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People and Processes Around the Board Room:
A contingency approach from the Italian Listed Companies

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Abstract - The development of codes of practice for public corporations and the formal regulation essentially imply a standard governance structure regardless of the nature of the corporate business. This seems to be consistent with the “agency cost” framework, where the board of directors is seen as a mono-dimensional device and the attention is focused thoroughly on the “monitoring behavior” whereas the cooperation processes within the board are completely neglected.

This paper provides new insights into the changes in governance structure as a multiple dimension phenomenon and not only limited to the exogenous institutional environment in which companies operate. The study aims to determine some endogenous variables that have a role in distinguishing between groups of firms with different corporate directing. More precisely, it is analyzed the causal connection between some economic features of the firm and the phenomenon referring to the separation of the roles of Chairman and Ceo, considered one of the most important requirements in the corporate governance arrangements. The above phenomenon, apart from the recent policy statements, could be the outcome of the strategic behavior of the firm and of the market-firm relationship. Therefore, it's possible to characterize a set of factors that will determine the likelihood of a dual Ceo and Chairman in the board.

JEL classification- G32, G34

1. Introduction and theoretical background

This paper provides a coherent perspective of the analysis that focuses the general question of how frequently the governance structure of a given firm changes and for what reasons and causes these changes can take place.

Despite the amount of studies on the corporate governance issue, little is understood concerning how governance instruments evolve in individual companies, as economic literature has traditionally been static, focusing the systematic relation between different governance structures and firm rates of return. In general terms, some alternatives *second- best* solutions have been considered, and the available choice among them is essentially due to exogenous firm factors, derived from the characteristics of the institutional environment where incomplete contracts take place¹.

Unless exogenous *shocks* concerning the market or some structural components of the governance systems, once the more suitable *second -best* solution is operating no other pressure for changes are considered. As a matter of fact, not always exogenous factors, as a change of the institutional environment or a different development of capital markets, are the more appropriate explanations for the adjustments in corporate governance structure, which can, instead, be originated from some factors inside the firms. This statement implies that it's also important to consider the corporate governance equilibrium as a result of a firm endogenous process.

Moreover, the widening of the factors considered having a role in the organizational adjustments is relevant once we want to analyze the *trade- off* between the certainty of control and the guarantee of the investors. A new dynamic connection could take the place of the traditional static *trade- off*. More precisely, the guarantee of investors could be considered not only as a bound to the management decisions but also as the outcome of a process.

Finally, an endogenous dynamic approach of the corporate governance structure adds to the body of research that treats the causal connection *governance-performance*. A “feedback” effect

¹ Traditionally economic theory considers two different instruments aiming to reduce the firms agency costs: indirect monitoring, based on the market for corporate control, that is on the possibility to transfer the controlling position, and direct monitoring, based on an efficient and independent functioning of the board of directors. In the first instrument the agency costs would be determined by the efficiency of the stock market. Nevertheless, this can be insufficient when the assets of the firms have to be valued through considerable specific and strategic information, often difficult to be collected from an *outsider* (Fama-Jensen 1983). The takeover mechanism can hardly be operational as an ex -ante monitoring instrument, when one has to consider the short supply of relevant information. Other mechanisms examined thoroughly in the economic literature include concentrated ownership by blockholders, managerial compensation, managerial labour market, debt and dividend policy. The functioning of the corporate governance mechanisms is considered in details in Barbi (1999) ch.2.

Recently economic theory has also analyzed the causal link *legal framework-corporate governance structure*. Cfr. Zingales (1994) regarding the sale of the controlling blocks in different systems of regulations; La Porta et al. (1997) regarding the causal link *legal framework-ownership structure*; Carlin-Mayer (1998) with reference to the causal link *stocks market development-company development*.

from the environment in which the firms operate (i.e. scale economics, regulation) to the ownership structure is considered by Demsetz - Lehn (1985) and Demsetz -Villalonga (2000). Additionally, Kole-Lehn (1997) and Denis-Sarin (1999) supply a rich understanding on how individual firms fit governance structures to internal characteristics. Overall, the above findings suggest that the corporate governance structure of individual firms is a notably more endogenous process than formerly scrutinized and that it's not as steady as historically supported in conventional views.

This paper provides new insights into the changes in governance structure as a multiple dimension phenomenon, not limited only to the exogenous institutional environment in which companies are operating. An implication of all this is that it's possible to characterize some endogenous firm variables in a position to explain the above changes. More precisely, I study the causal connection between some economic features of the firm (financial and growth outcome, ownership and boards structure as well) and the phenomenon referring to the separation of the roles of Chairman and Ceo, considered one of the most important requirement in the corporate governance arrangements. My point is that, the above phenomenon, apart from recent policy statement, could be the outcome of the firm strategic behavior and of the market-firm relationship as well. Therefore, it's possible to characterize a set of definable factors that will determine the probability of a dual Ceo and Chairman in the board.

The more general implication of my results is the following. If it's true that different corporate governance instruments have emerged under different institutional contexts, concerning a different markets development and that this has promoted a converging regulation through the operating of an exogenous push, an endogenous push in order to achieve an efficient corporate governance arrangement is also relevant.

Board of directors represents one of several available governance instruments. In recent years corporate boards have received unprecedented public attention in the debate on governance of the firm, and investors' activism, as well as pressure from regulatory authorities and financial press, have resulted in numerous proposals for reform. As "job diversity" within the board makes it more efficient and more independent of management, analysts and investors in the market have called for no multiple position of the Ceo, for a substantial "job diversity" among top executives positions and for boards where the Ceo is the only inside member.

In economic literature agency theory (Fama- Jensen 1983, Hermalin-Weisbach 1988, Yermack 1996) emphasizes the issue of the separation of decisions and residual risk-bearing functions as an important factor of the board structure. In essence, this theory takes into account the contract between the shareholders and the executive directors (ED) of the company considering the need of appropriate check and balances of the actions and decisions of the latter.

The “board monitoring” view stresses the importance of active and independent boards focusing attention on the board structure. In other terms, the proportion of non executives board members (percentage of NED), the presence of a dual Ceo and Chairman, the board size have been taken into account by economic theory in order to ensure managerial accountability to the shareholders. More precisely, in boards dominated by powerful executive directors the monitoring role was considered seriously compromised, especially when the posts of Chief Executive and Chairman of the board were attached -I name this event “ceo-duality” as in Burton (2000)- and the non executive directors were frail.

The agency theory perspective (Fama- Jensen 1983, Jensen 1989) requires the separation of the roles of Chairman and Ceo, the presence of non executive directors and a board committee as agency cost reducing measures. The theory looks at the separation between “decision management” and “decision control” and it follows that the condition of an outside director as Chairman is essential in monitoring management by the board. In essence, this literature considers the “ceo-duality” issue in terms of the “capture” of the whole board on behalf of the management: the ability of the board to perform its monitoring role is seriously compromised if the Chairman, the head of the board, is supposed to control himself as Ceo. The main point is that in case the latter has entrenched his position, the directors have to be dependent on the Ceo in order to achieve important information for monitoring management strategic decisions. A relevant collusion problem in terms of “who monitors the monitor” could take place (Shleifer-Vishny 1986). That means, firms’ internal governance instruments could be not desirable as the boards of directors can be “captured” by the management of the company (Jensen 1993).

As the agency theory has evidenced, the key players in the decisions making framework are the members of the board of directors. More precisely, the board delegates responsibility to top executives and monitors their performance. This literature sheds considerable light on the relevance of the role of the board of directors and of the optimal board behavior that could be reached as the board becomes stronger and more independent of top management.

Led by the developments of economic literature, boards were coming under attention from other sources. Recent policy statements such as the Cadbury Report (1992), the Viénot Report (1995), the Greenbury Report (1995), the Hampel Report (1998) have made investors aware and have recommended some codes of best practice of boards in order to avoid abuse of corporate power. They claim for a greater conformance of boards, recommending a wider employ of NEDs and the separation of the role of Chairman from the Chief Executive.

Moreover, some institutional investment organizations have also published codes. In the US these concern Calpers (the California Public Employees Retirement Schema), Nycers (the New

York City Employees Retirement Scheme) and at a global level other institutions such as the World Bank and the OECD have become involved in the promulgation of global codes of best practice.

If it's true that such codes aim to attract funds and to support a higher market capitalization, the link between compliance with codes of good practice and long term corporate success remains an open question. More precisely, proponents of a "formally boardroom" view, advocating standard and exogenous measures which are supposed to limit directors power, sacrifice firm specificity and innovation to inflexible and inhibiting rules and regulations. In fact, codes are based on agency view of the firm (Jensen- Meckling 1976) and on principles that lay down uniform board structure disregarding the size or the nature of the company's business. No empirically proven practice, which is supposed to guide to actual and long-term company success, is considered by codes.

I examine in this paper a different approach to the issue of Ceoduality and if this approach will make use of a rich data set concerning international corporate governance systems, it could suggest an original point of view in the discussion of the converging governance systems.

The issue of board endogeneity is consistent with the dynamic, elastic new corporate structures, that is: complex linkages, intricate networks of subsidiary companies and strategic connections with cross-holding of shares, different shapes of interlocking directorship, operational and financial alliances realized at a global level going through several civilizations and currencies. It is also consistent with an alternative theoretical approach of Donaldson-Davies (1994) and Muth-Donaldson (1998) concerning the opportunity of well connected executive directors in a company board. This approach (with a more relevant background in sociology and psychology and termed "stewardship theory") de-emphasizes the monitoring role of boards in favor of collaboration with management, supposing that there is purposes alignment. In this theoretical view the manager-shareholder relationship given by agency theory seems, in fact, ignoring some important factors such as commitment, trust and growth potential of the firm (Davis 1997, Muth-Donaldson 1998). Thus, it could be argued that "ceo-duality" (the combination of the role of Chairman and Chief Executive) and/or a majority of executive directors should generally be able to achieve the best performances (Muth-Donaldson 1998).

This body of literature goes together with the "structural contingency theory" that takes also into account the importance of contingency factors in the process of adaptation and optimization of structural forms of organizations. As considered in Burton (2000):

...“ The concept that successful organizations continuously adapt by altering their structural forms to maintain “fit” between their structure and the environmental contingencies has been a basic tenet of organizational theory right through to present times”...

Moreover, endogenous boards can be supported through the economic literature as well. Demsetz (1983) emphasizes that actually monitoring costs within the firm should be considered by the same standard as any other production cost, so the same costs will depend on the particular organization of each single firm, and on the technological exploitation. In this view a single firm can be aware of the fact that an increase in monitoring costs goes hand- in- hand with a decrease in other type of costs. Additionally, a broader consideration through the concepts of the incomplete contracts and of the “hold up” problem is also possible. In Williamson 1985, contrary to what we find in the agency theory, the emphasis is placed on some costs, generated when a single specific transaction, able to increase the value of the firm, is not at all fulfilled. Because of the incompleteness of contracts (and of the opportunistic agents behavior), the firm as a “nexus of contracts” should be scrutinized also considering some implicit contracts in the long run. The latter take place under the terms of trust between the owners of the firm and its *stakeholders* especially when human capital or more in general specific investments are involved. The concept of trust represents an actual good hold by the shareholders of a company as the same can enforce implicit contracts in the long run. “Trust” implies that the shareholders will not break an implicit contract even when this break would involve more company’s wealth in the short run. Rather than to the rationality and to the reputation issues, this is linked to the actual shareholders’ belief that the possibility of drawing up implicit contracts increases ex ante the value of the firm as much as we find specific assets. As considered by Williamson²:

“...the corporation as a going concern sometimes possesses important team features, on which account the whole is more than the sum of the parts”.

A strong and independent board of directors, achieved through the monitoring of independent directors on the management strategies, in order to make the firm more attractive to the investors can be linked to high losses in terms of ex ante efficiency. In fact, when specificity of assets is at stake, a long run negotiation inside the firm can be bounded, and the result can be the one of a short-term investment policy (Stein 1989, Shleifer-Vishny 1990, Hoshi -Kashyap -Scharfstein 1990, 1991, Aoki 1990, Roe 1994). The pressure of the investors in the stock market could have a negative impact on the exploitation of growth opportunity contrary to what agency theory claims. Not only the management discretionary will be bounded, but the main point is that we could observe a distorted resources allocation inside the firm toward the investments that are able to provide a good performance in the short run. All this implies a decreasing of the value of the firm (Shleifer -Vishny 1988, Shleifer -Summers 1988), and also a negative external effect on the other

² Williamson (1988) pag.584.

companies in the market, as most of them will pursue a short-term performance³. As a matter of fact, a long-term investment policy can justify the management entrenchment. Stein⁴ maintains:

“The pure agency view is implicitly optimistic about the precision with which capital market pressure can reduce costs and investment. Only undesirable one will be eliminated, while worthy ones will be preserved”.

These introductory statements open the door to the necessity of a more deep investigation on boards. How is it possible to characterize a unique best structure for boards of directors to behave most efficiently?

The weakness of agency theory, and of codes based on the same, is that they focus on board of directors as a “black box” (Burton 2000) taking into account demographic data without considering the dynamics and the unavoidable adjustments within the groups during a specific period of time. As a matter of fact, the board of directors is seen as a mono-dimensional device where the attention is focused thoroughly on the “monitoring behavior” whereas “cooperation” processes within the board are completely neglected. This implies that pressure for uniform structure for boards (“standardized boards”) needs to be reconsidered in terms of boards conformed to the company’s environment.

More precisely, it seems interesting to analyze if there is a set of definable factors that may determine the duality between the Ceo and the Chairman of the board. I am concerned with percentage of NEDs, board size, firm size, performance and growth potential. It follows that the optimal structure of boards can differ across firms because of differences in the situations facing firms and it could be determined by some specific circumstances rather than by some exogenous fixed rules (even imposed by regulatory authorities).

This paper sheds light on the fact that there is no standard or optimal structure for boards. One rule does not fit all firms, but we have, instead, to consider what is happening to the factors that are taken into account. The endogeneity of boards implies that fixed exogenous rules could be not only irrelevant but also undesirable from the firm point of view.

The paper is organized as follows. In Section two I present evidence of some important changes in the boardroom behavior of Italian listed companies between 1990 and 2000. Section three

³ Following this approach, even a considerable liquidity in the stock market would involve some costs under the terms of shareholders activism (Bhide 1993). If the transaction costs in the stock markets are decreasing because of “insider trading” regulation or more in general because of considerable regulation defending minority shareholders, the investors have no incentives to behave as *insiders* that is to consider their investment in a technological way. Therefore, the “lack of liquidity” could be actually attractive for an active investor and of course the opposite applies for passive investors. The same conclusion is also relevant when we consider the leverage as a corporate governance instrument. The main implication in Hart (1995) is that the bankruptcy of the company requires that a single manager should be substitute by another director, without taking into consideration the ex post firm development because of assets specificity and implicit contracts as well.

considers the event that a Ceo also serves as a Chairman of a company and takes into account some testable hypotheses in order to establish the importance of variables considered to have a role in distinguishing between “ceo-duality” adopting and the others. The model outlined in Section three is tested through a logistic analysis and section four takes into account the methods of the regression. The results are examined thoroughly in Section five. Finally, section six concludes.

2. How boards perform: comparing 1990 and 2000 Italian data.

In the Italian system the board of directors has a unitary structure and it forms, if it is made of more than one person, a collegial body. In order to become a member of the board one doesn't need to be a shareholder of the company. The board of directors can delegate matters to one or more managing directors or to a collegial body (executive committee).

The decisions of the board should operate in the interest of the corporate health and the alignment of interests is linked to the rule of the “shareholders representation”, that is the appointment of the directors is made by the shareholders assembly⁵. Three activities are crucial for the board as a group: selecting, evaluating, rewarding- removing the Ceo. It means that the roles of each party (the Ceo and Chairman of the board) are totally distinct. The Ceo will set his/her strategies and the directors should appreciate corporate strategies and should establish how properly they think the Ceo is executing. In such a process it comes out a division of responsibility between Ceo and directors and corporate boards are responsible for decisions regarding Ceo. Usually the duty of loyalty towards the company is based on a role of “agent” of the board (the board has to do its best aiming to the interest of the company). This feature joins the trustee feature that binds each director to the company, which is the fundamental element for a possible compensation act in view of damages caused by the loyalty duty violation⁶.

It's important to point out that the loyalty relation doesn't come to an end when the directors finish their office, but the enforcement is kept also after by the law. In fact, the law bans them from making use of inside information for the purpose of suiting private interests and from spreading out such information as well⁷.

⁴ Stein (1989) pag. 662.

⁵ The length of the task can't be longer than three years but it is possible to be reelected.

⁶ See Weigman, Digesto item “società per azioni”, and Di Sabato (1995).

⁷ See Weigman, Digesto item “società per azioni”.

The non-respect of the duty of loyalty implies that the defaulting directors are supposed to pay compensation for damages. The commitment for trial is decided by the shareholders assembly, which has to produce evidence for the prosecution.

Up to July 1998 an individual shareholder, and some groups of minority shareholders, could not prosecute directors for damages caused to a company. The corporate governance reform in 1998 established, for listed companies, a minimum threshold of 5% of a company's capital (a lower percentage is also accepted if it is specified in the corporate statute) to commit directors for trial.

An interesting point concerning the Italian companies' board regards a very strong correlation between the members of the board and the ownership of the company itself. In other words, the directors would actually represent the company's block-holders. This feature weakens the monitoring role of the board on management decisions and prevents possible commitment of the directors.

In addition, the supporting block-holders private interests is also possible when the board has to settle, in collegial way and with collegial responsibilities in force of the Italian civil code, the company's strategic decisions. As a matter of fact, the above considered collegial principle doesn't exclude the duty of each director of monitoring the corporate going concern making inquiries and examining thoroughly important documents of the company. This implies that each director can ask the board to take measures in front of lack of information.

Particularly, a strong inspection task is due from the auditors of the company ("collegio sindacale"). They have a continuous inspection duty in checking all auditing minutes. The "collegio sindacale" is an inside administrative board elected by the shareholders assembly. The auditors (three or five members and two substitute members) must have considerable professional qualifications (they have to be registered in the auditors' roll) and are theoretically independent from directors. The whole "collegio sindacale" and each disagreeing auditor can veto the board of directors' decisions. It is most unfortunate that auditors and directors (whose conduct is the main object of checking by the auditors) are chosen by the same voters (the shareholders' assembly).

In this regard, the 1998 corporate governance reform establishes that at least one of three (or two of five) members of the "collegio sindacale" should be chosen by minority shareholders.

The above underlines the fact that the contrast between the block-holders and the minority shareholders of a company can be more or less adjusted only if the monitoring role of both administrative bodies is effective.

I consider now board demography and what is going on in organizing and running the board of directors in Italy. The processes I am interested in are those that enable boards as institutions to achieve their tasks as strategic decision-making groups.

Figure 1 and Table 1 describe the change in the boardroom behavior of Italian listed companies between 1990 and 2000.

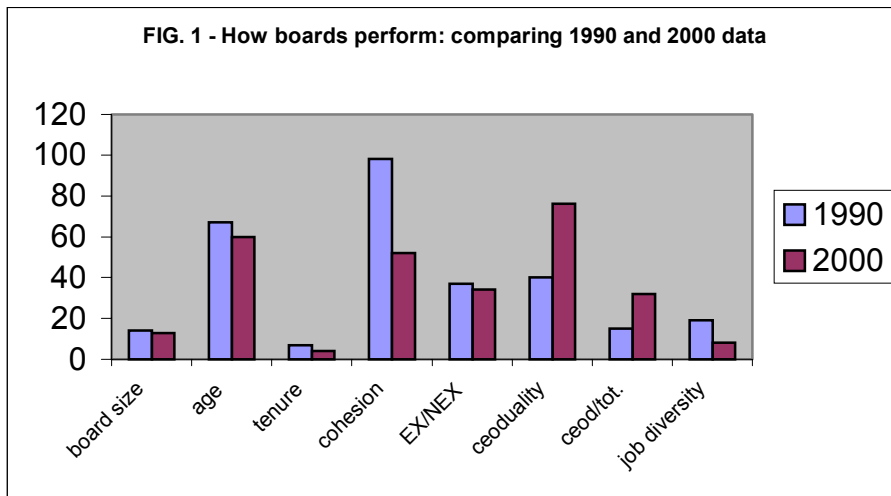


TABLE 1- Board demography

| | 1990 | 2000 |
|----------------------|------|------|
| Firms | 255 | 237 |
| Board size | 14 | 13 |
| Directors age | 67 | 60 |
| Directors tenure | 7 | 4 |
| Board cohesion | 98 | 52 |
| EX/NED | 37 | 34 |
| Ceo-duality | 40 | 76 |
| Board positions | 19 | 8 |
| Executives (EX) | 2,9 | 2,5 |
| Non executives (NED) | 7,7 | 7,3 |

Source: analysis on Consob data

The table considered above shows differences in age and tenure of directors across the decade 1990-2000. The average director in the Italian listed companies is now 60 years old, whereas previously he was around 67. Although the executive directors on the whole are about 8 years

younger than it was a decade ago, the difference doesn't apply so clearly for NEDs. Besides the fact that the difference is about 6 years for NEDs, there is, also a predominance of older NEDs (with respect the average age) in 2000 (that is in 2000 there is about 52% of older NEDs against 42% in 1990).

Directors in Italian listed companies are long-tenured and the average "length of service" is getting lower than it was ten years ago. It also means a lower board cohesion index in 2000 in comparison to 1990, measure that takes into account the board size besides the tenure of directors. I consider a value of cohesion of 98 in 2000 and of 52 in 1990, by multiplying the size of the board and the tenure of the directors, as it is explained in section 3. Turnover is slower amongst NEDs: in the 2000 sample of non-executives, 34% (37% in 1990) held their posts for over 4 years (7 in 1990).

In the last decade changes also occurred in board composition with a decrease of the ratio EX/NEDs (from 37 in 1990 to 34 in 2000) and each individual board is slightly smaller in total number of directors (the average decrease is from 14 in 1990 to 13 in 2000).

What is most significantly different to ten years ago is the relationship between the Chairman (who is supposed to manage the board) and the Ceo (who is supposed to manage the company). This seems to be a key point in governing an organization. Although the way this relationship is carried out varies enormously, an important feature of the data is that, on the whole, there appears to be an increased association between the two roles. More precisely, as it is shown in table 1, in the decade there has been a strong increase (90%) of the "ceo-duality" feature. This result matches the other one of job diversity in the board. During the past ten years the number of positions have been decreased from 19 in 1990 to 8 in the year 2000 (137,5%).

Boards demography is taken into account by codes as important instrument for preventing board capture by the senior management and for evidencing the board power with regard to Ceo. One can conclude from Table 1 that Italian boards seem to acquiescence codes with regard non-executive directors but a contrary conclusion originates from the double position of the Ceo.

3. The model

The ambiguity of this conclusion is now analyzed with regards to the dual position of the Ceo. The event that a Ceo also serves as a Chairman of a company portrays a situation where boards could face some troubles in interfering with management's capacity to run the company.

Therefore, it seems important to establish what form of management structure, ownership and of financial structure are exhibited by firms in which the role of Ceo is combined with the one of

Chairman of the board. The study adopts a control sample lay out to analyze if characteristics differ statistically between firms adopting “ceo-duality” and those that do not, during the investigation period of time. Following this, a logistic analysis establishes the importance of variables considered having a role in distinguishing between “ceo-duality” adopting and the others.

As it is noted in section 1 this analysis is motivated by the development of global guidelines on corporate governance. The codes of best practice considered in Section 2 recommend boards not to show “ceo-duality”. From this perspective, the increasing use of “ceo-duality” of Italian listed companies during the decade 1990-2000 is viewed as having a lot to do with the search of effective governance arrangements, rather than with the desire of correspondence with the best-practice guidelines. As these are voluntary, and in the Italian case they represent only an international competitive trend, economic theory states that correspondence will take place when the benefits of “ceo-duality” (i.e. in terms of information availability) weigh more than the associated costs. Therefore, it could be the case that the recent increase in “ceo-duality” reflects firms’ endeavors to achieve governance benefits in contrast to the main recommendation of the best- practice guidelines. More precisely, I study the likelihood that the decision of “ceo-duality” is explained by factors proxying the expected governance benefits of concentrating Ceo and Chairman appointments.

The blockholder/management and board entrenchment issue studied in this work is considered as a standardized phenomenon. I consider the “ceo-duality” feature authorized under the Italian law for listed companies and voted by shareholders before adoption, but at the same time strongly discouraged by codes.

For this reason the feature of “ceo-duality” in a company suggests that there must be some economics political or hybrid factors underlying the decision to adopt it and that there must be a “rational non- correspondence”. I am not concerned to establish why “ceo-duality” is adopted, but to establish some factors associated with the “ceo-duality” adoption.

The Italian listed companies data provide an interesting opportunity of considering the following questions: What kind of companies adopts “ceo-duality” in Italy? What ownership and financial structure do they have? Do companies that adopt “ceo-duality” show different features? If so, how the features do vary?

Answers to these questions suggest a very useful point of view for considering the opportunity of standard governance structure, such as codes of practice for public company and formal regulation.

My purpose is not to consider how board’s organization and structure affect firm performance, but rather to examine the blockholder /management and board entrenchment issue. This is a significant point in terms of corporate governance theory as the non binding principles developed in

the '90s to provide guidance and suggestions for investors, corporations and other parties intend to consider it.

The development of codes derives from an agency view of boards that essentially implies standard governance structure regardless of the nature of the corporate business. In other terms, if the situations where management is allowed to oversee itself unencumbered by the vigilance of an independent board are relevant, at the same time one should consider companies (as dot com companies) in which boardroom suggests a venture capital attributes. This is true for board members in general and especially for the “job diversity” in the board.

The analysis of “ceo-duality” is one way to establish the quality of the corporate governance within a firm or within a country. This statement is one of the main recommendations of codes. Hence I begin considering the following testable hypothesis.

Firm characteristics

Firm performance

Boards which are able to make value -maximizing decisions through investments in positive net present value projects are likely to show “ceo-duality”. In this way it's reduced the board independence and the likelihood of removing management facing low performance. On the assumption that “ceo-duality” is favored by the management as an instrument in order to entrench its position, I expect a negative relationship between firm performance and job diversity in the board (that is “ceo-duality” is positively related to firm performance). This hypothesis is consistent with the agency -cost theory (Jensen - Meckling 76, Fama 80) that considers the reducing of agency costs (monitoring costs and replacement management costs) in firms engaging in high yielding investment projects and satisfying their investor's return requirements. It's also consistent with the stakeholder framework (that considers conflicts inside the board)⁸. This originates from the fact that the board's role as a monitor can be influenced by the company performance. If a company has been under problems, the directors will clearly want to be more involved in management decisions than if the company has not.

Growth potential

Firms which have a considerable range of investment opportunities and which are undertaking these opportunities successfully will be likely to reveal “ceo-duality” in the board of directors. The main argument for this is that firms with high growth and high future growth are highly valued by the market even if entrenchment of positions in the board is exhibited. Such firms will be more

attractive for investors than firms with no future growth opportunity and firms with low growth as well.

A second argument is concerned with information asymmetries between shareholders and management and between the CEO and the board. When a firm is undertaking its growth opportunities the information asymmetries will increase and consequently this will increase agency costs. The predominance of executive insiders in the board of growing companies could be seen as a necessary condition for taking advantage of growth opportunities. This factor takes into account the complexity of the decisions facing executives and directors. Complexity determined by exploitation of growth opportunities presents an important challenge. The more complexity a company faces, the more difficult it is for directors to be effective monitors, because of lack of information linked to changes. Not surprisingly CEOs have knowledge about their companies the directors do not (Barca 1994) and this factor is exacerbated as conditions change.

Moreover, the more the process of growing is increasing, the higher could be the total payoff and the number of agents who aim to take advantage of it. Considering g the growth opportunity of a company and $C(g)$ the total payoff that could be reached in a situation as “the winner takes all” it could be possible a strong competition within the company in order to become CEO (Milgrom - Roberts 1992).

These arguments make it possible experimenting “ceo-duality” in the board of the firm and imply a positive relationship between the exploitation of a firm’s growth opportunities and “ceo-duality”.

Firm size

Firm size may suggest the extent to which any agency cost in the firm or in the board can be absorbed by the firm.

The theoretical argument for the relation of firm size and “ceo-duality” in the board is concerned with free cash flow of large firms (Jensen 1986) and potential agency costs.

Another reason can be founded in the limited capacity of small firms in adopting investments. Free cash flow of large firms makes it possible to finance investments without facing the market. Consequently I would expect to find positive relationship between the presence of “ceo-duality” (multiple positions of the CEO) and the firm size.

Another interpretation is also possible. This is important especially in Italy and in a larger scale in most of the other EU countries where management independence cannot be accepted as a valid assumption and a conflict arises between different classes of investors, the block-holder and the minority shareholding. All other things held constant, large firms are more likely to have less

⁸ As it is noted before, the agency costs theory is concerned solely with managerial agency costs, that is, it doesn’t

concentration of ownership. The presence of banks, institutional investors, insurance company as shareholdings can bound and limit block-holding power in the firm and in the board and so doing agency costs will decrease.

In summary, I conclude that if agency costs are relatively small for some kind of firms, (i.e. firms that are well performing or firms with bounded block-holding) it would be possible no impact of this variable on “ceo-duality”.

Board demography

Board size

The absolute number of directors may impact the likelihood of a multiple position of the Ceo inside the board. The direction of the influence, however, depends greatly on the cohesion of the board as a group. What is really important is the possibility of achieving full agreement among the directors of the board. Even considering the real power advantage of the Ceo over the outside directors, when a united board decides for a change in corporate direction, the same prevails.

If it's true that small number of individuals are more likely to agree on the “ceo-duality” position the case could be that large boards are alike preference agents. This event might occur in case that board is experiencing a low turnover of directors. In other terms, if the tenure of directors is relatively high the consensus among the constituencies of the board could be more readily achieved. I name this event “closed board” and more precisely I consider a tenure of directors greater than 4,26 years, as the value of 4,26 is the media value of tenure in the analyzed period.

In addition, we need to consider the fact that the agreement in small or large closed groups can lead to diversity of job in the board aiming to maximize firm value for raising resource from the market. However, this circumstance is not actually pertaining to the size and the cohesion of the board but it is rather linked to other features of the firm such as growth potential, constrained financing or more in general to the firm's characteristics rather than to the boards ones.

On the assumption that “ceo-duality” in a board of directors is favored by a “closed group”, I hypothesize that small closed boards in which tenure of directors is greater than 4,26 years are particularly susceptible to multiple position of the Ceo. In fact, large boards are more likely to adopt value maximizing compromised decisions among which “job diversity” in the group of directors.

In Italy we have also the Collegio sindacale that I include in the board size on the assumption that it may play a disciplinary role with regards to executives in Italian firms.

Consequently we would expect a negative relationship between board size (corrected with tenure of directors) and “ceo-duality”.

Executive positions

Directors of the firms can be split up as executive (ED) or non -executive directors (NED). ED have similar executive power and they are those directly involved in daily decision and operation of the firm such as the Chief Executive Officer and the Chairman, or Vice Chairman of the firm. On the contrary NED are not involved in the management of the firm but they act as monitors of the shareholders interests at the board level. The development of codes is concerned with the recommending the use of NED outside directors for a better satisfaction of the shareholders interests, or for a better ability of the board to block management decisions. This ability increases efficiency and may lead to lower agency costs. Hence, the relationship between ED/NED and “ceo-duality” in a board is expected to be positive, on the assumption that a low “job diversification” within the board is promoted by the management in order to entrench its positions. In addition, the ratio ED/NED will also impact the extent to which consensus is likely. The higher is the ratio, the higher will be the probability that management/block-holding decision will be accepted, and the effectiveness of the NED will be reduced, all other things being equal.

Ownership of the firm

I am interested to consider the influence of some large shareholders and the presence of institutional investors on the structure of the board and consequently on its decision making processes. Both this factors influence the process of replacing management. This implies that agency costs are determined by capital market. The Italian system provides evidence of a strong ownership that weakens in many ways the management role. This means that it is very important to take into account the presence of a block-holder having a strong control position without the same strength of his financial exposure. This fact is also linked with a substantial dispersion of shares due to the need of financing the firm development. The combination of these two factors generates a difference between the shareholders cash flow rights and control rights and a substantial deviation from the principle of one share-one vote (Becht-Roell 1998).

The main consequence is an ownership-control separation that is achieved in different ways with respect to the “strong managers-weak owners” contrast. Therefore, the traditional Berle and Means separation can be paralleled to the alternative separation that originates inside the ownership. The latter involves different classes of investors and a strong monitoring of management on behalf

of the block-holder of the firm. I am concerned to consider at what extent ownership feature can explain entrenching of the position in the board.

Block-holding

Block-holders are able to exercise a lot of power and control over management through the size of their shareholding and the attached voting rights. For this reason the concentration of ownership could anticipate the likelihood of “ceo-duality”. In addition, we have to consider some instruments through which it is possible to a relative large shareholder to support her position even in a low shareholder concentration. I am referring to instruments as voting pacts that contribute to generate a difference between the shareholders cash flow rights and a substantial deviation from the principle of one share-one vote (Becht-Roell 1998). More precisely, I am interested explicitly to consider some legal devices aiming to support control positions without concentration of cash flow rights. In other terms it's important to take into account the feature of a strong ownership presence that weakens in many ways the management role and that is associated with a substantial dispersion of shares due to the need of financing the firm development.

In summary, high levels of ownership concentration, or the existence of voting pacts among shareholders are more likely to be associated with “ceo-duality” in the firm considered.

Institutional investors

The joining of institutional investors in the ownership of a firm can be considered an important event aiming to bind the strategies of an incumbent block- holder that increases agency costs of the firm and within the board. This view is consistent with the evidence provided by Barca et al. (1997) and Barbi (1999).

Consequently we would expect that the proportion of institutional ownership is negatively related to any multiple position within the board.

4. Methods

To test the model outlined in Section 3 a logistic analysis is considered in order to examine the “ceo-duality” feature of companies. As the event of concentrating the position of Chairman and Ceo in the board is in itself an instrument aiming to entrench management position in the company, it seems interesting to examine the relationship between “ceo-duality” and other important features of a company.

The issue in Section 3 suggests that the probability of “ceo-duality” could be linked to the firm characteristics (performance, growth potential, size), board demography (board size and cohesion, executive related to non executive positions) as well as ownership of the firm (large shareholdings, institutional investors).

Consequently the following logistic regression is estimated:

$$\text{Probability of "ceo-duality"} = \text{Function (performance, growth potential, size, board size, board cohesion, executive position, shareholdings institutional investors)} + \text{Error terms}$$

More precisely, I aim to analyze the event of the likelihood of a company showing “ceo-duality” and to determine whether this likelihood in a firm can be predicted given some firm features. To consider this event I employ a logit model that relates, as it is known, the response variable (the probability to find “ceo-duality”) to the observed predictors.

The logit model employed is specified as:

$$\pi = \Pr (Y = 1) = \frac{1}{1 + e^{-\mathbf{XB}}} \quad [4.1]$$

or:

$$\log \text{it} (\pi) = \log \left(\frac{\pi}{1 - \pi} \right) = \mathbf{XB} = b_0 + b_i X_i \quad [4.2]$$

where π is the probability of “ceo-duality”, B is the vector of slope coefficients and the X_i are the independent variables described in table 2 here below as proxies variables of firm characteristics, board demography and ownership of the firm. π takes the value of one for the firms that exhibit “ceo-duality” and zero otherwise. Equation 4.2 models the log of odds as a linear function of the independent variables, whereas the relationship between probability p and the independent variables is not linear. Consequently, the interpretation of the coefficients of the independent variables should be with respect to their effects on the log of odds and not on the probability p .

The proxies selected to test the theoretical hypothesis outlined in section 3 are shown in Table 2.

TABLE 2: Variables, proxies and expected sign

| VARIABLE | PROXY | SOURCE | EXPECTED SIGN |
|----------------------------|---|--|------------------|
| CEOD | 1 if in the CEOD group, 0 otherwise | CONSOB | None |
| PERFORMANCE | 1. Earning per share (EPS) 2. Dividend per share (DPS) 3. Price to earning ratio (P/E) 4. Ebit or Ebitda | Taccuino dell'azionista Taccuino dell'azionista Taccuino dell'azionista Taccuino dell'azionista | + + + + |
| GROWTH POTENTIAL | 1. % Variation of net fixed assets (GROWTH1) 2. Technical investments / Technical fixed assets (GROWTH2) | Company annual report Company annual report | + + |
| SIZE | 1. Natural logarithm of market capitalization (SIZE1) 2. Weight % in stock exchange index (SIZE2) 3. Natural logarithm of business turnover (SIZE3) | Taccuino dell'azionista Taccuino dell'azionista Taccuino dell'azionista | + + + |
| BOARD SIZE AND COHESION | Number of directors corrected with tenure (DIRNT) | Consob | - |
| EXECUTIVE POSITION | ED/NED (EDP) | Consob | + |
| BLOCKHOLDING | 5. Proportion of shares held directly by the largest shareholder (LS) 6. Voting pact (VP) 7. % dispersed shareholding (DS) | Taccuino dell'azionista Taccuino dell'azionista Taccuino dell'azionista | + + - |
| INSTITUTIONAL SHAREHOLDING | Proportion of shares held directly by institutions (IS) | Taccuino dell'azionista | - |

Firm performance⁹ is proxied by EPS, DPS, P/E and EBIT but only the results for P/E are reported. Firm size¹⁰ is measured by the natural log of market capitalization, the natural log of business turnover and the percentage weight in the Mib stock exchange index. Only the latter is reported.

These data were collected manually from the “Taccuino dell’azionista” as well as data concerning ownership of the firm¹¹ (LS, VP, DS and IS). IS data are categorized as life insurance, banks, funds and investment companies.

Growth potential is a comprehensive concept to measure. Obviously the results of this analysis may be sensitive to how growth is defined. A flow measure of growth (GROWTH1) is adopted in terms of percentage variation of net fixed assets from one year to the next, whereas the ratio Technical investments / Technical fixed assets (GROWTH2) represents a static measure of growth. The data for each of these are also collected from company annual reports reported in the “Taccuino dell’azionista”¹².

Data relating to board demography (DIRNT and ED) are obtained from Consob files¹³.

If “ceo-duality” represents a response by firms to their specific governance needs, then B are expected to be associated with the “ceo-duality” decision.

The sample of “ceo-duality” is achieved as follows. I consider all listed companies in Italy in the years 1998, 1999 and 2000 and I name “ceo-duality” firms the ones that in all the three years exhibit “ceo-duality”. Considering separately the three years I have found 53 “ceo-duality” firms in 1998, 70 “ceo-duality” firms in 1999 and 76 “ceo-duality” firms 2000. The total firms are 199 part of which are the same for the three years. Only 38 firms show “ceo-duality” contemporary for the three years. For the sample homogeneity, all these firms are subdivided in three groups considering the belonging sector of production. More precisely, of the three stock indexes of “Mib Industriale” “Mib Servizi” and “Mib Finanziario”¹⁴ I consider the companies placed in “Mib Industriale”.¹⁵ I

⁹ Performance data are collected as data per shares in euro (ordinary shares) referring to 1998. I put -0.001 for P/E <0 and the 1999 P/E ratio for Compart and Finmeccanica.

¹⁰ Market capitalization in euro for Size1 (Taccuino degli azionisti 2000 data for 1999), for Size2 the index employed is Mib industria (Taccuino degli azionisti 2000 data for 1999), company annual report data in million of lire for Size3 (bilancio consolidato 1998 in Taccuino degli azionisti 2000).

¹¹ Shares, voting pacts and dispersed shareholdings in Taccuino degli azionisti 2000 (data for 1999).

¹² Company annual report 1998, data in million of lire. Hdp, Sadi, Montedison, Ducati, Smurfit, Bonifica Terreni Ferraresi are concerned with an alternative index for GROWTH2 (a measure of the grade of the technical pay off)

¹³ Board data are referred to 1998 for DIRNT and to 1999 for ED. DIRNT takes into account Board of Directors and the Collegio Sindacale. Each Director is multiplied by a w weight (w = tenure/ media of tenure) then the weighted directors are added up for each firm ED are referred only to board of directors (I exclude the Collegio sindacale) and I name ED the following positions: Amministratore delegato, Presidente e Amministratore delegato, Vice Presidente e Amministratore delegato, Presidente, Vice Presidente, Amministratore esecutivo). I consider NED the Amministratore position.

¹⁴ These macrosectoral indexes belong to the comprehensive index of Mib, a general index which includes all the shares listed in the Italian Stock Exchange

found 23 firms. These firms form the “ceo-duality” group. This sample, despite its being small, is however a significant group. In fact, casual events are excluded as observation of the firms is based on three years when an increasing trend of the phenomenon in Italy takes place, as shown in Table 1. However, by its design the sample contains a bias in that, for any year, the firms included are those that remained listed since 1998. One limitation of this method is that it does not consider the events of large changes in ownership and in the top management. Firms that go de-listed or are taken over or that go bankrupt vanish from the sample.

To employ the logit analysis, the “ceo-duality” companies are matched with firms that do not manifest such feature. The matched sample used is constructed through three different steps. First I select firms with no “ceo-duality” in all the three years considered. The second step is to examine the ownership of these firms. As Italian companies are characterized for a high level of concentration of ownership and devices aiming to assure stability of control of the company as voting pacts (Barca 1997, ECNG 1997-1998) I have to take into account these issues. Obviously the lack of “ceo-duality” in a firm with a strong block-holder doesn’t make sense for the analysis here employed, as it could be the case that management is not an independent agent in the firm. Therefore, I employ two successive tests:

- i) no largest shareholder with more than 49% of the company’s capital, that is no majority stake over 49%;
- ii) when i) is achieved, then no voting pacts concerning minority shareholders for more than 49% of the company’s capital, that is no voting pacts concerning minority stakes over 49%;

Finally I consider the three Mib indexes above described and I select industrial companies¹⁶. Consequently the control group is selected from listed companies which had not exhibited “ceo-duality” in 1998-2000¹⁷, whose ownership is not too much concentrated (no majority shareholder) whose minority shareholdings are not bounded in voting pacts for more than 50% of the company’s capital and whose production is an industrial one.

Detailed descriptive statistics of data for both “ceo-duality” and the control group are considered in table 4. Panel A of the table reports descriptive statistics for the predictors of the “ceo-duality” firms. Panel B reports the same for the “non -ceo-duality” firms.

¹⁵The homogeneity of the sample refers to the sector of production and doesn’t take into account the market capitalisation

¹⁶ except gim hdp e compart as industrial holdings

¹⁷ except Sirti for 1999

5. Results and discussion

Table 5 reports a selection of the results of the various logistic regressions. The logit model is formed using CEOD as the dependent variable and the variables described in table 2 as the predictors or independent variables. Since no analytical solution exists, an iterative procedure is employed to obtain the estimates. I consider the use of Wald backward stepwise logistic regression, that is I aim to develop a logistic regression model that includes the best statistically significant set of independent variables from EPS to IS (see table 2). As it is shown in table 3 the coefficient correlation is greater than 0,70 between DPS and EPS (0,89), EPS and EBIT (0,76), DPS and EBIT (0,74), SIZE3 and SIZE1 (0,89). Therefore I exclude three of these independent variables from the logistic regression (EPS, DPS, and SIZE3).

The backward stepwise procedure is an automatic procedure that selects from the 12 variables - models the one that has the highest χ^2 value and meets the *p-value* criterion set for considering the model. Therefore at each step the procedure considers the partial χ^2 value and selects the independent variable with the highest partial *p-value* (or the lowest Wald χ^2 value) and puts it out from the successive step. The final model includes only one variable. In table 5 I consider two models that differ for the inclusion/exclusion of the independent variable IS. The first model (regression A) provides a higher χ^2 value but I find that only GROWTH2 and LS are significant. Therefore I conclude for considering regression B as the one that can be used for analyzing the probability of “ceo-duality” in the board.

The first step is to assess the overall fit of the model to the data, that is, to establish whether it is possible to consider a statistically significant relationship between the independent and the dependent variables or to consider the hypotheses pertaining to whether the coefficients are significantly different from zero.

These hypotheses can be tested by using the χ^2 statistic, which is reported in table 5. This statistic which is based on the likelihood function (or on the likelihood of the model with respect to the model that perfectly fits the data, with $n = p$) has an asymptotic χ^2 distribution with p degree of freedom, where p is the number of the independent variables.

The estimated coefficients of the model are significantly different from zero, as the χ^2 value equal to 36,271 with 6 df is statically significant at an α of 0,005 ($p=0,000$). This implies that the estimated model, containing the intercept and the independent variables of table 5 (regression B) fits the data and suggests that there is a relationship between the above independent variables and the log of odds of a company with “ceo-duality”. However, with respect the hypotheses outlined in

Section 3 and considering the statistical significance of each independent variable, there are some surprises.

Not all the variables are significant at $p \leq 0,10$. The only variables that generally show significant relationships are P/E, GROWTH2, DIRNT, LS. Other variables are not found significantly related to “ceo-duality” adoption and the signs of the predicted relationship are not always consistent with formulated expectations (SIZE2 and DIRNT).

The estimates of the coefficient of the independent variables are interpreted just like the regression coefficients in multiple regression. The coefficients of the independent variables give the amount by which the dependent variable will increase if the independent variable changes by one unit. In this model the relationship between odds and the independent variables is not linear, consequently the effect of independent variables on the odds is given by the EXP (B) in table 5. The estimated parameters suggest that, as expected, the effect of P/E, GROWTH2 and LS is positive. However I find an opposite effect for DIRNT.

The most influential variables for “ceo-duality” firms are DIRNT, LS, P/E and GROWTH2. The odds of a “ceo-duality” firm, being steady the effects of all other measures, increases by the 1,152 for a unit increase in DIRNT, and change less for a corresponding change of other variables (1,132 for LS, 1,100 for P/E, 1,080 for GROWTH2). These are also the variables that generally show significant relationship. However, contrary to the Table 2 expectations the results suggest that SIZE2 is not important in the corporate governance issue analyzed.

The model also appears to have a good predictive validity as the percentage of right predictions is equal to 91,3%. The association of predicted probability and observed responses is assessed by the classification table (Table 6), which is obtained for a cutoff value of 0.500. From the table it is clear that the overall classification rate of units correctly classified is the best of the two logistic regressions (the rate is also the best one of all the regressions from 1 to 12 independent variables). This implies that the considered model (regression B) is extensible also to other data sets and it can be applied in a more general context considering classification aims.

These results provide evidence that some firms characteristics (performance, growth) some firm ownership feature (the proportion of shares held directly by the largest shareholder) and demography of the board (the number of directors corrected with tenure) have a role in making more likely the event of “ceo-duality” of a firm. More precisely, following examination of agency theory, I find evidence that the monitoring role of boards can be influenced by the company performance and that the predominance of executive insiders in the board of growing companies could be seen as a necessary condition for taking advantage of growth opportunities (“stewardship theory” and relevance of the “ex ante” efficiency). However, other variables proxying performance

and growth of the firm (ebit and a stock measure of growth) are not found to be significantly related to “ceo-duality” and the signs of the predicted relationships are not always consistent with the formulated hypotheses. This suggests further investigation about these variables and board “ceo-duality” that could be done at a first step by applying different procedure of regression. Moreover, the insignificance of the three measures proxying the size of the firm (the natural logarithm of market capitalization (SIZE1) the percentage weight in stock exchange index (SIZE2) and the natural logarithm of business turnover (SIZE3) would indicate, independently of way of measuring, that size cannot be considered as a predictor variable of the independence of the board. These results shed lights on the possibility of reinterpreting free cash flow of large firms (Jensen 1986) and potential agency costs. The lack of relationship between size of the firm and independence of the board is also consistent with the theoretical findings of the literature that examines the ownership-control separation in different ways with respect to the “strong managers-weak owners” view (ECNG 1997-1998, Barca 1997, Barbi 1999). It seems interesting to investigate if this result is peculiar to the presence of an alternative separation that originates inside the ownership and involves different classes of investors with a strong monitoring of management on behalf of the block-holder of the firm.

A different result that can be related to this is concerned with the ownership of the firm. Of the four variables tested only the proportion of shares held by the largest shareholder is significantly related to independence of the board confirming the above expectations about the presence of a strong ownership that weakens in many ways the management role. No impact is deserved for voting pact among shareholders, for the percentage of dispersed shareholding and more interesting for the presence of institutional investors which could be interested in binding and limiting block-holding power in the firm and in the board and so doing contribute in achieving an independent board.

Some surprise is also concerned with board demography despite the theoretical findings of the literature and the recommendations of codes. In fact, the number of executives’ positions doesn’t seem to have any influence on the probability of testing double positions of Chair and Ceo, whereas an opposite conclusion has to be done about size and cohesion of the overall board.

These findings seem to provide evidence of the fact that there is a set of definable factors that will determine the event of experimenting board “ceo-duality”. The implication of the above findings is that the suitable structure of board is settled by the specific inside environment in which the company operates rather than some exogenous fixed principles (even the ones determined by regulatory authorities). It is important to consider, for each company, what is occurring to the right

hand side drivers. For example, is performance result satisfying shareholders? What are the growth opportunities like? What level of ownership concentration is the firm experimenting? And so on.

The findings also suggest some implications for further analysis involving individual governance characteristics. First, it seems relevant to study other firm-specific circumstances associated to different governance structure such as firm age, firm leverage, variance of the rates of returns, percentage of intangible assets on the total of assets, and economic shocks within an individual industrial sector. Second, it could be possible that the predicted values are consequence of the overall governance systems of the firm where exogenous and endogenous pushes are interrelated. Therefore, the analysis should be also directed to examine other possible changes associated to “ceo-duality” in the board of directors. Finally, a further investigation for American system and EU system seems to be interesting in order to explain differences or alignments in board structure across countries. An overall rich understanding of such differences and alignments in board structure among countries seems to be a potentially important future research topics as regard the dynamic of the individual monitoring characteristics and the converging process of governance systems.

6. Concluding remarks

The above analysis has examined the event of “ceo-duality” in the firm. The aim of the study is to test the conjectures in economic literature about the role of firm characteristics, of board demography and of firm ownership in corporate governance, or more precisely in board independence. Despite the results of the analysis are mixed they indicate that the likelihood of firms experimenting “ceo-duality” is related to the benefits of doing so. Firms that require less monitoring of the management and a less independent board are more likely to show “ceo-duality”. An implication of this approach is that the composition of the board of directors may not be independently or objectively formed. Therefore, fixed exogenous rules on what board structure should look like are probably not desirable because they potentially constrain firms to the not best structure from the firm point of view.

TABLE 3 - CORRELATION MATRIX

| | EPS | DPS | P/E | EBIT | GROW1 | GROW2 | SIZE | SIZE | SIZE | DIRNT | EDP | LS | VP | DS | IS |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | | | | | 1 | 2 | 3 | | | | | | |
| EPS | 1,00 | 0,89 | -0,30 | 0,77 | 0,15 | -0,19 | 0,13 | 0,12 | 0,05 | 0,29 | -0,16 | 0,08 | 0,14 | -0,22 | -0,05 |
| DPS | | 1,00 | -0,21 | 0,75 | 0,06 | -0,16 | 0,27 | 0,21 | 0,23 | 0,23 | -0,21 | 0,03 | 0,06 | -0,01 | -0,06 |
| P/E | | | 1,00 | -0,31 | -0,39 | 0,45 | 0,02 | 0,01 | -0,02 | -0,08 | -0,15 | 0,07 | 0,06 | 0,24 | -0,23 |
| EBIT | | | | 1,00 | 0,23 | -0,20 | 0,20 | 0,08 | 0,21 | 0,24 | -0,13 | 0,01 | 0,08 | -0,14 | 0,00 |
| GROW1 | | | | | 1,00 | -0,39 | 0,25 | 0,00 | 0,15 | 0,05 | 0,05 | 0,12 | 0,16 | 0,00 | 0,09 |
| GROW2 | | | | | | 1,00 | -0,17 | -0,04 | -0,25 | -0,04 | 0,09 | -0,10 | -0,09 | 0,32 | -0,13 |
| SIZE1 | | | | | | | 1,00 | 0,61 | 0,89 | 0,18 | -0,37 | -0,14 | 0,01 | 0,40 | -0,03 |
| SIZE2 | | | | | | | | 1,00 | 0,51 | -0,06 | -0,21 | -0,09 | -0,06 | 0,32 | -0,11 |
| SIZE3 | | | | | | | | | 1,00 | 0,17 | -0,27 | -0,17 | 0,04 | 0,33 | 0,01 |
| DIRNT | | | | | | | | | | 1,00 | 0,00 | 0,00 | -0,08 | -0,18 | -0,18 |
| EDP | | | | | | | | | | | 1,00 | 0,09 | 0,12 | -0,12 | 0,06 |
| LS | | | | | | | | | | | | 1,00 | -0,25 | -0,52 | -0,14 |
| VP | | | | | | | | | | | | | 1,00 | 0,00 | 0,06 |
| DS | | | | | | | | | | | | | | 1,00 | 0,15 |
| IS | | | | | | | | | | | | | | | 1,00 |

Source: Consob, Taccuino dell'azionista

**TABLE 4 -
DESCRIPTIVE STATISTICS**

Panel A: Ceoduality Group

| Variable | Mean | St.Deviation | Minimum | 25th perc. | Median | 75th perc. | Maximum |
|----------|-------|--------------|---------|------------|--------|------------|---------|
| EPS | 0,23 | 0,20 | 0,00 | 0,08 | 0,17 | 0,37 | 0,59 |
| DPS | 0,08 | 0,07 | 0,00 | 0,03 | 0,05 | 0,16 | 0,21 |
| P/E | 26,38 | 13,70 | 9,74 | 17,94 | 21,04 | 30,11 | 62,83 |
| EBIT | 0,37 | 0,31 | 0,02 | 0,11 | 0,29 | 0,60 | 1,15 |
| GROWTH1 | 6,60 | 33,10 | -85,62 | 0,78 | 7,33 | 28,98 | 52,31 |
| GROWTH2 | 70,53 | 150,82 | 11,06 | 22,60 | 32,92 | 61,58 | 754,65 |
| SIZE1 | 19,02 | 1,41 | 16,91 | 18,07 | 18,90 | 19,86 | 21,96 |
| SIZE2 | 0,49 | 0,83 | 0,02 | 0,07 | 0,14 | 0,35 | 2,75 |
| SIZE3 | 26,86 | 1,55 | 23,08 | 26,26 | 26,79 | 27,11 | 30,05 |
| DIRNT | 14,61 | 8,71 | 2,11 | 7,75 | 13,62 | 19,01 | 36,62 |
| EDP | 0,55 | 0,31 | 0,14 | 0,31 | 0,50 | 0,75 | 1,33 |
| LS | 50,72 | 17,35 | 21,40 | 37,56 | 51,58 | 59,58 | 85,02 |
| VP | 7,74 | 18,68 | 0,00 | 0,00 | 0,00 | 0,00 | 67,26 |
| DS | 33,42 | 17,36 | 6,78 | 24,85 | 30,65 | 40,20 | 73,00 |
| IS | 3,22 | 4,28 | 0,00 | 0,00 | 2,22 | 4,44 | 15,17 |

Panel B: Control Group

| Variable | Mean | St.Deviation | Minimum | 25th perc. | Median | 75th perc. | Maximum |
|----------|-------|--------------|---------|------------|--------|------------|---------|
| EPS | 0,24 | 0,25 | 0,01 | 0,06 | 0,19 | 0,34 | 1,13 |
| DPS | 0,11 | 0,15 | 0,00 | 0,00 | 0,05 | 0,17 | 0,62 |
| P/E | 17,92 | 11,33 | 0,00 | 12,13 | 16,50 | 25,28 | 43,97 |
| EBIT | 0,42 | 0,37 | 0,00 | 0,15 | 0,34 | 0,60 | 1,36 |
| GROWTH1 | 4,56 | 20,43 | -37,12 | -4,78 | 2,18 | 17,78 | 42,82 |
| GROWTH2 | 27,08 | 15,50 | 6,26 | 16,56 | 21,97 | 40,08 | 59,76 |
| SIZE1 | 19,96 | 2,10 | 16,71 | 18,49 | 19,81 | 21,27 | 24,58 |
| SIZE2 | 2,97 | 8,33 | 0,01 | 0,07 | 0,35 | 0,93 | 39,45 |
| SIZE3 | 28,01 | 2,13 | 25,08 | 25,94 | 28,22 | 29,20 | 32,12 |
| DIRNT | 13,19 | 8,19 | 1,41 | 5,99 | 11,50 | 20,77 | 29,81 |
| EDP | 0,50 | 0,28 | 0,14 | 0,29 | 0,40 | 0,60 | 1,00 |
| LS | 30,82 | 11,15 | 12,19 | 23,19 | 30,45 | 37,00 | 49,00 |
| VP | 10,97 | 19,02 | 0,00 | 0,00 | 0,00 | 17,50 | 47,34 |
| DS | 44,54 | 17,67 | 11,00 | 31,00 | 48,00 | 55,44 | 79,00 |
| IS | 8,86 | 11,56 | 0,00 | 2,17 | 5,98 | 9,82 | 50,21 |

**TABLE 5 -
RESULTS OF THE LOGIT ANALYSIS**

| VARIABLE | REGRESSION A | | REGRESSION B | | HYPOTHESIZED SIGN |
|---------------------|------------------------------|---------|-------------------------------|---------|----------------------|
| | ESTIMATED COEFFICIENT | EXP (B) | ESTIMATED COEFFICIENT | EXP (B) | |
| IS | -0,069 (0,087) [0,428] | 0,933 | | | |
| P/E | 0,08 (0,056) [0,153] | 1,084 | 0,095 (0,056) [0,087] | 1,100 | + |
| GROWTH1 | 0,035 (0,028) [0,206] | 1,036 | 0,034 (0,027) [0,206] | 1,034 | + |
| GROWTH2 | 0,074 (0,038) [0,054] | 1,077 | 0,077 (0,038) [0,043] | 1,080 | + |
| SIZE2 | -0,838 (0,670) [0,211] | 0,433 | -0,836 (0,675) [0,216] | 0,434 | + |
| DIRNT | 0,127 (0,084) [0,130] | 1,136 | 0,141 (0,081) [0,080] | 1,152 | - |
| LS | 0,116 (0,043) [0,007] | 1,123 | 0,123 (0,044) [0,005] | 1,131 | + |
| INTERCEPT | -9,812 (3,727) [0,008] | 0,000 | -11,074 (3,674) [0,003] | 0,000 | |
| Number of obs. | 46 | | 46 | | |
| χ^2 | 37,187 | | 36,271 | | |
| p-value | 0,000 | | 0,000 | | |
| % right predictions | 89,1 | | 91,3 | | |

(E.S. in brackets, p-value in square brackets)

**TABLE 6 -
CLASSIFICATION TABLE (CUTOFF VALUE OF 0.5)**

| | | | | | |
|--------------|----------|------|-----------|----|-----------|
| | | | Predicted | | % correct |
| | | | Ceod | | |
| Regression A | Observed | Ceod | 0 | 1 | 2 |
| | | 21 | 2 | | |
| | | 1 | 3 | 20 | |

| | | | | | |
|--------------|----------|------|-----------|----|-----------|
| | | | Predicted | | % correct |
| | | | Ceod | | |
| Regression B | Observed | Ceod | 0 | 1 | 2 |
| | | 21 | 2 | | |
| | | 1 | 2 | 21 | |

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