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EDITORIAL

Dear readers!

This issue of the journal is devoted to several issues of corporate governance.

Daniel ZÉGHAL, Raef GOUIAA try to evaluate the effect of the board of directors' characteristics on the cost of capital of the French companies. The results of this study, based on a sample of 87 French companies belonging to the French index SBF120 during 2005, show that the majority of the board of directors' characteristics have an important and significant effect on the cost of equity capital, on the cost of debt and on the balanced average cost of capital of the French companies.

M. Victoria Lopez-Perez, M. Carmen Perez-Lopez, Lázaro Rodriguez-Ariza examine whether the adoption of responsibility-oriented policies constitutes a strategic decision that may explain investment in research and development. The sample obtained is made up of data from 95 European corporations examined for the period 1998-2006. We identify a relation between R&D expenditure and practices of CSR.

Bernard Santen, Aloy Soppe examine the relationship between corporate governance characteristics and corporate financial distress. There are two main theoretical factors of interest: the structure of the monitoring process, and the personal characteristics of non-executive directors (NEDs). The first approach is basically *agency-theory* oriented, and emphasises relationships that complicate proper control, such as dependents on the board (Jensen, 1993). The second approach refers to the *resource dependency* theory, which focuses on the quality of the director(s) involved (Hillman and Dalziel (2003). The relevant relationships are tested on a newly built database consisting of 52 listed companies in the Netherlands that became financially distressed in the period from 1993 to 2003 and a control sample of 167 listed companies. We collected data on NEDs such as age, education, dependency, other board positions (and chairmanships), workload, and the number of executive and non-executive board members. A positive relationship with financial distress was found to exist if the average workload of NEDs on the board was high, or if there was a foreigner on the board. If one of the NEDs has inside knowledge, this is negatively related to financial distress. As a final conclusion, the hypothesis originating in resource dependency theory, which is that the human characteristics of NEDs are important in avoiding financial distress, cannot be rejected with regard to the Netherlands as examined in the period from 1993 to 2003.

M Steenkamp, F J Mostert, J H Mostert focuse on the claims handling process of motor vehicle insurance where a number of factors are considered by insurers. Some of the claims handling *factors* may be more important than others when insurers are assessing the claims submitted by the policyholders. The responding insurers also identify important *problem areas* in the claims handling process, and *solutions* that alleviate the different problems should be welcomed by the insurers. The empirical study is based on the perceptions of the *leading South African* short-term insurers, who represent 82.6% of the total gross premiums written for motor vehicle insurance in 2006. The *objective* of this research embodies the improvement of financial decision-making by insurers when occupied in the claims handling process of motor vehicle insurance.

K. Höne, J.H.P. Eloff analyse the requirements from the business community and mapped it against current research outputs. Findings clearly indicate that the two worlds are not entirely aligned and that in some cases minimum effort is being spent on the topics deemed important by the business community. Information Security Governance in general can benefit from an improved alignment between the needs of business and the outputs of the research community.

Ilse Maria Beuren, Elza Terezinha Cordeiro Miiler verify how the Controllership institutionalization process takes place in corporate governance companies in Santa Catarina State – Brazil. Research was carried out by means of a multi-case study with a qualitative approach. Five companies were selected, but four answered the questionnaire, all listed in Bovespa's corporate governance. The research found only one company underwent a restructuring process in controllership. In this, the institutionalization process involved the system and sub-systems used in the company, encompassing every task and practice. The institutionalization of controllership assured the implementations, controls, performance, goals and levels of commitment of those involved.

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CONTENTS

THE EFFECT OF THE BOARD OF DIRECTORS' CHARACTERISTICS ON THE COST OF CAPITAL OF THE FRENCH COMPANIES

Daniel ZÉGHAL*, Raef GOUIAA**

Abstract

The board of directors and the cost of capital play fundamental roles in the profitability and the perennity of any business organization. The objective of this research is to try to evaluate the effect of the board of directors' characteristics on the cost of capital of the French companies. The results of this study, based on a sample of 87 French companies belonging to the French index SBF120 during 2005, show that the majority of the board of directors' characteristics have an important and significant effect on the cost of equity capital, on the cost of debt and on the balanced average cost of capital of the French companies.

Keywords: Board of directors' Characteristics, cost of debt, cost of equity capital

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1. Introduction

Accounting plays a significant role in the governance of Business Corporation. Accountability, transparency and disclosure constitute a few of the roles fulfilled by accounting in the governance process. The board of directors is the governance mechanism where most of the strategies and decisions related to these aspects are developed and monitored. Although various disciplinary mechanisms (internal or external) are designed to protect the interests of stakeholders from the possible abuses of managers, the board of directors occupies a privileged place among the whole of these mechanisms (Fama and Jensen, 1983 and Charreaux, 2000). Indeed, the board of directors is regarded as an internal means of control playing a significant and an important role in the procurement of the necessary resources, the determination of the strategic choices and in the resolution of the conflicts of interests between managers, shareholders and others stakeholders. The ability of the board of directors to achieve well the roles which are allotted to it depends, nevertheless, largely on its characteristics. In fact, several empirical studies have concluded that the effectiveness of the boards of directors in the achievement of their roles depends largely on their characteristics (Pearce and Zahra, 1992; Hendry and Kiel, 2004 and Godard and Schatt, 2005).

The board of directors plays two supreme roles in the organisation; a strategic role and an overseeing role (Charreaux, 1994). On one hand, the board of directors, charged to represent the interests of the shareholders, seems to be the supreme authority of control in the company (Fama and Jensen, 1983). On the other hand, the strategic role of the board of directors appears through the creation of performance, the protection of the whole of the creative relations of value, the disclosure of reliable and transparent accounting information and the access to rare resources. In particular, the board of directors plays a critical role in providing and controlling a firm's resources particularly the financial resources.

Accounting-based numbers constitute a persistent and traditional standard that investors and creditors use to assess a firm's health and viability (Anderson et al., 2004). The importance creditors and investors place on accounting numbers and the countervailing managerial incentives to manipulate the accounting and financial statements suggest that bondholders potentially exhibit great concern over factors influencing the reliability and validity of the financial and accounting processes (Leftwich, 1983 and Smith, 1993). In fact, managers may have incentives to disclose misleading financial statements to conceal negative news and thereby provide private personal benefits or potential shareholder benefits reports (Dechow et al., 1996). Perhaps one of the most important factors influencing the reliability and the integrity of the financial and accounting process involves the board of directors. Boards of directors, among other tasks and roles, are charged with monitoring senior management, and supplying audited financial statements to the firm's creditors and investors (Daley and Vigeland, 1983; Dichev and Skinner, 2002 and Anderson et al., 2004). In fact, the board of directors, supporting greater transparency and better control of the countable and financial reporting process, allows to reduce the financing cost by reducing the agency costs and the exposure of the firm to the risk of market.

The financing cost constitutes one of the aspects most discussed in the financial and accounting literature. This importance is as large in theoretical discussions as in managerial ones. Indeed, the cost of capital represents the yield required by investors and providers of funds thus constituting the major bond between the strategic decisions of investment and financing of the companies (Stulz, 1999).

To this end, our study proposes to examine the effect of the board of directors' characteristics on the financing cost of French companies through its two principal components connected in particular to the cost of debt and to the cost of equity capital. We consider that this issue proves to be relevant in several connections. Initially, this attention paid to the strategic and financial role of the board of directors constitutes a relatively new concern compared to previous accounting researches which generally studied the effect of the board's characteristics on various measures of the financial performance and not on the costs of various financing resources (Brown and Caylor, 2004; Dulewicz et al., 2004 and Kula, 2005). Moreover, the majority of the former accounting studies were restricted to appreciate the board of directors' characteristics, primarily, through the independence of its members, its size, the independence of its audit committee or the financial motivations of the directors (Bhojraj and Sengupta, 2003; Anderson et al., 2004 and Ashbaugh et al., 2004a&b). However, these characteristics, despite being the most studied dimensions of the board of directors, do not constitute the only engine of its effectiveness. Therefore, we considered useful to take account of other characteristics which seem to support and improve the appreciation of the effectiveness of the board of directors. Indeed, the analysis of several boards' characteristics makes it possible to better understand the financial and strategic role of the board in the governance system. Finally, all the former studies relating to similar research questions were undertaken in an Anglo-Saxon context which differs from the French context. In fact, the former studies in other countries cannot be generalized due to the institutional differences between the respective countries and their markets. The case of France is particular because the French firms use different accounting and governance systems and operate within a socio-economic environment which has many distinguishing features that may influence both the governance practices and the financing costs (Othman and Zeghal, 2006). As with all human activities, corporate governance rules and practices as well as capital markets are affected by culture (Douglas, 1989; Wildavsky, 1989). As Hussein (1996) asserted, there is already awareness among many accounting researchers and standard setters of the social and cultural influences on corporate governance practices (Beresford, 1990; Gray, 1988 and Wirtz, 2004).

So, the results of our study can contribute to a better understanding of the impact of institutional differences on corporate governance and, in particular, this study's findings can provide an answer to the question of "What is the effect of the board of directors' characteristics on the financing cost, by equity capital and debt, of French companies?"

The board's characteristics are related, mainly, to the independence of directors, the duality of the functions of chief executive officer (CEO) and chairman of the board, the size and operation of the board, the financial motivations of directors, their expertise and experience, the size and independence of the audit committee and the representation of financial institutions in the firm's board of directors.

To check the effect of the board of directors' characteristics on the endogenous variables (financing costs), we led our study on a sample of 87 French companies belonging to the French index SBF120 during 2005. Within this framework of analysis, we developed two linear regression models to test the validity of our assumptions and to examine the relation between the board of directors' characteristics and the costs of financing by equity capital and debt. Moreover, we developed a third linear regression model in which we sought to test if the board of directors' characteristics has a direct and significant effect on the average cost of capital.

The remainder of this paper is structured as follows. In the second section, we present a review of previous studies and develop the hypotheses of our research. The methodology of investigation is presented in a third section. Finally, in a last section, we analyze and discuss the found results.

2. Review of literature and research hypothesis

The link between corporate governance mechanisms and the firms' cost of capital is one of the most fundamental issues in the actual economic situation. In particular, the board of directors, ensuring a better control of the opportunism of leaders and a better transparency in the revealed information through a better audit of the countable and financial reporting process, allows reducing the exposure of the firm to the risk of market which will result in the reduction in its cost of financing. Indeed, the cost of obtaining information for the investors being reduced and their anticipations becoming more homogeneous, the cost of capital also has to decrease (Fan Yu, 2005). However and as the results of former studies affirm it, the effectiveness of the boards of directors in the achievement of these functions depends largely on theirs characteristics (Hendry and Kiel, 2004 and Kula, 2005).

The results of the empirical studies support that the firms that have a good system of governance present less risks of agency to the shareholders and other stakeholders, resulting in a lower cost of financing. As Standard & Poor's note in their credit rating documentation, board oversight of the accounting information process is a paramount concern in assessing firm default risk. In this framework, Ashbaugh et al. (2004a) showed that the firms which improved their structure of governance have profited from the reduction in their cost of financing. They highlighted that the governance mechanisms, ensuring a better control of the opportunism of the managers, have an impact on the cost of capital by decreasing the exposure of the firm to the risk of the market. Garmaise and Liu (2004) have also studied the effects of the governance system on the cost of capital by showing that the transfer of the rights of decision on the choices of investment and financing to the direction exposes the shareholders to a greater risk which will result in a more important cost of financing. Occupying a central and privileged place in the modern corporate governance, several studies sought to study the effect of corporate governance' characteristics on the cost of capital. In the following sub-sections, we develop testable hypotheses on the relation between financing costs and board structure.

2.1. The board of directors' composition

The role of the board of directors is to provide an independent and effective control of the direction and to make it responsible for its actions in regards of the shareholders. However, the effectiveness of this control depends largely on the percentage of independent directors in the board. While the bond between the board of directors' composition and the firm performance is not clear, there is a considerable obviousness admitting that the board of directors' composition can affect the risks and costs of agency to which are confronted the shareholders (Brown and Caylor, 2004).

The previous accounting literature assumes that independent directors are superior monitors of management and likely to provide credible financial reports (Bushman and Smith, 2001). Beasley (1996) and Dechow et al. (1996) suggest that independent directors are more willing to provide effective oversight and disclosure due to their desire to maintain their reputations. Smith and Warner (1979) and Kalay (1982) observe that bondholders' concerns lie with protecting their investment. One of the most important elements in bondholders' ability to protect their investments is the firm's financial accounting numbers. In this order, boards of directors have a primary responsibility of overseeing the firm's financial reporting process. Boards meet routinely with the firm's accounting staff and external auditors to review financial statements, audit procedures, and internal control mechanisms (Klein, 2002a). As such, investors and creditors potentially view boards of directors and, in particular, board structure as critical elements in delivering credible and relevant financial statements.

Byrd and Hickman (1992) for instance, suggest that independent directors contribute expertise and objectivity that minimize managerial entrenchment and expropriation of firm resources. So, if independent boards provide superior oversight of the financial accounting process, then investors and creditors directly benefit through greater transparency and validity in accounting reports. Indeed, the empirical results of Anderson et al. (2004) indicate that bondholders view board independence as an important element in the pricing of the firm's debt, suggesting that creditors are sensitive to board attributes.

Moreover, the board of directors' independence supports a more effective control of the countable and financial process, management activities and decisions. Thus, the funds' backers and in particular the bankers will profit from this more effective control through a greater transparency and a better reliability of the countable reports, resulting in a lower cost of financing (Anderson et al., 2004 and Lambert et al., 2007). If lenders and shareholders are interested in the governance mechanisms which delimit managerial discretion and opportunism and make possible to improve the countable and financial reporting process, an effective control supported by the independence of the board of directors will result in a lower financing cost of French companies. This leads to our first testable hypothesis:

H_1: The board of directors' independence is negatively related to the cost of financing.

2.2. The board of directors' size

Klein (2002b) indicates that the number of directors on the board affects committee assignments and board monitoring. She suggests that board monitoring is increasing with the board size due to the ability to distribute the work load over a greater number of observers. Similarly, Adams and Mehran (2002) suggest that bigger boards of directors increase monitoring effectiveness and provide for greater board expertise. Monks and Minow (1995) extend this argument by suggesting that larger boards are able to commit more time and effort to overseeing management. Moreover, recent countable studies have showed that the board of directors' size plays a significant role in the directors' aptitude to control the leaders and to supervise the countable and financial process (Kula, 2005 and Lambert et al., 2007). Large boards of directors generally constitute controllers and effective supervisors of the countable and financial process for the lenders and creditors of the firm through the improvement of the transparency and reliability level in the financial statements. Anderson et al. (2004) have showed that the cost of debt of US companies is lower for firms having larger boards which allow a greater transparency and a better reliability in revealed countable information. So, if larger boards are more effective monitors of the financial and accounting process, then investors and creditors should benefit through improved financial transparency and reliability. According to this fact, we expect that the financing cost of the French firms is lower for firms having larger boards which are more efficient monitors. This leads to our second testable hypothesis:

H_2: The board of directors' size is negatively related to the cost of financing.

2.3. The duality of the function of chief executive officer and chairman of the board

Several studies have showed that the separation of the function of chief executive officer (CEO) and chairman of the board of directors makes it possible to increase the value of the firm. Indeed, the role of the board of directors in the corporate governance is compromised when the head of the direction of the firm is himself the chairman of the board. On one hand, the duality of functions reduces the disciplinary power of the board of directors and increases, as a result, the agency and risk costs. Consequently, shareholders and creditors will require a more significant risk premium to compensate the lack of transparency and reliability on the disclosed countable information (Gompers et al., 2003). On the other hand, the duality of functions increases the risk that the new named directors are not independent of the direction although they are external directors.

If the separation of the functions of CEO and chairman of the board leads to a more efficient board particularly in the execution of its monitoring role of disclosed accounting information, then we expect stakeholders should benefit through improved financial transparency and reliability and will require less important risk premium. This leads to our third testable hypothesis:

H_3: The financing cost is higher for firms with duality of the functions of CEO and chairman of the boarding in their boards than firms which separate these functions.

2.4. The audit committee independence

For most large firms, boards of directors delegate direct oversight of the financial accounting process to a subcommittee of the full board, the audit committee. Audit committees are responsible for recommending the selection of external auditors to the full board; ensuring the soundness and quality of internal accounting and control practices; and monitoring external auditor's independence from senior management (Anderson et al., 2004). The audit committee plays an important role because it is concerned with establishing and monitoring the accounting processes to provide relevant and credible information to the firm's stakeholders (Pincus et al., 1989 and Beasley, 1996).

Carcello and Neal (2000) document a positive and significant relation between greater audit committee independence and the quality of financial reporting. Similarly, the Blue Ribbon Committee report (1999) indicates that the independent members of the audit committee are more able to protect and to ensure the reliability of the countable reporting process. Moreover, responsible for the control of the countable and financial reporting process, an independent audit committee allows guaranteeing reliable and credible information to various stakeholders (Klein, 2002a). Indeed, a better control of the countable and financial reporting process, due to the presence of independent directors in the audit committee, leads to a lower firm risk and reduces, by consequence, the cost of financing.

In this framework, Ashbaugh et al. (2004a) and Anderson et al. (2004) have showed that a greater independence of the audit committee support more transparent and reliable countable information through a more effective audit committee in the achievement of its monitoring role of the countable and financial reporting process, which results in a reduction of the premium risk required by investors and creditors. If a greater independence of the audit committee supports the reduction of the risk for lenders and shareholders, then we expect that the financing cost will be lower for firms having more independent audit committees. From where the following testable hypothesis:

H_4: The audit committee independence is negatively related to the cost of financing.

2.5. The audit committee size

Firms having large audit committees are supposed to devote more significant resources to supervise the countable and financial reporting process and to guarantee a better transparency (Bushman and Smith, 2001). In fact, a firm with a small audit committee would be less effective in the execution of the functions which are allotted to it, in particular controlling the hiring of the audit service, supervising the direction and organising the meetings with the personnel of the internal audit system (Pincus et al., 1989). Anderson et al. (2004) have showed that larger audit committees are associated with a lower cost of financing. Larger audit committees, allowing a better protection and a better control of the countable and financial process, support a greater transparency for shareholders and lenders of the firm, which will result in lower costs of financing both by equity capital and by debt. In fact, a more effective audit committee leads to a better disclosure quality and a greater transparency. As a result, information asymmetry between leaders, shareholders and lenders will be reduced and agency problems will be limited (Fan Yu, 2005). According to the agency theory, the quality of information disclosed allows to reduce the monitoring costs of leaders by the investors and creditors

(Depoers, 2000). Thus, the cost of obtaining information for the investors being reduced and their anticipations becoming more homogeneous, the cost of financing of the firm also has to decrease. If larger audit committees are better monitors of managers' opportunism and particularly of the reporting process than small committees, we expect a lower financing cost for firms having larger audit committees. This leads to our fifth testable hypothesis:

H_5: The audit committee size is negatively related to the cost of financing.

2.6. The representation of financial institutions in the board of directors

The relations that firms maintain with the financial institutions, through the representation of these institutions in their boards of directors, make it possible to improve the information flow between the financial institution and the company and to increase, by consequence, the possibilities of financing from these organizations (Kroszner and Strahan, 2001).

In addition, the representation of financial institutions in the firms' board of directors improves the quality of control on the countable and financial reporting process and allows the reduction, at the same time, of the costs of internal and external financing for the firm. Indeed, these financial institutions will not be confronted with the problems of asymmetry of information and will face very limited risks and costs of agency through a greater transparency, a better evaluation and a better control of the actions and competences of the direction from the positions which they occupy in the board (Kroszner and Strahan, 2001). So, they will require a less important risk premium in granting credits. If the representation of the financial institutions in the board improves the monitoring role of the board and its committees and reduces the premium risk required by investors, we expect a negative relation between the financing cost and the representation of these institutions in the board. This leads to our sixth testable hypothesis:

H_6: The financing cost is lower for firms having representation of the financial institutions in their boards than firms without representation of these institutions in their boards.

2.7. The board of directors' tenure

As directors are qualified and experimented, the board of directors will be more attentive and more effective in the control of managers. Furthermore, effective monitoring is potentially an acquired skill, suggesting boards with greater tenure provide greater monitoring (Anderson et al., 2004). Gompers et al. (2003) and Garmaise and Liu (2004) have found a positive relation between the directors' experience, measured through the number of years during which directors occupy these positions, and the efficiency of the board in monitoring managers and particularly the reliability of countable and financial information. Moreover, Anderson et al. (2004) and Ashbaugh et al. (2004b) have showed that the directors' expertise and experience support the disclosure of more reliable and more credible information for lenders and investors who will require, by consequence, a weaker risk premium.

If directors' tenure creates incentives for directors to more closely supervise and monitor firm managers, we then expect that the competence and experience of directors measured through board tenure is negatively related to the financing cost of the French companies. This leads to our seventh testable hypothesis:

H_7: The board of directors' tenure is negatively related to the cost of financing.

2.8. The meeting frequency of the board of directors

The 1999 Blue Ribbon Committee Report advocates that the board and its subcommittees, as supervisors of the financial and accounting process, can best assure the quality of the financial statements by having greater meeting frequency per year (Morrissey, 2000). The financial literature supports that the increase in the number of board meetings reduces risks and agency costs to which shareholders and lenders are exposed (Botosan, 1997 and Andres et al., 2005). Indeed, the meeting frequency of the board is positively connected to the quality of control exerted by the board on the direction and on the disclosed information to the whole of stakeholders (Davidson et al., 1998 and Vafeas, 1999). Similarly, Anderson et al. (2004) have found that a more effective board of directors; meeting in a more regular and more frequent way, allows to improve quality of revealed countable information and to increase the level of transparency. Thus, the agency costs and the costs of obtaining information for the investors will be reduced supporting, by consequence, the decrease of the financing costs for the firm. If the meeting frequency of the board supports the reduction of the risks and costs for investors, we anticipate a negative relation between the meeting frequency of the board and financing cost. From where the following testable hypothesis:

H_8: The meeting frequency of the board is negatively related to the cost of financing.

2.9. Financial motivations of external independent directors

According to the agency theory, the percentage of capital held by the directors can constitute a sufficient incentive for exerting an effective control on the direction of the firm. Jensen and Meckling (1976) argue that the director equity-ownership creates more powerful motivations for directors to monitor managers. The accounting literature suggests that independent directors with equity stakes are associated with greater monitoring. The alignment of the interests of directors with shareholders should thus support the control of the leaders' management and contribute to the maximization of the firm value (Jensen, 1993). Thus, the shareholders will be confronted to limited risks and agency costs, which will result in a lower cost of financing. In this framework, Klock et al. (2004) and Nikolaev and Van Lent (2005) have showed that directors' holders of shares of the company ensure a more effective control of the countable and financial reporting process, allowing to reduce the cost of debt through a greater transparency, a more reliable disclosure and a more credible information. If director equity ownership creates powerful motivations for independent directors to closely supervise and monitor the management of the firm, then we expect a negative relation between board ownership and the financing cost. This leads to our final testable hypothesis:

H_9: The percentage of capital owned by the external directors is negatively related to the cost of financing.

2.10. Impact of the other characteristics of the firm on the costs of financing

We incorporate control variables into the analysis on firm specific attributes. These attributes include firm size, risk, leverage, growth opportunities, and profitability.

2.10.1. *Firm size*

The financial literature stipulates that there is a negative and significant correlation between the cost of financing and firm size (Ashbaugh et al., 2004a and Anderson et al., 2004). Indeed, large firms, profiting from a greater stability, face a weaker default risk which will result in a lower cost of financing both by own capital and debt.

2.10.2. *Firm risk*

Several studies have highlighted the positive relation between the level of firm risk and the costs of financing by equity capital and by debt (Bhojraj and Sengupta, 2003; Ashbaugh et al., 2004b and Lambert et al., 2007). In fact, when the level of risk is significant, the bankers and the shareholders will require a more important risk premium which will result in greater costs of financing.

2.10.3. *Growth opportunities*

Measured by the ratio; Market value of shares / Book value of equity capital (Market-to-Book ratio) in many previous studies like Fama and French (2004) and Ashbaugh et al. (2004a), the growth opportunities are negatively connected to the cost of equity capital.

2.10.4. *Leverage*

As noted in previous studies (Anderson et al., 2004), firms with high leverage are associated with more significant risks and bankruptcy costs, which result in an increase in the yield required by lenders and bankers.

2.10.5. *Profitability*

Several studies stipulate that the cost of debt is negatively connected to the profitability of the firm, measured through the *Return on Assets (ROA*) (Reeb et al., 2001 and Bhojraj and Sengupta, 2003). In fact, a low value of the return on assets (ROA) reflects a high default risk which will result in a more significant and important cost of capital.

3. Methodology

3.1. Sample description and data collect

To test our hypotheses, we analyze the 2005 annual reports of the French companies belonging to the SBF120 French index: they are companies having the most significant stock exchange capitalization. Among the companies constituting the SBF120 index, we eliminate the foreign companies as well as the French companies evolving in the financial sector (banks, insurances, etc). We also exclude the companies for which one of the variables was missing and the foreign companies belonging to the SBF120 index and subject to specific regulations, which reduces our final sample to the whole of 87 French companies.

The data related to the board of directors' characteristics and the financial data were collected from the 2005 annual reports (reference documents) of the companies belonging to the SBF 120 index and which are published either in the Web site of the authority of French money market (www.amf-france.org), or in the Web sites of the companies. In accordance with the article 212-13 of the general regulation of the authority of the French money market, these reference documents generally contain information related to the corporate governance (composition and operation of the board of directors, remuneration of social agents...), the report of the president of the board on the interns' check procedures, the annual report of the board, group accounts, the social accounting and the general information on the company and its capital.

3.2. Variables measures

3.2.1. *The costs of financing*

- *The cost of equity capital (**COST_EQ**):* This variable is measured using the Capital Asset Pricing Model (CAPM). In fact, the majority of volumes of finance and studies (Graham and Harvey, 2001 and Ansari, 2000) indicate that the CAPM is by far the most popular method of estimating the cost of equity capital using market beta coefficient, a measure of the systematic risk. This method has the advantage of the simplicity and the existence of a rigorous conceptual base. According to the CAPM equation, the cost of equity of an asset is equal to the sum of the risk-free interest rate and a market premium adjusted by market beta. In fact, market beta measures the sensitivity of the asset's return to variation in the market return and can be interpreted as the amount of non-diversifiable risk inherent in the security relative to the risk of the market portfolio. In other words, the expected return on any asset i is the risk-free interest rate, R_f , plus a risk premium, which is the asset's market beta, β_i, times the premium per unit of beta risk, $E(R_m) - R_f$:

$$E(R_i) = R_f + \beta_i[E(R_m) - R_f]$$

$[E(R_m) - R_f]$ represents the market premium measuring the expected excess return on the market. It measures the additional return required by investors to invest in securities rather than in risk-free asset. In our study, the market return is measured by the average of the yields monthly of the French index SBF120 in 2005. This measure was also used by Ansari (2000) and Lambert et al. (2007).

- *The cost of debt (**COST_DEB**):* This cost of financing corresponds to the weighted average of the costs of long-term debt and short-term debt.

  - The cost of long-term debt is measured by the actuarial yield of debt. This rate corresponds to the actualisation rate which equalizes the emission price of the loan after expenses to the current value of the monetary flows that the company must spend (Mourgues, 1993 and Galesne, 1999).
  - The cost of short-term debt is measured by the weighted average of the effective rate of the credits whose interests are post-counted and effective rate of the credits whose interests are pre-counted. These two rates are calculated as the following equations:

$$r_e = (1 + i\% * d/360)^{365/d} - 1 \quad \text{(post-counted interests)}$$

$$r_e = [1 + (i\%*d/360) / (1- i\%*d/360)]^{365/d} - 1 \quad \text{(pre-counted interests).}$$

With; i: the nominal interest rate and d: the duration of the share or the short-term credit.

- *The average cost of capital (**AVC_CAP**):* This cost is determined by balancing the costs of the different sources of financing by their weights in the capital structure of the firm. The weights relating to each source of financing (equity capital, debt) are evaluated from the book values (Friend and Lang, 1988 and Galesne, 1999). Thus;

$$AVC\_CAP = \frac{COST\_DEB * Debt + COST\_EQ * Equity\ capital}{Debt + Equity\ capital}$$

3.2.2. *The board of directors' characteristics*

- *Board of directors' size (**BRD_SIZE**):* is measured by the number of directors in the board. This measure was used by several studies; Wen et al. (2002), Anderson et al. (2004) and Godard and Schatt (2005).

- *Board of directors' independence (**BRD_IND**)*: This variable is measured by the percentage of independent directors on the board according to the Bouton report (2002). This measure was also used by Dulewicz and Herbert (2004) and Andres et al. (2005). The director who fills the criteria indicated by the Bouton report (2002) is regarded as independent: a director is independent when he does not maintain any relation with the Company, its Group or its Direction, which can compromise the exercise of his independence of judgment.

- *The duality of the function of chief executive officer and chairman of the board (**CEO_DUA**):* This variable is measured by a dummy variable that equals one when the CEO is also the chairman of the board and zero otherwise. This measure was used by several previous researchers such as Bédard et al. (2004), Fosberg (2004) and Kula (2005).

- *Audit committee size (**AUD_SIZE**):* is measured by the number of directors in the audit committee. This measure was also used by Klein (2002a), Godard and Schatt (2004) and Bédard et al. (2004).

- *Audit committee independence (**AUD_IND**):* This variable is measured by the percentage of the independent directors, within the meaning of the Bouton report, on the audit committee. This measure was used by several previous studies such as Anderson et al. (2004) and Godard and Schatt (2004).

- *Financial motivations of external independent directors (**FIN_MOTIV**)*: This variable is measured by the percentage of capital owned by external independent directors. This measure was also used by Beasley (1996) and Dulewicz and Herbert (2004).

- *The frequency of meetings of the board of directors (**MEET_FREQ**)*: is measured by the number of board meetings per year. This measure was used by the studies of Vafeas (1999) and Andres et al. (2005).

- *The board of directors' tenure (**TENURE**)*: is measured through the average of function duration of directors in the company's board of directors. It corresponds to the sum of the number of years that the directors serve on the board divided by the number of directors. This measure was used by Anderson et al. (2004) and Dulewicz and Herbert (2004).

- *The representation of financial institutions in the board of directors (**REP_FI**)*: This variable is measured by a dummy variable that equals one when there are representatives of the financial institutions (banks, financial establishments or credit organizations) in the board of directors of the company and zero otherwise (Kroszner and Strahan, 2001).

3.2.3. *Firm characteristics*

- *Firm size (**FIRM_SIZE**)*: is measured by the natural logarithm of the book value of total assets. It is a traditional measure used also by Pearce and Zahra (1992) and Wen et al. (2002).

- *Profitability (**ROA**)*: is measured through the Return on Assets which is equal to the earning ratio before interest and taxes (EBIT) divided by total assets. This measure was also used by Reeb et al. (2001) and Wen et al. (2002).

- *Growth opportunities (**MB**)*: This variable is measured by the Market-to-Book ratio which is equal to the market value of securities (Stock Exchange prices) divided by the book value of equity. This measure was used by several previous researchers such as Fama and French (2004), and Andres et al. (2005).

- *Leverage (**LEV**)*: It is measured through the level of debt in the capital structure of the companies based on the book values, which correspond to the total financial debts divided by the total assets. It is a traditional measure of leverage used by several researchers (Agrawal and Knoeber, 1996; Wen et al., 2002 and Ashbaugh et al., 2004b).

- *Firm risk (VOLAT)*: It is measured by the volatility of securities' return which is equal to the standard deviation of monthly stock returns. This measure was also used by Anderson et al. (2004) and Mansi et al. (2006).

4. Results analysis

4.1. Descriptive Analysis

Table 1 presents the descriptive statistics. Results presented in part A of table 1 relating to the continuous variables indicate that the average cost of debt of the French companies is equal to 4,4%. This cost of financing varies between 3,04% and 5,98% with a standard deviation of 0,874. In addition, these descriptive statistics reveal that the average cost of equity capital is equal to 6,745%. Thus, the average cost of the capital, which corresponds to the weighted average of the cost of debt and the cost of equity capital, varies between 4,31% and 8,33% with an average of 5,843% and a standard deviation of 0,932.

The results presented in part A show also that the average board of directors' size is approximately 10 directors and that this size varies between 4 and 18 directors as predicted in the French trading law (Article L225-17). The examination of the board of directors' composition reveals that on average, 51,38% of directors are independents within the meaning of the Bouton report (2002) and own 0,025% of the capital of company. Moreover, these results reveal that the boards of directors of the companies selected in our sample meet at least 3 times and at most 17 times per year with an average of 8 meetings per year and show that the average tenure of the directors is equal to 7 years.

Finally and as indicated in part B of table 1 relating to the dummy variables, the separated structure; in which the functions of chief executive officer (CEO) and chairman of the board are separated, is more adopted by the French companies (55%). These results show also that only 47,13% of the French companies have representatives of financial institutions in their boards of directors.

[Insert Table 1 here]

4.2. Multivariate Analysis

In order to apprehend the effect of the board of directors' characteristics on the costs of financing by equity capital and by debt, we test the regression models (1) and (2) by integrating the control variables connected to the company size, profitability, growth opportunities, leverage and volatility in order to control their effect on the dependent variables.

$$COST\_DEB = \beta_0 + \beta_1\, BRD\_SIZE + \beta_2\, BRD\_IND + \beta_3\, CEO\_DUA + \beta_4\, AUD\_SIZE + \beta_5\, AUD\_IND + \beta_6\, FIN\_MOTIV + \beta_7\, MEET\_FREQ + \beta_8\, TENURE + \beta_9\, REP\_FI + \beta_{10}\, FIRM\_SIZE + \beta_{11}\, ROA + \beta_{12}\, LEV + \beta_{13}\, VOLAT + \varepsilon \quad (1)$$

$$COST\_EQ = \beta_0 + \beta_1\, BRD\_SIZE + \beta_2\, BRD\_IND + \beta_3\, CEO\_DUA + \beta_4\, AUD\_SIZE + \beta_5\, AUD\_IND + \beta_6\, FIN\_MOTIV + \beta_7\, MEET\_FREQ + \beta_8\, TENURE + \beta_9\, REP\_FI + \beta_{10}\, FIRM\_SIZE + \beta_{11}\, MB + \beta_{12}\, VOLAT + \varepsilon \quad (2)$$

4.2.1. *Cheeking the application assumptions of linear regression*

Owing to the fact that all the dependent variables are continuous and follow a normal distribution, we use the multiple linear regression model to estimate these two equations. However, the application of the linear regression model is subjected to several conditions. Indeed, this method requires the absence of problems of autocorrelation and heteroscedasticity of errors as well as the absence of multicollinearity between independent variables.

- *Checking of the absence of heteroscedasticity*

Being given that the problem of autocorrelation of errors does not arise for individual data (cross-section analysis), we test the possible existence of a problem of heteroscedasticity of errors. Within this framework, we used the test of White (1978). The results of this test show that there is no problem of heteroscedasticity in all the regression models used in our study.

- *Checking of the absence of multicollinearity between independent variables*

To test the absence of multicollinearity problems, we calculated the Pearson correlation coefficients between independent variables and we calculated the Variance Inflation Factor "VIF". As indicated in table 2, all the correlation coefficients are smaller than 0,8 which correspond to the limit fixed by Kennedy (1985) and from which we generally starts to have serious multicollinearity problems. Moreover, table 3 shows that any VIF does not exceed the limit of 3 what leads to conclude to the absence of any problematic multicollinearity.

[Insert Table 2 here]

4.2.2. *Multiple regression analysis results*

Analysis of results related to the effect of board of directors' characteristics on the cost of debt

The results of the linear regression model testing the effect of the board of directors' characteristics on the cost of debt show that the explanatory capacity of this model is satisfactory and significant as proved by F-statistics of Fisher of 6,99. In addition, the value of adjusted R^2 of 47,6% testifies to the quality of the adjustment compared to former studies.

The obtained results (table 3) reveal no significant effect of the board size on the cost of debt ($p = 0,896$). This result is not consistent with the hypothesis that the bigger the board's size is the lower the cost of debt is. In addition, these results show a negative and significant effect of board of directors' independence on the cost of debt showing that independent directors play a considerable role in monitoring and supervising firm management. These results highlight the importance of independent directors in the board by showing the greater the proportion of independent directors in the board is, the lower the cost of debt is.

We also note that the cost of debt is lower for firms separating the functions of head of direction (CEO) and chairman of the board. Moreover, the results of this regression model show that the cost of debt is lower as the audit committee size is larger and as the frequency of board meetings per year is more important. These results show that the audit committee size as well as the frequency of the board's meetings are regarded as factors which can limit risks and agency costs to which are exposed the shareholders and the lenders, resulting in a decrease of the cost of debt for the French companies.

However, the results are not conclusive in regards to the audit committee independence, the financial motivations of the independent directors and the board tenure. In fact, we find that each of the percentage of capital owned by the independent directors, the audit committee independence and the average function duration of the directors in the board do not have a significant effect on the cost of debt.

Moreover, the results of the first regression model show that the more there are representatives of financial institutions in the board of directors, the lower the cost of debt is, corroborating thus that the representation of these institutions in boards of the French firms provides greater managerial oversight and leads to a lower financing cost.

The control variables in this model show signs which are consistent with theories and previous studies except for profitability. Indeed, table 3 shows a negative and significant effect of the firm size on the cost of debt. In addition, the found results show that firms with high leverage are associated with more significant risks and costs of bankruptcy which result in an increase in the yield required by the lenders and bankers. Finally, we note that the firm risk measured through the volatility of stock return has a positive and significant effect on the cost of the debt of the French companies corroborating the results of previous studies.

[Insert Table 3 here]

Analysis of results related to the effect of board of directors' characteristics on the cost of equity capital

The results of the linear regression model testing the effect of the board of directors' characteristics on the cost of the equity capital show a satisfactory and significant explanatory capacity as proved by F-statistics of Fisher of 7,88. In addition, the value of the adjusted R^2 of 49% testifies the quality of the adjustment compared to the former studies.

First, we note that, contrary to the cost of debt, the board of directors' size doesn't have a significant effect on the cost of equity capital. We also note that the duality or the separation of the functions of chief executive officer and chairman of the board don't have a significant effect on the cost of equity capital.

In addition, the found results (table 3) show that the minus and statistically significant coefficients associated to variables IND_CA and IND_AUD indicate that the higher the percentage of independent directors in the board and in the audit committee is, the lower the cost of equity capital is. This result once more shows the importance of the directors' independence in the reduction of the cost of financing of the French companies.

However, the results of this model aren't conclusive as regards to the audit committee size. In fact, we find a positive effect of this variable on the cost of equity capital contrary to the theoretical predictions which stipulate a negative effect of the audit committee size on this cost of financing. These results show also no significant effect of the board of directors' meeting frequency on the cost of equity capital of French companies.

Moreover, the results of this regression model show that the higher the percentage of capital owned by the independent directors is, the lower the cost of the equity capital is. This finding once more shows the importance of the independent directors, in particular when they are implied in the capital of the company, in the reduction of its cost of capital. In addition, the found results reveal no significant effects of the expertise and experience of the directors in the board (TENURE) and the representation of the financial institutions in the board of directors on the cost of equity capital.

Finally, referring to the control variables, the results show that firms with higher growth opportunities have a greater cost of equity capital. This result is not consistent with the results of the studies of Fama and French (2004) and Ashbaugh et al. (2004a) stipulating that the better the growth opportunities are, the lower the cost of the equity capital is. In addition, the results of this regression model show that the larger the company size is, the lower the cost of equity capital is. These results reveal also a positive and significant effect of the firm risk on the cost of equity capital showing that this cost of financing is greater when the level of risk of the firm is higher.

Additional analysis: Analysis of results related to the effect of board of directors' characteristics on the average cost of capital

In this section, we test the effect of the board of directors' characteristics on the balanced average cost of capital in order to check if these characteristics have a direct and significant effect on the average cost of capital of the French companies. As showing in the results presented at table 3, it appears that the estimated model has a high explanatory power with an adjusted R^2 of 47% and a significant F-statistics of Fisher at the 1% level (F = 6,44) testifying the quality of adjustment of this model.

The results of this regression model show a negative and significant effect of the independence of both board of directors and audit committee on the average cost of capital. The minus coefficient associated to BRD_IND and AUD_IND variables confirms once again the negative and significant effect of the independence of directors on the cost of debt and the cost of equity capital showing the importance of the independence of directors in the reduction of the cost of financing of the French companies through the limitation of agency costs and risks to which stakeholders are exposed. These results show also that the average cost of capital is as lower when there are representatives of the financial institutions in the boards of directors of the French companies supporting thus the results of the first regression model showing that the cost of debt of the French companies is lower for firms having representatives of the financial institutions in their boards of directors.

In addition, we note that the other board of directors' characteristics don't have a significant effect on the balanced average cost of capital. Indeed, the negative coefficients associated to BRD_SIZE and TENURE are not statistically significant.

The coefficients associated to variables AUD_SIZE, FIN_MOTIV and MEET_FREQ are not consistent with the predicted signs and indicate that these variables don't have a direct and significant effect on the balanced average cost of capital. Moreover, the found results show also that the duality of the functions of chief executive officer and chairman of the board doesn't have a significant effect on the average cost of capital of the French companies.

In terms of the control variables, the results of this regression model show that the profitability and the volatility of stock return as a measure of firm risk have a positive and significant effect on the average cost of capital. However, the positives coefficients associated to LEV and MB are not statistically significant showing that both leverage and growth opportunities don't have a significant effect on the average cost of financing of the French companies. Finally, the negative and significant coefficient associated to FIRM_SIZE shows that the larger the firm size is, the lower the balanced average cost of capital is.

5. Summary and Conclusion

In conclusion, if we go back to the initial question of "What is the effect of the board of directors' characteristics on the financing cost, by equity capital and debt, of French companies?", the obtained results extend the previous accounting literature by showing the importance of the board of directors' characteristics, as a governance mechanism, in the determination of the costs of financing of the French companies. First, the results from these analyses indicate that the cost of capital is as lower when there are representatives of the financial institutions in the boards of directors of the French companies. These results show also a negative and significant effect of board's independence and board's meeting frequency on the cost of debt. Moreover, the found results show that the duality of the functions of chief executive officer and chairman of the board affects positively and significantly this cost of financing like the level of debt in the capital structure and the firm risk.

In addition, the results of the linear regression model testing the effect of the board of directors' characteristics on the cost of equity capital show that the board of directors' independence, the financial motivations of the independent directors and the audit committee independence have a negative and significant effect on this cost of financing. These results show also that the cost of equity capital is lower as the firm size is larger and the level of firm risk is lower.

In addition, the results related to the analysis of the effect of the board of directors' characteristics on the balanced average cost of capital show a negative and significant effect of board and audit committee independence on the average cost of financing. These results reveal also that the average cost of capital is lower when there are representatives of the financial institutions in the boards of directors of the French companies. So, if French firms would like reduce their costs of financing both by debt or by equity capital in this difficult economic situation, they will have to attach a great importance and control their governance system generally and their board of directors particularly owing to the fact that the majority of board characteristics have showed a significant effect on the financing costs.

In this framework, futures studies could, if the necessary data are available, look further into this research topic by integrating other board of directors' characteristics such as competences and qualifications of the directors, the effect of the directors' networks as well as other governance mechanisms in the explanation of the costs of financing. Finally, it would be also interesting to integrate the influence of the institutional environment differences in the explanation of the costs of financing of the companies through an international comparison.

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Appendices

Table 1: *Descriptive Analysis* ***Part A:*** **Continuous Variables**

Variables	N	Minimum	Maximum	Mean	Median	Std. dev
COST_DEB	87	3,04%	5,98%	4,40%	4,30%	0,87
COST_EQ	87	4,74%	10,87%	6,74%	6,58%	1,18
AVC_CAP	87	4,31%	8,33%	5,84%	5,83%	0,93
BRD_SIZE	87	4,00	18,00	10,44	10,00	3,73
BRD_IND	87	8,33%	100,00%	51,38%	50,00%	20,95
AUD_SIZE	87	2,00	6,00	3,55	3,00	0,89
AUD_IND	87	0,00%	100,00%	67,59%	66,67%	24,23
FIN_MOTIV	87	0,00003%	0,10326%	0,02482%	0,01044%	0,03
MEET_FREQ	87	3,00	17,00	7,97	8,00	2,81
TENURE	87	1,40	14,26	7,22	6,79	3,48
Total Assets (M€)	87	116,17	170914,93	5427,68	6941,93	5,69

FIRM_SIZE	87	8,07	11,23	9,73	9,84	0,76
ROA	87	-1,98%	28,96%	8,81%	6,82%	6,81
VOLAT	87	5,84%	87,42%	34,29%	29,24%	16,86
LEV	87	0,97%	70,30%	23,16%	20,24%	16,23
MB	87	11,72%	1559,34%	303,85%	231,25%	235,17

COST_DEB: Cost of debt
COST_EQ: Cost of equity capital
AVC_CAP: Average cost of capital
BRD_SIZE: Board of directors size
BRD_IND: Independence of the board
AUD_SIZE: Audit committee size
AUD_IND: Audit committee independence
LEV: Leverage (Total Debt / Total Assets)
FIN_MOTIV: Financial motivations (Percentage of capital owned by independent directors)
MEET_FREQ: Meeting frequency per year
TENURE: Board of directors tenure
FIRM_SIZE: Firm size (Log of Total Assets)
ROA : Return On Assets (EBIT / Total Assets)
VOLAT : Volatility of stock return
MB : Market-to-Book ratio

Table 1: *Descriptive Analysis* ***Part B: Dummy Variables***

CEO_DUA			
		Frequency	**Percentage**
Separation of fonctions	0	48	55,17%
Duality of fonctions	1	39	44,83%
REP_FI			
		Frequency	**Percentage**
No Representation of F.I. in the board	0	46	52,87%
Representation of F.I. in the board	1	41	47,13%

CEO_DUA: Duality of the functions of Chief Executive Officer (CEO) and Chairman of the board
REP_FI: Representation of Financial Institutions (F.I.) in the board of directors.

Table 2. *Correlation matrix*

Variables	BRD_SIZE	BRD_IND	CEO_DUA	AUD_SIZE	AUD_IND	FIN_MOTIV	MEET_FREQ	TENURE	REP_FI	FIRM_SIZE	ROA	LEV	VOLAT	MB
BRD_SIZE	1	-0,313** (0,003)	-0,312** (0,003)	0,187 (0,084)	-0,027 (0,807)	0,434** (0,000)	0,297** (0,005)	0,328** (0,002)	0,460** (0,000)	0,318** (0,003)	-0,334** (0,002)	0,592** (0,000)	0,065 (0,552)	0,202 (0,060)
BRD_IND		1	0,134 (0,214)	0,029 (0,789)	0,215* (0,046)	-0,152 (0,161)	0,092 (0,398)	-0,049 (0,653)	-0,279** (0,009)	-0,155 (0,151)	0,270* (0,012)	-0,457** (0,000)	-0,044 (0,687)	-0,185 (0,086)
CEO_DUA			1	-0,197 (0,067)	0,004 (0,971)	-0,238* (0,027)	-0,030 (0,781)	-0,202 (0,060)	-0,295** (0,005)	-0,384** (0,000)	-0,229* (0,033)	-0,400** (0,000)	-0,118 (0,276)	-0,185 (0,086)
AUD_SIZE				1	0,013 (0,904)	0,010 (0,926)	0,092 (0,397)	-0,200 (0,064)	-0,042 (0,697)	0.333** (0,002)	-0,166 (0,125)	0,142 (0,189)	-0,075 (0,491)	-0,081 (0,453)
AUD_IND					1	-0,047 (0,667)	0,133 (0,218)	0,088 (0,419)	-0,140 (0,197)	0,032 (0,768)	-0,038 (0,728)	-0,188 (0,082)	-0,328** (0,002)	0,044 (0,685)
FIN_MOTIV						1	0,149 (0,169)	0,355** (0,001)	0,467** (0,000)	0,298** (0,005)	-0,163 (0,132)	0,316** (0,003)	-0,059 (0,588)	0,182 (0,092)
MEET_FREQ							1	0,247* (0,021)	0,243* (0,023)	0,156 (0,148)	0,001 (0,991)	-0,012 (0,910)	-0,039 (0,722)	0,047 (0,667)
TENURE								1	0,252* (0,019)	0,211* (0,050)	-0,172 (0,112)	0,130 (0,229)	-0,043 (0,695)	0,083 (0,446)
REP_FI									1	0,305** (0,004)	-0,298** (0,005)	0,485** (0,000)	0,013 (0,908)	0,181 (0,093)
FIRM_SIZE										1	-0,381** (0,000)	0,455** (0,000)	-0,088 (0,420)	0,103 (0,343)
ROA											1	-0,450** (0,000)	-0,048 (0,659)	0,046 (0,675)
LEV												1	0,184 (0,088)	0,215* (0,045)
VOLAT													1	0,105 (0,334)
MB														1

***. Correlation significant at the 1% level*
( ) Bilateral significance
**. Correlation significant at the 5% level*

Table 3: *Results of linear regressions testing the effects of board of directors' characteristics on the financing costs of the French companies*

Dependent Variables: Financing Costs												
	COST_DEB				COST_EQ				AVC_CAP			
Variables	Predicted sign	β Coefficient	p	VIF	Predicted sign	β Coefficient	p	VIF	Predicted sign	β Coefficient	p	VIF
Intercept		0,0925***	0,000	0.000		0,0971***	0,000	0.000		0,0803***	0,000	0.000
BRD_SIZE	-	-0,00003	0,896	2,179	-	-0,00029	0,350	1,634	-	-0,00029	0,309	2,222
BRD_IND	-	-0,0101***	0,010	1,374	-	-0,0093*	0,058	1,271	-	-0,00715*	0,073	1,410
CEO_DUA	+	0,0028*	0,080	1,374	+	0,0032	0,138	1,342	+	0,00139	0,430	1,443
AUD_SIZE	-	-0,0017*	0,059	1,414	-	0,0035***	0,005	1,401	-	0,00109	0,277	1,449
AUD_IND	-	-0,0039	0,215	1,271	-	-0,0080*	0,076	1,397	-	-0,00846**	0,020	1,447
FIN_MOTIV	-	1,197	0,669	1,513	-	-6,883**	0,038	1,266	-	2,823	0,347	1,504
MEET_FREQ	-	-0,0007***	0,010	1,344	-	0,00051	0,160	1,229	-	0,00027	0,359	1,319
TENURE	-	-0,00027	0,243	1,453	-	-0,00004	0,886	1,414	-	-0,00019	0,454	1,471
REP_FI	-	-0,0037**	0,044	1,776	-	0,0031	0,189	1,623	-	-0,00415**	0,049	2,024
FIRM_SIZE	-	-0,0034***	0,006	1,701	-	-0,0045***	0,001	1,511	-	-0,00229*	0,080	1,770
ROA	-	0,0035	0,767	1,416					-	0,0292**	0,026	1,441
LEV	+	0,0161**	0,020	2,584					+	0,00167	0,813	2,433
VOLAT	+	0,00835*	0,069	1,248	+	0,0207***	0,001	1,290	+	0,01553***	0,002	1,292
MB					-	0,0012***	0,006	1,131	-	0,00025	0,469	1,199
	Adjusted R^2= 0,476 F= 6,99 p= 0,00				Adjusted R^2= 0,49 F= 7,88 p= 0,00				Adjusted R^2= 0,47 F= 6,44 p= 0,00			

***: significant at the 1% level **: significant at the 5% level *: significant at the 10% level

A TALE OF LOST CHANCES. A SHORT HISTORY OF CORPORATE GOVERNANCE AND OWNERSHIP IN ITALY

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1. Introduction

The literature available in English about the recent evolution of the Italian corporate governance system is relatively scarce. In the main journals dedicated to the corporate governance, a small number of articles deal with the Italian case[1]. Moreover, available research largely focuses on technical aspects[2] and very rarely adopts a dynamic approach to explain the evolution in the framework that in turn shapes the governance practices in use. Articles explicitly using a methodology inspired by history to examine the evolution of the Italian corporate governance system are even rarer[3]. For many reasons, however, the Italian case is worthy of attention. During the last twenty years the country has undergone a number of radical changes, both in the morphology of its industrial apparatus as well as in the institutional framework in which the economic action takes place. These transformations occurred in a framework notoriously characterised by a strong institutional and cultural rigidity. The rules and laws governing corporate behaviour and regulating financial markets dated back to the period preceding the Second World War (and the definitive maturation of the Italian economy during the 1950s and 1960s)[4], and saw little or no changes at all during the second half of the century.

Notwithstanding the changes that have occurred during the last two decades (which will be described in the following paragraphs), a considerable degree of continuity in some structural features (e.g. the persistence of individual/family ownership and control practices as well as of coalitional control; the practice of shareholders' agreements to preserve the influence of major shareholders over the company; the identification between owners and top managers) can still be detected today. When the process of institutional transformation reached its peak at the end of the Nineties, many commentators (and politicians) said the Italian system of governance, ownership and control of large firms was on the verge of a (hopefully) quick process of convergence towards the Anglo-Saxon standards of transparency, protection of minority shareholders, diffused presence of institutional investors able to exert a monitoring role over the management and an increase in the efficiency of the whole system. Apart from these expectations, this process has been occuring at a very slow pace – and according to other observers, has not taken place at all. This article through a dynamic, historical approach reconstructs the process of evolution and change in the institutional framework, and explores the reasons of this limited convergence.

2. Transformations at the turn of the millennium

At the beginning of 2000 the morphology of the Italian top corporations was deeply different from only fifteen years before, even if the country re-affirmed strongly its position among the World's most

[1] For instance, the issues of 2005, 2006 and 2007 of *Corporate Governance: an international review*, *Corporate Governance: the international journal of business in society*, *Corporate Ownership and Control* contain nine articles explicitly addressing the Italian case (plus a special issue in 2007 by this last journal). Out of these articles, only one (Corporate Governance in Italy after the 1998 Reform: What Role for Institutional Investors? by Marcello Bianchi and Luca Enriques. *Corporate Ownership & Control*, Summer 2005, Vol. 2 Issue 4, p11-31) explicitly adopts dynamic perspective, but deals with the issue of institutional investors' activism in Italy.

[2] These cases are of the articles published in the mentioned special issue on Italy by *Corporate Ownership and Control.*

[3] ,Alexander Aganin and Paolo Volpin., *The History of Corporate Ownership in Italy*. National Bureau; of Economic Research Working Paper 2004

[4] For instance, the revised version of the Commercial Code, regulating among the others the issues regarding corporate behaviour and other governance issues, was issued in 1942 (Codice Vivante). See Raffaele Teti, *Imprese, imprenditori e diritto*, In F. Amatori et. al, (eds) *L'industria*, in *Storia d'Italia, Annali 15*, Einaudi, Torino 1998.

industrialized countries (oscillating between the 7-8th position in the ranking by GNP).

Looking the top corporations, it is impossible not to note the decreased presence of the once dominant State-owned enterprise, due to one of the most intense privatisation processes in world's recent history[5]. Some of the huge state-controlled conglomerates (for instance IRI, a super-holding created during the 1930s) simply disappeared, or reduced considerably their dimension and range of activity. Even if some large, internationally active and State controlled groups (as for instance ENI and Finmeccanica) are still among the largest corporations of the country, it is no longer possible to talk of a system of State ownership in Italy in the form it took from the late Thirties to the end of the Nineties.

Another relevant issue is the transformation that occurred to those companies that were "first movers" in the sectors of the second industrial revolution. These companies started at the beginning of the 20th century in capital-intensive industries and have been able to keep a stable leadership position for almost the whole century. Some of them – e.g. Olivetti (business machines and personal computers), La Rinascente (retailing) and several others – suffered entrepreneurial and managerial failures, quickly losing their dominant position, both in the home and international market. Some others disappeared (for instance Montedison, once the second largest corporation of the country) or transformed *via* mergers and acquisitions (for instance, the case of Pirelli which in 2001 partially changed its business diversifying into telecoms, internet and services after a *de facto* takeover of the Olivetti group). Others have been taken over by foreign capital.

A second relevant point concerns the "relative size" of the Italian top corporations, which has been decreasing over time. The first in the national ranking by turnover was in 2006 the ENI group[6] (with a turnover of about 86 billion Euro), which means, in an international comparison, the 27th position among the World's largest corporations[7]. The size of the 10th (ERG, a family-controlled oil company) drops at 9.1 billion, while the 20th (Supermarkets Italiani, controlled by the Caprotti family) is nearly 5 billion. This smallness of the top corporations is mirrored by the practical absence of the Italian industrial enterprises in the international lists and rankings. According to Fortune, in 2006 there only three Italian financial or non-financial corporations (the Assicurazioni Generali, Eni and Fiat Groups) were present among the first hundred in the world by sales, while the same figure was 10 for Britain, 11 for France, 14 for Germany, to compare only with the main European countries.

Last but not least, the topic of ownership and control. Among the top 50 corporations of the country ranked by turnover, 10 still are State-controlled, 20 are foreign-owned and Italians (individuals, families, shareholders' coalitions) control 20. In the last case these companies are in general characterised by a very concentrated ownership structure (an individual, or family owning the majority of the share capital) or close control by a single shareholder, exerted mostly through devices enhancing the separation between ownership and control rights, such as pyramids. Moreover, according to recent research based upon data referring to 2003 for listed companies[8], the frequency of shareholders' agreements set up in order to increase the control over the firm's capital has been progressively increasing during the 1990s. In 1990, 10.9% of the Italian listed companies were controlled by coalitions of shareholders, a percentage jumping to a considerable 29.2% in 2003[9]. In terms of ownership distribution the main owners of listed companies were (and are today), non-financial companies, individuals, foreign companies (ranked by relevance)[10]. The importance of the State as an owner was still considerable, far more than in the main other European countries. Notably, the mentioned research concludes that little has changed from the early Nineties, when the first studies about the ownership and control of the Italian corporations were carried out, stressing the persistence of concentrated ownership and large private benefits for the main controlling shareholders[11].

3. Italian capitalism from the oil shocks to the end of the Eighties. The first chance

At the beginning of the Eighties Italian capitalism was recovering from a very difficult and problematic period. Big business was seriously damaged by the two oil shocks of the Seventies but, above all, by a transformation of the pattern of development based on low salaries and upon an unprecedented growth in consumption levels. These issues characterized the so-called "Economic Miracle" which lasted nearly fifteen years (1955-1969). As far as the financial system is concerned, the situation was complicated as well. The major corporations could no longer count on abundant internal finance for their needs, nor could they rely heavily upon the financial system, since the banks,

[5] Notwithstanding this, as will be detailed later in the paper, the Italian State still controls some companies in "strategic" industries, mainly in energy and utilities. In some cases it still owns the majority of the share capital of those "Enti Pubblici" (State Agencies) which were transformed into joint stock companies during the Nineties

[6] According to the data published by Mediobanca (see www.mbres.it)

[7] In the Fortune Global 500 ranking. See http://money.cnn.com/magazines/fortune/global500/2007/index.html

[8] Marcello Bianchi et al,, *Proprietà e controllo delle imprese in Italia*, Il Mulino, Bologna 2005

[9] Ibidem, Iab. 4.13, p. 143.

[10] Ibidem, Tab 4.15, p. 146

[11] See Marcello Bianchi et al, *Pyramidal Groups and the Separation Between Ownership and Control in* Italy, in Fabrizio Barca and Marco Becht (eds), *The Control of Corporate Europe*, Oxford UP, 2001.

after the so-called Bank Act (1936), were allowed only to grant short-term credit to the industry. Medium and long-term credit, in Italy issued by the *Istituti di credito speciale* (Special Credit Institutes), the majority of which was State controlled. Different from other successful experiences of a State controlled banking sector backing the needs of the industrial corporations – as for instance the Korean one – the credit issued by these Institutes was largely (even if not only) directed to the needs of State-owned enterprises[12]. The other potential source of finance, the Stock Exchange, was singularly weak. At the beginning of the 1980s only 138 companies were listed at the Milan Stock Exchange, compared with 450 in Germany, 535 in France, 2279 in The United Kingdom. At the same time, the ratio between Stock Exchange capitalization and the GNP in Italy of 5.2 can be compared against respectively 10.6, 6.2 and 43.3. Besides the traditional weakness of the Italian Stock Exchange (a "structural" characteristic of the Italian financial apparatus due mainly to scarce information and low degree of protection for small shareholders), in this period has also to be taken into consideration the competition by Treasury bonds which during the 1970s offered an impressive yield ratio of nearly 20%, a level in practice impossible to obtain from industrial stocks, also in presence of a double-digit inflation rate[13].

The shortage of financial capital is however not a novelty in Italy, a latecomer country which from the beginning saw a pervasive intervention of the Government in capital-intensive industries. Interventionist policies intensified at the beginning of the 1930s, when the German-style banking system was displaced by the crisis and the creation of a huge, direct system of State ownership was necessary to grant the persistence of modern companies in the sectors of the second industrial revolution.

However, nor the State - whose public officials in leadership position in State controlled joint stock companies acted frequently as representatives of the political parties[14] - neither the banking system (which could not by law perform a monitoring role) could ensure an efficient degree of control and protection for minority shareholders.

During the Eighties

This situation started to change considerably during the following decade. The years between 1983 and 1987 saw considerable growth in the Italian financial market. This growth was fostered by favourable general economic conditions, political stability, a restrictive monetary policy that reduced the inflation rate, and above all restructuring of the main industrial groups, obtained through technological improvement, refocusing and internationalization[15]. During the 1980s the Stock Market capitalization increased considerably (from 9.2 in 1980 to 20% in 1989 – with a peak of more than 22% in 1986)[16].

At the same time, this process was accompanied by complimentary changes in the structure of the corporate finance system. The main industrial groups were able to reduce their indebtedness thanks to the restructuring process - strengthened by a positive economic cycle - and in 1983 mutual funds were authorized to operate in Italy. The most evident consequence was on the "stagnant" stock market, the number of companies listed on the Milan Stock Exchange rose from 138 in 1982 to 211 six years later (+52%). The ratio of Stock Exchange capitalization and GNP more than tripled, from 5.2 to 16.3, although the number of listed companies remained relatively small in comparison with that of other advanced economies. This effervescence acted as an incentive for the main industrial groups to collect new resources through the stock market. At the peak of this process, in 1987, the top nine industrial holdings, both private and State-owned accounted for nearly the all of stock market capitalization; IFI-Fiat nearly 30%, the Generali group (insurance) about 19%, Ferruzzi-Montedison (chemicals) 16%, and Olivetti about 10%.

The largest corporations exploited the opportunities of this favourable situation in two ways. The first was to increase the number of subsidiaries listed on the stock exchange - usually one or two financial sub-holdings were listed together with other industrial companies[17]. The second was to directly

[12] In part, the funds provided by these Istituti di Credito Speciale financed the expansion of some private groups in the chemical industry. These groups received State subsidies and fundings in order to make new investments in depressed areas in order to create new jobs. The result of this policy was instead to increase the inefficiency of the whole industry due to an excess of production capacity. See Fulvio Coltorti "Note sulle modificazioni della struttura finanziaria delle imprese italiane negli ultimi venti anni", in Banca d'Italia (ed.), *Ristrutturazione economica e finanziaria delle imprese*, Rome, Banca d'Italia 1988

[13] By the end of the Seventies, the liabilities of the Italian industrial system were comprised 75.2% by loans from the banking system, 8.3% of bonds and 16.5% of risk capital (stocks). This situation was mirrored by the composition of the private portfolios of individuals, consisting in 84.3% in bank deposits, 14.9% in bonds (above all Treasury bonds) and only 0.8% by stocks. About the inflation rate, which during the Seventies even approached an impressive 20%, see Giovanni Balcet, *L'economia italiana. Evoluzione, problemi, paradossi*, Feltrinelli, Milano 1997.

[14] Franco Amatori *Between State and Market : Italy, the futile search for a third way*, in Pier Angelo Toninelli (ed.) *Rise and Fall of State Owned Enterprise in the Western World*, Cambridge U.P., Cambridge 2000

[15] See Francesco Brioschi et al, *Gruppi di imprese e mercato finanziario*, NIS, Roma 1992; Graziella Fornengo and Francesco Silva (eds.), *Strategie di crescita dei grandi gruppi italiani (1976-1985)*, Angeli, Milano 1993

[16] Source: www.borsaitalia.it

[17] Particularly interesting although not unique is the case of the De Benedetti group. In 1985, to finance expansion (also international) huge resources were necessary and the strategy was to raise the money from the stock market by means of nearly all the listed companies belonging to the

increase the capital of the company through the issue of new shares. In these cases, however, an analysis of the composition of the new issues by share category shows beyond any doubt the prevalence of share typologies with limited voting rights in favour of dividend or cash rights (preferred privileged or “savings” stocks). The result was that at the end of 1988 the shares with limited voting rights represented nearly the 23% of the share capital of the companies listed at the MSE, contrasted with a ratio of little more than 4% less than a decade before[18].

Apart from the increasing relevance of shares with limited-voting rights the increase in the stock market activity brought little to no change in the way in which the companies were governed, or to the way relationships with the shareholders were structured.

By the end of the Eighties, the creation of pyramidal structures made up of holdings and sub-holdings able to gather financial resources in the market (with a very limited loss of control by the main shareholders thanks to the instruments described above) led to a situation in which the main shareholders, usually also inside directors (managers and members of the board), could control their corporation with a very small direct investment of their capital and with a low risk of hostile takeovers. At the beginning of the Nineties, as mentioned above, exhaustive research carried on by the Bank of Italy stressed the persistence, in Italian industrial capitalism, defined the Italian as a model of corporate control based upon pyramidal groups, in general family-controlled, and upon coalitions[19]. In sum, the considerable growth in market finance and in the relevance of institutional investors and above all of the stock exchange was – in this period - not followed by a transformation of the models of ownership and control of the major corporations, nor by the diffusion of the *public company* as an alternative model of control.

The direct outcome of this situation was, as in the past, that the control by the largest shareholders upon the whole group was hardly contestable, with a very scarce degree of protection for minority shareholders. In this framework, the number of hostile takeovers, as can be expected, remained relatively low. Cross-shareholdings, interlockings and alliances among the main industrial groups continued the development of the dense web of mutual relationships that for decades has existed among the largest Italian companies[20].

One of the main proponents of this strategy was Mediobanca, a merchant bank founded at the end of World War II, formally controlled by the three (at that time) largest banks of the country (Banca Commerciale Italiana, Credito Italiano and Banco di Roma). It was *de facto* autonomous and under the strong leadership of a very talented banker, Enrico Cuccia. From the Seventies onwards, Mediobanca progressively put itself in the centre of a cross shareholdings network and shareholder agreements among the main industrial groups of the country. The final result was that the largest groups of the country aggregated themselves around the influential financial institution. The bank acted not only as a consultant and as a reliable merchant bank, in charge of the allocation of bonds and shares in the market, but it also set up - and authoritatively managed - a protective system of cross shareholdings, as in a giant Japanese-style *keiretsu*. Mediobanca also played a relevant role of supervision of the potential asymmetric relationship between minority and majority shareholders – managers. In several cases it was in fact the bank itself that managed the turnover of the top executives (even when they were the controlling shareowners) in the case of inadequacy or mismanagement. To some extent, it is correct to say that for a long period a large proportion of potential and real agency conflicts among large and minority shareholders were limited thanks to the presence of this peculiar “watchdog” whose authority was for a long period not easily possible to question[21].

group. At the end of the process in 1987, the structure of the group was made up by a very complex pyramid, at the top of which was a holding, COFIDE, listed but directly controlled (47% of the capital) by Carlo De Benedetti. COFIDE controlled (with nearly 35% of its shares) CIR, another listed sub holding controlling five (listed) sub-sub holdings (Buitoni, Sabaudia, Olivetti, Sasib and Sogefi). AS such, the leadership represented by the De Benedetti family was able to raise a considerable amount of financial capital without losing control of the group, since the funds were managed primarily by employing instruments allowed by the Italian law granting the control over the voting capital, e.g. the issuing of non-voting preference shares without voting rights. This behaviour followed by nearly all the majors of the country. The resources were employed by the COFIDE’s top management to finance the internationalization of the group and primarily in the (unsuccessful) takeover of the Société Génerale de Belgique in 1988.

18 Ibidem, Tab 5.1, p. 159, and Coltorti, “Note..” pp. 623-4

19 F. Barca, et al, *Assetti proprietari e mercato delle imprese*, Il Mulino, Bologna 1994, Vol. I, *Proprietà, modelli di controllo e riallocazione nelle imprese industriali italiane*, Ch. 1.

20 Franco Amatori and Francesco Brioschi, *Le grandi imprese private. Famiglie e coalizioni*, in Fabrizio Barca (ed.), *Storia del capitalismo itaiano dal dopoguerra ad oggi*, Donzelli, Roma 1997. Unfortunately, the literature available in English about this topici s scarce, especially in an historical perspective. See for instance Alberto Rinaldi, *Entrepreneurs and managers (1913-1972),* in Renato Giannetti and Michelangelo Vasta (eds.), *Evolution of Italian Enterprises in the 20th Century,* Physica-Verlag, Heidelberg 2006, ch. 9.

21 This attitude is represented in a famous – even if never verified as effectively pronounced – sentence by Enrico Cuccia himself. Once told that the proportion of the shares owned by Mediobanca in the main industrial groups did not justify the Bank’s real influence, he replied that “one has not to count the number of shares, but to take into account their *weight*”, meaning with this sentence exactly that major, controlling shareowners’ power was “obviously” to exceed the pure number of votes given the fact that they granted the

The presence of mutual funds was not, on the other hand, the starting point of a new governance model based upon the activism of institutional investors and/or financial institutions. In several cases the management of the funds followed an unwritten rule of abstention indirectly reinforcing the power of the main shareholders. Sometimes a fund belonged to the same group of the companies of which it was a shareholder. In these cases the funds' management supported the main shareholders[22]. The situation was aggravated by the fact that as far as pension funds are considered, the Italian retirement system has traditionally been a redistributive one. A State Agency (INPS, Istituto Nazionale della Previdenza Sociale) directly collected the money from the workers' wages to pay retirement fees. As such, the large amount of funds coming from the workers' wages was kept away from the capital market, and a relevant category of institutional investors, the funds – which elsewhere exerted a relevant monitoring and active role – banned from the Italian stock market.

A the beginning of the Nineties, notwithstanding the considerable development of Italian financial and stock markets, the situation was not too different from that described in the first part of this paper. In 1990 220 companies were listed to the Milan Stock Exchange compared to 649 in Germany, 443 in France and nearly 2000 in Great Britain. There were only 4 new listings, compared to 28 in Germany, 15 in France, 65 in Great Britain, the ratio between total stock value and GNP was 15.7 in Italy compared to 26.8 in Germany, 33.6 in France and 98.5 in Great Britain.

The market for corporate control was extremely reduced, if not totally absent, the control exerted by the main shareholders was contestable, and as mentioned above, that until 1992 when The Bill of 1936 was repealed, banks were not allowed to behave as German-style universal banks.

One major consequence of this situation was the enduring persistence of the institutional framework characterized by a very low degree of protection for minority shareholders due to the difficult enforcement of fiduciary duties of directors and inefficient takeover rules. Apart from the noticeable exception of Mediobanca, the banking system, in its turn, was still not able to exert a monitoring role as in Germany, and, even if to a different extent, in Japan. In brief, even with the presence of some typical characteristics of "European-style capitalism" in Italy, there were also notable differences from the Anglo-Saxon or German models. Specifically regarding the issue of agency problems and protection of minorities, the Italian system was different both from the German one, given the absence of general monitoring exerted by financial institutions and from the Anglo-Saxon one, considering the absence of an efficient market for corporate control and active – or potentially active – institutional investors. Majority shareholders, in general members also of the top-management – were not accustomed to confrontations with other stakeholders, shareholders agencies or watchdogs, an attitude which was to persist over time.

Not surprisingly, after some years of effervescence and after some managerial failures which resulted in huge losses for minorities[23], the trend in the stock market capitalization declined (even if not at the same level of the early Eighties), and the boom came to an end at the very beginning of the Nineties, due also to the negative global economic cycle.

continuity in the (sometimes very difficult) management of the company.

[22] This happened for instance in 1989 when the mutual funds belonging to the Fininvest group of Silvio Berlusconi controlled 1% of the capital of Mondadori, a publisher that Berlusconi was trying to take over against Carlo De Benedetti, another tycoon controlling at that time the Olivetti group. There was a clear, potential conflict of interest between the interest of the main shareholder, the Berlusconi family, trying to use the funds to maintain control over Mondadori, and that of the funds' underwriters, interested in maximizing their immediate returns. This situation limited in a very serious way the control of the market over the resources allocation and the returns distribution.

[23] See for instance the case of the attempted takeover by the De Benedetti group to the Société Generale de Belgique at the end of the Eighties or the one by Pirelli to Continental at the beginning of the Nineties.

Table 1. Ownership structure of listed companies (%), early Nineties

	United States	Japan	Germany	Italy	UK
Financial Institutions	39.8	47.0	19.5	13.9	60.8
of which :					
Banks	0.3	25.2	8.9	10.9	0.9
Insurance Companies	5.2	17.3	10.6	0.8	18.4
Pension Funds	24.8	0.9	--	--	30.4
Others (Mutual Funds)	9.5	3.6	--	2.2	11.1
Non Financial Institutions	53.5	48.8	62.8	81.8	26.9
of which :					
Non Financial Companies	--	25.1	39.2	21.6	27.3
Government	--	0.6	6.8	28.0	2.0
Families/Individuals	53.5	23.1	16.8	32.2	21.3
Foreign property	6.7	4.2	17.7	4.3	12.3
Total	100.0	100.0	100.0	100.0	100.0

Source: Bianco and Casavola 1996: 431

3. The "cool revolution" of the Nineties

At the beginning of the Nineties the decline of the Italian State-owned enterprise system reached its lowest level. The close relationship between the political system and the State-owned enterprises by means of the Ministry of State Shareholdings, created in 1956, became the framework in which almost all the decision concerning the strategies of investment and growth took place – affecting seriously the competitiveness of the enterprises themselves[24].

In the same period the Italian State faced one of the most serious financial crises in its history. In 1992 the ratio between public debt (exceeding 800 billion Euros) and GNP reached 1.11 (1.23 in 1994) and the Italian Government was no longer able to assure the stability of the currency which was devaluated; in 1993 GNP decreased. The Prime Minister, at the time, the Socialist Giuliano Amato, drafted an "emergency plan" containing, among other programs, a program of privatisations which, to be effective, implied the creation of a complex and completely new legislative framework[25]. The huge losses of the many of the State-controlled firms were regularly compensated by the State, and hence a privatisation program was necessary to comply with the EU legislation concerning the competition policies inside the Union itself, and particularly the form of "State-aids".

Despite serious political obstacles the program was implemented. In 1994 with the introduction of "Law 474", a number of rules including some important corporate governance issues (for instance the limitation up to the 5% of the total capital for the single investor and the possibility for the Treasury to choose a *noyau dur*) were established. The privatisation process was successful in terms of returns: according to the data provided by the Treasury Ministry, from 1992 to 2001 the total earnings of the privatization process amounted up to about 112 billion Euros, among the highest in the world. The privatisation of Telecom Italia in 1997 was also the world's largest that year, reaching nearly 20 billion Euros.

The influence of the privatisation process on the Italian corporate governance system has been considerable. The way in which the privatisations in Italy were managed was, as mentioned above, different in terms of both dimension and the nature of the enterprise to be privatised from the methods followed in France and Britain. There were IPOs (in the case of IMI, a institute in charge of providing long and medium term credit, and INA, the National Insurance Institute), private contracts (e.g. in the case of Terni and Ilva Steelworks), public auction, or a mix between

[24] Amatori, *Between State and Politics.*
[25] *Legislative framework for the privatization process*

Law	Subject
Law 359/1992	Transforming the main State holdings into stock companies and conferring the shares to the Treasury
December 1992; Reorganization Plan for IRI, ENI, ENEL, IMI, BNL, INA	Definition of the strategic goals and selling policies
Decree 174/1993	Elimination of the Ministry for State Shareholdings
Law 474/1994	Fixing the rules for the sale of the State's shareholdings; introducing the principle of the golden share; subordinating the privatization of public utilities to the creation of Independent Authorities
Law 481/1995	Creating the Electric Energy Authority and the Telecommunications Agency

IPOs, offers for sale (OFS) and private contracts (especially in the case of the privatisation of former State monopolies – for instance, in the case of Telecom Italia).

Apart from the structure of the process, the strategy of creation of public companies *via* IPOs introduced for the first time and on large scale the problems of the accountability of management and corporate control, and potential discontinuities of the tradition of concentrated ownership. Moreover, this strategy implied a process of revision (and creation) of the rules governing the financial markets. This was an important step in the long-standing debate concerning the introduction of a modern system of industrial democracy in Italy which had been on going since the at least the fifties.

The improvement in the efficiency of the financial markets was pursued in two directions strictly linked each other. On the one side, it was necessary to increase market transparency by means of a set of rules ranging from the disclosure and regulation of shareholders' agreements to the protection of small shareholders, in this following the European regulation. On the other, the enlargement of the dimensions of the stock and financial markets became the primary goal. For the second time in a few years a favourable set of conditions emerged which could foster the convergence of the corporate ownership structures and governance practices towards higher standards.

Even though the Italian Stock Exchange - as explained above - maintained a low profile compared to other European countries, it is worth stressing the fact that its rate of growth was again, during the second half of the Nineties, among the highest in the world (Financial Times 1999). From 1992 up to 1999 market capitalization jumped from 11.5% of GNP to 62.1%; during 1998 the Milan Stock Exchange (MSE) grew more than 40%, twice the world's and Europe's averages.

The enlargement of the securities market was also due to two relevant forces, the slowdown of the public debt and the subsequent falling yield ratios of Treasury Bonds, together with a favourable fiscal policy that channelled a larger proportion of the private savings towards mutual funds[26].

Another relevant transformation involved the banking system. In 1990, the new Banking Act was passed by Parliament after a long debate. The law was a revision of the fore mentioned 1936 Bill: the first step was the transformation of the main banks, which were still under the control of the State, into joint stock companies. In 1992 following the EU legislation (Second EU Directive) the banks were allowed to invest in stocks, while in 1994 a consolidation act was passed allowing the banks to buy stocks but not exceeding (with only some exceptions) 15% of the bank's capital. The evolution of the banking system went systematically together with the privatisation of the main State-controlled banks, started in 1993. While the main banks begun to be present in stock ownership of industrial corporations, the most important industrial groups of the country did the same by buying shares of the banks. In addition to the revival in the stock market, these changes introduced - at least in theory - the possibility for the banking system to exert a positive monitoring role over the boards of the firms of which they were going to buy the shares.

The Corporate Law Reform

The previously held philosophy that favoured stability of control over the protection of small stakeholders (which resulted in the privatisation of the main state owned enterprises and created the small stable *noyaux durs*) was no longer consistent with the new political, economic and financial situation at the end of the Nineties. A number of different forces pushed, after several decades, towards a reform of Italian corporate law. Even though the stock exchange was steadily growing, both in terms of market capitalization and in number of listed companies, it was evident that the sustainability of the process depended on the possibility of involving foreign institutional investors. This in turn developed from the presence of strong and effective anti-director (in the Italian case, also controlling shareholders) rights, which at the end of the Nineties were remarkably low compared to the rest of the large European economies[27].

It s interesting to note how the reform of corporate law – one of the potentially most important reforms in the post-war economic period - was not designed by the Parliament but by an official of the Treasury Ministry, an MIT-trained economist Mario Draghi. At the beginning of the 1998 the so-called Legge Draghi (Draghi Law) became effective, the aim of the Bill was to improve the protection for minority shareholders in general enhancing disclosure. This improved protection would come by means of restrictive regulation of shareholder agreements - they had to be disclosed and in case of takeover bids, they were no longer going to be valid. Additionally restrictive regulation of takeover bids - a stake exceeding 30% of the capital compelled to extend the takeover bid on the whole capital. The law did not introduce a new structure of the Boards (that of Directors and that of the Auditors). Significantly, however, a representative of the minority shareholders had to be appointed to the board of the auditors, which should strengthen its role of supervision upon the management's activity.

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[26] The percentage of mutual funds among the family's financial holdings rose from 2.5% in 1990 up to 10.2 in 1997, while in 1998 the properties of mutual funds reached nearly 10% of the whole stock market capitalization.

[27] See Franklin Allen, Laura Bartiloro and Oskar Kowalewski, *The Financial System of the EU 25*, June 2005, MPRA Paper No. 652, Online at http:// mpra.ub.uni-muenchen.de/ 652/, Figure 4.

Agencies and Authorities

The privatisation process had not only a considerable effect upon the structure of the financial markets and upon the corporate governance of the Italian enterprises. It also opened the political issue of the creation of independent agencies and authorities with the aim to control enterprises and markets, especially concerning public utilities. The creation of the Antitrust Authority (*Autorità garante della concorrenza e del mercato*) dates back to the 1990, followed during the Nineties by other agencies such as the Energy Authority created in response to the liberalization of the market. In the perspective of this paper, however, an important role is played by Consob (*Commissione Nazionale per le Società e per la Borsa - National Commission for Quoted Companies and the Stock Exchange*), the authority created in the mid-Seventies (1974) but *de facto* effective from the mid-Eighties, with a monitoring role over the listed companies (especially under the perspective of disclosure and transparency). With the reforms introduced by the *Legge Draghi* the Consob gained considerable power. The new consolidation act on finance gave Consob the responsibility of granting market transparency and the necessary information to avoid insider trading and mismatching, even though often its sometimes ambiguous behaviour is criticized.

At the end of 1999, a committee formed by experts issued the first version *Codice di Autodisciplina* (Self-issued Best Practice Code) for the listed companies[28]. In this case, the monitoring role over the companies' behaviour was given to the Stock Exchange itself[29].

5. The outcome at the beginning of the new millennium. Convergence lost between contingency and structure

It is not easy to evaluate the outcome of this tormented and articulated process. From the point of view of the history of corporate ownership and governance, that is, a long term perspective, the transformations occurred have been undoubtedly considerable, especially if one takes into account the obstacles provided by rent-protection behaviour and path dependence.

After decades during which the governance patterns and ownership structures were clearly defined and dominated by a very low degree of transparency and the separation of ownership and control, in a relatively short period the Italian policymakers successfully set up an ambitious privatisation process. They created and revitalized a number of Authorities and Agencies, issued new rules and new corporate law. They managed to dismantle the State monopolies, and keep the process moving in an unstable political framework. The reforms in the corporate governance of Italian large corporations were necessary in order to sustain the growth of the stock exchange and to make the Italian market attractive for the foreign institutional investors.

The majority of these goals have been undoubtedly successfully achieved. As is for other European countries, Italy now has a reasonable set of institutions regulating its financial market, useful tools to stimulate the growth of a number of public companies in the capital, technology and research intensive industries. According to the data available, the domestic stock market capitalization has more than doubled as percent of GDP, between 1995 and 2005, from 19 to 47%. During the same period, the total value of the equities traded as percent of GDP passed from 8% to 103%[30].

However, if one looks at some other indicators, the final outcome of this process appears to be far less effective than the efforts undertaken in order to achieve it. One simple indicator is quite telling: the total of assets under management by pension funds (as per cent of GNP) was 0.5 in 1995 and still less than 1% ten years later, while the same ratio, with reference to mutual funds is slightly less than 20%. The picture is even more puzzling if one looks at the structure of corporate ownership, both of listed and private large companies. The most important private corporations are still controlled and managed by individuals and/or families. At a glance, out of the top 20 national, non State-controlled and non foreign-controlled among the top 50 Italian corporations only one (Parmalat) can, after its bankruptcy in 2003, be considered a true public company with a widespread shareholders constituency. Obviously, considerations may vary according to the size and typology of the companies considered. As far as the listed companies included in the Top 30 Mediobanca Stock Index are considered, between 1995 and 2007, the transformations appear to be relevant, although not outstanding. According to these data, the total percentage of the controlling stakes on the total market capitalization of the 30 companies included in the index has declined, from 53.5% to 36.2%. The main "loser" in terms of ownership has obviously been the State, whose weight in controlling stakes declined from 70% to nearly 40% (which is nonetheless a considerable level). The banking system has not strengthened its position as a main shareholder, while families, other companies and foreign investors – in the sense of foreign direct investments – have increased their controlling stakes, in some cases considerably. Families, for instance, have increased from around 10% in 1995 to 15% in 2007, and foreign companies from 7.4% to 14.3%. As such, 30% of the controlling stakes "lost" by the State during the privatisation process have been more or less

[28] Unfortunately, not without interest conflicts. 17 out of the 22 members of the Commission were directly or indirectly involved in the companies which were to be regulated by the Code.

[29] For the last version of this code, see http://www.borsaitaliana.it/documenti/regolamenti/corporategovernance/corporategovernance.en.htm. Previous versions can be found in the same webpage.

[30] See footnote 16

equally divided among the market (+ 13.5%), and the other categories of controlling shareholders historically present in Italy: families/individuals, other companies (i.e., groups), and foreign investors. Apart from the State, families persist as the most important category of controlling shareholders, both in listed and non-listed companies. One issue that has not deeply investigated by the current literature is what extent the privatisation process in Italy has strengthened the privately owned, family-controlled groups. Groups controlled by families, such as the Barilla, Benetton, Caltagirone, Marcegaglia, Riva and a few others have enlarged their dimensions acquiring a considerable number of large, but also middle-size companies formerly controlled by the State. Nonetheless, the largest benefit had gone to multinational companies, which have been the most important buyers in terms of number of deals.

According to a more recent analysis, and to all the available sources, the privatisation process has progressively slowed down from the beginning of the new millennium[31], no clear strategy or programs have been presented by the last governments. A recent, and relatively symptomatic, event is the decision to privatize Alitalia, only after it the impossibility for the State to rescue the loss-making airline flag-carrier became clear due to the strong opposition of the EU.

What makes the Italian case interesting is when the issue of convergence is considered - the fact that the delay in the process was not only due to the persistence of strong institutional path dependence, or rent-seeking and opportunistic behaviour by the controlling groups. However, another - maybe even more relevant issue is the "structural" issue. The delay of the convergence process is derived from the intimate structure of the Italian capitalism. The crisis of the large corporations in the capital intensive industries at the beginning of the new millennium has left (together with the small firms active in the traditional, labour intensive industries) a cohort of middle-sized (with total sales ranging –roughly - from 10 million to 300 million Euros), internationalized players able to dominate worldwide in specialized niches (from machine tools, to chemicals, building materials and special steels). These companies – the majority of which is located in local production systems like the industrial districts - represent, at the moment, the most dynamic section of the Italian industrial capitalism, showing not negligible rates of growth of sales and exports[32]. During the last few years some of these companies actively took part in the privatisation process taking over significant sections of the formerly State-owned corporations.

Notwithstanding their dynamism, as far as ownership and organizational structures are considered these firms do not seem to provide an alternative model of governance from the traditional, based upon the identification between ownership and control and upon a strong "familist" culture. Significantly, few of these companies are listed and those that are, floated the minimum percentage of capital allowed. In general not more than the 30-40% of the whole share capital, which is still in the hands of the founders and of their families. The relative smallness of these companies and groups, together with their high levels of profitability enable controlling families to provide the necessary managerial resources, keeping their controlling power intact.

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Italy has in sum, after a long and tormented process of institutional building, important regulatory institutions and modern corporate governance standards, coupled with the instruments (agencies and laws) to enforce them. However, there seems to be a sort of *mismatching* between the evolution of the institutions governing the Italian capitalism and the real economy. The regulatory institutions were updated exactly when the structure of the economic system was converging towards the small and medium dimension, which also in the future will presumably be dominated by the family ownership. It should be an interesting (but probably not too useful) exercise of counterfactual history to imagine what should have been the evolution of the Italian industry in presence of an effective regulatory system. This would in turn sustain an efficient Stock Exchange and an efficacious market for corporate control, providing the necessary financial resources to the capital and technology intensive industries of the third industrial revolution.

[31] Emilio Barucci, Federico Pierobon, *Le privatizzazioni in Italia*, Carocci, Roma 2007; www.privatizationbarometer.net

[32] See in this respect Mediobanca-Unioncamere, *Le medie imprese industriali italiane, 1996-2005)*, Milano 2006, available on-line (in Italian), at http://www.mbres.it/ita/mb_pubblicazioni/imprese.htm#. Profitability and other financial data of Italian medium-size enterprises (a san aggregate) in comparison with the large Italian corporations and the foreign-controlled ones are available at http://www.mbres.it/ita/download/rs_Quarto_Capitalismo_1997_2006.pdf

CORPORATE SOCIAL RESPONSIBILITY AND INNOVATION IN EUROPEAN COMPANIES. AN EMPIRICAL RESEARCH

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Abstract

A growing number of European corporations now realize that their corporate goals are compatible with sustainability. Each corporation must strengthen corporate governance on condition that they focus on corporate social responsibility (CSR). These may constitute a strategic instrument, focused on improving the corporate reputation and image, or be aimed at the better management of available resources, among other possibilities. The latter aspect is examined in the present study. Adopting CSR principles involves taking into account environmental, economic and social factors, from an ethical viewpoint. In this paper, we suggest that such questions should be addressed with innovation in mind. CSR practices can require investments in innovation, and we examine whether the adoption of responsibility-oriented policies constitutes a strategic decision that may explain investment in research and development. The sample obtained is made up of data from 95 European corporations examined for the period 1998-2006. We identify a relation between R&D expenditure and practices of CSR.

KEYWORDS: Corporate governance, Corporate Social Responsibility, Innovation, R&D Expenditure, Resource Based View, Strategy

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Introduction

In recent decades, the scope of corporate goals has expanded. Among other factors, this is due to the increased acceptance of the concept of sustainable development[1] in business culture. Sustainability now forms part of corporates' goals, and resources are increasingly managed in accordance with standards of social responsibility. For some, the field of sustainable development represents the greatest range of business opportunities currently available. This concept involves and promotes economic success, environmental quality and social responsibility (Hedstrom et al., 1998; Bansal, 2005). A greater recognition of a direct and inescapable relationship between sustainable development, corporate governance and corporate responsibility is also emerging, with mainstream investors showing increased interest in socially responsible business (Ingley, 2008).

Corporate governance is a system designed to ensure sustained corporate growth and development, proper decision-making on management policies based on the implementation of more efficient and better management, and the appropriate supervision, evaluation and motivation of corporate executives in the execution of their businesses (Japan Association of Corporate Executives, 2003:50). There are two requirements that must be met if a corporation is to fulfill its social responsibility while also improving its competitive position. Each corporation has to strengthen corporate governance on condition that they focus on corporate social responsibility (CSR). Corporate governance today is regarded as a system designed to promote CSR and to ensure sustained corporate growth and development (Kurihama, 2007:111). It is important that each corporation establishes the system of corporate governance designed to ensure the implementation of CSR which function effectively regardless of the style of corporate governance structure. CSR and corporate governance are related and have acquired an important place in the hierarchy of business and society concepts (Fassin and Van Rossem, 2009).

The incorporation of CSR criteria as a value-creating element represents a change of philosophy within corporations. In the present study, we examine the concept of CSR in the sense of the kind of behaviour and ethical practices adopted by a corporation in response to market forces or legal constraints and arising from its ethical sensibility (Carroll, 1999). We understand CSR as embodying a series of processes (Wartick and Cochran, 1985) that may be studied at the organizational level (Wood, 1991), and by which corporations are responsible for outcomes related to their primary and secondary areas of involvement with society, that is, in relation to their activity and to the impact it has. The present study is oriented towards measuring the effects of initiatives taken in the field of CSR (Carroll, 1999). We consider the adoption of CSR policies to be a cultural and philosophical change in a corporate culture, involving the introduction of ethical criteria that will have an effect on its business practices and policies.

In this case, activities, organizational structures, processes and products must be suited to the CSR philosophy, and so the implementation of CSR policies might mean that innovation is required (Castelo and Lima, 2006:121; Slowinski et al., 1997). The term innovation, in this context, refers to changes made in the technology applied. These concepts suppose strategic decisions and usually depend of the board.

The innovation carried out by firms has been studied from diverse standpoints, and may be driven by different business goals. Earlier studies have implicitly considered that investment in innovation is related to CSR (Lopez et al., 2007b; McWilliams and Siegel, 2001) but no in-depth analysis of this question has yet been made. The general domains of CSR and innovation are frequently overlapped. However, linking the overall concept of CSR with the overall concept of innovation is not easy (MacGregor and Fontradona, 2008). In this paper we aim to establish a relation between these concepts. We can find some prior studies that studies this issue from different standpoints (Pavelin and Porter, 2007; Halme and Laurila, 2008). Thus, it is a fact the importance and novelty of this issue but the nature of the relationship and its influence over competitiveness is unclear (Mackey et al., 2007; Van De Ven and Jeurissen, 2005). We think the resource-based view is an adequate approach of study of this issue. At present, many corporations are making great efforts in the field of innovation. This could be a 'blind' innovation, i.e. one seeking exclusively immediate utility and profit, in response to demand conditions, growth or with a view to controlling the market. However, for corporations which have adopted CSR strategies, the innovation developed might take CSR priorities into consideration. It is this possibility that is studied in the present paper. The present study describes an empirical implementation, in which we analyze an intangible resource, innovation, to which CSR strategies could be applied. Generally no explanation is attempted to the relation between CSR and this concept of innovation; nevertheless, we believe this aspect is highly important, and that it requires an in-depth study, as is made in the present paper.

CORPORATE SOCIAL RESPONSIBILITY AND R&D EXPENDITURE

CSR has been studied from numerous theoretical standpoints (McWilliams et al., 2006); for example, from the perspective of stakeholders, we abandon the narrow view of classical economic theory[2] and develop corporate strategies that include objectives that go beyond maximizing shareholders' returns (Freeman, 1984). CSR can also be observed in terms of the theory of legitimation (Lindblom, 1994) or via the resource-based view (Wernerfelt, 1984). According to the latter, it is foreseeable that CSR criteria will influence boards' decisions and actions. Therefore, the concept of CSR provides a useful standpoint from which to study business decision-making. From a resource-based view, we analyze whether the adoption of a given strategy option influences the use made of resources (Castelo and Lima, 2006), referring in the present case to R&D expenditure.

The adoption of CSR practices contributes to generating opportunities of various types, and includes avoiding the threats to growth caused by operational restrictions, and achieving greater success by means of new products and new technologies (Hedstrom et al., 1998). Costs may be reduced, risks diminished, sales expanded or market share increased, by means of product innovation (Hart and Milstein, 2003) and by ensuring that customers are fully aware of CSR characteristics (McWilliams and Siegel, 2001). McWilliams and Siegel (2001), from a theoretical point of view, established that differentiation achieved via CSR may require investment in R&D. Thus, analysis of corporation innovation can be studied in the light of CSR-oriented practices. Usually the concept of innovation relates to CSR has been put special emphasis on developing new business models for solving social and environmental problems (Halme and Laurila, 2008) but the idea of innovation in this paper refers to changes in the technology applied.

R&D expenditure and CSR may be related because, according to Bansal (2005), firms must apply principles of corporate responsibility to their products, productive processes and practices that require changes in the technology applied, which may involve expenditure on R&D. The philosophy of CSR may mean that firms can evolve from the adoption of measures for self protection, in an initial stage, to redesigning their activities and implementing new technologies in subsequent phases (Bansal, 2002). The measures adopted may lead to more efficient energy use and to a reduction in the consumption of materials (Bansal, 2002). Actions taken in accordance with CSR criteria may involve changes in products, for safety reasons, or improvements in the materials utilized and the type of product, especially if they are perceived to be harmful, or in processes, for example, by reducing environmental impact, influencing safety and promoting recycling. CSR can sometimes even lead to a redirectioning of the corporation's whole lines of activity in order to adapt it to a new form of business culture. Subsequently, some firms evolve further and implement radical changes, going so far as to totally reorient their activities.

Most of previous papers on CSR in which the question of innovation has been addressed have used the case study method, analyzing the specific way in which one or more firms base their differentiation strategies on CSR policies (Bansal, 2002; Holliday, 2001; Hedstrom et al., 1998). McWilliams and Siegel

(2000), in their study based on a worldwide sample, analyzed the relation between CSR and financial performance and introduced R&D expenditure as an explicative variable. As their study was focused on performance, no explanation was attempted of the relation between CSR and R&D. Therefore, the present paper is oriented towards a study of the above relation.

The various types of innovation (Schumpeter, 1934) can be matched to four main thematic areas in CSR: the environment, employment, the community and customers (Gray et al., 1995). Research into corporate responsibility has mainly focused on the environment (Lockett et al., 2006), on analysing the information disclosed regarding environmental issues (Ingram and Frazler, 1980; Wiseman, 1982; Panapanaan et al., 2003) or on studying specific practices in the field of CSR that require innovation (Chen and Metcalf, 1980). The resources that firms devote to environmental policies are integrated into the course of their productive activities, forming part of their overall corporate strategy (Christmann, 2000). McWilliams et al. (2006) reviewed the studies that have concentrated on environmental social responsibility. From this standpoint the adoption of a sustainability-oriented perspective would have effects on innovation, mainly caused by environment-related necessities. We think that CSR strategies should be studied, in relation to R&D expenditure, in a broader sense, and not one that is limited to environmental aspects. The requirements of customers or the improvement of labour conditions can require innovations (Hart and Milstein, 2003). We think to be innovative, companies must consider the social and environmental impact of their processes, stimulate employees to be creative, and collaborate with their customers, suppliers and other business partners in designing and developing new products and services (MacGregor and Fontrodona, 2008). Innovation and CSR are complex and multidimensional concepts but the assumption of compatibility and synergy may be reasonable (Midttun, 2007). There is a necessary link between the improvements its social performance and the innovation of new technologies (Phillimore, 2001).

Most firms conceptualize CSR primarily as a tool to reduce risks and operational cost. Only a minority of firms is actually using CSR as a means to drive innovation (Hockerts and Morsing, 2008). We aim to contrast this idea. Accordingly, in this study we set out to examine, from an empirical standpoint, the relation between R&D expenditure and the adoption of CSR strategies, studying the phenomenon on the basis of European corporations. In the latter case, the disclosure of CSR practices, as recommended in guidelines of sustainability, is a relatively recent introduction, and thus the analysis of CSR is still at an embryonic stage (McWilliams et al., 2006). Hence, we shall analyse the impact of a phenomenon that is in its early years and examine the consequences of CSR on R&D during this period[3].

In principle, and in accordance with the above-cited papers, one would expect the relation between R&D expenditure and the adoption of CSR practices to be a positive one. Therefore, our first hypothesis is:

H_1: The adoption of CSR strategies by corporations has a positive influence on their R&D expenditure

Another aspect that may affect investment in R&D is that of the sector in which the corporation carried out its activities. Various studies have shown how the level of importance granted to innovation varies from one industry sector to another (Jaruzelski et al. 2005). There are industries in which R&D tends to be extensive and significant (Argyres and Silverman, 2004). Waddock and Graves (1997) commented on the existence of different levels of R&D investment in different industries. There are aspects related to the sector in question that may influence the type of research and the priority given to it, for example, the situation in the life cycle of the industry in question. In the embryonic and growth stages of the industry cycle, there is little product differentiation. In more developed industries, however, with highly differentiated products, there is likely to be greater investment in R&D in order to achieve this objective (McWilliams and Siegel, 2001).

In the present study, we propose to determine whether variations in R&D expenditure are related to the sector on which the corporation carries out its activities. This question was addressed in the form of hypothesis H_2. The sign of this relation depends on the values assigned to the sectors; because the variable is a categorical one, the sectors need to be defined.

H_2: Different industry sectors have different degrees of influence on R&D expenditure

A certain period of time is normally necessary for corporations to make plans and obtain fresh funding for new lines of research. Initially, the allocation of funds for new investment depends on the existence of surplus resources (McGuire et al., 1988; Orlitzky et al., 2003:406), or on the possibility of reallocating resources that *a priori* had been intended for other purposes. In turn, innovation policies require a period of 2-3 years for economic benefits to become apparent (Lin and Chen, 2005:159; Christmann, 2000:672). In addition, policies in the field of corporate responsibility need time to become consolidated and to bear fruit (Lee et al., 1996; Brown and Svenson, 1998; Souitaris, 2002). Therefore, in this study we examine whether a period of time must elapse before we can relate CSR practices and the innovation carried out by corporations. For this purpose, we shall examine hypothesis H_3.

H_3: A certain period of time must pass before CSR has a bearing on the innovation carried out by corporations.

In addition, we determine whether R&D investment by cororations is affected by other variables. The size of the corporation may affect its technological situation and the effort it makes with respect to innovation (Argyres and Silverman, 2004;

Coccia, 2001; Freeman and Soete, 1997). Similarly, expenditure on R&D could increase with the size of the corporation (Lin and Chen, 2005; Cohen and Levin, 1989; Cohen and Keppler, 1992).

Large corporations possess a greater volume of resources and so can dedicate greater financial resources to innovation. Such corporations, together with those operating in the most innovative sectors of the economy, are more likely to innovate (Hipp et al., 2000). Smaller companies, on the other hand, have fewer resources and more limited financing, which leads them to concentrate on applied research activities rather than basic ones, and thus they invest less in R&D. Their resources must be reserved for growth and survival (Christensen and Bower, 1996).

METHODOLOGY

We shall now discuss the sample selected, define the variables used and detail the statistical tests to be applied in this study.

Selection of the sample

This study is focused on European corporations, where the degree of disclosure of CSR strategies is fairly homogeneous, as corporations normally follow standard guidelines and indexes in drawing up their reports (Doh and Guay, 2006).

To analyse the hypotheses, we drew up a questionnaire of 20 items, grouped into two blocks. The first of these was aimed at revealing the corporate's attitude toward CSR and the second block was focused on the relation between CSR and innovation practices. The full questionnaire is provided in Annexe I[4]. Our intention with this questionnaire was to obtain data on business attitudes towards these aspects and thus contribute to explaining the results obtained from the model we propose. The items in the questionnaire were measured on a 5-point Likert scale (5 (highest) 1 (lowest), and the population was comprised of European corporations listed on the Dow Jones World Index, specifically the Dow Jones General Index (DJGI)[5]. The Dow Jones Sustainability Index (DJSI) is calculated from data on corporations that participate in the DJGI. The DJSI is made up of corporations that are leaders in sustainability practices and are among the top 10% of the firms in the DJGI.

The DJSI is a multi-dimensional construct intended to enable the measurement of CSR practices; it is based on economic, social and environmental indicators, and enjoys broad social backing. Although some studies have employed other multi-dimensional measures (McWilliams and Siegel, 2000; Wenzel and Thiewes, 1999; Griffin and Mahon, 1997; Stanwick and Stanwick, 1998), we selected the DJSI because its requirements concerning sustainability are more comprehensive[6] than those applied by other indexes of sustainability[7] (SustAinability, 2004) and are similar to those proposed in the CSR guides - the Global Reporting Initiative (GRI) and the Global Compact[8]. The DJSI includes innovation among the parameters considered and it was initiated in 1999, on the basis of firms that had met the requirements of the index during 1998. This index is prior to that of the other indexes developed in Europe[9], thus enabling us to observe data referring to a longer period. Moreover, the DJSI takes into account the adoption of business practices based on sustainability as a strategic decision capable of influencing the corporation's profitability (Husted and Salazar, 2006).

This study covers the period 1998-2006. We sent the questionnaire to all the European corporations quoted on the DJSI and the DJGI: 113 European corporations belonging to the DJSI (these corporations follow and disclose CSR practices and observe the economic, environmental and social criteria required by the Sustainable Asset Management Group (SAM)), and 1084 European corporations included within the DJGI in the period of our study. These corporations are non-financial firms; for the firms belonging to the DJSI we examined the corporations that had been included in this index from its constitution.

We sent the questionnaire by e-mail, addressed to the Chair of the Board. The first such mailing took place in October 2006, followed later by a reminder. Reception of replies was closed at the end of March 2007. The CSR outlook of the corporations examined is supplemented with a review of the information disclosed on the subject of CSR, in the form of CSR reports or the Annual Reports. The final sample[10] was made up of 95 corporations, 42 of which form part of the DJSI, while 53 belong to the DJGI. The response rates were 37% for the DJSI corporations and 5% for DJGI corporations. The response rate for DJSI was higher than that for the DJGI corporations, which could be an indicator of the interest among the former corporations in disclosing the effort they make with respect to CSR. The response rate of the subsamples is very different, but we think the response rate for DJGI is representative of the population to the extent that the results agree to expectations.

The variables selected and techniques employed

Several studies that analyse innovation use R&D expenditure as a yardstick (Argyres and Silverman, 2004; Bublitz and Ettredge, 1989; Coff, 2003; Lee et al., 1996; Souitaris, 2002). This variable is considered appropriate because R&D expenditure reflects the corporate intentions to obtain scientific or technical knowledge in order to improve their products and processes, and thus reinforce their competitive advantage. However, the number of patents taken out is also used; this method has the advantage that it comprises an objective element (Griliches, 1990; Ernst, 2001; Haggedoorn and Cloodt, 2003)[11].

We have adopted R&D expenditure as an indicator of innovation because this measure is widely used in this type of study and because corporations, in general, publish information on their R&D expenditure. Besides, there is a correlation between R&D and the number of patents taken out[12] (Table 1).

The data on this latter parameter were taken from the international database on patents maintained by the World Intellectual Property Organization.

INSERT TABLE 1 ABOUT HERE

In our study, an initial assumption was that there are differences in adherence to CSR practices between corporations that belong to the DJSI and those that are part of the DJGI. The survey results related to CSR (items 1 to 13) in Table 2 show there are differences in the degree of commitment to CSR between DJSI and DJGI corporations. Nevertheless, in order to determine whether the classification made was appropriate, we performed a cluster analysis of the corporations that answered the questionnaire, grouping them into homogeneous sets. The k-mean non-hierarchic clustering method was applied to the CSR-related replies to the questionnaire. From the results obtained, two groups were created; one included all the DJSI firms sampled, and the other contained the other corporations sampled that belonged to the DJGI. The results of this cluster analysis confirm that the original classification of the firms was, in fact, appropriate. Thus, we shall refer to the firms in the first group as the DJSI corporations and to those in the second group as the DJGI corporations. Accordingly, the corporations examined in the present study are grouped within a dummy variable that is given a value of 1 if the corporation is part of the DJSI, and a value of 0 if it presents a lower degree of agreement with the disclosure of CSR practices (i.e. it belongs to the DJGI).

INSERT TABLE 2 ABOUT HERE

Also included in the present study is the question of the industry sector to which each corporation belongs. The activity sectors of the corporations were taken as a measure of the industry, determined by a 4-digit SIC (Lang and Lundholm, 1993; Sengupta, 1998). As control variables we took the size of the corporation, measured by its total asset value.

For the study period analysed (1998-2006), we propose a model that uses the variables shown in Table 3. R&D expenditure (R&D) is the dependent variable, while the independent variables are corporate social responsibility (CSR) and industry (IND). The total assets (ASS) is the control variable.

INSERT TABLE 3 ABOUT HERE

The proposed regression model is:

$$R\&D = b_1 + b_2 CSR + b_3\ IND + b_4\ ASS + e$$

RESULTS OBTAINED AND DISCUSSION

Table 4 shows the results of the regression analysis during the two periods analyzed, together with the results for the inverse regression. We believe it is necessary to examine whether the causal relationship could also be in the opposite direction, i.e., if CSR depends on R&D expenditure. As CSR is a categorical variable, a logistic regression was applied, as follows:

$$CSR = b_1 + b_2\ R\&D$$

Model 1 considers the period from 1998 to 2000, while Model 2 gives the results for 2001-2006. Model 3 focuses on the relation between CSR and R&D for the entire period considered (1998-2006). Model 4 shows the inverse regression during the whole period under consideration (1998-2006).

The descriptive statistics for the period 1998-2006 are shown in Table 5.

INSERT TABLE 4 ABOUT HERE

INSERT TABLE 5 ABOUT HERE

As can be seen in Models 1 and 2 of the Table 4, after a certain time (in the period 2001-2006), R&D expenditure depends on the CSR practices implemented by the corporation ($p \leq 0.05$), and thus hypotheses H_1 and H_3 are accepted, assuming that a sufficiently long time period is allowed for CSR-oriented strategies to be put into effect as a specific practice i.e. as expenditure on R&D (Ortlitzky et al., 2003). The results show that R&D expenditure is affected positively by the adoption of CSR-oriented goals. In other words, the fact that the firm adopts CSR practices tends to be associated with greater R&D expenditure. In any case, the value of the adjusted R Square is small, which suggests that although CSR is an explicative factor of R&D expenditure, there must exist other factors of greater weight in determining investment in R&D. The model is more explanatory when the entire period is considered (1998-2006) (Model 3). These results are in accordance with those obtained in the survey (items 14 to 20), where the respondents stated that their corporate policy regarding innovation was linked to its CSR strategy. There are significant differences between the DJSI and the DJGI corporations for all the items except the last one (item 20). For the DJSI corporations, the adoption of CSR criteria led to a change in their policies on innovation (item 15), involving greater R&D expenditure (item 16) and changes in products and processes (items 17, 18 and 19). Table 2 shows the survey details and the level of significance of the difference between the scores of the DJSI and DJGI corporations.

As an initial notion, the adoption of CSR practices might be related to aspects that require stakeholders, for example, to counteract a negative impact on the environment, to improve the reputation and image of the firm or to reduce risks (Hockerts and Morsing, 2008). This was confirmed in our analysis of the survey data. The DJSI corporations tend to agree that the disclosure of CSR practices is related to stakeholders' requirements (item 8). On the contrary, the DJGI corporations presented a more neutral attitude on this question, and even some disagreement.

Nevertheless, these respondents, too, were of the opinion that the adoption of CSR practices produces added value for stakeholders (item 9).

To the extent that CSR practices become accepted as part of business culture, they will lead to changes affecting product lines, technology and even the firm's activity, which could have repercussions on the way in which financing is obtained or on the corporation's sales figures. It might be said that sustainability-oriented policies would thus become integrated into corporate management and influence the technology or innovation strategy of the business, guiding the objectives to be achieved by means of R&D. This relation between CSR practices and those of R&D, for the corporations examined, and according to Bone and Saxon (2000), could give rise to competitive advantages. This relationship is confirmed in the results obtained in the present study. The DJSI corporations are in almost total agreement that CSR strategy is a key factor in the generation of competitive advantages (item 2) while the DJGI corporations were neutral as regards this question.

Respect to the inverse regression (Model 4), it is seen that the coefficient of the R&D is null but significant ($p \leq 0.10$). These results confirm that variations in R&D expenditure by firms are related to their CSR practices, for the corporations in our study groups. These results are expected because the variables are correlated. However, a greater R&D expenditure does not seem to be a determining factor in firms' adopting CSR practices. It can be thought that the corporations of the sample are pioneers and they are engaged in CSR and R&D practices at the same time. These strategic decisions can be the corporations' way of obtaining competitive advantages. The firms of the sample carry out an important innovation effort, although we can say there are differences between DJGI and DJSI corporations. Perhaps the concern for innovation is linked to CSR because of the demands of stakeholders.

With respect to the relation between the economic sector and R&D, we see that it is negative, but not significantly so. The present study shows that the activity sector does not affect R&D expenditure; in other words, research investment is not sector-dependent in the sample considered. R&D expenditure can be found in any sector (Hipp and Grupp, 2005). The negative sign of the coefficient of the 'sector' variable could be caused by the way in which the sectors were defined. The variable in question is awarded a value of 1 to 5. A score of 1 could correspond to sectors that present intensive R&D expenditure, while one of 5 would, *a priori*, reflect less intensive expenditure in this respect.

The results from this study show that R&D expenditure does not depend on the size of the corporation. For the companies included in the present study, R&D does not depend on total asset value. In our sample, some firms implement little innovation, while others make great efforts in this respect, and these circumstances are independent of their size. In our study, in which both asset-intensive corporations and others not presenting this structure are included, the variable 'corporation size' was not expected to have a significant effect within the model. It might be considered that, whatever the composition of the sample, there could be a relation between the innovation carried out by a firm and its asset value. In the sample, there are corporates that make heavy investments in R&D, while others spend very little on this item. The relation between asset value and R&D expenditure would exist only in certain specific sectors.

CONCLUSIONS

Changes in the cultural dimensions of corporates arising from the introduction of CSR practices require them to innovate. This study shows that there is a relation between R&D expenditure and CSR-oriented practices. Innovation may respond to diverse corporate goals and strategies, but sustainability is shown to be an explicative variable of the phenomenon. There may be other underlying factors, but we highlight the importance of CSR in explaining the effort made by corporations in the field of innovation. It could be said that the adoption of CSR practices influences investment decisions, and especially those related to R&D. The development of a culture of sustainability is made tangible as greater innovation, which subsequently gives rise to new activities, products, processes and business styles that require R&D. The results of our research let linking the overall concept of CSR with the overall concept of innovation. We have found a sample of corporations is actually using CSR as a means to drive innovation (Hockerts and Morsing, 2008). CSR practices are used as a management tool. The study results show that a group of companies, which belong to the DJSI, take CSR into account in their business strategies, and that this has a consequent effect on the management of their investment in R&D. These DJSI corporations consider CSR strategies to be a fundamental element in obtaining competitive advantages. CSR influences policies that are crucial to long term growth, including innovation. CSR, as practised by these corporations, is not just in response to stakeholders' requirements or to the aim of improving the corporate image, or to reduce risks and operational cost, but also constitutes a strategic variable for the creation of future market options or for obtaining long term benefits.

From a theorical standpoint, a relationship between CSR and resources, including innovation, has been established (Castelo and Lima, 2006). This paper contributes to this line of research through an empirical application of the resource based view. This approach allows the introduction of a dynamic concept of CSR, not limited to the demands at present stakeholders or focused on reputation issues. This approach let consider the innovation related to CSR.

In the present study, we did not find the R&D expenditure of the firms examined to be affected by the sector in which they are active. Although it might be expected that the sector would influence both R&D and CSR, given that some sectors require more innovation than others, and that activity in some sectors produces a greater impact than in others, this relation was not, in fact, observed among the sample of corporations in our analysis. However, this result might have arisen from the way in which the variable 'sector' was defined in our paper.

We did not find concern for R&D expenditure within the firm to be related to its size. In the corporations examined in this study, R&D expenditure did not depend on total assets. This situation might result from the fact that our sample is made up of corporations with different policies on innovation, and it does not necessarily follow, in our case, that the corporations with the largest asset values assign most funds to R&D expenditure, or vice versa.

The results obtained are limited to some extent: the sample selected, as well as meeting CSR requirements, must also comply with the demands of the capital market in which it is listed, and such demands may not coincide with the goals of this study. Moreover, in addition to the explicative variables we consider, others might also be related to the volume of R&D expenditure, for example ROA and ROE.

As areas for future research, it would be interesting to analyse the effect of innovation on other management indicators, together with other factors of a qualitative nature, which would enable us to measure whether a corporate innovation-oriented policies lead to stakeholders' other goals being achieved. Having highlighted the relation between R&D and CSR, a subsequent step could be to analyse, among corporations that implement CSR practices, the type of innovation, product or process that is applied, to determine whether the research carried out is developmental or basic, and whether it is focused on environmental or social aspects, in order to ascertain which aspects would be most relevant to obtaining competitive advantages or to improving performance indicators.

NOTES

[1] Sustainability development can be defined as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987, p. 8).

[2] According to this theory, companies should only respond to the interests of their shareholders, and thus their only social responsibility is that of maximising the value of the company. From this standpoint, any positive social action carried out by the company would involve costs that might reduce profits and prejudice shareholders; therefore, such an action should not be undertaken (Friedman, 1970).

[3] The trend to disclose information on practices of corporate social responsibility accelerated sharply in the early 2000s in response to the widespread atmosphere of mistrust in the markets caused by the financial scandals of the 1990s.

[4] Table 2 also includes a table with the mean score, the standard deviation of the responses and the degree of significance of the t-values for the items on the questionnaire discussed in this paper.

[5] This index is now termed the Dow Jones Wilshire Global Index.

[6] The DJSI includes indicators on the following dimensions: corporate governance, investor relations, management, codes of conduct, customer relations, environmental policy and performance, labour practice, human capital development, talent attraction and retention, organizational learning, standards for suppliers, stakeholder engagement, corporate philanthropy and social reporting.

[7] Other indexes that have been created upon criteria of sustainability include the FTSE4Good and the Domini Social Index (KLD). These have been developed by organizations of acknowledged standing and have lent credibility to investment in companies that follow criteria of sustainability. More recent additions include the ASPI Eurozone Indexes, the Citizens Index and the KLD-Nasdaq Social Index.

[8] Global Reporting Initiative is a "Sustainability Reporting Guideline" for voluntary use by organisations reporting on the economic, environmental and social impacts. Sustainability reporting is the practice of measuring, disclosing, and being accountable to internal and external stakeholders for organizational performance towards the goal of sustainable development.

The Global Pact is a UN-sponsored international initiative. It is aimed at encouraging firms to make a voluntary commitment to social responsibility, via the adoption of the Ten Principles based on human, occupational and environmental rights and on the fight against corruption.

[9] Although the companies that comprise the DJSI Stoxx are European, this Index was set up in 2001 and so is not suitable for the purposes of the present study. The FTSE4GOOD database was created in 2002. The Domini Social Index was established in 1990 and is a reference point for investment in sustainability for US companies.

[10] The following European countries were taken into consideration in the sample: Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Spain, Sweden, Switzerland and U.K.

[11] The European Patent Office estimates that 70% of the information contained in patent documents is not available anywhere else (Drucker, 2005).

[12] The correlations have also been calculated on the basis of non parametric techniques, namely Kendall's Tau-b method and Spearman's Rho method, which produce conclusions that are similar to those obtained with Pearson's coefficient. We only present the results obtained by the latter technique, as these give conclusions that are considered to be statistically more robust.

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Appendices

Table 1. Parametric correlation of R&D expenditure and the number of patents taken out (Pearson's correlation coefficient)

	R&D	Patents
R&D	1	0.858**
Patents	0.858**	1

** The correlation is significant at 0.01

Table 2. Means and standard deviations of survey results

	DJSI Firms		DJGI Firms		T-test (p-value)
	Mean	Standard Deviation	Mean	Standard Deviation	
CSR					
1. CSR is a very important concern for your company	4.73	0.47	2.85	0.97	0.001**
2. In your company, the CSR strategy is a key factor in generating competitive advantages	4.64	0.67	2.90	1.00	0.000**
3. In your company, the CSR strategy is aimed at creating future business opportunities, such as opening up new market sectors	3.91	0.83	2.85	0.90	0.007**
4. In your company, the importance of CSR has increased in recent years	4.64	0.67	3.38	0.77	0.000**
5. The company follows a policy of disclosure with respect to its CSR practices	4.91	0.30	3.38	0.87	0.000**
6. The edition of CSR Guides has helped determine the aspects of CSR that are disclosed by your company	4.82	0.40	3.23	1.30	0.001**
7. The CSR strategy influences different functional areas of your company	4.82	0.40	2.77	0.83	0.000**
8. The disclosure of CSR practices in your company is related to the demands of stakeholders (investors, institutions, clients, etc.) in this respect	4.82	0.40	2.54	0.66	0.000**
9. The adoption of CSR practices in your company has a value added effect for stakeholders (profits, remuneration, working environment, product quality, etc.)	4.82	0.40	2.77	1.01	0.000**
10. The CSR strategy depends on or is supervised or drawn up by the Board of Directors	4.64	0.50	2.92	0.95	0.000**

Table 2. Means and standard deviations of survey results **(continuation)**

	DJSI Firms		DJGI Firms		
	Mean	Standard Deviation	Mean	Standard Deviation	T-test (p-value)
11. The CSR practices in your company are audited / certified / confirmed by external agencies	4.73	0.47	2.31	1.38	0.000**
12. The adoption of CSR practices in your company has a positive effect on the company's short-term results (reductions in costs, increases in sales, etc.)	4.00	0.77	2.15	0.38	0.000**
13. The adoption of CSR practices in your company has a positive effect on the company's long-term results (new market sectors, change of activity, etc.)	4.55	0.69	3.15	1.14	0.002**
CSR AND INNOVATION					
14. Your company's innovation policies are related to its strategies of sustainability	4.91	0.30	3.00	0.82	0.000**
15. The adoption of CSR criteria has led to a change in the company's policies regarding innovation	4.55	0.52	2.85	0.90	0.000**
16. The adoption of CSR criteria has led to increased expenditure on innovation	4.36	0.50	2.62	0.77	0.000**
17. The adoption of CSR criteria has led to technological changes in its production processes	4.73	0.47	3.08	1.04	0.000**
18. The adoption of CSR criteria has led to	4.91	0.30	3.38	0.87	0.000**

technological changes that affect the quality of its products (design, quality, etc.)					
19. The adoption of CSR criteria has led to technological changes that affect the range of products that are marketed	4.73	0.65	2.69	0.95	0.000**
20. The adoption of CSR criteria has led to technological variations that represent a radical change in the company's principal activity	1.82	0.60	1.38	0.87	0.178

** The correlation is significant at the level of 0.01

Table 3. Definition of variables in the regression equations

Variable: name	Variable: description
	Dependent Variable
R&D	Average R&D expenditure for period t
	Independent Variable
CSR	Dummy variable: 0 if the firm is not in the DJSI and 1 if it is
IND	Values of 1 to five according activity sector
	Control Variable
ASS	Average total assets for period t

Table 4. Regression coefficients and statistics for R&D

Dependent variable	R&D			CSR
Independent and control variables	1	2	3	4
Intercept				-0.284 (0.263)
CSR	0.165 (0.140)	0.228 (0.041) *	0.231 (0.013)*	
IND	-0.003 (0.981)	-0.161 (0.151)	- 0.048 (0.611)	
ASS	-0.182 (0.097)	-0.024 (0.833)	-0.070 (0.450)	
R&D				0.000 (0.064)***
Adjusted R Square	0.062	0.040	0.073	0.038
F-Statistic	6.272	4.334	7.100	4.020
Probability	0.014	0.041	0.009	0.049

* $p \leq 0.05$
*** $p \leq 0.10$

Table 5. Descriptive statistics and correlations

	Mean	Standard Deviation	R&D EXPENDITURE	CSR	ASSETS
R&D EXPEND.	464685.46	1006879.01	1		
CSR	0.49	0.5	0.237*	1	
ASSETS	21987002.61	34476095.94	-0.005	0.038	1
SECTOR	3.84	1.18	-0.154	-0.181	-0.069

** The correlation is significant at the level of 0.01
* The correlation is significant at the level of 0.05

NED CHARACTERISTICS, BOARD STRUCTURE AND MANAGEMENT TURNOVER IN THE NETHERLANDS IN TIMES OF FINANCIAL DISTRESS: A THEORETICAL AND EMPIRICAL SURVEY

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Abstract

This paper examines the relationship between corporate governance characteristics and corporate financial distress. There are two main theoretical factors of interest: the structure of the monitoring process, and the personal characteristics of non-executive directors (NEDs). The first approach is basically *agency-theory* oriented, and emphasises relationships that complicate proper control, such as dependents on the board (Jensen, 1993). The second approach refers to the *resource dependency* theory, which focuses on the quality of the director(s) involved (Hillman and Dalziel (2003). The relevant relationships are tested on a newly built database consisting of 52 listed companies in the Netherlands that became financially distressed in the period from 1993 to 2003 and a control sample of 167 listed companies. We collected data on NEDs such as age, education, dependency, other board positions (and chairmanships), workload, and the number of executive and non-executive board members. A positive relationship with financial distress was found to exist if the average workload of NEDs on the board was high, or if there was a foreigner on the board. If one of the NEDs has inside knowledge, this is negatively related to financial distress. As a final conclusion, the hypothesis originating in resource dependency theory, which is that the human characteristics of NEDs are important in avoiding financial distress, cannot be rejected with regard to the Netherlands as examined in the period from 1993 to 2003.

Keywords: financial distress, NED characteristics, board structure, corporate governance, resource dependency theory, agency theory

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By nature, organizations abhor control systems, and ineffective governance is a major part of the problem with internal control mechanisms (Jensen (1993), p. 852)

1. INTRODUCTION

The role of internal monitoring by non-executive directors (NEDs) has been a focus of ongoing international discussion in the corporate governance literature. Two main theoretical factors are of interest: the structure of the monitoring process and the personal characteristics of the NEDs. The first factor is basically *agency-theory* oriented, and stresses relationships that complicate proper control, such as a CEO acting as a chairman, the presumed myopia of insiders and dependents on the board and the presence of insiders in the audit committee (Jensen (1993)). The second factor refers to the *resource-dependency* theory, which focuses on the quality of the director(s) involved (Hillman and Dalziel (2003). Both elements deserve equal attention. Proper monitoring structures without sufficient monitoring capabilities of the board are not effective. This is shown, for example, in the survey of the international literature on NEDs and firm performance carried out by Dalton, Daily, Ellstrand and Johnson (1998). They conclude that board composition and financial performance are not related on a meaningful level.

As Europe doesn't have a system similar to the US Chapter 11, it is impossible to compare companies in a before- and after Chapter 11 (read: financially distressed) state. Research like Gilson (1989), Daily (1995) and Gales and Kesner (1994) therefore cannot be reproduced in a debtor-oriented bankruptcy system, which is mainstream in Europe. What can be done, however, is to compare composition, management turnover, and characteristics of the board and NEDs between financially distressed companies and non-financially distressed companies. In this paper we apply logit analysis and discriminate between healthy firms and firms in financial distress. The central question in this paper is therefore whether it is possible to identify NED characteristics of board members, or features of board composition in which financially distressed companies differ from non-financially distressed companies.

Gilson (1989), p. 243, defines financial distress as an inability to meet the fixed payment obligations on debt. More specifically, a firm is considered financially distressed within a given year if it is either in default on its debt, is bankrupt, or is privately restructuring its debt to avoid bankruptcy (p. 246). He considers debt to be privately restructured when creditors consent to reduce promised interest or principal payments, extend the debt's maturity, or accept equity securities in the firm (p. 244). In order to be able to apply this definition, we need data that are not always available. This is especially the case with private defaults or private restructurings. This study uses a more workable definition, along the same lines suggested in Hill, Perry and Andes (1996), p. 63. A company is considered in financial distress when it has filed for bankruptcy or suspension of payments, when it is in default on its bond obligations (this default will be known to the public), when it otherwise qualifies for trade suspension on the exchange where it is listed (as mentioned by the company itself or the exchange) or when it has suffered three years of sequential losses. This definition is objective, verifiable and applicable.

This study aims to discover some new openings to the black box of internal control by non-executives in times of financial distress. The two-tier board structure in the Netherlands allows for a specific analysis of the structure, the quality and the role of non-executives in relation to firm performance. The analysis includes a number of questions: what is the relevancy of the number of NEDs on the board, should NEDs be independent from the company and what are important personal characteristics of NEDs? This study adds to literature, as it provides more insight in the characteristics of individual NEDs and the relationship of these characteristics with the incidence of financial distress. While the disciplinary function of monitoring by shareholders and the market of corporate control is certainly acknowledged, its inclusion is beyond the present scope of the paper.

The research explores financial distress of 52 Amsterdam-exchange listed companies in the period 1993-2003. Section 2 first reviews the literature on the supervision and monitoring structure, the composition and turnover of the board and characteristics of NEDs. The data are described extensively in section 3, and the research design and empirical results are subsequently reported in section 4. Section 5 concludes.

2. INTERNAL CONTROL BY NON-EXECUTIVES

The role of NEDs in internal control is at least twofold. A NED is an individual with his[33] own resources, but is also a member of a team, the board. Some corporate governance characteristics of a NED can make the individual extra (that is, more than pro rata) powerful— for instance, if the NED is the only person on the board with a specific characteristic. The NED may thus be the only insider, the only financial specialist or the only foreigner on the board. In certain cases these persons may have more than pro rata influence. From the other side, however, there are also structure-related matters such as board size, the percentage of dependent NEDs, the presence of financial expertise on the board and so on. Because it is not always clear whether a certain characteristic is to be seen as a board- or an individual-relevant characteristic, some of the hypotheses to be tested will be used for both views.

The coming subsections will first elaborate on the theoretical aspects of the task of the non-executives (see 2.1), the characteristics of the structure of the board (2.2) and the personal characteristics of board members (2.3). Then, in section 3, we will present the research design and the empirical results.

2.1. The task of non-executives

2.1.1. Economic theory

Departing from agency theory, Fama (1980), p. 293, states that the board is the mechanism by which top management is disciplined. With competing managers only on the board (as such the most critical environment for a director), there would be a risk that managers decide that collusion and expropriation of shareholder wealth is better than competition among themselves. This risk might be lowered by including outside directors (p. 293):

Outside directors might be regarded as professional referees whose task is to stimulate and oversee the competition among the firm's top management.

Fama and Jensen (1983), p. 311, describe the nucleus of the tasks of boards:

The common apex of the decision control systems of organizations, large and small, in which decision agents do not bear a major share of the wealth effects of their decisions, is some form of board of directors. Such boards always have the power to hire, fire and compensate the top-level decision managers and to ratify and monitor important decisions. (Fama and Jensen, 1983, p. 311).

Likewise, Transaction Cost Economics considers the board principally as an instrument for safeguarding

[33] A NED will be addressed in this paper in the male form, as over 90% of NEDs of Dutch listed companies are men.

equity finance (Williamson (1988), p. 571). For an economist, the board primarily has a monitoring role.

A second approach that can be used to value the role of the board is identifying the *resource dependency* perspective. In addition to providing access to complementary knowledge, valued resources and information, a NED may also facilitate inter-firm commitments (Fama and Jensen (1983), p. 313; Dalton, Daily, Ellstrand and Johnson (1998), p. 273; Gales and Kesner (1994), p. 272[34]). Daily (1995), p. 1052, deems such access to external resources— otherwise often unavailable for the company— as potentially critical for financially distressed firms. This resource dependency perspective is directly related to the service/expertise/counsel role of the board, which is of a more legal nature and will be discussed in the following sub-section.

2.1.2. The legal system

Delaware Corporate law[35], under which the majority of US listed companies is incorporated, (para. 141) states: *The business and affairs of every corporation organized under this paper shall be managed by or under the direction of a board of directors.*

There are no general provisions as to how the board should do this. In UK law it is similar, and there is no such general provision in the Companies Act of 1989. On the other hand, common law has developed two broad duties: the duty of care and the duty of loyalty (Davies (2002), p. 154). These duties form standards whereupon directors can be judged *ex post*. The judge should not judge with hindsight. Therefore, in the US and in the UK the *business judgement rule* (BJR) has been developed (Davies, 2002, p. 156). A judge does not enter into the decision itself, but only verifies whether the decision was properly informed and in the best interest of the company. In Germany, the BJR was recently inserted in the law.[36]

In the Netherlands, this BJR is unknown. The law guides the behaviour of NEDs as follows:

The duties of the supervisory board shall be the supervision of the policy of the management and the general course of affairs of the company and the enterprise connected therewith. It shall assist the management with advice. In the performance of their duties, the members of the supervisory board shall be guided by the interest of the company and the enterprise connected therewith. (section 2:140 BW)

Dutch law is most explicit in what is generally felt to be the summary of the obligations of a NED: monitoring and advice, the last being identical to the service/expertise/counsel role as described by Dalton, Daily, Ellstrand and Johnson (1998), p. 273. One may wonder whether this advisory role has a separate meaning. If a director monitors, then he is questioning the executive directors with regard to whether or why they have taken (or intend to take) certain measures or decisions. By questioning, by showing why a measure is important or by pointing out the experiences from other companies or in other situations, a NED monitors and advises all at once. This might be the same for strategic discussions, wherein it is generally felt NEDs should participate. Also here, it is the role of the NED to point out flaws, or to indicate other directions or possibilities— never forgetting, however, that it is the management board that should endorse the final proposal.

2.2. Characteristics of the board

2.2.1. The composition of the board

Baysinger and Butler (1985) were among the first to observe that changes in the composition of the board do not necessarily improve its performance. They classified the board tasks into three broad components: executive, monitoring and instrumental. Directors in the *executive* component are closely aligned, either economically or psychologically, with the top management. While they are an important source of expertise from within the firm (p. 109), they may not be effective monitors (p. 110). The *monitoring* component is comprised of truly independent[37] directors (p. 109). Their primary activity is disciplinary: ratifying management decisions and monitoring performance. In addition, these directors may provide advisory services. The *instrumental* component is represented by directors placed for functional reasons: to provide managerial wisdom (consultants), to create liaisons between organizations (bankers, executives) or to act as counsel to inside managers (lawyers, p. 110). Dalton, Daily, Ellstrand and Johnson (1998), p. 275, even identify four types of board members: insiders, affiliated members, outsiders[38] and independent/interdependent directors. Interdependent directors are NEDs appointed by the incumbent CEO, while independent NEDs are appointed by the previous CEO. Gales and Kesner (1994), p. 276, choose in their study for the binary classification between insiders (current and retired officers) and outsiders (all others). Uzun, Szewczyk and Varma (2004), p. 36, analyse the board composition on two levels. They start with the outside-

[34] As well as the literature they cite.

[35] Similar provisions are made by other US states; see Klein (1998), p. 277.

[36] Section 93 lid 1 AktienGesetz: Eine Pflichtverletzung liegt nicht vor, wenn das Vorstandsmitglied bei einer unternehmerischen Entscheidung vernuftigerweise annehmen durfte, auf der Grundlage angemessener Information zum Wohle der Gesellschaft zu handeln.

[37] They consider only public directors, professional directors, private investors and independent (non business related) decision makers as independent directors (p. 113).

[38] Outsiders are not in the direct employ of the corporation.

inside dichotomy, but separate the outsiders into a truly independent and a grey category (directors with actual or potential business ties or family ties). This grey category is more or less identical with the affiliated category and the instrumental component as mentioned before. Dutch law maintains a two-tier supervision structure of the company. This implies that an executive cannot be a member of the supervisory board[39]. There are, thus, no insiders. In the Netherlands, NEDs are always outsiders who can be distinguished as dependent and independent non-executive directors[40].

2.2.2. The size of the board

The resource dependency theory might lead to the conclusion that the larger the board the better the firm performance. According to Jensen (1993), p. 865, this is not the case. Whereas the ability of the board to monitor could increase as more directors are added, board effectiveness may also be attenuated due to any one of the following: a) lack of time (directors of larger boards are not expected to voice their opinions freely and frequently); b) complexity of information (information is better digested when an open exchange is possible) and c) lack of cohesiveness (overly large boards, with directors that are too busy, area cohesive group that works well toward a common purpose). In fact, the norms of behaviour in most boardrooms are dysfunctional (Lipton and Lorsch (1992), p. 66). They discourage directors from speaking out, especially if they are going to be critical regarding management and they inhibit independent directors from asserting leadership among their peers. Ten years later, Epstein, Jones and Roy (2002), p. 7, made a similar assertion. Lipton and Lorsch (1992) p. 67, concluded that the board size should be limited to a maximum of ten (they favour eight or nine). Jensen (1993), on similar grounds (he calls it 'board culture', p. 863), advises a maximum of seven or eight (p. 865), while Epstein, Jones and Roy (2002) cite other sources ranging from eight to thirteen. Baker and Gompers (2003) p.574 report for 1,116 companies around their IPO (between 1978 and 1987) a board-size of six (mean and median), while the vast majority of the boards numbered between four and seven. Yermack (1996) p. 186, found an inverse association between firm value and board size. His panel of major (Forbes-500 listed) US companies shows a mean and median board size of twelve. The greatest incremental costs (in terms of loss of Tobin's Q) arise as boards grow in size from small (under seven) to medium. As for causation, he found no evidence that boards expand or contract in response to performance (p. 200). Andres, Azofra and Lopez (2005), in a sample of 450 companies from ten countries, also found a negative relationship between firm value and board size[41]. They conclude that the disadvantages (on communication, flexibility and coordination[42]) outweigh the potential better manager control by a larger board (p. 208). Beiner, Drobretz, Schmid and Zimmerman (2004), however, do *not* find a significant relationship between board size and firm valuation. They conclude that their sample of Swiss firms (with a median one-tier board size of six) seemed to have chosen their board size precisely optimally; depending on and varying with the underlying environment in which they operated. Moreover, they enquire into the interrelationship of alternative corporate governance mechanisms, such as board size, board composition, leverage and ownership structure (p. 328). Where one mechanism is used more, others may be used less, resulting in the same valuation effects (p. 334). In their view, it turns out that board size is an independent governance mechanism (alongside board composition, ownership structure and leverage, p. 346).

2.2.3. Workload of board and committee meetings

According to Lipton and Lorsch (1992), p. 64, time is a serious constraint for outside directors. They thus make a plea (p. 69) for at least a bimonthly meeting (preferably up to 8-12 annually for major companies) taking a full day including committee meetings, and preparing them another full day, including once a year a two- or three-day strategy session.[43] Santen and Beek (2006) report for a sample of Dutch listed companies an average increase in the number of meetings (board and committee taken together) of 160% in ten years (1995-2004) from an average of eight to 21.[44] They

[39] Although this is legally only provided for in section 2:160 BW, which sees on companies who apply the *structuurregime* for large companies under *afdeling 6 boek* 2 BW.

[40] A non-executive director (in Dutch: commissaris) is dependent, when he qualifies as such according to best practise III.2.2. of the Tabaksblat-code. This is the case when he has been employed by the company less than five years ago; when he receives personal benefits from the company; when there has been in the year previous to the appointment a business relationship (consultancy, counsel, banker and the like); when he is or represents a 10% shareholder; when there is a cross directorship with an executive director).

[41] This relationship holds according to the authors after controlling a.o. for board composition, country and industry effect (p. 198, rc).

[42] To which can be added: decision-making, see: Beiner, Drobretz and Zimmerman (2004), p. 354.

[43] This makes more than one hundred hours annually for the minimum number of meetings, not counting special meetings and travel time (Lipton and Lorsch, 1992, p. 69).

[44] As there were virtually no committees in 1995, these figures (for AEX-index listed firms) are hard to compare. Probably board meetings take less time nowadays because all of the preparatory work will have been done in committees. If it would be possible to convene a committee and a board meeting on the same day, this would require eleven days, times two for preparation, or around 200 hours including a two-

associated this increase with more shareholder activism and more legal requirements. Vafeas (1999), p. 140, found (for 307 US firms during the relatively quiet (board-wise) 1990-1994 period) that boards respond to poor performance by raising their level of board activity (number of meetings), which in turn is associated with improved operating performance in later years.

2.2.4. The turnover of board members

An important responsibility of the board is the evaluation of the senior management of the company. Especially outside directors have a specific role in this process, since the career of an inside director is more tied to that of the CEO (Weisbach (1988), p. 433). Outside directors have a reputational incentive (Fama and Jensen (1983), p. 315) for rigorous evaluation. It signals their competence to the market. Weisbach (1988) found that firms with outsider-dominated boards are significantly more likely to remove the CEO on the basis of performance than firms with insider-dominated boards. There is, however, no significant difference in the overall number of resignations between the two board types (p. 454).

Gilson (1989) was among the first[45] to study the relationship between management turnover and financial distress. He first observes the following (p. 241):

Several types of corporate policy decisions seem likely to be influenced by the personal costs that managers incur if their firms default on their debt. To avoid these costs, managers will rationally favour investment and financing policies that reduce the probability of financial distress.

From his study, Gilson (1989) concludes (p. 242) that the default-related losses of managers are significant. These losses were proxied by the turnover of senior managers (CEO, president, and chairman of the board, p. 246). Of all financially distressed firms, 52% experienced a senior-level management change, while for not-distressed (but also highly unprofitable) firms this figure was only 19% (p. 246). None of the departing managers held a senior management position in another exchange-listed firm during the next three years (p. 242). Gilson's (1989) goal was to show that managers *do* incur personal costs when their former firms enter financial distress. Or vice versa: his research also implies that a high turnover of managers during a certain year might be a herald of imminent financial distress. Gilson (1989) describes the relationship between performance and management turnover as follows:

There is evidence that less profitable firms show higher turnover, consistent with firms' poor performance being blamed on managers. (..)Financial distress will independently engender higher turnover if an increased probability of default conveys negative information about managerial performance beyond that conveyed by low profits. (p. 256).

A superficial glance reveals that the first relationship seems to have an *ex post* character, and the second an *ex ante* character. Gilson's (1989, p. 260) results show a significantly higher turnover of managers while a firm is about to default. Daily (1995), p. 1048, describes the years immediately preceding a bankruptcy as typically tumultuous. On the one hand, this could be the result of a voluntary decision of the director to leave the sinking ship in order to avoid the legal, reputational and financial risks of bankruptcy (Daily (1995), p. 1042; Gales and Kesner (1994), p. 279). On the other hand, directors that might be looking for a scapegoat may sacrifice a CEO to show their decisiveness.

2.3. Personal characteristics of board members

2.3.1. Nationality

Nationality is not a common feature of corporate governance research. As it is, there seems to be no literature on the matter. Nationality doesn't seem to be an issue to a firm searching for the best NED. The market for this kind of labour (outside directors of multinationals) is theoretically international. Nationality can make a difference, though. An American NED in a supervisory board of a Dutch firm may bring another culture (including a legal system), other experiences in a different monitoring system, a new (international or other-national) network and, potentially, the trust of shareholders of his own nationality. This does not guarantee that the foreign NED will provide more efficient monitoring performance than local NEDs. In the end, it all depends on the needs of the company and the ability of the board to exploit the NED's special characteristics. There is a downside as well. Higher salaries and expenses, translation and other language-related problems, cultural misunderstandings, less informal contacts between the NEDs and less availability of time, may take their toll and lead to new agency costs.

2.3.2. Independency

Daily (1995 p. 1049) shows that successful reorganizations are characterised by a board which is 65% outsider dominated. It is not clear however whether it is the absolute number of outsiders rather than the proportion of outsiders that matters (Gales and Kesner (1994), p. 276). Klein (1998) showed that it is important to have dependents in the board. A dependent[46] NED is resourceful, knows most of the company and is often privately interested in the outcome. As boards in the Netherlands are collegial forums, decisions will be taken usually by unanimity.

or three-day strategy meeting (and excluding other meetings and travel time). The code-Tabaksblat norm (best practice III.3.4.) of a maximum of five board positions fits within this perspective.

[45] Gilson (1989) cites two earlier studies (p. 248) with smaller samples and less turnover.

[46] An insider is a dependent NED.

Non-independent directors might have decisive influence, because they know the players and the business processes better than the other NEDs. When pressure is high, one might follow their advice. Their influence may therefore be reaching further than their number.

2.3.3 Education

To the extent that NEDs control critical resources and certain other conditions are met, they are in a position to influence the actions of organizations (Pfeffer and Salancik (1978), p. 259). It is clear that education is one of these critical resources. Why else would students strive for a scholarship in one of the Ivy-league universities and are their alumni in high demand? Knowledge, the development of analytical and psychological skills and the experience from case-studies are provided by universities. Educational background is one of the NED characteristics mentioned by Zahra and Pearce (1989), p. 307. It is interesting to see whether better education of a NED makes financial distress less likely. Therefore the question is raised whether a board with higher than average education lowers the probability of financial distress.

2.3.4. Experience

The bigger the number of relevant issues, situations and people a NED has been exposed to in the past, the more useful a NED will be for the company. This is called experience. As it is impossible to catch this experience in one variable, the most objective measure for experience is age, albeit a somewhat ambiguous one. Age is again one of the relevant characteristics of NEDs in the study of Zahra and Pearce (1989), p. 307. We suggest in this paper a positive (distress avoiding) influence from age. Other possible measures of experience like the number of present directorships or the present workload do not necessarily proxy experience better as these are about present performance and not about (historical) experience. That is why these factors are taken into account separately.

2.3.5. Network

A crucial element of the resource dependency theory is the number of directorships and its power to influence the board. Or, as Pfeffer and Salancik (1978) p. 161 put it:

Interlocking directorates[47] (..) are one form of a more general tendency to manage the environment by appointing significant external representatives to positions in the organization. (..) this is a strategy for accessing resources, exchanging information, developing interfirm commitments and establishing legitimacy.

Haunschild and Beckman (1998), p. 838 and 839, show that alternate sources of information affect the influence of interlocking partners, especially for firms of smaller and intermediate size. None of this research reported negative influences of multiple directorships. Harris and Shimizu (2004), p. 791, even report a favourable effect of busy directors on key strategic decisions. Haunschild and Beckman (1998), p. 817, stress that such multiple directorships are valuable sources of information that is inexpensive, trustworthy and credible. More in general, interlocking directorates provide channels of communication and conduits of information between the firm and external organizations (Hillman and Dalziel (2003), p. 387). They serve to reduce the transaction costs of dealing with uncertainties in the environment (p. 387). In this study we expect a positive influence of a multiple directorship based network.

2.3.6. Workload

Kiel and Nicholson (2006) wonder whether the number of directorships should be limited due to the workload they entail. They describe Australian and U.S. limiting guidelines varying from three to five directorships maximum for NEDs, while executives should only take up one or two outside directorships (a chairmanship equals three directorships, p. 531). According to the Australian Shareholders Association, carrying out a director’s duties requires at least 360 hours a year (p.536), while Harris and Shimizu (2004), p. 776, cite a NACD[48] recommendation of 1986 that requires at least 160 hours a year. This is in line with the Dutch situation, wherein a calculation is made of 200 hours a year for each directorship[49]. Clearly, the advantage of being exposed to various experiences from directorships and jobs might have the disadvantage of becoming overboarded: the NED is too busy to properly meet all the requirements of his responsibilities. While Lipton and Lorsch (1992) argue that NEDs have lack of time to carry out their duties, Harris and Shimizu (2004) find that overboarded directors are important sources of knowledge, enhance acquisition performance and are an important complement for a board. In itself this finding is unclear, as in our view these elements should be separated: experience (proxied by age) and network (proxied by multiple directorships) as positive influences, and a high workload (calculated in terms of Full Time Equivalent, FTE) as a negative influence.

3. Description of the data

3.1. Composition of control sample and financially distressed sample

Of all companies, listed on the Amsterdam Stock Exchange during three or more years in the 1993-2003

[47] Pfeffer and Salancik (1978), p. 161, define interlocking directorates as ‘the placing of representatives from environmental groups or organizations on advisory committees or boards of directors.’

[48] National Association of Corporate Directors (U.S.).

[49] See footnote 13.

period, 58 became financially distressed. Of these, 34 were cases of bankruptcy, suspension of payments or (qualifying for) suspension of listing (code 1). For four companies it was impossible to retrieve[50] data. Thirty bankrupt companies remained in the distressed sample. In 24 other cases, an unintended[51] period of (at least three years of) sequential losses was found (code 2). A company with that record normally faces serious financial difficulties and therefore such a company is considered to be in financial distress as well in this study. Of these 24 cases, two companies were excluded as they did not meet the additional requirement of being listed at least three years before getting into distress. This requirement was formulated in order to avoid including not yet adequately functioning start ups in the sample. Consequentially the sample consists of 30 bankrupt and 22 otherwise distressed companies. Table 1 shows the composition of both the distress and the control sample per year.

The control sample consists of 167 companies[52] that were listed during five or more years in the 1993-2003 period. The criteria of five years is set in order to have stable and well functioning companies in the control sample. Companies from the control sample were randomly assigned to the years. If a company merged or has been delisted after two years of consecutive losses it fell out of the control sample because this merger or delisting could indicate financial distress. In case of a merger between listed companies, either the new or the merged company could qualify for the control sample. Financial data were retrieved from Thomson Worldscope for t = -2 through t = -3 (t = 0 is the year wherein financial distress actually happens). Data on NEDs and on industry were (in order of preference) taken from the annual accounts, the publication *Bestuurders en commissarissen*[53], the Trade register, newspapers and in the last resort from reliable internet sources. Size and turnover data for the boards as well as personal data on NEDs are available for t = -2 and t = -3.

3.2 Mean differences in board structure

In this study we collected information on eight different characteristics of board structure. Table 2 summarizes the means and median values of both the distressed sample and the control sample. The *board size* is represented by both the number of NEDs in the supervisory board (SB) as well as the sum of NEDs and executive directors (MBSB). *Board turnover* is measured as the number of resignations[54] in the supervisory board (DSB) and the *de facto* board (DMBSB). The similar aspect is also calculated as the percentage of resignations (SBTO and MBSBTO) in order to measure the relative change. As the percentage approach might show an undervaluation of the actual impact in case of large boards, the number of changes (causing press attention and reputational damage) is used as an additional indicator of glimmering financial distress. Then, two *board composition* items are tested: the ratio of dependent NEDs in the supervisory board (DEPR) and the presence of financial knowledge as required for the audit committee (AUD). Financial knowledge in the board is proxied[55] by the financial education of at least one board member, through the dummy variable AUD (being 1 if at least one NED graduated in economics or in accountancy, or has an MBA). To avoid problems of reversed causality (Gales and Kesner (1994), p. 279 and 281) or endogeneity (Andres, Azofra and Lopez (2005), p. 208) t = -2 and t = -3 data were used. Although it cannot be excluded that decisions taken before t = -3 might cause financial distress, we assume that the quality of the board of financially distressed firms at the moments t = - 3 and t = -2, turned out to be insufficient to avoid financial distress. Table 2 presents an overview of all the board structure variables.

[50] Either electronically or by archive-work.

[51] Unintended: if a company predicted a long period of losses in its IPO-prospectus, it was excluded from the sample (Crucell N.V.).

[52] As one of these 167 companies did not have a supervisory board, all data on NEDs are for 166 companies.

[53] A Dutch guide for data on directors. Taken as close as possible to the year the data were needed for.

[54] Because of a lack of objective information, all resignations are counted irrespective of the causes of resignation. As the control group companies are generally older than the others, a relative high number of regular retirements can be expected in the control group. The results however show that the number of resignations in the financially distressed group is significantly higher than for the control group.

[55] As more detailed data on the subject at the time were not available.

Table 1. Composition of control sample and financially distressed sample

year	distressed firms				control sample	
	code 1	*code 2*	*total*	*%*		*%*
1993	5	1	6	11,5	19	11,4
1994	0	2	2	3,8	6	3,6
1995	1	0	1	1,9	3	1,8
1996	2	0	2	3,8	7	4,2
1997	1	0	1	1,9	3	1,8
1998	1	0	1	1,9	3	1,8
1999	1	2	3	5,8	10	6,0
2000	2	5	7	13,5	23	13,8
2001	7	2	9	17,3	29	17,4
2002	9	3	12	23,1	39	23,4
2003	1	7	8	15,4	25	15,0
total	30	22	52	100	167	100

Code 1: a company in bankruptcy, suspension of payments or (qualifying for) suspension of listing
Code 2: a company with three years of sequential losses

Table 2. An analysis of size-, composition- and turnover-related variables for the control sample and the financially distressed sample, two years before the financial distress event happens (t = -2)

t = -2	control sample			financially distressed sample			difference	p-value significance difference of
	number	min (max)	mean (median)	Number	min (max)	mean (median)	of mean (median)	mean (median)
SB	166	2	5,16	52	2	4,21	0,95	0,00***
		(15)	(5)		(10)	(4)	(1)	(0,00)***
DSB	166	0	0,56	52	0	0,73	-0,17	0,23
		(8)	(0)		(3)	(1)	(-1)	(0,10)*
SBTO	166	0	0,11	52	0	0,22	-0,11	0,00***
		(1)	(0,00)		(1,50)	(0,11)	(-0,11)	(0,03)**
MBSB	166	3	8,31	52	3	7,08	1,23	0,02**
		(25)	(8)		(18)	(6)	(2)	(0,01)***
DMBSB	166	0	1,08	52	0	1,67	-0,59	0,01***
		(9)	(1)		(6)	(1)	(0)	(0,03)**
MBSBTO	166	0	0,14	52	0	0,27	-0,13	0,00***
		(2,00)	(0,11)		(1,25)	(0,20)	(-,09)	(0,00)***
AUD	131		78%	41		79%	-1%	0.99
			(1)			(1)		(0,99)
DEPR	166	0	0,19	52	0	0,139	0,04	0,16
		(1,00)	(0,13)		(,89)	(0,00)	(0,13)	(0,05)**

***, ** and * indicate reliability on a 1%, 5% and 10% level.

SB the number of members of the supervisory board at the end of t = -2
DSB the number of resignations on SB during t = -2
SBTO the percentage of resignations on SB during t = -2
MBSB the total number of members of the management and supervisory board at the end of t = -2
DMBSB the number of resignations on MBSB during t = -2
MBSBTO the percentage of resignations on MBSB during t = -2
AUD a dummy variable valued 1 if there is a NED in the supervisory board with financial education
DEPR the percentage of NEDs that is considered dependent according to the definition of the Tabaksblat-code (best practice III.2.2.)

In table 2 can be read that the size of the supervisory board (SB) as well as the total board size (MBSB) differs significantly between both samples. The supervisory board (SB) in the distressed sample is almost one person smaller in the mean and median, where the median for the total board MBSB differs two persons. The board turnover percentages for SB (SBTO) and MBSB (MBSBTO) are twice as high in the distressed sample (the mean and median are statistically significant different by over 5 percent point). This is in line with the results reported by Gilson (1989). The absolute number of board changes signals statistically significant differences in mean and median at a 5% level for the total board (DMBSB), but this is not the case for the supervisory board (DSB), although the number of changes in SB is higher in the financially distressed group.

3.3 Mean differences of human resources of NEDs

Table 3 focuses on the human resource characteristics of NEDs. Six resource related variables are tested: DEPNED (a dummy variable indicating the presence of a dependent NED in the board as a proxy for available insiders knowledge), COMNED (the average number of cross NED positions in public or private companies per NED, as a proxy for the network the NED can rely on), AGENED (average age of the NEDs in the board as a proxy for experience), and EDUNED (average education level per NED). Other characteristics, FORNED (a dummy variable if there is a foreigner on the board) and WLNED (the workload of a NED) are tested as well. In order to reduce dimensional problems, all (non-dummy) NED characteristic related variables have been scaled between the first and the tenth decile[56]. COMNED is scored based on the number of board positions in public or private companies an average NED occupies. As this variable represents a board members' networking capacity, there is no different weight attached to a position in a public or private company. However, according to the Tabaksblat code, a chairmanship gets double the weight of an ordinary NED position, which reflects the bigger network and influence a chairman is supposed to have. This can be attributed to a more intensive relationship with CEO's, as well as contacts with banks, shareholders, colleagues and other stakeholders. AGENED is scored on a similar decile basis, after calculation of the average age of the NEDs on the SB. EDUNED is scored based on the average education level of a NED. One masters degree[57] is rewarded with one point, two masters degrees with two points, and a PhD or professorship brings three points. The average educational level of a supervisory board then is rescaled again at the regular decile basis. WLNED indicates the workload of the average NED, consisting of other regular jobs and NED positions in public and private companies. An average NED position in a public company is considered to take 200 hours a year[58] which burden is doubled for the chairman. For a private company the workload of NEDs is halved. A fulltime job is calculated to take 1800 hours a year. Along these lines an average workload is calculated, which is scored later on according to the decile wherein the observation is classified. Table 3 shows the analysis of the NED-characteristic variables.

[56] The actual value of some of the variables and the analysis of their differences is shown in appendix 1.
[57] A university grade, a RA, MBA or ing grade.

[58] See footnote 13.

Table 3. An analysis of NED characteristic variables for the control sample and the financially distressed sample of listed Dutch companies, 1993-2003, two years before the financial distress event happens (t = -2)

t = -2	control sample			financially distressed sample			difference	p-value significance difference of mean
independent variables	number	min (max)	mean (median)	number	min (max)	mean (median)	of mean (median)	mean (median)
WLNED	166	10	52,35	52	10	62,69	-10,34	0,03**
		(100)	(50)		(100)	(70)	(-20)	(0,02)**
FORNED	166	0	36,14	52	0	40,38	-4,24	0,58
		(100)	(0)		(100)	(0)	(0)	(0,58)
DEPNED	166	0	55,42	52	0	38,46	16,96	0,03**
		(100)	(100)		(100)	(0)	(100)	(0,03)**
COMNED	166	10	56,63	52	10	46,15	10,47	0,02**
		(100)	(60)		(100)	(40)	(20)	(0,03)**
AGENED	166	10	59,04	52	10	39,42	19,61	0,00***
		(100)	(60)		(100)	(30)	(30)	(0,00)***
EDUNED	166	10	56,05	52	10	48,94	7,11	0,12
		(100)	(55)		(100)	(55)	(0)	(0,12)
RESOURCE	166	0	56,44	52	8	43,25	13,54	0,00***
		(95)	(57,5)		(84)	(42,50)	(15,00)	(0,00)***
OVERBOARD	166	0	43,98	52	5	51,54	-7,291	0,11
		(100)	(40)		(100)	(50)	(-10)	(0,09)*

***, ** and * indicate reliability on a 1%, 5% and 10% level.
WLNED Decile score on the average workload of the NEDs per board .
FORNED Dummy variable representing a foreigner in the board.
DEPNED Dummy variable indicating the presence of a dependent NED in the board.
COMNED Decile score on the average number of cross NED positions in public or private companies of the NEDs per board.
AGENED Decile score on the average age of the NEDs per board
EDUNED Decile score on the average education level of the NED per board.
RESOURCE Constructed variable is built up of the DEPNED, COMNED, AGENED and EDUNED score, each for 25%.
OVERBOARD Constructed variable consisting of FORNED and WLNED, each for 50%.

The table shows that (mean and median of) FORNED and EDUNED do not differ between the samples, while all other variables do statistically significant differ at a 5% level of reliability (for AGENED even on a 1% level). NEDs of the financially distressed sample have a statistically higher workload, have a smaller network and are younger on average. Such firms also statistically significant lack more often dependents on the board. The RESOURCE and OVERBOARD variables were constructed to combine respectively the positive (average in the control group is higher) and the negative elements of human resources in one testable variable. The RESOURCE variable is built up of the DEPNED, COMNED, AGENED and EDUNED score, each for 25%. As such, RESOURCE describes the resources a NED can rely on:

- insider knowledge of the firm, implying a better historical, cultural and organizational knowledge of the company than independent NEDs (DEPNED);
- a network for external expertise, for business relationships and for sound-boarding on views and worries on the firm (COMNED)
- lifelong exposure to all kinds of relevant experiences, business cases and decision processes which enables better informed judgements (AGENED)
- theoretical knowledge, insights and analytical skills taught at a university, to go about and solve forthcoming problems (EDUNED).

The OVERBOARD variable consists of FORNED and WLNED, each for 50%. As an acronym for overboarded, OVERBOARD describes some of the constraints of a NED:

- With a foreigner on the board increases the possibility of miscommunication, as a result of a language- and a cultural gap. When NEDs meet, communication will be more formal. Travelling distances cause scheduling problems, or even a jet lag. These circumstances are approached as negative elements of a foreigner on the board (FORNED). The positive elements are comprised in the RESOURCE variable.

- Time constraints as a result of a range of NED positions, or a regular job elsewhere and some NED positions, might inhibit a NED to adequately fulfil the position (preparation, attendance, availability). If a NED is overboarded, this is considered to have a negative influence on the potential use of RESOURCE abilities.

3.4 Description of control variables

Apart from the board structure and human resource variables, control variables are needed in order to create a statistically robust model. Daily (1995), p. 1047, argues that effectively controlling for financial considerations may be particularly relevant for bankruptcy research. Mossman (1998) discerns and compares bankruptcy prediction models that are based on financial statement ratios, cash flows, stock returns, and return standard deviations. While the cash flow model most consistently discriminates (in the three years prior to bankruptcy) between distressed and healthy firms, the ratio model turns out to be most effective in explaining the likelihood of bankruptcy (p. 36). Ohlson (1980), p. 123, in a ratio based logit analysis, shows that four factors are statistically significant, namely those related to size, leverage, performance and liquidity. Sixteen years later, Hill, Perry and Andes (1996), p. 63, still use the same kind of variables[59]. Furthermore, most studies account for (possible) industry differences. This is also applied in this study and tests whether financial distress is systematically higher in certain industries. This might go as detailed as the two-digit Standard Industrial Classification (SIC) by Gilson (1989), p. 244 and 260, or as broad as a the two industry classification by Hill, Perry and Andes (1996), p. 61 lc. In our study, it turns out that an industry classification based on the SBI'93 (*Standaard Bedrijfsindeling*; Standard Industrial Classification)[60] of CBS does not produce any statistically significant results at all. However, a classification in old and new-economy companies (ONECON), turned out to fit the model much better and is in line with literature as referred to in the beginning of this section. The applied dummy-variable is assigned 0 for old-economy companies and 1 for new-economy companies, which are defined as companies with more than 50% of turnover in t = -2 in trade, production or service-delivery of ICT related hardware and software (communication-technology thus included). Intuitively it is felt an important variable, as the period of research showed various IPO's and bankruptcies of such companies as well as the market-introduction of various computer related technical innovations. The descriptive statistics of these variables are shown in table 4.

[59] A more elaborate history of bankruptcy description models and their assessment can be found in Luckerath, 2006, p. 218.

[60] As constructed by the authors on a 2 digit-level: industry (15-23); construction (45); trade (50-55); transport, airlines and storage (60-64); financial (65-67), leasing, employment agencies, ICT (70-75).

Table 4. An analysis of the financial control variables and the industry classification for the control sample and the financially distressed sample of listed Dutch companies, 1993-2003, two years before the financial distress event happens (t = -2)

independent variables t = -2	control sample			financially distressed sample			difference	p-value significance
	number	min (max)	mean (median)	number	min (max)	mean (median)	of mean (median)	difference of mean (median)
LNSIZE	167	1,033	5,847	52	0,316	4,591	1,256	0,00***
		(13,201)	(5,599)		(9,376)	(4,321)	(1,278)	(0,00)***
DEBTTA	167	0,000	0,236	52	0,000	0,333	-0,097	0,00***
		(0,759)	(0,235)		(0,855)	(0,318)	(-0,083)	(0,00)***
NICE	167	-0,187	0,209	52	-16,483	-1,218	1,427	0,00***
		(1,648)	(0,161)		(0,880)	(-0,131)	(0,300)	(0,00)***
CASHTA	155	-0,025	0,120	52	-2,945	-0,104	0,224	0,00***
		(0,362)	(0,106)		(0,299)	(0,003)	(0,103)	(0,00)***
ONECON	17		10%	22		42%	-32%	0,00***
			(0)			(0)		(0,00)***

***, ** and * indicate reliability on a 1%, 5% and 10% level.

LNSIZE the natural logarithm of total assets in million Euros (see on this Daily (1995), p. 1048)
DEBTTA total debt divided by total assets
NICE net income divided by common equity
CASHTA cash flow divided by total assets
ONECON a dummy variable with a value of 0 for old-economy and 1 for new-economy (ICT related) companies.

Table 4 reads that financially distressed companies are in general smaller, more leveraged, less profitable, less cash generating companies, which are mostly operating in the new-economy. This goes for minimum, maximum, mean and median. Mean as well as median of all variables differ statistically significant between both samples on a 1% level. As cash flow data are not available for the bank-assurance industry, the number of observations in the control sample is down by 12 to 155. In fact this implies that all logit analyses presented in this study could not make use of available data on the bank-assurance industry due to the choice for CASHTA[61]. Finally, in appendix 2. the correlation table is shown as preparation for modeling.

4. Empirical results of logistic modelling

4.1. Board structure and the probability of financial distress

As Ohlson (1980), p. 112, argues, logit analysis is considered superior to Multi Discriminant Analysis (MDA), as previously used by, among others, Altman (1968). Ohlson (1980) states:

> *(With logit analysis) the fundamental estimation problem can be reduced simply to the following statement: given that a firm belongs to some prespecified population, what is the probability that the firm fails within some prespecified time period? (p. 112)*

Logit analysis is ever since a main method used in literature. In table 5, only those variables are modeled of which the mean and median in table 4 showed statistically significant different coefficients.

INSERT TABLE 5 HERE

[61] Logit-analysis on the complete sample with the omission of CASHTA gives only slightly less significant results.

The results of table 5 show that board structure matters. In the pooled regression, the third panel of the table, it can be read in model 2, model 3 and model 4 that the size of the total board, the number of resignations and the board turnover each influence the prediction of defaults. Especially the number of board resignations shows a high statistical significance (in the pooled regression as well as in t = -2). A high number of directors is inversely related to the health of the company as indicated by Yermack (1996) and Andres, Azofra and Lopez (2005). The logit analyses on the percentage of dependents and on the presence of financial education on the SB have not been reported, because they produced, as might be expected from the analysis of mean and median given in table 4, no statistically significant results. In accordance with economic intuition, the analysis shows that the predictive power of period t = -2 is stronger than that of period t = -3. Model 2 shows slightly better results than model 3, as the R^2 and LR-statistics show higher values as well as the percentage correct score. It seems the addition of resignation data of t = -2 to model 1 improves the prediction results. While the percentage correct score remains almost the same, the percentage correct II improves by 2 percent point. The addition of DMBSB improves the prediction capabilities for financial distress.

4.2 Human resources and financial distress

A similar analysis as performed on board structure is repeated here by estimating the influence of the human resource variables on financial distress. Table 6 presents the results.

Table 6. Logit analyses based on data for t = -2 and t = -3, relating financial distress to financial control variables, industry classification and NED-characteristic related variables. Data for listed Dutch companies, 1993-2003

Model 5: $DISTRESS = \alpha + \beta_1\, LNSIZE + \beta_2\, DEBTTA + \beta_3\, NICE + \beta_4\, CASHTA + \beta_5 ONECON + \beta_9 WLNED + \beta_{10} FORBED + \beta_{11} DEPNED + \beta_{12} COMNED + \beta_{13} AGENED + \beta_{14} EDUNED + \varepsilon$

Model 6: $DISTRESS = \alpha + \beta_1\, LNSIZE + \beta_2\, DEBTTA + \beta_3\, NICE + \beta_4\, CASHTA + \beta_5 ONECON + \beta_{14} RESOURCE + \beta_{15} OVERBOARD + \varepsilon$

dependent variables	sign expected	t = -2		t = -3		pooled analysis t = -2 through t = -3	
		MODEL 5	MODEL 6	MODEL 5	MODEL 6	MODEL 5	MODEL 6
LNSIZE	-	-0,35	-0,37	-0,20	-0,25	-0,30	-0,32
		(0,04)**	(0,02)**	(0,16)	(0,06)*	(0,00)***	(0,00)***
DEBTTA	+	1,89	2,03	0,88	0,88	1,33	1,55
		(0,20)	(0,16)	(0,50)	(0,49)	(0,16)	(0,09)*
NICE	-	-3,82	-3,78	-0,93	-0,91	-1,37	-1,36
		(0,04)**	(0,04)**	(0,25)	(0,27)	(0,08)*	(0,09)*
CASHTA	-	-9,20	-9,05	-8,51	-8,45	-10,03	-9,67
		(0,05)**	(0,04)**	(0,03)**	(0,03)**	(0,00)***	(0,00)***
ONECON	+	1,32	1,44	1,72	1,72	1,62	1,67
		(0,04)**	(0,01)***	(0,00)***	(0,00)***	(0,00)***	(0,00)***
WLNED	+	0,01		0,01		0,01	
		(0,29)		(0,18)		(0,07)*	
FORNED	+	0,01		0,01		0,01	
		(0,40)		(0,20)		(0,08)*	
DEPNED	-	-0,01		-0,01		-0,01	
		(0,09)*		(0,14)		(0,02)**	
COMNED	-	-0,01		-0,01		-0,01	
		(0,47)		(0,50)		(0,42)	
AGENED	-	-0,01		-0,01		-0,01	
		(0,32)		(0,15)		(0,09)*	
EDUNED	-	-0,01		-0,01		-0,01	
		(0,46)		(0,16)		(0,10)*	
RESOURCE	-		-0,03		-0,03		-0,03
			(0,03)**		(0,02)**		(0,00)***
OVERBOARD	+		0,01		0,02		0,02

			(0,15)		(0,01)***		(0,00)***
Constant		1,671 (0,15)	1,836 (0,07)*	1,13 (0,27)	1,17 (0,20)	1,464 (0,05)**	1,254 (0,05)**
number		206	206	206	206	412	412
Nagelkerke R^2		0,614	0,611	0,45	0,45	0,518	0,509
LR statistics χ^2		110,601	110,058	75,60	74,20	177,911	174,507
Percent correct		90,3	90,3	81,1	81,1	85,0	84,5
Percent correct II		73,1	73,1	44,2	44,2	56,7	55,8

***, ** and * indicate reliability on a 1%, 5% and 10% level.
The variables used are defined below tables 3 and 4.
Percent correct II means (100-type II error).

In model 5 all scored NED-characteristic variables as well as the financial variables and the industry variable are linked to financial distress. All financial control variables, except DEBTTA, are statistically significant on at least a 10% level. LNSIZE, CASHTA and ONECON turn out to be the main predictors. Of the NED characteristic variables, for t = -2 only DEPNED appears significant (on a 10% level), but in the pooled analysis all variables (with the exception of COMNED) are statistically significant on a 10% level (with DEPNED on a 5% level). This implies that having one or more dependent board members, favours the chances of not becoming financially distressed. This result is in line with Klein (1998). But apparently, at least for the pooled analysis, all NED characteristics (with the exception of the network variable COMNED) are statistically relevant. Furthermore the analysis on the constructed variables shows, that having RESOURCEful NEDs on the board relates statistically significant to healthy companies (on a 1% level of significance), while OVERBOARDed NEDs signal imminent financial distress (on a 1% level as well). Applying NED-characteristic variables improves the percentage correct for t = -2 by 1.9 percent point, while increasing the percentage correct for financially distressed companies by almost 6 percent points. For the pooled analysis, the improvement is less: while the percentage correct remains approximately the same, the correct prediction of the percentage distressed companies goes up by almost 3 percent point.

5. CONCLUSION

First of all we find that financial ratios are dominant factors in predicting financial distress. This conclusion holds ever since the research of Beaver (1967) and Altman (1968). Our study confirms the strengths of the financial ratio model. However, the central question of this study is whether the *agency theory* and the *resource dependency theory* could provide us with additional insights in-, and additional predicting power for financial distress. Along the lines of Gilson (1989) and Hillman and Dalziel (2003) we tried to identify features of board behavior (turnover), of board composition (size, dependency), and of individual NED characteristics of board members (resource- and overboarded characteristics) in which financially distressed companies differ from non-financially distressed companies. As could be expected from Gilson (1989) and others, Dutch financially distressed firms show higher senior-management turnover in the process towards financial distress than others. While such distressed firms have smaller boards than the control group of listed firms, the panel analysis shows that larger boards and financial distress are positively related. This is in line with research done on the relationship between performance and size (among others: Yermack, 1996).

The new aspect of this paper is the discussion of six NED characteristics and their relationship to financial distress. It turns out that having older, well educated NEDs on the board, whereof at least one has insider knowledge, is negatively related to financial distress. On the other hand, if the NEDs on the board are overloaded or if there is a foreigner on the board, this is positively related to financial distress. We do not find a relevant relationship between the network (expressed in the number of directorships) and financial distress. The constructed variable RESOURCE comprising positive elements of board characteristics (a dependent NED of higher age with more cross board positions and well educated) and the other constructed variable OVERBOARD that comprises negative factors (in the Dutch case: a foreign NED with an overload of work) both present statistical significant results. In other words: in the Netherlands NED characteristics *do* matter. This confirms the resource dependency theory. While these results are firm, the improvement on the prediction side is weak as can be read in the increased predictive power of financial distress with 6 percent point (for t = -2) to 2 percent point (for the pooled data). As a final conclusion, though, the hypothesis originating in resource dependency theory, that human characteristics of NEDs matter for the financial performance of companies, cannot be rejected for the Netherlands in the 1993- 2003 period.

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Appendix 1

Table 7. An analysis of the values of NED characteristics for the control sample and the financially distressed sample of listed Dutch companies, 1993-2003, two years before the financial distress event happens (t=-2)

t = -2	control sample			financially distressed sample			difference	p-value significance
	number	min (max)	mean (median)	number	min (max)	mean (median)	of mean (median)	difference of mean (median)
WLNED#	166	0,15	0,89	52	0,20	0,98	-0,09	0,05**
		1,58	(0,90)		(1,57)	(0,99)	(-0,09)	(0,02)**
FORNED#	166	0	0,82	52	0	1,02	-0,20	0,40
		9	(0)		5	(0)	(0)	(0,40)
DEPNED#	166	0	0,99	52	0	0,83	0,16	0,47
		7	(1)		8	(0)	(1)	(0,08)*
COMNED#	166	1,17	4,36	52	1,00	3,97	0,39	0,22
		(13)	(4,20)		(12)	(3,33)	(0,87)	(0,02)**
AGENED#	166	45,00	(59,51)	52	40,67	56,38	3,13	0,00***
		(68,33)	(60)		(68,00)	(56,10)	(3,90)	(0,00)***
EDUNED#	166	0,00	1,03	52	0,00	0,93	0,10	0,24
		(2,5)	(1)		(3)	(1)	(0)	(0,12)

WLNED# average workload of NEDs on the board expressed in full time equivalents (FTEs) of 1800 hours/year
FORNED# average number of NEDs with a non-Dutch nationality on the board
DEPNED# average number of dependent NEDs on the board
COMNED# average number of cross NED positions in public or private companies of the NEDs on the board
AGENED# average age of NEDs on the board
EDUNED# average education level of NEDs on the board expressed in number of academic grades.

Table 5. Logit analyses based on panel data for t = -3 to t = -2, relating financial distress to financial control variables, industry classification and size-, composition- and turnover-related variables. Data for listed Dutch companies, 1993-2003

Model 1: DISTRESS = $\alpha + \beta_1$ *LNSIZE +* β_2 *DEBTTA +* β_3 *NICE +* β_4 *CASHTA+* β_5*ONECON +* ε
Model 2: DISTRESS = $\alpha + \beta_1$ *LNSIZE +* β_2 *DEBTTA +* β_3 *NICE +* β_4 *CASHTA+* β_5*ONECON +* β_6*MBSB +* ε
Model 3: DISTRESS = $\alpha + \beta_1$ *LNSIZE +* β_2 *DEBTTA +* β_3 *NICE +* β_4 *CASHTA +* β_5*ONECON +* β_7*DMBSB +* ε
Model 4: DISTRESS = $\alpha + \beta_1$ *LNSIZE +* β_2 *DEBTTA +* β_3 *NICE +* β_4 *CASHTA +* β_5*ONECON +* β_8*MBSBTO+* ε

	PANEL 1				PANEL 2				PANEL 3			
	t = -2				t = -3				pooled analysis t = -3 through t = -2			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
LNSIZE	-0,34	-0,49	-0,48	-0,38	-0,22	-0,36	-0,26	-0,23	-0,28	-0,45	-0,35	-0,30
	(0,01)***	(0,01)***	(0,00)***	(0,01)***	(0,04)**	(0,02)**	(0,02)**	(0,04)**	(0,00)***	(0,00)***	(0,00)***	(0,00)***
DEBTTA	2,24	2,23	2,37	2,22	1,03	1,24	1,09	0,98	1,55	1,67	1,60	1,49
	(0,10)**	(0,11)	(0,10)*	(0,11)*	(0,39)	(0,32)	(0,37)	(0,42)	(0,08)*	(0,07)*	(0,08)*	(0,10)*
NICE	-3,82	-3,65	-3,17	-3,30	-0,65	-0,61	-0,50	-0,46	-1,26	-1,19	-0,99	-1,02
	(0,03)**	(0,04)**	(0,07)*	(0,06)*	(0,39)	(0,42)	(0,50)	(0,54)	(0,10)*	(0,11)	(0,16)	(0,15)
CASHTA	-9,41	-9,88	-11,47	-11,09	-9,68	-9,93	-9,53	-9,70	-10,63	-10,99	-11,09	-11,19
	(0,03)**	(0,03)**	(0,01)***	(0,01)**	(0,01)***	(0,01)***	(0,01)***	(0,01)***	(0,00)***	(0,00)***	(0,00)***	(0,00)***
ONECON	1,81	1,82	1,63	1,66	2,11	2,10	2,07	2,09	2,02	2,02	1,95	1,95
	(0,00)***	(0,00)***	(0,01)***	(0,00)***	(0,00)***	(0,00)***	(0,00)***	(0,00)***	(0,00)***	(0,00)***	(0,00)***	(0,00)***
MBSB		0,10				0,12				0,12		
		(0,37)				(0,23)				(0,09)*		
DMBSB			0,49				0,19				0,29	
			(0,01)***				(0,20)				(0,02)**	
MBSBTO				1,29				1,33				1,15
				(0,16)				(0,18)				(0,09)*
Constant	-0,58	0,64	0,84	0,66	0,22	-0,08	0,21	0,09	0,49	0,41	0,55	0,45
	(0,43)	(0,42	(0,29)	(0,40)	(0,75)	(0,91)	(0,77)	(0,90)	(0,35)	(0,45)	(0,29)	(0,39)
Number	206	206	206	206	206	206	206	206	414	412	412	412
Nagelkerke R^2	0,57	0,58	0,61	0,59	0,38	0,39	0,39	0,39	0,46	0,47	0,48	0,47
LR statistics (χ^2)	101,60	103,34	109,16	104,74	61,09	62,46	62,64	62,90	154,64	158,32	161,39	158,69
Percent correct	88,40	88,3	89,80	88,80	82,60	82,00	81,10	81,10	85,02	86,17	84,70	84,70
Percent correct II	67,30	65,40	69,20	69,20	46,20	44,20	44,20	44,20	53,85	58,65	55,77	55,77

The variables used are defined below tables 2. and 4.
***, ** and * indicate reliability on a 1%, 5% and 10% level.
% correct II means (100-type II error).

THE CLAIMS HANDLING PROCESS OF MOTOR VEHICLE INSURANCE

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Abstract

This paper focuses on the claims handling process of motor vehicle insurance where a number of factors are considered by insurers. Some of the claims handling *factors* may be more important than others when insurers are assessing the claims submitted by the policyholders. The responding insurers also identify important *problem areas* in the claims handling process, and *solutions* that alleviate the different problems should be welcomed by the insurers. The empirical study is based on the perceptions of the *leading South African* short-term insurers, who represent 82.6% of the total gross premiums written for motor vehicle insurance in 2006. The *objective* of this research embodies the improvement of financial decision-making by insurers when occupied in the claims handling process of motor vehicle insurance.

Keywords: insurance, policyholders

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1. INTRODUCTION AND OBJECTIVE OF RESEARCH

A policyholder essentially buys *peace of mind* when acquiring coverage from a short-term insurer. The insurer undertakes (or in fact promises) to indemnify the insured against financial losses to a specified extent when particular detrimental events occur. The actual value of short-term insurance is only assessed when a claim is submitted, as the claims handling process will prove whether the short-term insurance policy holds any financial indemnity to the policyholder or not. It should be emphasised that the insurance policy is the legal contract concluded between the insurer and the insured, and that the stipulations thereof should be adhered to by both parties to the contract.

This paper focuses on the claims handling process concerning motor vehicle insurance where various factors play a vital role. It is expected that some of the claims handling *factors* are more important than others when insurers are handling claims which are submitted by policyholders. The claims handling process has without any doubt some important *problem areas* which should also be addressed. *Solutions* that alleviate the various problem areas will be welcomed by insurers. Throughout this paper there will be reference to *incidents* which cause motor claims, as it is a much wider concept than just accidents, where hijackings, break ins and theft of motor vehicles are excluded.

The *objective* of this research embodies the improvement of financial decision-making with reference to the claims handling process of motor vehicle insurance. In order to achieve the research objective, a literature study represents the starting phase, after which an empirical survey is conducted. The empirical study focuses on the perceptions of the *leading* insurers of motor vehicle insurers in South Africa with reference to the claims handling factors, the problem areas experienced by the responding insurers, and the solutions to alleviate the problem areas.

2. CLAIMS HANDLING FACTORS

There are various factors which an insurer should consider when settling a motor vehicle insurance claim. The factors may focus on the details of the driver of the covered motor vehicle, as well as other factors concerning the detrimental incident as a whole. The following sections contain a brief description of the main claims handling factors.

2.1 The place where and the date when the incident happened

This claims handling factor focuses on the place where and date when the detrimental incident happened. The *place* may be well-known to the insurer as an identified location where many disadvantageous incidents had occurred in the past. It may also draw the insurer's attention to the possibility of a gravel road or dangerous mountain pass, and may point to the driver not exercising due precaution in this regard.

A motor insurance policy usually stipulates that a condition for cover is that the detrimental incident must happen in a particular country or countries (Davis, 1993:449-450). If the incident occurs in other geographic regions, the insurer will not provide any cover to the policyholder. This aspect emphasises the importance of the place where the incident happened as a claims handling factor.

The *date* of the incident is also important, indicating the time and the day of the week, perhaps used for business activities, holiday trips, a festive season or weekend excursions. This information is vital in order to assess the mood and attitude of the driver, being under a lot of stress or perhaps being over-relaxed. Of even more importance is that the date of the incident will show whether the insurance policy was actually in force when the unfavourable incident happened.

2.2 The prevailing circumstances when the incident happened

The prevailing circumstances refer to the specific weather situation at the time of the unfavourable incident and the impact thereof on general driving conditions. Technology may sometimes be of assistance to estimate possible damage to motor vehicles due to particular risks and to adjust insurance policies accordingly (Hohl, Schiesser & Knepper, 2002:215-238). As the prevailing circumstances may represent factors which aggravate the cause of the incident, this claims handling factor is not only important to assess the current claim, but also to consider when formulating insurance policies in future.

2.3 The age of the driver of the covered motor vehicle

Younger drivers are usually viewed as higher risks than older people (Yeo et al., 2002:1198). This claims handling factor is however not a controllable factor as drivers do not have any power over their age (Gardner & Marlett, 2007:49). *If* an insurer perceives age as a proxy for responsibility, this claims handling factor should be included in the motor vehicle insurance policy *in advance* instead of forwarding it during the settlement of a motor claim (Wiegers, 1989:172). It is therefore obvious that when insurers mention age as an important claims handling factor, a stipulation concerning age must *already* be embodied in the existing insurance policy.

2.4 Whether the driver of the covered motor vehicle was duly and fully licensed and for how many years

In order to be able to enforce this claims handling factor when settling a motor vehicle insurance claim, an insurer must stipulate at the inception of the contract that the driver must be duly and fully licensed (Davis, 1993:450). When concluding the insurance contract the insurer may also specify that any driver of the motor vehicle must be duly and fully licensed for a particular number of years. A stipulation on this claims handling factor must therefore be embedded as part of the current insurance policy *before* an insurer can indicate it as an important factor when settling motor claims.

2.5 Whether the driver of the covered motor vehicle caused the incident

A knock-for-knock agreement between insurers binds only the parties that concluded the contract, and the various insureds are not bound by the agreement (Davis, 1993:459). According to a knock-for-knock agreement every insurer is liable for the damages to motor vehicle he has insured, and it is irrelevant which party caused the detrimental incident.

When a knock-for-knock agreement does *not* exist between the insurers who are involved in the disadvantageous incident, the fact whether the driver of the covered motor vehicle is guilty or not, is important. In such a situation the insurer of the innocent party may apply subrogation against the insurer of guilty party to recover the damages to the property of the innocent party (Dinsdale & McMurdie, 1987:248; Hansell, 1987:170; Vivian, 2006:20, 22, 24 &25). This claims handling factor is therefore important in the absence of a knock-for-knock agreement between the insurers of the various parties to the disadvantageous incident.

2.6 Whether the incident was reported to and/or the scene visited by the police service

The involvement of the local police service by either reporting the incident and/or the police service visiting the scene of the incident, are important claims handling factors in order to bring the incident to the attention of the governing authority. The testimony of the police service is important when civil and/or criminal charges are laid afterwards.

2.7 Particulars of the other driver(s) involved in the incident

The implication whether the driver of the covered motor vehicle *caused* the incident, was previously discussed. *Irrespective* of which driver is guilty and who is innocent, insurers always want to know who the other drivers were, should any type of litigation follow afterwards. That is the reason why the particulars of the other drivers are important as a claims handling factor.

2.8 Particulars of all persons who are injured or dead due to the incident

Possible future litigation is also the rationale why insurers perceive the details of all persons who are injured or dead as a result of the incident, as important for the claims handling process. An unfavourable motor vehicle incident may lead to extensive civil and/or criminal charges.

2.9 Whether the driver of the covered motor vehicle was under the influence of intoxicating liquor or drugs

When the driver of the covered motor vehicle was under the influence of intoxicating liquor or drugs, an insurer usually excludes any cover based on the stipulations of the insurance policy (Davis, 1993:450). The driver may be the policyholder, or any other person who drives the motor vehicle with the permission and knowledge of the policyholder. It is therefore important for an insurer to know whether the driver of the covered motor vehicle was intoxicated or not.

3. RESEARCH METHODOLOGY

As stated previously, the objective of this research embodies the improvement of financial decision-making regarding the claims handling process of motor vehicle insurance. A literature study consisting of secondary data, formed the starting phase of this research. In order to obtain primary data, an empirical study represents the subsequent phase of this research, focusing on the leading short-term insurers in South Africa. The empirical study focuses on the factors used in the claims handling process, the problem areas of the claims handling process, and possible solutions to alleviate the problem areas.

Santam Limited compiled a confidential report according to which it is clear that the nine leading short-term insurers (in the general segment) in the South African motor vehicle insurance market represented 82.6% of the total gross premiums written for motor vehicle insurance in 2006 (2007:6, 11 & 21). It should be mentioned that the remaining part of the motor vehicle insurance market was serviced by large number of smaller insurers. The nine selected short-term insurers are therefore without any doubt the market leaders of motor vehicle insurance in South Africa.

As the nine short-term insurers where defined as the universe of this empirical study, their claims managers were requested to complete the previously drafted questionnaire. The claims managers were engaged as they should have extensive experience of the related topic. After mailing the questionnaires together with invitation letters to the various claims managers, and following up several times, the nine completed questionnaires were eventually available.

4. EMPIRICAL RESULTS

The following empirical results focus on the importance of the various factors which are used when handling the claims of motor vehicle insurance, the problem areas experienced in the claims handling process, and feasible solutions to ease the problem areas of the short-term insurers.

4.1 Factors used in the claims handling process

The importance of the factors used in the claims handling process, as perceived by the leading short-term insurers of motor vehicles, appears in the following table. A Likert scale with five intervals, ranking from extremely important to not important, is used.

Table 1. Responses of the short-term insurers regarding the importance of the factors used in the claims handling process

Claims handling factors	Extremely important	Highly important	Moderately important	Little important	Not important
Place where the incident which led to the motor claim occurred	5	2	2		
Date of the inci-dent which led to the motor claim	9				
Circumstances when the incident which led to the motor claim oc-curred (e.g. at night or in rainy weather)	6		3		
The *age* of the *driver* (of the motor vehicle which is covered)	6	1	1	1	
Whether the *driver* (of the motor vehicle which is covered) was *duly* and *fully licensed when* the incident which led to the motor claim occurred	8	1			
The *number of years* which the *driver* (of the motor vehicle which is covered) has his/her driver's license	4		4	1	
Whether the *driver* (of the motor vehicle which is covered) *caused* the incident which led to the motor claim	3	4	1	1	
Whether the inci-dent which led to the motor claim was *reported* to the SAPS and the detail thereof	2	6	1		
Whether the SAPS *visited* the *scene where* the incident which led to the motor claim oc-curred	1	1	6		1
Particulars of *other driver(s)* involved in the incident which led to the motor claim	6	3			
Particulars of *all persons* who are *injured or dead* due to the incident which led to the motor claim	9				

Note: A few other factors were each mentioned by only one or two of the respondents.

In order to clearly establish which claims handling factors are more important than others as perceived by the responding insurers, a weight (in terms of points) is assigned to each particular response and the total score of each claims handling factor is then calculated. The following points are given to the different responses:

“Extremely important” receives five points,
“Highly important” receives four points,
“Moderately important” receives three points,
“Little important” receives two points, and
“Not important” receives one point.

It must be emphasised that in order to enable the calculation of weights, it was explicitly mentioned on the questionnaire that the intervals of the Likert scale form a continuum (Albright, Winston & Zappe, 2002:224-229 & 245). Table 2 shows the factor analysis of the importance of the factors used in the claims handling process in a declining order of importance.

Table 2. Factor analysis of the importance of the factors used in the claims handling process, in a declining order

Total score calculated	Declining order of importance	Factors used in the claims handling process
45	1	*Date* of the incident which led to the motor claim
45	1	Particulars of *all persons* who are *injured or dead* due to the incident which led to the motor claim
44	3	Whether the *driver* (of the motor vehicle which is covered) was *duly and fully licensed when* the incident which led to the motor claim occurred
42	4	Particulars of *other driver(s)* involved in the incident which led to the motor claim
39	5	*Place* where the incident which led to the motor claim occurred
39	5	*Circumstances* when the incident which led to the motor claim occurred (e.g. at night or in rainy weather)
39	5	The *age* of the *driver* (of the motor vehicle which is covered)
37	8	Whether the incident which led to the motor claim was *reported* to the SAPS and the detail thereof
36	9	Whether the *driver* (of the motor vehicle which is covered) *caused* the incident which led to the motor claim
34	10	The *number of years* which the *driver* (of the motor vehicle which is covered) has his/her driver's license
28	11	Whether the SAPS *visited* the *scene where* the incident which led to the motor claim occurred

The two most important factors that are used in the claims handling process, are also perceived by the responding insurers to be equally important. They are the *date* of the incident which led to the motor claim, and the particulars of all persons who are *injured or dead* due to the incident. All nine of the insurers indicated that these two factors are extremely important to the claims handling process. Whether the insurance policy was actually in force at the *date* when the unfavourable incident happened, as well as the extensive civil and/or criminal charges for *injuries and deaths* which may follow the detrimental incident, are perceived as extremely important factors in the claims handling process.

Whether the driver of the covered motor vehicle was *duly and fully licensed* when the unfavourable incident occurred, is considered by the respondents to be the third most important claims handling factor. It is therefore clear that a stipulation requiring that the driver should be duly and fully licensed, was part of the insurance policies when the insurance contracts were incepted.

The particulars of *other driver(s)* who are also involved in the incident which led to the motor claim, are regarded as the fourth most important factor of the process for handling claims. The rationale is that the insurers want to have the details should any type of litigation follow afterwards.

The next three factors had the same level of importance according to the perception of the responding insurers. They are the *place* where the detrimental incident happened, the prevailing *circumstances* when the incident occurred, and the *age* of the driver of the covered motor vehicle. It is obvious that stipulations about the particular countries in which the detrimental incident should occur, and conditions relating to the age of the drivers, must already be embedded in the insurance policies of the responding insurers before the disadvantageous incident happened.

According to the results of the empirical survey, the claims handling factors which are of lesser importance focus on whether the incident was reported to the South African Police Service (SAPS), whether the driver of the covered vehicle actually caused the incident, the number of years which the driver (covered by the insurer) has his/her driver’s license, and whether the SAPS has visited the scene where the disadvantageous incident occurred.

This particular section of the questionnaire did *not* explicitly mention the following claims handling factor as an alternative: *Whether the driver of the covered motor vehicle was under the influence of intoxicating liquor of drugs*. This question was however an open-ended one which provides the opportunity to the respondents to add this factor if they want to. It is interesting to note that only two of the nine responding insurers mentioned this claims handling factor.

4.2 Problem areas of the claims handling process

The claims handling process is a source of significant problems to insurers, as it appears from the reaction of the responding insurers. The respondents were asked to mention the three most important problem areas which they experience. Table 3 shows the empirical results.

Table 3. Responses of the short-term insurers regarding the three most important problem areas in the claims handling process

Problem areas	The *three* most important problem areas according to each insurer's perception.
When the insured committed a *breach of utmost good faith* by not providing the correct information *before the incident* which led to the motor claim	6
When the *claim* submitted by the insured was *fraudulent*	6
When the motor vehicle (which you cover) was *hijacked*	0
When the a*larm system and/or gear lock* of the motor vehicle (which you cover) were not activated as required by the stipulations of the insurance policy *when* the incident which led to the motor claim occurred	1
When the motor vehicle (which you cover) was not *stored in a safe place over night* as required by the stipulations of the insurance policy *when* the incident which led to the motor claim occurred.	0
When the insured did not have an *insurable interest* in the motor vehicle (which you cover) *when* the incident which led to the motor claim occurred	5
The *extent* of the quote received from the repairer/panel beater	1
The *quality* of the repairs done by the repairer/panel beater	0

Note: One of the nine insurers did not complete this question. A few other problem areas were mentioned by only one insurer each.

According to six of the eight responding insurers, one of the most important problem areas is the *breach of utmost good faith* as the policyholders do not provide the material information before the detrimental incident (Viaene & Dedene, 2004:314). Material information is the class of information which will put an insurer in the position to decide whether to underwrite and to provide further cover, and should he decide to cover the insured, under which conditions and at what premium.

It is also clear that *fraudulent claims* are a major problem area to six of the eight respondents and to South Africa in general (Derrig, 2002:271-287; Israelson, 2000:54-55; Jacks, 2007:5; "SA battling", 2004:23). Insurance fraud often consists of two categories, viz.:

- when a claim that does not exist, is fabricated by a policyholder, or
- when a policyholder who experiences a real loss, claims for more expensive possessions, or items which he does not possess (Robertson, 2007:17).

Another problem area which was mentioned by more than 60 per cent of the respondents relates to the situation where the policyholder does not have an *insurable interest* in the motor vehicle when the disadvantageous incident happens (Hansell, 1987:135). It is important to emphasise that the basic principles of utmost good faith and of insurable interest are two of the cornerstones of the short-term insurance industry, and when they are not adhered to, the very essence of the whole industry is violated by the policyholders. It is logic that insurers will not tolerate such behaviour of the insureds.

While two other problem areas are indicated in the preceding table by only one insurer each, it is quite interesting to note that no responding insurer has cited the following aspects as important problem areas:

- when motor vehicles are hijacked;
- when motor vehicles are not stored in a safe place over night; and
- the quality of the repairs done by the repairer/panel beater.

It can therefore be concluded that the three aspects mentioned seem to produce no important problem areas to insurers.

4.3 Possible solutions to alleviate the problem areas

The following solutions are presented by the responding insurers for the three most important problem areas (as it appears in the preceding table):

(1) The *breach of utmost good faith* by the policyholders when they are not providing the correct information before the detrimental incident, should be solved by emphasising to the brokers as well as the policyholders that this basic principle is a pillar of short-term insurance. Without adherence to the basic principle of utmost good faith no indemnity will be provided by the insurer.

(2) In order to avoid *fraudulent claims*, an effective database is needed by the insurer which should provide all the particulars of the insureds (Murray & Whiteing, 1995:22-29). The details must be thoroughly checked by the investigators (including loss adjusters) to see whether any fraud was committed, which should act as a deterrent to the submission of fraudulent claims.

(3) Not having an *insurable interest* in the motor vehicle when an unfavourable incident leads to a motor claim, should be prevented by stressing to the brokers and policyholders that

without an insurable interest no cover will be available.

(4) The *ultimate* solution to the preceding three main problem areas boils down to the conclusion that brokers as well as policyholders should be *educated* in insurance matters, while both parties to an insurance contract should apply an *honest* approach.

5. CONCLUSIONS

Based on the literature study and the perceptions of the leading short-term insurers in South Africa, the preceding research provides the following important conclusions:

(1) The seven most important factors of the claims handling process (in a declining order of importance) are as follows:
- The *date* of the incident which led to the motor claim.
- The particulars of *all persons* who are *injured or dead* due to the incident which led to the motor claim.
- Whether the *driver* (of the motor vehicle which is covered) was *duly and fully licensed when* the incident which led to the motor claim occurred.
- The particulars of *other driver(s)* involved in the incident which led to the motor claim.
- The *place* where the incident which led to the motor claim occurred.
- The *circumstances* when the incident which led to the motor claim occurred.
- The *age* of the *driver* (of the motor vehicle which is covered).

(2) The three most important problem areas according to the insurers' perceptions are the following:
- The breach of utmost good faith by not providing the correct information before the detrimental incident occurred.
- The submission of fraudulent claims.
- The situation where the policyholder does not have an insurable interest in the motor vehicle when the unfavourable incident happens.

(3) The solutions presented by the responding insurers to alleviate the problem areas include the following:
- The breach of utmost good faith by the policyholders should be solved by emphasising to the brokers and the policyholders that, as this basic principle is a pillar of short-term insurance, no indemnity will be provided by the insurer without adherence to the principle.
- An effective database which contains all the particulars of the policyholders, together with investigators checking the details thoroughly to see whether any fraud was committed, should act as a deterrent to the submission of fraudulent claims.
- It should be emphasised to brokers and policyholders that without an insurable interest no cover will be provided by the insurers.
- The ultimate solution embodies that brokers and policyholders should be *educated* in insurance matters, and that insurers and policyholders should apply an *honest* approach.

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INFORMATION SECURITY GOVERNANCE: BUSINESS REQUIREMENTS AND RESEARCH DIRECTIONS

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Abstract

World wide the importance of Information Security Governance is demanding the attention of senior management. This is due to the ever-changing threat landscape requiring that organisations adopt a focussed approach towards the protection of information assets. Any successful approach towards Information Security Governance is dependant on the availability of relevant and timely research outputs. The research community working on Information Security Governance are diverse and appears to be mis-aligned with the needs of the business community. The problem that this paper addresses is twofold. Firstly, it addresses the confusion regarding the meaning of Information Security Governance. Secondly, it assesses the gap between research and business communities from an Information Security Governance perspective. This article analyses the requirements from the business community and mapped it against current research outputs. Findings clearly indicate that the two worlds are not entirely aligned and that in some cases minimum effort is being spent on the topics deemed important by the business community. Information Security Governance in general can benefit from an improved alignment between the needs of business and the outputs of the research community.

Keywords: security governance, information

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1. Introduction

With the blurring and disappearance of organisational boundaries through the proliferation of electronic information channels, the need drastically increased for organisations to acknowledge the importance of Information Security Governance. Organisations are recognising that an effective approach towards Information Security Governance can enable them to make business decisions faster and more accurately enabling them to retain and grow their market share. Yet there are still numerous organisations that cannot claim success in this area. Although organisations presumably deploy appropriate security technologies, they fail to link security technologies to real risks regarding the protection of information assets.

Although the operational aspects of information security such as tools and procedures are a well-established, organisational as well as technological risks and threats are in a continuous state of change. This demanded that organisations have to focus on the management aspects of information security enabling them to address relevant risks in a timely and appropriate manner. The discipline of Information Security Governance concerns itself with this problem domain and in particular ensures that information security activities are executed in an orderly manner commensurate to the risk exposure of an organisation and in support of its business goals.

The purpose of this article is to firstly explore what the business community, i.e. representatives of the corporate world who concern themselves with the discipline of information security but are not linked to an academic or research institution, views as important with regards to Information Security Governance. A list of key topics was compiled through the analysis of various annual global security surveys in which the business community participated. Secondly, the article investigates what the various research communities, i.e. academic and private institutions who focus on understanding the topic of information security through dedicated learning and investigation thereof, are currently focussing on in terms of their Information Security Governance-related work. The "business" view was then mapped to the "research" view to understand whether these two worlds were in fact complementing each other and addressing the same issues.

Both the business and research communities have in the past – and in some cases on an ongoing basis –

investigated the realm of Information Security Governance topics. In 2006 an exercise was conducted by Botha and Gaadingwe (2006) which analysed the research focus areas of the 20 SEC conferences hosted by the IFIP Technical Committee 11 from 1983 to 2005. The study indicated that the amount of Information Security Governance-related research remained fairly constant over the evaluated time period, although a slight decrease was noted in towards the latter part of the said time period. In contrast, the business community, regularly – in most cases on an annual basis – captures the views and perceptions of people responsible for the execution of the Information Security Governance function within organisations to determine the issues faced by them.

2. Definition of Information Security Governance

The concept of Information Security Governance is not well established and there is an absence of formal definitions. A Wikipedia (2008) definition for Information Security

Governance defines it as the discipline of corporate governance with the focus on information security systems and their performance and risk management. Furthermore, current literature indicates that the terms Information Security Governance and Information Security Management are used as synonyms. Because of the lack of formal definitions for Information Security Governance this paper proposes a definition for Information Security Governance that is based on literature references for Information Security Management.

The ITIL® publication of 1999 on Security Management describes the discipline as "the process of managing a defined level of security on information and IT services." (Cazemier, Overbeek & Peters, 1999) It furthermore alludes to the fact that the appropriate measures must be implemented to ensure that risks to the information assets are reduces reduced to an acceptable level. The Trusted Information Sharing Network of Australia (TSN) defines Information Security Management in its publication *Leading Practices and Guidelines for Enterprise Security Governance* (TSN, 2006) as "a methodical and cyclical approach to managing the protection of information to support the achievement of organisational goals."

Various other publications address the topic of Information Security Governance but do not specifically define the concept. Both the IT Governance Institute's *Information Security Governance: Guidance for Boards of Directors and Executive Management* (ITGI, 2006) and the United States of America's *Federal Information Security Management Act* (2002), allude to the fact that Information Security Management deals with the reduction of the risks faced by an organisation's information assets to an acceptable level through the application of applicable controls, yet do not provide a formal definition to this effect.

The link between information security and risk management is further supported in the *Guidelines for Security of Information Systems and Network* (OECD, 2002) of the

Organisation for Economic Co-operation and Development. These guidelines state that risk assessments covering all key business activities and operations of an organisation should form the basis of Information Security Governance. To complete the activities of the Information Security Governance function, the publication recommends that incident management, reviews, audits, policies, practices, measures and procedures should be integrated into the Information Security Governance discipline to support it.

Based on the definitions published above, for the purposes of this article, Information Security Governance is defined as the guidance and control of the information security activities of an organisation through the establishment of applicable policies, processes and procedures based on the risks faced by the information assets of the organisation. The definition implies that the discipline of Information Security Governance consists of activities aimed at managing the pre-defined level of security, commensurate to the risk appetite of the organisation, of all information assets, regardless of their state. These activities include:

- The identification of the business drivers directing the need for information security within the organisation. This evolves into the definition of the level of security required for the information assets;
- The proactive identification, evaluation and management of threats and vulnerabilities specifically related to the risks associated with the information assets. Both internal and external threats are evaluated;
- The definition of the applicable information security-related governance controls and measures, such as the policies that are required;
- The management and guidance of the stakeholders and role players involved in the information security landscape of the organisation;
- The monitoring of the information security-related controls to ensure that they perform as expected and are adhered to;
- The evaluation of legislation and regulatory requirements and ensuring that the applicable controls are in place to comply with these.

3. A Business Perspective on Information Security Governance Issues

Information security is no longer just a technical issue best left to the information technology staff to address. Over the past years, it has evolved into a discipline that is now seen not only as a necessary function, but as business critical. It requires the active participation of business managers in assessing the risks faced by the information assets in determining the best and most effective response to them. As the business managers play a larger role in the information security discipline, it is important that their views on the topic are understood and addressed.

Various global Information Security Surveys are conducted annually to understand the business community's perception of information security in general, its effectiveness and the latest trends in terms of how to manage the discipline, e.g. the number of resources deployed in the security team and its budget. The surveys measure the perception at a given point in time. These surveys are aimed at identifying the latest trends with regards to information protection-related threats, risks and issues – both real and perceived. The majority of the surveys are aimed at senior non-technical business people and therefore provide a good indication of a business perspective of information security. Ideally the Information Security Governance research topics should match the issues and trends raised by the business community to ensure that the research is of value and appropriate and addresses the business community's concerns.

The annual global surveys conducted during the past two years by Deloitte (2006, 2007), Ernst & Young (2006, 2007) and PriceWaterhouseCoopers (2006) were analysed to identify the needs of the business community with regards to Information Security Governance. The results of the analysis were combined with the authors' practical experience in this domain. Below is a high-level description of the key Information Security Governance topics being challenged, questioned and worked on in the business community as viewed by the author of this paper. A summarised list of Information Security Governance research topics as perceived to be required by the business community is presented as a conclusion to this section of the article.

Foremost, the attention of information security managers is nowadays shifting more and more towards the people element of information security. As the majority of threats to information involve people, it has become important for organisation's to understand who is accessing their information and what actions the people can perform with or on the information.

Information Security Governance is gradually being more fully integrated into organizational culture through information security policies, roles, responsibilities and other governance structures. These are also more clearly and effectively communicated and therefore generally better understood by the owners of information assets. Yet there are few organisations today that have an information security aware culture, because the awareness activities currently employed do not bring about a change in behaviour. Organisations need to understand what an effective awareness strategy entails and the role of the human psyche is in bringing about lasting changes in the behaviour of employees.

One of the greatest challenges facing good governance for information security is the availability, attraction and retention of experienced Information Security Governance practitioners. Given these restraints, information security managers must be able to build innovative and creative organisational structures that retain the ability to deliver on their mandates. Additionally, information security managers must invest in the career development of their staff to ensure that their knowledge remains current.

Increasingly the priorities for Information Security Governance point to regulatory compliance, privacy and personal data protection, certification, benchmarking, risk management. The corporate world is urging the Information Security Governance practices to more closely integrate the discipline of information security within the organization through effective organisational structure, clear governance controls such as policies, and understanding the business initiatives and requirements. They are realising the importance of using secure, accurate and available information to proactively integrate into the business processes to maintain market share, deliver quality service and improve operational efficiency.

The requirement for regulatory compliance demanded the integration of the information security organisation into the rest of the organisation, specifically the risk management function, whereas in the past it was seen as a sub-function of the Information Technology division only. This is as a result of functional business groups, e.g. Information Technology, Finance and Corporate Management, relying on input from the information security organisation to strengthen their own internal controls. Organisations' senior executives are therefore demanding that Information Security Governance be in a position to demonstrate real business benefits and performance improvements, as well as addressing the threats to the information assets commensurate to the risk appetite of the organisation. Information security managers must be able to effectively identify risks, determine the likelihood and impact of them materialising and match appropriate countermeasures and controls to them. They need to be in a position where they clearly understand the regulations and legislations.

Additionally, the business expects compliance to regulations to be taken seriously especially where they relate to information and privacy protection. Compliance monitoring is the key activity for demonstrating that the information security controls and processes are functioning as expected and that they are addressing the said legal requirements.

With the disappearance of the traditional organisational boundaries, Information Security Governance is forced to formalise risk management practices to be able to identify threats and risks relating to information assets timeously and proactively. The risk management framework must enable the Information Security Governance function to address risk appropriately through mitigation, acceptance, avoidance or transfer thereof. Business processes must also be subject to regular threat analyses to ensure that there are sufficient Information

Security Governance controls in place to reduce the likelihood of the threats materialising.

Today, Information Security Governance is an important enabler for in organisations towards meeting their business objectives. Simultaneously, information security is an integral part of the business process, specifically aimed at enhancing service delivery. Furthermore, Information Security Governance also manifests itself in the improvement of vendor-related information risk management and the incorporation of information security principles into business relationships. Information security managers require the establishment of practical controls, such as policies, standards and procedures, to be able to underscore its value to the organisation in ensuring that the business processes are secure, yet still functional.

The lack of easy and practical approaches towards assessing the return of investment (ROI) in the information security domain results in inappropriate and insufficient security expenditure.

Furthermore, information security managers have to constantly justify security expenses. Information security managers need practical ways to measure the benefits of information security to the organisation.

In summary (Deloitte 2003, Deloitte 2005, Deloitte 2006, Deloitte 2007, Ernst & Young 2005, Ernst & Young 2006, Ernst & Young 2007, PriceWaterhouseCoopers 2004, PriceWaterhouseCoopers 2006), the business community's requirements in terms of Information Security Governance research can be described as follows:

- The correct and effective staffing of the information security organisation Information Security Organisational Structure);
- The sensitisation of owners and users of information assets through effective awareness initiatives (Information Security Awareness);
- Compliance guidance to assist organisations in understanding the complex requirements of information security-related regulations and legislations (Legal and Regulatory Issues);
- Fast, practical and feasible compliance monitoring, both in terms of being able to measure compliance to internal controls, as well as to external regulations and legislations (Compliance Monitoring);
- Standardisation of Information Security Governance activities, processes and controls through benchmarking against international practices such as ISO/IEC 27001/2, with the possible end-result being fully certified (International Best Practice Guidance);
- Thorough incident management processes that can support subsequent forensic investigations and prosecutions (Security Metrics and Incident Response);
- Quantitative return on investment calculations that can demonstrate the value of information security to senior management (Value of Information Security);
- Risk management practices that assist the Information Security Governance function in selecting the correct countermeasures and keeping abreast of threats and risks (Information Risk Management);
- The easy and efficient integration of Information Security Governance into the business processes (Convergence of Information Security Governance and Business).

This research effort did not attempt to prioritise the above list in order of priority as the quantifiable data was not available from the survey reports.

4. Current Information Security Governance Research

Through the evaluation of various research sources, specifically publications of global nonacademic research institutions with a reputation for focussing at least partly on information security and leading information security-related journals, for the period June 2006 to December 2007, a summary of the current Information Security Governance research trends has been compiled.

4.1 Information Security Governance Research: Non-academic Research Institutions

This article focused on the research initiatives and focus areas of the Information Security Forum (ISF) and the SysAdmin, Audit, Networking and Security (SANS) Institute, as organisations known to be focusing their activities on information security-related research.

This was combined with an investigation of the publications produced by the Information Systems Audit and Control Association (ISACA). In addition, the publically available abstracts from the Gartner and Forrester reports were reviewed to identify the focus of their Information Security Governance-related research. These organisations were selected based on their prominence in the global environment, as well as the fact that they all supported ongoing information security research programmes in one form or another, whether from individuals or from commissioned studies.

The Information Security Forum (ISF) consists of a membership of leading global organisations, generally large organisations. The main focus of its activities is on providing relevant research and practical guidance to its members on topics determined by its membership community. These topics are investigated due to a large proportion of information security-related activities being linked to them or them being perceived as being a problem area with which the majority of their membership is struggling with. The forum reevaluates its current project list on an annual basis by soliciting input from its members on the key topics and issues they would like the research efforts to be focussed on. The representatives of the member organisations generally include Chief

Information Security Officers, Information Security Managers and Chief Information Officers. The research is available to its membership community only, but as it is directed by its membership, it gives a good indication of the current most important information security topics. In addition, the forum has made it's Standard of Good Practice publically available to assist any interested party in identifying appropriate information security controls.

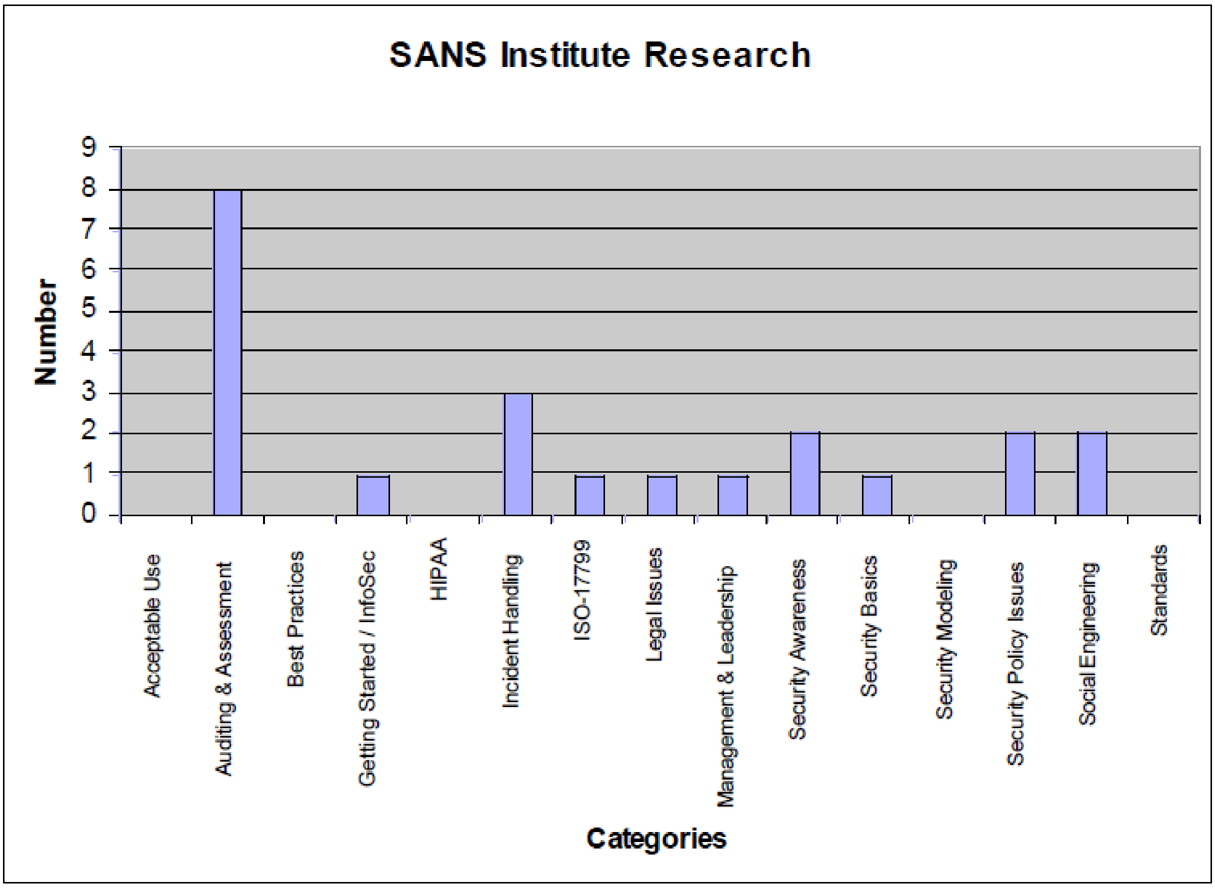
For each publication issued by the ISF, it provides a brief topic description. A study was performed on the ISF's website (2008) to identify the publications released within the specified timeframe. The associated topics of the publications were then captured to compile the list below. As the list indicates, a fair proportion of topics relates to the discipline of Information Security Governance or includes Information Security Management components, specifically governance and policy aspects, per the available abstracts (marked as "Partly" in the table below). The complete list is as follows:

Topic	Information Security Governance Related?
Compliance	Yes
Endpoint Security	No
Information Classification	Partly
Information Security Architecture	Yes
Management and securing of critical infrastructure, including governance and policy aspects	Partly
Risk Management (specifically Information Risk Management methodologies)	Yes
Secure System Development, including governance and policy aspects	Partly
Security Event Logging, including governance and policy aspects	Partly
Strategy and Policy	Yes
User Access Management, including governance and policy aspects	Partly
Windows Vista	No

The SANS Institute focuses on providing information security practitioners with the opportunity to share their knowledge and experience with fellow practitioners. The topics covered by the institute cover all aspects of information security, and are not only limited to Information Security Governance. The research papers on the various topics are submitted by information security practitioners. The information submitted generally includes challenges being faced by a range of individuals varying from auditors, network administrators to Chief Information Security Officers. It also address lessons learnt in solving and overcoming these challenges. The recently submitted research papers therefore provide a good indication of the current information security-related research topics as determined by individuals who deal with information security on a daily basis.

The SANS Institute (2008) research papers have been categorised into 67 categories by SANS itself, the majority of which are of a technical nature. The Information Security Governancerelated topics were identified out of these categories and the number of research papers submitted for each of these during the period under review for this article was determined.

The figure below indicates the distribution of these and represents the actual number of articles applicable to each topic. It clearly indicates that the most important research topic currently, as per the SANS Institute, is Information Security Governance auditing and assessment. A closer look at the articles classified under this topic indicates that articles on risk management were included in this topic. Some of the categories were identified as being Information Security Governance-related but have no value assigned to them due to the fact that no articles were published for them during the timeframe under review.



The Information Systems Audit and Control Association's (ISACA) membership consists of certified individuals involved in the audit of information technology controls. In recent years it has increased its focus area to also incorporate information security controls. It additionally offers career path certification in a program called Certified Information Security Manager (CISM).

The nature and primary focus of ISACA (2008) is towards research on Information Security Governance, with the majority of the research published during the past 18 months addressing this specific topic. In the past ISACA also conducted research on international Information Security Standards, the organisational structure of an Information Security Governance function, as well as user awareness. However, no publications appeared in these areas during the period under review.

Gartner and Forrester are leading global information technology-related research institutions. Although their main focus is not information security, their research efforts related to Information Security Governance were also evaluated due to their reputation for quality research aimed at the business community. Both these research institutions publish their research results on a restricted basis being only available to their membership community.

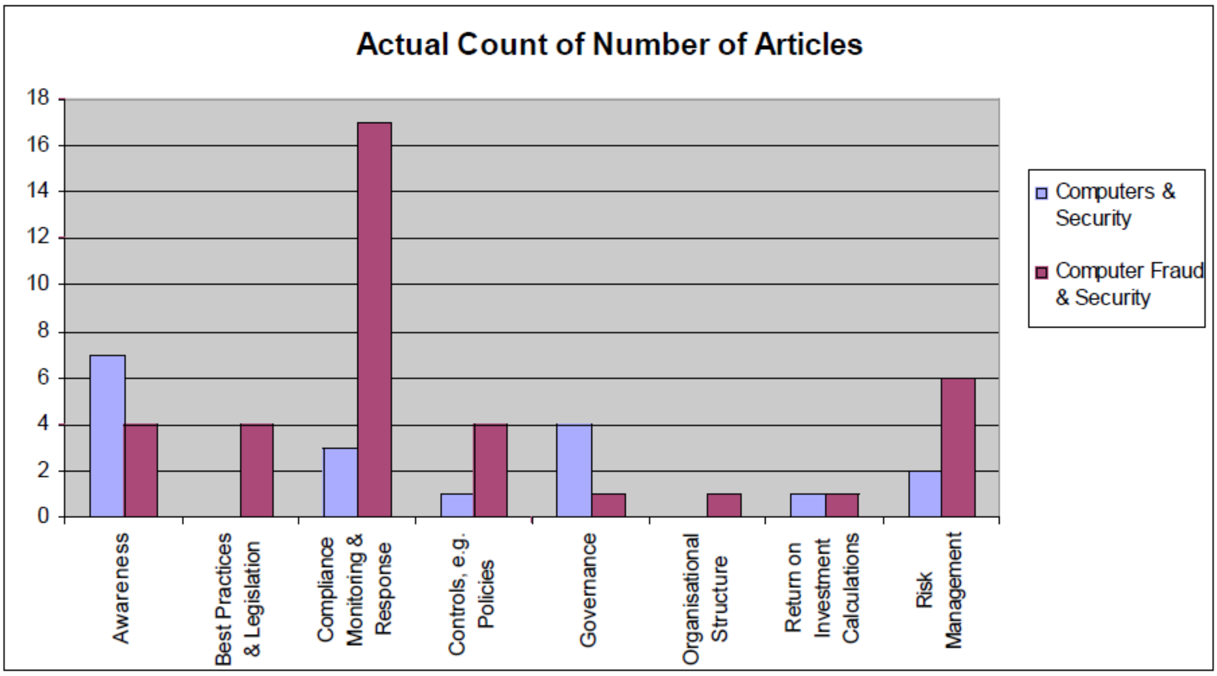
They do, however, provide abstracts of their research papers which were used by the authors of this paper to analyse Information Security Governance-related research outputs. In summary, Gartner (2008) addressed amongst others the following Information Security Governance topics: policies, charters and program maturity. In addition, Gartner conducted research into: the concept of an Information Security Management report card; the trends of Information Security Governance in Japan; the relationship between Information Security Governance and physical security; regulatory aspects and the Information Security Governance process.

Forrester (2008) focussed primarily on the commercial aspects of Information Security Governance; compliance to regulatory requirements and international best practices.

4.2 Information Security Governance Research: Information Security Publications

The research project at hand focuses on the papers published in two internationally leading journals: Computers & Security and Computer Fraud & Security Journals. The research outputs for the period June 2006 to December 2007 were considered. The objective was to determine which Information Security Governance topics were covered and to which extend.

The review consisted of an evaluation of the abstracts of all articles. Only research related articles were considered for the evaluation. Articles of a short news-related nature for the Computer Fraud & Security journal were disregarded. The graphs below illustrate a synopsis of the findings.



In summary, the following were identified as the most important topics:

- Compliance monitoring, with special focus on digital forensics and the appropriate incident management and investigation processes;
- Information Security Governance, such as aligning policies with strategy;
- Understanding legislation, specifically related to electronic information retention and privacy requirements;
- Information security awareness and education;
- Information security investments;
- Risk management models appropriate for information security;

Few research outputs were found on international best practice guidelines, such as ISO/IEC 2700127001, and their impact on the Information Security Governance discipline. This may be attributed to the fact that the guidelines have been available for a while and no longer warrant intensive research efforts. Organisational structures and Information Security Governance controls also received virtually no attention in the publications under investigation.

4.3 Information Security Governance Research: Summary

The research community by far primarily focussed their efforts on compliance monitoring and the associated procedures. The non-academic research institutions also focussed effort on the elements required to build and govern an Information Security Governance framework, such as the governance aspects, strategy and policies. The information security publications, in addition to the focus on compliance monitoring, have also reflected considerably on governance, awareness and risk management.

The research community's research efforts are summarised below:

- Awareness, including social engineering;
- Best practices and legislation;
- Compliance monitoring and response;
- Information risk management;
- Information security management controls, e.g. policies;
- Information security governance, including strategy;
- Organisational structure, including management and leadership;
- Return on Investment calculations.

The reader should note that the analysis of research efforts conducted for the article at hand did not evaluate the specific content related contributions made by the different efforts as only abstracts of the publications were considered. The article at hand thus rather concludes on coverage and effort.

5. GAP Analysis: Shortfall between Current Research and Business Expectations

The table below presents a mapping between the needs (topics) of businesses and the topics as covered by the various research communities.

Topic	Coverage By	Comments
Compliance Monitoring, including Security Metrics and Incident Response	• Computer Fraud & Security • Computers & Security • Gartner • ISF • SANS	Although not addressed by all research community role players under review, the highest total number of articles was produced on this topic.
Convergence of Information Security Governance and Business	• Forrester • Gartner	No research on this topic, except by the business community-aligned research institutes.
Information Security Governance, including Strategy, Policy, Architecture and Frameworks	• Computer Fraud & Security • Computers & Security • Gartner • ISACA • ISF • SANS	Addressed by the most research community role players under review.
International Best Practice Guidance	• Computer Fraud & Security • Forrester • SANS	Few research outputs on this topic; covered by a minority of research community role players.
Legal and Regulatory Issues, such as HIPAA	• Computer Fraud & Security • Forrester • Gartner • SANS	Very little research on this topic; covered by a minority of research community role players.
Organisational Structure	• Computer Fraud & Security	Very limited research conducted in this area.
Risk Management	• Computer Fraud & Security • Computers & Security • ISF • SANS	In-depth research performed by the ISF (includes a series of deliverables); good coverage by the research community role players.
Security Awareness, including Social Engineering	• Computer Fraud & Security • Computers & Security • SANS	Good coverage by the research community.
Value of Information Security	• Computer Fraud & Security • Computers & Security • Forrester	Limited coverage by the research community.

6. Conclusion

The research environment has embraced the requirement for research in the compliance monitoring and response area. This area incorporates the topics of traditional compliance monitoring, digital investigations, forensics and incident handling. This may be attributed to the fact that legislation enabling organisations to prosecute offenders and violators of secure information handling practices is maturing and therefore requires these processes. Most organisations also generate huge amounts of monitoring, logging and audit data on a daily basis that potentially takes up volumes of storage space and can even impact the performance of a system. The requirement to understand this data, process it and utilise it to improve the information security environment has been clearly stated and may be a second factor contributing factor to the research outputs in this area.

People-related aspects of information security, and specifically the awareness and cultural aspects thereof, also received the attention of the research community. This is perhaps an indication of the realisation that information security is not only a technology problem but also a people problem. The organisational structure of the Information Security Governance function, however, received insufficient attention in the research community. Governance will always remain an important area of focus as it shapes and defines the Information Security Governance landscape.

There is almost a complete absence of research outputs in determining the value of Information Security also referred to as the return on information security investment. Senior management expects that the Information Security Governance function is in a position to demonstrate real value. New approaches to assess this value-added perspective on information security should be a priority in the future for the research community. In addition, once funding for the Information Security Governance function is secured, it requires to be applied in an intelligent manner so as to affect the greatest impact, value and benefit from a business perspective. Further research is also required in this area.

This analysis of information security related research efforts as conducted for this project indicates that there is a misalignment between business expectations and the issues currently being addressed by the research community. Current research efforts focus primarily on the operational aspects of information security, rather than the traditional business aspects such as the cost and value of information security. This may be an indication that researchers are not comfortable with the business aspects of the discipline or that there is not sufficient dialogue between the business and research communities.

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CONTROLLERSHIP INSTITUTIONALISATION PROCESS OF CORPORATE GOVERNANCE IN BRAZILIAN COMPANIES

Ilse Maria Beuren*, Elza Terezinha Cordeiro Miiler*

Abstract

The aim of the article was thus to verify how the Controllership institutionalization process takes place in corporate governance companies in Santa Catarina State – Brazil. Research was carried out by means of a multi-case study with a qualitative approach. Five companies were selected, but four answered the questionnaire, all listed in Bovespa's corporate governance. The research found only one company underwent a restructuring process in controllership. In this, the institutionalization process involved the system and sub-systems used in the company, encompassing every task and practice. The institutionalization of controllership assured the implementations, controls, performance, goals and levels of commitment of those involved.

Keywords: Controllership. Institutionalization process. Implementations. Controls. Performance. Brazilian companies

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1 Introduction

The concept of interdisciplinary studies is related to environmental changes and the need for both the updating and innovation of practices, which generally become unbalanced due to these changes. Lepri (2006) states that at the 58ª Annual Meeting of the Brazilian Society for the Progress of Science (SBPC) scientists were invited "to sow interdisciplinarity", as they were concerned with increasing specialization in their disciplines and were seeking an antidote to the real-world difficulties it created. That antidote is interdisciplinary study, an incentive for greater communication between knowledge areas.

Controllership derives from a set of disciplines, mainly in accounting. Mosimann and Fisch (1999) report that there is a relation between mathematical Controllership and science, due to the use of symbols and methods for measuring economic events, although this does not characterize it as such. As with other sciences, Controllership absorbed some expressions in order to facilitate agreement, such as the anatomy of companies, examination of morbid states, patrimonial embryology, by means of operations etc.

Interdisciplinarity depends on the influence of new concepts and paradigms in the necessary evolution and improvement of existing processes. Institutional theory, according to Guerreiro and Pereira (2005), is a sociological approach that has been applied in accounting in order to explain the established paradox. This theory focuses on managerial accounting as an institution within a company. Thus it is understood that the phenomenon of institutionalization brings about the approximation and strategic configuration of Controllership, as well as the interdisciplinary relationship of Controllership with other areas.

Nevertheless, incorporating the conceptual basis of Institutional Theory is not the exclusive province of accounting; other branches of knowledge also display evidence in this direction. Dirsmith, Timothy and Gupta (2000) call attention to how, in Economics, an institutional perspective is constituted to incorporate, within the logic of strategic agency, the concept of the social limits of rationality. The central point of this more recent source of institutionalism in organizations seems to be the search for reconciling notions of institutionalization and strategic agency. The Theory of Agency is oriented toward the analysis of the relationships between participants in systems, in which ownership and control are given to different people or groups, which in turn leads to conflicts between the different interests and their respective parties (Jensen & Meckling, 1976 as cited in Segatto-Mendes & Rocha, 2005).

According to Crubellate, Grave and Mendes (2004, p. 39), there are several branches of institutional theory in organizations that can be systemized; they also suggest possible contributions that can be extracted from these branches in order to explain, or "re-explain", strategic thought. In this perspective, institutional theory comes to be understood "as a social immersion product of organizational agents, i.e., as being conditioned or at least influenced by coercive, normative and cognitive standards predominant environmental context".

In this sense, controllership considered as a sub-system within a company system, is conditioned, or at least influenced by coercive, normative and cognitive patterns of the company system. However, it also establishes coercive, normative and cognitive patterns that condition or at least have influence in the company and possibly in its environmental context. Institutional Theory can contribute to deciphering these interactions – individual/organization, sub-system/organizational system and organization/individual, organizational system/sub-system – and how the standards and procedures used in the controllership of organizations influence or are influenced in the process of institutionalization.

In this manner, the general aim of this work is to verify how the institutionalization of the Controllership process happens at corporate governance companies in Santa Catarina State – Brazil. Based on the general objective, the following specific aims are elaborated: a) to investigate if companies underwent a re-structuring process in Controllership in the period between 2001 and 2006; b) verify if norms were implanted in Controllership; c) identify the occurrence of changes in procedures; d) analyze the internal and external acceptance in relation to the institutionalization of Controllership.

Four companies from the State of Santa Catarina, Brazil, were selected, all listed in Bovespa's (São Paulo Stock Exchange) corporate governance. This listing obliges them to display greater transparency in terms of administrative actions, leading to the supposition that they could present greater evidence of institutionalized controllership since that is the agent responsible for management of information within an organization. Based on the handbook of the Comissão de Valores Mobiliários (Securities and Exchange Commission), CVM (2002), corporate governance entails the set of practices whose aim is to optimize a company's performance and to protect all interested parties, including investors, employers and creditors, facilitating access to capital.

Regarding different levels of corporate governance, according to Bovespa (2005), the new market is a listing segment used for negotiation of shares made by companies that have voluntarily committed to the adoption of extra corporate governance practices related to what is demanded by legislation. The basic difference between Level 1, Level 2, and the new market, are different rules of listing. Level 1 covers rules of transparency and share dispersal established in NM. Level 2 covers rules of transparency; share dispersal, and balancing legal rules between controlling and minority shareholders. The main difference of Level 2 for the New Market is the possibility of having preferential shares in the capital structure of the company.

The study is justified because of the need for better understanding of the role of controllership in organizations and the process of its institutionalization. By virtue of the fact that controllership does not possess a consolidated conceptual base, different conceptual approaches and pertinent attributions can be encountered. Furthermore, the way in which it is developed in organizations is also nebulous. It is possible that the implementation of standards and procedures changes habits and routines both in controllership and within the company in general.

The work presented is structured in six sections. It starts with this introduction, and is followed by the theoretical foundation, emphasizing institutional theory and institutionalization of Controllership. This is followed by methodological procedures, data analyses and interpretation and, lastly, by final considerations of the research.

2 Institutional theory

Institutional theory has brought about interest and attention in the study of organizations. According to Machado-da-Silva, Fonseca and Crubellate (2005), since the late 1970's there have been studies and critiques on institutional theory. They show that in the majority of such critiques lies the supposed identification of the institutional perspective of analysis, within the scope of what is called neo-institutionalism, emphasizing permanence, homogeneity, conformity and determinism, above all when studies focus on the investigation of organizational change or the institutionalization process.

According to Guerreiro et al. (2005), three focuses of Institutional Theory can be seen in the accounting literature: New Institutional Sociology (NIS); New Institutional Economics (NIE) and Old Institutional Economics (OIE). They point out that, "although these theories have different origins and diverse philosophical roots they share a common interest through the themes *institution* and *institutional change*" (p. 97). The significance of these three focuses of Institutional Theory, according to Guerreiro et al. (2005) is summarized as:

a) NIS (*New Institutional Sociology*) focuses on organizations configured within a network of inter-organizational relationships and cultural systems. Beliefs, standards and traditions of the institutional environment influence the relationship the relationships of organizations. The institutional environment is characterized by the elaboration of rules, practices, symbols, beliefs and normative requirements to which individuals and organizations need to conform in order to receive support and legitimacy;

b) NIE (*New Institutional Economics*) focuses on the institutional environment as a set of social, legal and policy rules that establish the bases for production, exchange and distribution. The institutional environment is characterized as a central element for understanding the evolution of an industry and the strategies of the companies within it. The institutional environment exerts influence on the behavior of economic organizations;

c) OIE (*Old Institutional Economics*) focuses on the institution as the principal objective of analysis and no longer on rational, maximizing behavior of individual decision makers.

Scapens (1994, as cited in Guerreiro et al. 2005) conceives of institutionalization as a set of ideas contained in institutional theory (OIE) that structure an intellectual framework adequate for the understanding of managerial accounting systems. According to this author, the institutional approach should not be considered the only one, or even the best approach, but instead be presented as a valid structure for understanding managerial accounting practices as institutionalized routines and for exploring the interaction between managerial accounting and other social institutions.

Kostova (1998) warns that in order for institutionalization to take place successfully, signs of approval employee performance, their work satisfaction, their commitment to the organization and their feeling of psychological property connected to the practice all must be observed. He understands that institutionalization occurs at two levels: implementation and internalization. The level of implementation is the degree of formal, practical adoption in behavior and objective and explicit action. The level of internalization, on the other hand, relates to employee internalization of the values that the practice incorporates.

The institutional process is not only implantation of practices. According to Kostova (1998), "the institutional process continues after the implantation of the practices, going until when the employees give value to the new practices". There are two elements that compose the process implanting organizational practices: "the diffusion of a set of rules" and "the transmission or creation of a meaning for these rules" (p. 2).

According to Burns and Scapens (2000), the moment that the practices are constituted as organizational rules and routines the institutional process is initiated. In this way the authors demonstrate the organizational importance of routines and institutions in forming administration and accounting processes.

The term practices or routine in enterprise operations, as Prochnik and Fernandes note (2001) is used in the manner given by Nelson and Winter (1982): they enclose "from task set libraries of individual employees, carried through daily, to collective and much more complex and delayed tasks, such as set libraries, necessary to assure the quality in a production line" (p. 3).

The term habit, according to Quellette and Wood (1998), signifies trends for the repetition of answers, given a stable and facilitating context. The authors approach the subjects of habit and intention as consciousness in the daily lives of people, using a cognitive psychology approach. Crubellate, Grave and Mendes (2004) describe that recently in Brazil some studies have been developed in regard to these possibilities.

Vasconcelos (2004) elaborated a proposal of for a constructivist natural approach, with a focus on organizational institutionalism as a theoretical resource, for exploring of the strategies of organizations that perform on the Internet. Machado-da-Silva and Fonseca (1993) have made a synthetic rescue of the debate between differing perspectives of organizational strategy, making suggestions for understanding it based on cognitive and institutional theory.

In a more specific way, and already focusing on accounting, Guerreiro et al. (2005) approach the understanding of managerial accounting from the point of view of institutional theory. In another study, Guerreiro and Pereira (2005) investigated the evaluation of the change process in managerial accounting by means of an Institutional Theory case study approach of the Banco do Brasil. Furthermore, Guerreiro, Frezatti and Casado (2004) made a search into understanding the formation of the habits, routines and institutions of managerial accounting. Guerreiro, Pereira and Frezatti (2006) also published an article using an approach similar to this last work in an international periodical.

Based on what has been presented, it can be concluded that further studies on managerial accounting from the perspective of Institutional Theory are necessary, given the interdisciplinary relationship between managerial accounting and Organizational Theory. However, considering the focus of the present work, it emphasizes an approach geared towards controllership.

3 Institutionalization in controllership

Mosimann and Fisch (1999) affirm that the basic role of Controllership "consists of coordinating the efforts to obtain a synergic global result, that is, superior to the addition of the results of each area" (p. 89) of the company. The company as a system is made up of people, whose actions are present in some subsystems.

A system, as Bertalanfy describes (1975) in his work *General Theory of Systems*, in "elaborated form would be a logical-mathematics discipline, purely formal itself, but applicable to some empirical sciences, and if we know the total of the parts contained in a system it can be derived from the behavior of the parts" (p. 61-62).

In a broad sense, according to Bertalanfy (1975), the "analysis of the systems of an industrial company, encloses, raw material, men, machines, buildings, entrance, monetary exit of products, values, good will and other imponderable ones, and this can lead to definite answers and practical indications" (p. 261).

In a narrower focus, Optner (1981) explains that as a system, the company can configure tasks and routines, which must congregate operations of technical level, in the direction to supply data necessary and useful to the internal controls. These controls must be tools that transform data into qualitative and quantitative information.

Control, according to Anthony, Dearden and Bedford (1989), is based on the managers and the administration itself: division managers work effectively when they insist on knowing the short-term and specific goals for a specific stated period; senior administration can help the administration of departments to decide problems and to define practical, day-by-day steps. Alternatively, departments make better decisions every day with the participation of the administration in the decision-making at each phase of the control process.

In regard to the control process, Kaplan and Atkinson (1998) establish three phases for administration of the process: planning of the action, execution of the action, and evaluation of the action. In order for the three processes of control to occur, accounting must report, describe and explain those aspects of risks and uncertainties that form part of its information. In order to attend to the necessities and objectives of a company, Controllership practices must be continuous, using accounting information in the management process. The purpose must always be to assure the control and results of the company, which corresponds to the integration of the efforts in several areas, in accordance with the systems and subsystems used. This is the operational component of the concept of accountability.

According to Nakagawa (1995), *accountability* consists of the obligation to provide an account of the results obtained, as a function of the responsibilities that result from the delegation of authority. The author calls attention to the delegation of authority since it can provoke rigid behaviors in some people and the habits they acquire in following a routine if it is not adapted to changes or new environments; people frequently are not even concerned with improving the form in which they carry out a given task, much less in defining strategies.

Merchant (1998) reminds us that after establishing strategies and deciding on planning, the first task of administration is to take measures to assure that these plans are implemented, which involves directing the activities of others. A good part of the function of control is to assure that others do what must be done. Often enough, due to the habits and beliefs of the people in a company, we end up generating inverse results and causing wrong actions. The function of controllership is to assure the fulfillment of what has been forecast.

Regarding the organization of Controllership, Tung (1976), understands that due to the diversity of business organizations, each needs a specific type of Controllership, but there essentially remains a structure common to all of them, whose characteristics are: a) executed the company's accounting functions under management of the accounts department; b) budget, control and analysis services grouped in one department alone; c) functions and registries separated from investigated functions, with audit services in a different department; d) department of systems and methods co-ordinates and makes uniform administrative processes of other departments of the company and is responsible for computing systems; e) other services will have to be grouped in a different department with responsibility falling to head or manager of the department.

Figueiredo and Caggiano (2004) understand that the increase of the governmental complexity modified the function and responsibility of the executive. They consider this to be the reason for the separation between the accounting function and the financial function, being the logical path taken to ensure the birth and development of a differentiated Controllership function. They point out that along the years, review of the literature and business practice has indicated that basic responsibilities and activities can be characterized of the following form: planning, control, information, accounting, other functions which manages and supervises each one of the activities that impacts company performance

Borinelli (2006) notes that even though companies differ in size or area of activity, "a certain set of activities will always be present. This implies that the functions of Controllership can thus suffer variations in the way they are developed and distributed, but not in types of functions that they develop" (p. 99). Tung (1976) points out that the task of Controllership requires the application of sound principles, which encompass all of the company's the activities from planning to the attainment of the final result. Figueiredo and Caggiano (2004) understand that Controllership must be deeply involved with the search for organizational effectiveness, taking into account the style of management and activities developed in the company, aiming to reach definitive objectives and specific results.

It can be perceived from what has been discussed that fulfilling the mission of controllership depends on the need for its institutionalization in the company. According to Moisman and Fisch (1999), the beliefs and values of the owners "will have an impact on the beliefs and values of the entire organization because taken together with the expectations of investors they will convert themselves into master-guidelines that will direct the other sub-systems of the company system" (p. 22). Analogously, the interaction of the controllership members with other areas of the company influences them, while the obverse is also true. If the controllership is the manager of information in the company, it is worth remembering that its product depends on the habits and routines of the members of the organization.

4 Methodological procedures

The present work was developed by means of exploratory research. Gil (1999) explains that exploratory research is developed towards enabling a general vision concerning definitive fact. This type of research consists of the deepening of preliminary concepts on the theme to be studied.

The exploratory study was carried out by means of multi-case studies. According to Triviños (1987), multi-case study differs from comparative case study because it provides the researcher with the possibility of studying two or more subjects, organizations, etc. without the need to pursue objectives of a comparative nature.

Five companies from the State of Santa Catarina - Brazil were selected, each listed on the corporate governance levels of the São Paulo Stock Exchange, and each having the obligatory highest administrative transparency. Of these, four answered and returned the questionnaire, constituting an intentional sampling by accessibility that, in accordance with Gil (1999), is one in which the researcher selects the elements that furnish access to what may, in some form, represent the universe.

Data collection, which took place in August of 2006, consisted of field research carried out by applying a questionnaire composed of 10 open questions. After contact by telephone and email, an e-mail, a letter of introduction and the questionnaire were sent out. The return of the questionnaires was also via e-mail.

In order to attend to the established objectives, questions relating to the already existing institutionalization process and procedures were elaborated. Respondents were asked to answer: If the company had gone through a reorganization process in the Controllership in the last 5 years (2001/2006)? What changes had been implemented in the Controllership? Were norms established from the changes implemented? Had those norms been implemented? What procedures had been modified with the new norms? Were procedures legalized? In what way had they been legalized? In what forms were the institutionalized norms divulged? How did the people from Controllership confront institutionalization? How did people from other areas in the company confront institutionalization?

In order to broaden knowledge of the companies in the study, documentary research was needed. To do so, available reports on administration available on the electronic page of the companies were checked and the annual and quarterly reports of the companies were studied. According to Raupp and Beuren (2006), the merit of documentary research in studies that involve accounting subjects lies in the fact that it is important "to not only verify the latest facts that can be useful, as a record of memories, but to also glimpse trends" (p. 90).

After data was collected, the responses of each company were analyzed by content analysis (Bardin, 2004). Care was taken to attend to the objectives of the research, using a qualitative approach to the data, as collating it with the theoretical foundations of this work. Colauto and Beuren (2006) describe that, theoretically it does not have specific norms or rules "that indicate the interpretative process of the data. However, because of concern in acquiring knowledge the researcher of the necessity is observed in literature to be always correlating the empirical data with the theory contemplated in its study" (p.141).

In dealing with the limitations of the research made, it can be observed that everything stems from the strategy defined for the research. One of these limitations is due to the fact that the questionnaire was sent out in a complete form, without knowing if there had been changes in the controllership of the company. Another can be attributed to the manner in which the questionnaire was applied to the companies (without the researcher being present), which limited the possibility of exploring the answers further. A third limitation resulted from the exploratory research having been made by means of a multi-case study, meaning that the results cannot be extrapolated to other companies.

5 Analyses and data interpretation

In the analysis and interpretation of the data, the profile of the companies that had answered the questionnaire is first demonstrated: CELESC S.A., CIA. HERING, PERDIGÃO S.A. and WEG S.A.. Later, it refers to the profile of the respondents of the research and the answers to the questions. Close attention was paid to the objectives of the work, correlating empirical data with the theory on which the study was based.

5.1 Profile of the searched companies

Table 1, shows the profile of the researched companies, giving the company's name, the year it began its activities, branch of activity, market where they act, products they make and sell, annual sales, number of employees and level of corporate governance in the Bovespa's

Table 1. Profiles of researched companies

Name of company	Beginning of activities	Area of activity	Market	Products	Sales in 2005	No. of direct and indirect employees	Governance level
CELESC S.A.	1995	Electricity; public service concession.	State of Santa Catarina	Electricity distribution	R$ 4,365, MI	3,590	Level 2
CIA. HERING	1880	Fabric industry	Internal and abroad	Fashion and clothing	R$ 400, MI	4,500	Level 1
PERDIGÃO S.A.	1934	Processed food	Internal and abroad	Processed pork products, cuts and whole pigs, and whole, poultry and soybeans.	R$ 5,873, MI	35,556	New Market (NM)
WEG S.A.	1961	Automated process systems, generators, electric motors, and machinery	Internal and abroad	Automation process systems, generators, electric motors, and machinery	R$ 2,978, MI	14,098	Level 1

Source: research data.

CIA. HERING is the oldest company, acting in the clothes and fashion industry. At the end of 2005 it had 4,500 employees and average sales of four hundred million reais. According to the administrative report of December of 2005 (www.ciahering.com.br) it carried out such strategic movements as: reorganization and industrial flexibilization (wiring factions), retail approaches, replacement of the Hering trademark logo, development of exclusive distribution channels (surmounting), brand strengthening, reduction of number of brands, management of supply demand and financial reorganization.

PERDIGÃO S.A. has processed swine, poultry and soybeans since 1934. At the end of 2005 it had 35,556 employees and average sales of five billion, eight hundred and seventy three million reais.

WEG S.A. has acted in the market since 1961. It develops, makes and sells industrial motors, generators and electric components and automation processes systems. In January 2006 it revealed its new organizational structure, made up of separate companies containing diverse segments of WEG S.A. As stated in its 2005 administration report (www.weg.com.br), the new structure enables gains in efficiency and quality of management, exploitation of operational and commercial synergies and optimization of administrative procedures. The report states that WEG S.A. now controls the following companies: WEG Equipamentos Elétricos S.A. (electro-electronic segment); WEG Indústrias S.A. (forest industrial activities, paints and varnishes); WEG Exportadora S.A. (TRADING of the Group). At the end of 2005, it had 14,098 employees and average sales of two billion, nine hundred and seventy eight million reais.

CELESC S.A., Concessionaire of the Public Service for Electric Energy, has acted in the domestic market since 1995, in the State of Santa Catarina, distributing its product, electric energy. It had an average billing in 2005 of four billion, three hundred and sixty five million reais, and had 3,590 employees. According to it 2005 administrative report (www.celesc.com.br), it created the function of Controllership through Deliberation 0109/2002 in 30/04/2002.

It was further observed on the São Paulo Stock Exchange site (www.bovespa.com.br) that the four companies which answered the questionnaire all adhere to corporate governance, with CIA. HERING and WEG S.A. at Level 1, CELESC S.A. at level 2. PERDIGÃO S.A.'s administration report (www.perdigao.com.br), states the company went from Level 1 to the new market (NM) in the first semester of 2006.

5.2 Profile of questionnaire respondents

Table 2 presents the profiles of the respondents of the research, describing their position, time that they have been in the position and academic background

Table 2. Profiles of research respondents

Company	Position	Time in position	Academic background	
			Undergraduate	Post-graduation
CELESC S.A.	Accountant	8 years	Bachelor's in Accounting	Cost and evaluation engineering; Master's in production management
CIA HERING	Controllership manager	5 years	Bachelor's in Accounting; and Law degree	Specialization in business and tax law
WEG S.A.	Accounting manager	15 years	Bachelor's in Economics s	Specialization in Business Administration; Master's in International Relations
PERDIGÃOS. A.	Cost coordinator and commercial information	2 years	Bachelor's in Accounting	Managerial specialization, MBA in management.

Source: research data.

It can be seen that those responsible for the Controllership of CELESC S.A., CIA. HERING and of PERDIGÃO S.A., are all graduates in Accounting sciences. At WEG S.A., the person responsible for the Controllership is an Economics graduate. All had invested in further, Post-graduate education. The respondents from WEG S.A. and CELESC S.A. also indicate their participation in directly related Post-graduate education.

The data confirm the interdisciplinarity of Controllership pointed to by Miller (2002 as cited in Fragoso, Ribeiro & Libonati, 2006), where the accelerated changes in professional activities and the emergence of new fields of knowledge in an academic discipline develop the need to extend the limits of that discipline, in order to know new technologies, management tools and forms of analysis.

5.3 Process of Institutionalization of Controllership

The process of institutionalization of Controllership in the four companies under corporate governance in the State of Santa Catarina is presented in the following table. For the purpose of analysis, they are called companies, A, B, C, D, without any relation to the previous ordering, in order to preserve the confidentiality requested by the respondents.

5.3.1 Process of reorganization in the Controllership during the period 2001 to 2006

Table 3 reports the answers to questions 1 and 2 of the questionnaire, which investigate the process of reorganization in the Controllership during the period 2001 to 2006.

Table 3. Process of reorganization in the Controllership during the period 2001 to 2006

Questions	Answers			
	A	B	C	D
1. Has the company gone through a process of reorganization in the Controllership in the past 5 years?	No, not since the creation of Controllership in 2002	No changes	Yes	Nothing meaningful
2. What were the changes implemented in Controllership?	Only the ones cited before	No changes	The company implanted a shared service centre with segregated activities	Did damage

Source: research data.

Analyzing the answers to the questions, the first one asks if the company went through a process of reorganization in the Controllership in the last 5 years, during the period 2001 to 2006. The reply of company "A" was no, because since the creation of the function of Controllership they did not have any process of reorganization. However, she says later that the objectives/mission, basic function and organizational attributions, previously executed by the old Controllership (DPCT) were transferred that year to the Department of Corporative Planning (DPPL), Division of Corporative development (DVDC) .

Company "B" answered that she did not have changes or reorganization in the Controllership in the researched period, thus several questions were answered as if they did not apply, since there were no institutionalized changes, or norms and new procedures in the Controllership of this company. However, one finds reorganization and industrial flexibilization, retail approach, replacement of logo, development of exclusive channels of distribution (surmounting), strengthening of the brands, reduction of nº of marks, management of demand supplies, financial reorganization in the administration report.

Company "D" also answered that there were no changes or reorganization in the Controllership in the researched period; the ones that had occurred were not considered significant. Thus other questions were answered as irrelevant or insignificant in terms of changes or norms and institutional procedures in the Controllership of this company. The quarterly administrative report of this company, as published on its Internet page, shows that in the first trimester of 2006, when the new organizational structure was divulged to the market, it is made up of separate companies in accordance with the diverse segments. The reason why this change was not considered significant was not asked.

Regarding the fact that companies B and D did not point out any reorganization in the Controllership during the period 2001 to 2006 to go with other events in management, attention is called in to the levels of corporate governance that they had on the São Paulo Stock Exchange. On the other hand, as these companies had not changed governance levels, they had perhaps not thought it necessary to reorganize the Controllership and its processes.

These findings and answers to the research hurt analyses, but collating them with Machado-da-Silva, Fonseca and Crubellate (2005), we identify criticism in relation to institutionalization, regarding conformity and determinism, mainly in the focus of the inquiry on organizational change or the process of institutionalization.

In company "C" the respondent indicated that the company went through a process of reorganization in the Controllership in the last 5 years, as shown in the reply to question number 1. According to the São Paulo Stock Exchange, this company entered the new market of corporate governance in the month of April of 2006, before then it was at governance Level 1. It is possible that the changes implemented in Controllership are also a result of the entry of the company into the new market.

In question number 2, which asks about changes implemented in the Controllership, the company "A" respondent refers only to those mentioned in the previous question, i.e. the transfer from the Division of Corporative Development (DVDC) of those organizational attributes executed by the old Controllership (DPCT) to the Department of Corporative Planning (DPPL).

The company "C" respondent says that the company implanted a center of shared service, separating the operational activities of corporate centers (or strategic) and that the internationalization process was concluded.

The answers given by company "C" to questions 1 and 2, confirm the studies of Martin (1989). The author affirms that in the last decade, parallel with initiatives in other areas of administration that had started to take the strategic label: strategic engineering, strategic marketing, etc, he had himself taken note of the emergence of a movement in managerial accounting called strategic accounting, which uses the classic instruments with the objective of increasing the company's competitiveness.

5.3.2 Implementation of norms in the Controllership period from 2001 to 2006

Table 4 presents the answers to questions 3 and 4 of the questionnaire, which investigate the implementation of norms in Controllership in the period from 2001 to 2006.

Table 4. Implementation of norms in Controllership in the period from 2001 to 2006

Questions	Answers			
	A	B	C	D
3. Have norms been elaborated since the change?	The ones from the old DPCT/DVDO were kept	Not applicable	Yes	Damaged
4. Which norms were elaborated?	Only the already cited changes	Not applicable	The most important was the elaboration of ANS – level of the work agreement, which separates functions	Damaged

Source: research data.

The reply to questions 3 and 4 are affirmative in company "C", with norms from the implemented changes that had been elaborated. The most important was the elaboration of the Agreement of Level of Service (ANS), which clarifies the attributes of the Center of Service and other areas (businesses and corporations).

These answers corroborate the theory under study, where Optner (1981) says that the company as a system can be configured for tasks and routines, that it must join together operations of a technical level, in the sense of supplying necessary and useful data to the internal controls. These controls must be tools that transform data into qualitative and quantitative information.

In company "A", replies to questions 3 and 4 were "No" because the existing ones in the old DPCT/DVDO had been kept. The implemented norms were only the procedures that are mentioned in the transfer from the Division of Corporative Development (DVDC) of those organizational attributes executed by the old Controllership (DPCT) to the Department of Corporative Planning (DPPL).

5.3.3 Occurrence of changes in procedures during the period 2001 to 2006

Table 5 shows the answers to questions 6 and 7 from the questionnaire, which investigate the occurrence of alteration in procedures in the period from 2001 to 2006.

Table 5. Occurrence of changes in procedures in the period from 2001 to 2006

Questions	Answers			
	A	B	C	D
5. Which procedures were modified?	Procedures had improved with the new normative instructions	Not applicable	No changes in procedures	Damaged
6. Have the processes been modified?	Yes, see answer in table 4	Not applicable	Yes	Damaged
7. How were they formalized?	See answer in question 4	Not applicable	Through document (contract)	Damaged

Source: research data.

Questions 5, 6 and 7, investigate whether procedures had been modified with the new norms, if they were formalized and in what way they were formalized. The reply of company "A" was that the procedures had improved with the new normative instructions and, in accordance with the reply of the question of number 4, normative instructions had been formalized and authenticated for the Directing body. Company "C" answered that they did not have changes in procedures, but they did have segregation of activities, and that these had been formalized as procedures by means of documents in contract form.

The answers to these questions are related to what Burns and Scapens wrote (2000), in that from the moment that practices constitute organizational rules and routines, the institutional process is initiated; it also demonstrates the organizational importance of how routines and institutions form administration and accounting processes. In the study, the activities that were segregated are the routines and institutions molded to the process of company "C", whereas in company "A" it was the organizational attributions that were legalized.

5.3.4 Internal and external acceptance of institutionalization of company controllership

Table 6 presents the answers to questions 8, 9 and 10 from the questionnaire, which investigate the internal and external acceptance of the institutionalization of company Controllership.

Table 6. Internal and external acceptance of institutionalization of Controllership

Questions	Answers			
	A	B	C	D
8. In what ways were the norms of institutionalization divulged?	Forwarding deliberations to the Directors and to interested parties	Not aplicable	The company used intranet to divulge institutionalization	Damaged
9. How did the people from Controllership area behave in light of institutionalization?	They fulfilled their normative functions and duties	Not applicable	Well	Damaged
10. How do people from other areas of the company behave in light of institutionalization?	They behaved similarly, fulfilling the concerns their jobs	Not applicable	Very well, norms and rules were well accepted in the company	Damaged

Source: research data.

Question number 8 asked how the institutionalization of norms divulged. Company "C" answered that it uses the Intranet as a means of internal communication; some information is sent with security code (water mark or controlled numeration). In company "A", information was divulged by means of guidelines from the Directors to all Departments Central office, Regional Agencies, etc. for the fulfillment of deliberations.

Collating it with what Kostova says (1998), in relation to the institutional process continuing after the implantation of practices, right up until the moment employees value the new practices, there are two elements that compose the process of the organizational practices: the diffusion of a set of rules and the transmission or creation of one meaning for these rules.

We can see that beginning with the divulgence of institutionalization of norms for internal and external knowledge of the institutional organization institutionalized practical indications are automatically defined.

In question 9, that asks how people from Controllership confront institutionalization, the respondent from company "C" affirmed that it was well accepted. When questioned on how the people of other areas in the company confronted institutionalization, the reply was in accordance with that of number 10, i.e., it went very well, norms and procedures are well accepted inside the company.

In relation to questions 9 and 10, the company "A" respondent informed that employees fulfilled the normative instructions in their respective work routines of work, and in the same way fulfilled deliberation concerning their functions.

Responses to this question confirmed the company vision of Kostova (1998), on the success of the institutionalization of practices, in which he says that signs of approval of employee practices, their work satisfaction, commitment to the organization and their feeling of psychological identification with practices must all be observed.

6 Final considerations

The objective of the work was to inquire how the process of institutionalization of Controllership in companies of corporate governance in the State of Santa Catarina - Brazil occurs. In order to develop the work, a multi-case study was carried out, by means of questionnaire sent to five companies of corporate governance listed in the São Paulo Stock Exchange. Four companies answered the questionnaire, making up the companies of the multi-case study.

In terms of the profiles of the researched companies, it is evidenced that three companies act in the domestic and foreign markets, and one only in the domestic market, while the branch of activity and the products of the companies are different. CELESC S.A. is a concessionaire of the public service of electric energy; CIA HERING acts in the clothes and fashion industry; WEG S.A. develops, makes and sells electric motors, transformers, generators and industrial automation process, paint and varnishes; and PERDIGÃO S.A. processes foods, whole pigs and poultry, as well as pieces. Annual sales vary between companies, which can be attributed to their branch of activity, their products and the goals of each company, which has not been researched in the current work.

In respect to the profile of the respondents, it was verified that the person responsible for the Controllership of CELESC S.A. is an accountant. He has been in this position for eight years and has a specialization in Engineering of Evaluation and Costs, and a Master's in Engineering of Production/Business-oriented Area of Management. In CIA HERING, the current Manager of Controllership has been in the position for five years and has a Bachelor's degree in Accounting, with a specialization in Business Management and Law. In PERDIGÃO S.A., the person responsible for Controllership is the Accounting Manager; he has been in the position for two years and has a specialization in Business Administration and Cost Management. In the WEG S.A., the person responsible has been coordinating costs and managerial information for 15 years; he has a Bachelor's in Economics, with a specialization in Business Administration and a Master's in Economics, social and international relations. This confirms the interdisciplinarity of Controllership with other areas of knowledge.

With respect to the institutionalization of Controllership, the results of the research show that only one of the companies passed through a reorganization process. The data collected evidenced that the company that passed through the reorganization process entered another level of corporate governance in the researched period, passing from Level 1 to the new market of governance. Another researched company established the function of Controllership in the period from 2001 to 2006, but was not yet was defined with clarity in that company. Both the company which reorganized the Controllership and the one that implanted it took the opportunity to state how the process of institutionalization of Controllership occurs.

Therefore, in the two companies we can identify the process of institutionalization of Controllership, highlighting the occurrence of changes in the procedures, attributes, divisions and segregation of activities, among others implementations that altered procedures. The internal and external acceptance of the institutionalization of Controllership was also analyzed; according to the company that underwent reorganization, institutionalization of Controllership area, was well accepted, both internally and externally.

It can be stated that the institutionalization process first occurs with the implementation of norms and procedures, while later formalization takes place by means of formal documents or types of authenticated contract and normative instructions. Later, these are divulged by means of Intranet, disseminating numbered and controlled information, and guidelines on deliberation to all directors and departments.

Thus we concluded that the institutional process involves the system and subsystems used in the company, encompassing all practical tasks which have an impact on the beliefs and values of the proprietors and the expectations of investors. The institutionalization of Controllership certifies implementations, controls, performance, goals and the levels of commitment of the people involved in the institutional process. Therefore, collating the data of field research with the theoretical foundations of the present work confirmed the application of the theory to the practices of institutionalization of Controllership.

The starting supposition of the research was confirmed, viz. that companies obligated to display greater transparency in relation to administrative actions can present greater evidence of institutionalized controllership, since controllership is responsible for managing information within the company. However, those companies researched in Santa Catarina, Brazil that are listed in Bovespa's corporate governance, despite having made various administrative changes said changes were not implicated in reorganization of controllership, with the exception of one company. This may mean that they were already organized well enough or that the respondents did not remember any of the changes that were made.

As a suggestion for further research on the subject investigated, in relation to the questionnaires necessary for its accomplishment, it can be perceived that data collection made by means of the application of an interview script would have made enabled greater scope and quality of data. However, even with the limitations perceived in the form of the questionnaire applied to the companies, the work made it possible to broaden knowledge on the process of institutionalization of Controllership in companies under corporate governance.

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