models.

A summary of the results of the multivariate tests of all hypotheses developed above for both voluntary disclosure closely linked to the mandatory one and voluntary disclosure not closely linked to the mandatory one indexes is shown in table 7.

Table 7. **Results related to the multiple regression models (dependent variables: $IDIS_1$ and $IDIS_2$)**

	Expected signs	IDIS $_1$ weighted			IDIS $_2$ weighted		
		Coefficients	z-statistic	P>|z|	Coefficients	z-statistic	P>|z|
Constant	?	49.584**	2.49	0.013	29.434	1.05	0.294
RR	+	7.337***	4.58	0.000	12.974***	8.56	0.000
CMGS	+	0.174***	2.80	0.005	0.217***	4.16	0.000
INDB	+	-0.107***	-2.76	0.006	-0.031	-0.77	0.439
LSIB	+	9.409***	2.67	0.008	12.060***	3.56	0.000
COMFUN	+	6.441***	3.16	0.002	2.976*	1.79	0.073
MAN	+	0.138***	3.20	0.001	0.114***	2.71	0.007
CONC	-	-9.769***	-4.25	0.000	-12.914***	-5.22	0.000
INST	+	-0.245***	-3.53	0.000	-0.237***	-3.65	0.000
FAM	-	0.891	0.39	0.693	-7.875***	-3.87	0.000
LSIZE	+	-0.748	-0.58	0.562	-1.247	-0.76	0.445
INDEB	+	0.073**	1.97	0.048	0.022	0.60	0.546
LAGE	+	-2.285*	-1.93	0.054	-4.881***	-3.99	0.000
QAU	+	-0.906	-0.46	0.642	-0.146	-0.08	0.936

Number of observations	144	138
Fisher Test	7.71***	6.54***
Chi-2 Test	78.69***	46.15***
Chi-2 Test (Hausman Test)	10.94	36.14***
Chi-2 Test (Breusch-Pagan Test)	12.33***	3.74*
Wald Chi-2	151.93***	207.097***

*, ** and *** indicate significance at a level below 10%, 5% and 1% respectively

$IDIS_1$ = Index of voluntary disclosure closely linked to the mandatory one.

$IDIS_2$ = Index of voluntary disclosure not closely linked to the mandatory one.

RR = 0 in the pre-enactment period and = 1 in the post-enactment period.

CMGS = (Net tangible assets / Total assets)*100.

INDB = (Number of outside administrators / Total number of administrators)*100.
LSIB = Log (Total number of administrators).

C**OMFUN** = 1 if a person combine the functions (GM) and (CH) and = 0 if not.

MAN = The percentage of shares held by the administrators.

CONC = 1 if there is presence of a shareholder who has 50 % or more of the capital and = 0 if not.

INST = The percentage of shares held by the institutional investors.

FAM = 1 if the firm is controlled by a family and = 0 if not.

LSIZE = Log (Total assets).

INDEB = (Total liabilities / Total assets)*100.

LAGE = Log (Duration of quotation of the company out of Stock Exchange in years).

QAU = 1 if the firm is audited at least by a « Big 4 » and = 0 if not.

The Breusch-Pagan heteroscedasticity tests are significant for the both models indicating the presence of a heteroscedasticity problem. To solve this problem, we use the appropriate statistical treatment by estimating models using the method of generalized least squares (GLS) with a correction for heteroscedasticity.

We discovered that the coefficient of variable RR is positive, with a high value and also significant (at 1%). We can conclude, then, that the voluntary disclosure extents of the companies of our sample (closely linked and not closely linked to mandatory disclosure) is higher during the post-enactment period than it is during the pre-enactment one. In other words, the extent of voluntary disclosure has risen as a result of the promulgation of the Law relating to financial security. This result found by Cheng & Courtenay (2006) and by Owusu-Ansah & Yeoh (2005) can makes us to confirm H 1.1.The coefficient of the variable CMGS is positive and highly significant (1%) as expected. This could be explained by the fact that the lack of competition in the market of goods and services (or the high barriers to entry in the sector) promotes the increase of the extents of voluntary disclosure (closely linked and not closely linked to mandatory disclosure). Indeed, when the barriers to entry are high, companies disclose more information because the market penetration is difficult for potential competitors. This result enables us to confirm H 1.2, which seems to be consistent with the results of Depoers (2000b) performed in the French context and with that of Hossain & Hammami (2009) performed in the Qatari context. However, this result does not match that of Mohd Ghazali & Weetman (2006), which is based on a sample of Malaysian companies after the Asian financial crisis of 1997. These authors show that competition in the business sector is not a significant factor that can influence the level of voluntary disclosure. This can be explained by the fact that information about the market products comes from sources other than the annual report. Similarly, our result does not match that of Chow & Wong-Boren (1987), who confirm the existence of a negative but non significant relationship between the entry barriers of the business sector and the extent of voluntary disclosure on a sample of Mexican firms.

The negative and significant coefficient (at 1%) of the INDB variable for the model with dependent variable '$IDIS_1$' allows us to disprove H 2.1. This result corroborates the results of Barako *et al.* (2006), Gul & Leung, (2004) and Eng & Mak (2003) and those of Khlifi & Bouri (2008) in the Tunisian context. Besides, Barako (2007) confirms the existence of a negative and significant relationship for the Kenyan firms of his sample between the independence of the board and the two sub-indexes of voluntary disclosure relating to the general, strategic and financial information. This result could be interpreted by the fact that the independent administrators (outsiders) are substitutes for voluntary disclosure. Hence, a good voluntary disclosure can substitute for the absence or the lack of outside administrators. In contrast, the presence of outside administrators may substitute for the voluntary disclosure. Moreover, the outside administrators may be chosen by the blockholders to represent them in the board. In this case, these administrators may not encourage the voluntary disclosure as they receive information from the company directly and not through public sources. Administrators may be regarded as strangers to the company without being actually independent. The definition of an independent administrator is not clear in Tunisia. It has not been defined in the CCC which does not require companies to include such administrators in their boards. In this case they are not independent administrators, but only leaders' advisers.

The relationship between the extent of voluntary disclosure and the variable LSIB is, as expected, positive and significant (at 1%). This leads us to confirm H 2.2. Our result can be interpreted as follows: when boards are large, it is more likely that they include members who tend to favor the increase of the extent of voluntary disclosure in the annual reports. Moreover, the size of the board is considered a complement of voluntary disclosure (closely linked and not closely linked to mandatory disclosure). This result is not consistent with the result of the non-significance of the relationship between the size of the board and the extent of voluntary disclosure found in the studies of Cheng & Courtenay (2006), on a sample of companies in Singapore, Arcay & Vázquez (2005), on a sample of Spanish companies and Lakhal (2006) on a sample of French companies.

The coefficient of the COMFUN variable is positive and significant. This result leads us to confirm H 2.3 and then show the fact that the leadership structure and voluntary disclosure are complementary control mechanisms: which means that they reinforce each other. This allows us to confirm the assumption of the interest alignment of the dominant personality in the company with those of the other shareholders. This result matches those of Felo (2009) and consistent with the results found by Barako (2007) for voluntary information relating to the strategic, general, financial and social information and to the board of directors. However, this result does not match the results of Haniffa & Cooke (2002), Barako *et al.* (2006), Arcay & Vázquez (2005), Cheng & Courtenay (2006), Ho & Wong (2001) and Raffournier (1995), which show the existence of a negative but non significant relationship between the extent of voluntary disclosure and the existence of a dominant personality. These studies suggest that the combination of functions (GM) / (CH) reduces the control power of the board, which is inconsistent with good governance practices.

The coefficient of the MAN variable is positive and significant (at 1%). The positive found relationship allows us to confirm H 2.4 and affirm the assumption of aligning the interests of the controlling shareholders with those of the other shareholders. This result matches the results of Li & Qi (2008) which could be explained by the fact that the inside administrators, who have a close idea about the business, can voluntarily disclose in order to clear themselves from the other shareholders and to show them they do not transfer the wealth of the company to their own accounts. Moreover, the managerial ownership is considered a complement of voluntary disclosure (closely linked and not closely linked to mandatory disclosure). The result found for the coefficient of the variable MAN is not consistent with the results of Gelb (2000), Mohd Ghazali & Weetman (2006) and Eng & Mak (2003) which confirm the existence of a negative relationship between the managerial ownership and the level of voluntary disclosure. In this case, the controlling shareholders who benefit from an informational advantage compared to the minority shareholders tend to reduce the level of disclosure in order to avoid the challenge of the latter ones.

The CONC variable has a negative and significant coefficient (at 1%), the thing which allows us to confirm H 2.5. This seems to be consistent with the results of Loukil & Triki (2008) and Khlifi & Bouri (2008), conducted in the Tunisian context on cross-sectional data. This found relationship can be explained by the fact that when capital is highly concentrated, dominant shareholders are encouraged to behave against the interests of the minority shareholders by reducing the quality of their economic disclosure. In addition, the 'blockholders' are able to exert a control over the managerial actions and to be an alternative (substitute) for high extents of voluntary disclosure (closely linked and not closely linked to mandatory disclosure). This result does not corroborate the results found by Depoers (2000a) and Raffournier (1995) who did not detect a significant influence of the ownership concentration on the extent of voluntary disclosure. Our result does not match, as well, the results of Li & Qi (2008) who reveal that a high concentration of ownership can raise the level of voluntary disclosure.

The INST variable has a negative and highly significant coefficient (at 1%) the thing which allows us to invalidate H 2.6. This result is consistent with the results of Ajinkya *et al.* (2005) and Bushee *et al.* (2003). Similarly, Khlifi & Bouri (2008) showed that an increase in the institutional ownership of 10% is associated with a fall in the level of voluntary disclosure of 31.9%. Our results could be interpreted by the fact that institutional investors may have access to information directly from the company and that their high level of ownership does not promote an increase in the extent of voluntary disclosure. Indeed, companies prefer to provide information directly to their private institutional shareholders rather than carry out its public disclosure in the annual reports. Moreover, the institutional ownership is considered a substitute of voluntary disclosure (closely linked and not closely linked to mandatory disclosure).

The coefficient of the FAM variable has the expected negative sign and is significant (at 1%) in the model with the dependent variable '$IDIS_2$', the thing which confirms H 2.7. It could be explained by the fact that the family members have a precise knowledge about their business through continuous monitoring of management and therefore do not have public sources from which they get information. Due to the little separation between ownership and management, family businesses face more serious agency problems of type II and less serious ones of type I than other firms. The obtained result corroborates those of Apostolou & Nanopoulos (2009) and Chau & Gray (2002).

Regarding the control variables, the coefficient of the control variable LSIZE does not have the expected sign besides it is insignificant. This result is consistent with those of Felo (2009) and Mauldin & Richtermeyer (2004), who found a negative and significant relationship between the firm's size and its disclosure. We notice that the coefficient of the control variable INDEB is positive as is expected, and significant for the model with the dependent variable "$IDIS_1$". The coefficient of the control variable LAGE is negative and significant which is not consistent with the predictions. This can be explained by the signaling objectives and the legitimacy of the newly listed companies and is consistent with that found by Bushee *et al. (*2003). Finally, the coefficient of the control variable QAU does not have the expected sign and is insignificant. Indeed, the meta-analysis conducted by Ahmed & Courtis (1999) showed that the results of the researches dealing with the relationship between the quality of the auditor and the extent of disclosure are mixed.

We present then a comparison of coefficients from the model having variable $IDIS_2$ as the dependent variable with those from the model with the variable $IDIS_1$ as the dependent variable. We notice that family control of the company is strongly negatively and significantly connected with the extent of voluntary disclosure not linked to the mandatory disclosure, while it is weakly positively and not significantly connected to the extent of voluntary disclosure linked to the mandatory one.

On the one hand, the combination of functions (GM) / (CH), the independence of the board of directors and the company's debt are less strongly and less significantly connected to voluntary disclosure not closely linked to the mandatory one than to voluntary disclosure linked to the mandatory one. On the other hand, the age of the company is more strongly and significantly connected to voluntary disclosure not closely linked to the mandatory one than to voluntary disclosure linked to the mandatory one.

Moreover, the regulatory reform, the competition in the market of goods and services, the concentration of ownership, the size of the board and that of the company are more strongly related to the extent of voluntary disclosure unlinked to the mandatory disclosure than to that of voluntary disclosure linked to the mandatory one. In contrast, the auditor's quality is less strongly related to voluntary disclosure not closely linked to the mandatory one than to the voluntary disclosure linked to the mandatory one.

Besides, we think that the effects of institutional ownership and those of managerial ownership on the extent of voluntary disclosure not linked to the mandatory one and on that of voluntary disclosure linked to the mandatory one are similar. It should be noted that the effects of the variables: regulatory reform, competition in the market of goods and services, ownership concentration, institutional ownership, combination of functions (GM) / (CH), board size, managerial ownership and age of the business are significant on both the extent of voluntary disclosure not closely linked to the mandatory one and on that of voluntary disclosure closely linked to the mandatory one.

CONCLUSIONS

This paper contributes to the current universal debate on the discretionary managerial behavior of voluntary disclosure in the annual reports. It examines this phenomenon in one emerging country characterized by a low investors' protection, a very high concentration of ownership (especially family) and which needs to attract foreign investors.

Through the results found, we conclude that the firms in our sample tend to disclose more voluntary information linked to the mandatory disclosure than voluntary information not linked to the mandatory one. In addition, we have shown the fact that the independence of the board is a substitute for the voluntary disclosure closely linked to the mandatory one. Conversely, the family control of the company is a substitute for the voluntary disclosure closely linked to the non-mandatory one. Furthermore, we found that the presence of a dominant shareholder and the institutional ownership are substitutes for voluntary disclosure closely linked and the one not closely linked to the mandatory disclosure. However, the regulatory reform, the competition in the market of goods and services, the combination of functions (GM) / (CH), the board size and to the managerial ownership are at the same time complements to voluntary disclosure closely linked and the one not closely linked to the mandatory disclosure.

On the one hand, our empirical findings reveal that the effects of family control on the extents of voluntary disclosure closely linked and the one not closely linked to the mandatory disclosure are very different. On the other hand, our results show that the effects of the regulatory reform, of the competition in the market of goods and services, of the leadership structure, of the independence of the board of directors, of the board size and the of the ownership concentration on the extents of voluntary disclosure closely linked and the one not closely linked to the mandatory disclosure are different. Finally, we find that the effects of the institutional ownership and of the managerial ownership on the extents of voluntary disclosure studied are similar.

This research contributes to the literature on financial transparency, on voluntary disclosure and on corporate governance. To sum up, we can say that the overall results of this research have theoretical and practical implications. From a theoretical point of view, they highlighted the existence of direct links between several controlling mechanisms (internal and external) of the leaders in a context characterized by the presence of a dominant shareholder who is usually an administrator. From a practical point of view, this research encourages Tunisian managers to establish a system of effective corporate governance which protects the minority shareholders through a better disclosure in the management annual report. However, it is not enough for the company to set up governance mechanisms. It should deal with the quality and efficiency of the functioning of these mechanisms so that it can have good governance enabling it to get the confidence of its stakeholders.

However, like any research effort, our work has a number of shortcomings. First, the size of the companies' sample, which our analysis is about, seems to be small. However, its structure is due to the fact that companies belonging to the financial sector are excluded from our study. Second, the lack of available data about the listed Tunisian firms prevented us from refining variables' measures relating to the composition of the board (administrators' profile) and to the ownership structure (percentage of ownership of all the shareholders). Finally, we did not consider the endogenous problem of the variable extent of voluntary disclosure.

This paper offers some reflections for further discussions on the issues of transparency and disclosure and more widely corporate governance. We hope that this research will be a trigger for other researchers to deal with the governance issues relating to transparency and disclosure in a wider geographical horizon so as to identify the differences and similarities between the common Law countries and the civil Law ones. Besides, the potential indirect impact of internal governance on the extent of voluntary disclosure could be a very promising field of research.

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Appendix. **Classification of items**

I- VOLUNTARY DISCLOSURE CLOSELY LINKED TO MANDATORY DISCLOSURE	
1	A statement of corporate goals or objectives is provided
2	A general statement of corporate strategy is provided
3	Barriers to entry are discussed
4	A general description of the business is provided
5	The principal products produced are identified
6	The principal markets are identified
7	Return-on-assets or sufficient information to compute return-on-assets (i.e. net income, tax rate, interest expense and total assets) is provided
8	Net profit margin or sufficient information to compute net profit margin (i.e. net income, tax rate, interest expense and sales) is provided
9	Asset turnover or sufficient information to compute asset turnover (i.e. sales and total assets) is provided
10	Return-on-equity or sufficient information to compute return-on-equity (i.e. net income and stockholders equity) is provided
11	A summary of sales and net income for at least the most recent eight quarter is provided
12	Number of employees
13	Market share
14	Change in sales
15	Change in operating income
16	Change in net income
17	Description of the activities of R & D
18	Training and skills development for employees
9	Description of charitable donations, grants, financial aid
20	Ownership structure (major shareholders)
21	Percentage ownership by major shareholders
22	Composition of the Board
23	The mandates of the administrators
II-VOLUNTARY DISCLOSURE NOT CLOSELY LINKED TO MANDATORY DISCLOSURE	
24	Actions taken during the year to achieve the corporate goals are discussed
25	Planned actions to be taken in future years are discussed
26	A time frame for achieving corporate goals is defined
27	Impact of barriers to entry on current profits are discussed
28	The competitive environment is discussed
29	The impact of competition on current profits is discussed
30	The impact of competition on future profits is discussed
31	Specific characteristics of these products are described
32	Specific characteristics of these markets are described

33	Order backlog
34	Percentage of order backlog to be shipped next year
35	Percentage of sales in products designed in the last five years
36	Amount of new orders placed this year
37	Units sold
38	Unit selling price
39	Growth in units sold
40	Production lead time
41	Sales growth in key regions not reported as geographic segments
42	Volume of materials consumed
43	Price of materials consumed
44	Growth in sales of key products not reported as product segments
45	A comparison of previous earnings projections to actual earnings is provided
46	A comparison of previous sales projections to actual sales is provided
47	The impact of opportunities available to the firm on future sales or profits
48	The impact of risks facing the firm on future sales or profits is discussed
49	A forecast of market share is provided
50	A cash flow projection is provided
51	A projection of future profits is provided
52	A projection of future sales is provided
53	Change in cost of goods sold
54	Change in cost of goods sold as a percentage of sales
55	Change in gross profits
56	Change in gross profits as a percentage of sales
57	Change in selling and administrative expenses
58	Change in interest expense or interest income
59	Change in inventory
60	Change in account receivable
61	Change in capital expenditures or R & D
62	Change in market share
63	Description of key customers
64	Description of key suppliers
65	Results of R & D implemented
66	Rate of employee absenteeism and number of strike days
67	Description of the firm's commitment to the community for specific social projects(community activities, cultural, educational, recreational and sports)
68	Statement of activities for the protection and preservation of the physical environment (natural resources conservation, energy management, wildlife and flora ...)
69	Description of activities to reduce pollution related to business activities
70	Production and promotion of ecological products (prohibiting the use of chemical components harmful to health and ecosystems, recyclable packaging design…
71	Profile of administrators
72	The frequency of meetings of the Board