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Do Corporate Governance Characteristics Affect Non-Financial Risk Disclosure in Government-owned Companies? The Italian Experience[*]

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Abstract

While a considerable amount of research has already been carried out into the corporate governance determinants of non-financial risk disclosure in companies in the private sector, such determinants in the annual reports of listed Government-owned Companies (LGCs) have yet to be investigated fully. This study attempts to complete the picture. Italian LGCs have been selected for analysis and agency theory has been applied in the public sector under the accountability paradigm. The research investigates whether non-financial risk disclosure provided in the Management Commentary (MC) of Italian LGCs may be affected by ownership concentration, corporate governance mechanisms and company-specific features. The

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issue is of particular importance in a country where Government intervention has significantly affected its economic development since the nineteenth century. Our findings show that there is a relationship between the level of non-financial risk disclosure and Board diversity, leverage and sector. Our findings also reveal some useful insights concerning policy makers and standard setters.

Keywords: government-owned companies; accountability; non-financial risk disclosure;, corporate governance.

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1. Introduction

Listed Government-owned companies (LGCs) are to be found in many countries of the world. They are a means for national and local Governments to support the economic growth and the development of a territory or a sector. Their specific objectives are related to political and social dimensions. However, their inherent mandates, inevitably, frequently clash with the economic rationale that determines profitable decision-making (Bozec et al., 2002). In addition to this, LGCs often constitute a particular blend of characteristics that are conducive to conflicting tendencies: political interests may compromise efficiency and effectiveness; directors may favour their own personal interests and gains (as in the private sector but with a political element); last but not least, Government ownership, in whole or in part, entails reduced risk of failure.

Whereas the privatization process has been examined in detail (Clark and Pitelis, 1993; Dewenter and Malatesta, 2001) and subsequent recent studies have analysed performance and profitability in these companies (Ang and Ding, 2006; Bozec et al., 2002), as yet there has been hardly any investigation attempting to explore the level of disclosure in the Annual Reports of Government-owned companies. This is in spite of the fact that these companies usually manage public resources. This fact in itself is sufficient to imply the need for greater accountability, more detailed information on how public money has been spent and whether their designated goals have been attained (Guthrie, 1993).

Lack of transparency has been noted, in particular, in risk reporting (Lajili and Zeghal, 2005) even though the withheld information would have been helpful to stakeholders in the assessment of *going concern* and *company risk profile*.

Furthermore, as discussed in Hodges et al. (1996), as a result of being owned in whole or in part by Government, LGCs usually have corporate governance aims and mechanisms with particular characteristics. Drawing from agency theory (Fama and Jensen, 1983) tension exists between *principal* and *agent* (Calabrò et al., 2013; Dharwadkar et al., 2000; Peda et al., 2013) which can be mitigated by wider disclosure. Generally speaking, to create an advantageous situation for both parties, the agent should report to the principal what has occurred within the entity during a certain period and indicate possible future developments (Ijiri, 1983; Oulasvirta, 2010).

With LGCs it is therefore important to identify which determinants may affect disclosure. The present study focuses on non-financial risk items provided by LGCs in the Management Commentary (MC). It aims to find out whether ownership concentration and the composition of the Board of Directors, together with company-specific characteristics, play a role in determining the extent of risk disclosure. According to agency theory, the Board of Directors can be seen as an endogenously designed mechanism to mitigate agency problems and reduce information asymmetry, since it is the central decision-making arena and voluntary risk disclosure is a byproduct of this arena (Healy and Palepu, 2001). Therefore, since the Board of Directors of LGCs represents various interests, it is important to examine its structure and composition in order to test how effective it is in disclosure and how disclosure behaviour can be improved, and in particular to ascertain how *Board diversity* and *independent directors* may help guarantee greater accountability on non-financial risks. In doing so it is necessary to take into consideration how disclosure behaviour may depend on specific company characteristics, as has already been pointed out with regard to private companies (Beretta and Bozzolan, 2004; Barako et al., 2006; Eng and Mak, 2003; Linsley and Shrives, 2006; Ntim et al., 2013).

The setting of the present study is the Italian Stock Exchange. At the end of 2010, while being relatively few in number, LGCs constituted almost 36% of the market capitalization of the whole Italian Stock Exchange.

The main findings suggest that Board diversity in terms of age and gender composition, leverage and sector do affect non-financial risk disclosure, while ownership concentration, independent directors, size and profitability do not.

The present study contributes to disclosure studies in a trifold manner. Firstly, we focus on an under-investigated sector in response to the general call for more research into the public sector (Grossi and Reichard, 2008). Secondly, we provide evidence of governance mechanisms and inherent contradictions that in the public interest require improvement.

Thirdly, our findings reveal some useful insights concerning standard setters and policy makers involved in corporate disclosure.

The paper is organized in six Sections as follows: Section 1 Introduction; Section 2 reviews previous studies and background; Section 3 develops research hypotheses; Section 4 presents the sample, data and research method; Section 5 tabulates and comments on empirical findings and Section 6 offers some comments by way of conclusion.

2. Literature review and background

In discussions on the question of the governance of LGCs, agency theory has in the last few years been gaining increasing traction. Its development has been affected by certain characteristics of the governance of LGCs. In LGCs the main problem concerns the identification of the *principal* and the *agent* (Peda et al., 2013). The principal may be considered to be the general public, citizens, service users, taxpayers and, paradoxically, also the Government. The Government is considered principal because in a representative democracy it must represent the will of the people. Yet the Government as owner of the company will also, at the same time, be acting as the citizens' agent. Consequently a situation develops whereby public interests may contrast with profitability. The tension created may have extensive consequences given that LGCs' goals are wide-ranging and multiple, encompassing economic, social and political dimensions (Bozec et al., 2002; Xu and Wang, 1999). Furthermore, although the Governmental shareholder (State or Local Government) is the citizens' agent, citizens' interests may not necessarily coincide with political ones. At this point the accountability paradigm, typical of the public sector, can mitigate this kind of dilemma. Actions ensuring greater accountability of the LGC to the citizens would be ultimately advantageous to both parties. Gray et al., sum up the need for effective disclosure in no uncertain terms: "*in a participative democracy there must be flows of information in which those controlling the resources provide accounts to society of their use of those resources. This is accountability*" (1996: 37).

The specialized literature on Government-owned companies considers accountability as strictly related to transparency. So far, disclosure has been considered mostly as a tool to ensure accountability (Caba Perez and Lopez-Hernandez, 2009) and as a matter related to Board role-diversity (Huse, 2005). A number of studies have pointed out that in LGCs there are many kinds of stakeholders (Guthrie, 1993), including Government and private stakeholders, citizens and lenders. They all have an interest in being able to assess the company's performance and going concern and therefore information on future risks and on strategies and investments to prevent, mitigate or avert risk-related effects. The company's Annual Report is the main medium of dissemination of information to the public (Tooley and Guthrie, 2007; Wei et al., 2008). It is thus an important part of the accountability process. Our research investigates risk disclosure as it is dealt with in the Annual Report.

Although determinants of disclosure in the private sector have been discussed in depth, with regard to ownership structure (Chau and Gray, 2002; Huafang and Jianguo, 2007) and Board composition (Beasley, 1996; Eng and Mak, 2003; Ho and Wong, 2001), there has been a lack of research addressing these features in the public sector.

With LGCs the first point to consider is the particular nature of the controlling shareholder. The Government as owner is expected to provide wide disclosure in order to mitigate agency costs and monitor any dysfunctional governance structure of the companies it controls. Specifically, the owner (as agent of the citizens) manages public resources and is supposed to demonstrate to stakeholders how public money has been spent, which objectives have been achieved and what the future prospects are. In this respect, accounting information (both quantitative and qualitative) can enhance accountability and hence solve agency problems (Monfardini, 2010; Ryan et al., 2002).

Eng and Mak (2003) have provided data showing a significant relationship between Government ownership and voluntary disclosure.

These considerations are significant when investigating corporate governance. In a number of studies the function and role of the Board of Directors in reporting has been thoroughly investigated (Adams et al., 2010; Denis, 2001). Some papers focus their attention on the impact of Board composition on disclosure (Cheng and Courtenay, 2006; Eng and Mak, 2003; Lim et al., 2007). However, there are very few empirical investigations into the matter concerning publicly owned companies (Hinna et al., 2010; Trotta et al., 2011). Even though with the New Public Management approach management practices have been transplanted from the private sector into the public sector (Conforth, 2003), considerable differences persist.

Government-appointed Board members might have politically oriented goals that are unaligned with either social welfare improvements or profitability (Cornett et al., 2010). At the same time, also according to agency theory, directors might be tempted to pursue their own personal interests. Further, because LGCs face a reduced risk of failure, they may feel "protected" from the market and be tempted to act regardless of both public interests and corporate profitability.

In this way, the Board has a key role in controlling and ensuring that its executives act in pursuit of the company's goals (Conforth, 2003). It is here that independent Board members can play a pivotal role in determining changes in the company's disclosure policies, ensuring a proper balance between different interests and improved disclosure (Ravasi and Zattoni, 2006). As Lim *et al.* have ascertained "*independent boards provide more voluntary disclosure of forward-looking information and strategic information*" (2007: 2). By analysing the role played by different legal systems in the relationship between corporate governance mechanisms and companies' voluntary disclosure, Garcia-Meca and Sanchez-Ballesta (2010) revealed that independent Boards are associated with higher voluntary disclosure and transparency. Thus, according to agency theory, independent directors can play a vital role in monitoring management performance and preventing individualistic tendencies (Fama and Jensen, 1983).

Board diversity, already widely investigated with regard to gender composition, age, nationality, professional experiences and education, is another factor that can affect disclosure. Previous studies, such as that of Schippers et al. (2003), indicate that Board diversity increases discussion, exchange of ideas and group performance. Diversity on the Board of Directors is a means of improving organizational value and performance by ensuring that varying viewpoints are considered (Carter et al., 2003; Kang et al., 2007). Nevertheless, research up to now has usually focused on private companies, while LGCs have remained under-researched.

Taking into account this theoretical background, our study aims to investigate whether Governmental ownership concentration and other corporate governance characteristics may affect voluntary disclosure, this being perceived as a tool for accountability that can mitigate agency-principal problems. Perhaps more importantly, considering that companies managing public resources have to communicate to stakeholders the risks they face, including non-financial ones, and how they face them, (Lajili and Zéghal, 2005), we intend to test this relationship empirically by examining non-financial risk disclosure in the MC. To this end, a review of the literature on non-financial risk disclosure is reported below, as well as an overview of standards issued on risk disclosure.

2.1. Risk disclosure

Risk disclosure is a trend of research that has attracted many scholars over the last decade. As Lajili and Zeghal noted (2005), studies in the field started by analysing financial and operational risks, and subsequently turning to strategic, regulatory and political risks.

This kind of information has now acquired a particular relevance in the field of corporate disclosure. Recent corporate failures have alerted financial markets, particularly investors, to the importance of assessing certain sources of risks and uncertainties and of the need for better quality information, including performance indicators, as recommended by standard setters and indeed by government legislation (Dainelli and Giunta, 2011; Potito, 2002; Solomon et al., 2000).

Risk has been broadly defined as the uncertainty associated with either a potential gain or loss (Solomon et al., 2000). In the case of risk disclosure, the boundary between mandatory and voluntary is quite blurred (Lajili and Zéghal, 2005). Almost all the main international and national standard setters recommend that any relevant information on future risks and uncertainties should be disclosed in the Annual Report and, more specifically, in the MC. However, no strict guidelines are given about either content or form, which still essentially depend on the company's attitude to disclosure and forward-looking information.

According to Carlon et al. (2003: 38), all kinds of risk "*affecting or potentially affecting the entity's performance and financial position*" ought to be thoroughly disclosed in the Annual Report.

Considering that the field of risk disclosure is remarkably wide-ranging, we have decided to concentrate our study on *non-financial risk disclosure*. Following the line adopted by Linsley and Shrives (2006), we have used the term *non-financial risk* to refer to the volatility of expected future earnings or cash flows not related to financial investments, but to "*business and operational risk, regulatory risk and environmental risk, as more valuable information about a firm's total risk exposure*" (Lajili and Zéghal, 2005: 126).

2.2. Background

Non-financial risk disclosure has to date been inadequately regulated in the international arena. Most of the initiatives, in fact, regard corporate disclosure only. Nevertheless, in the first document on the matter, Statement of Position 94-6, the Securities and Exchange Commission (SEC) invited

American companies to disclose the nature and effects of non-financial risks voluntarily. This strengthens the informative content of the Management and Discussion Analysis as required by Registration Statement 501-07 and provides investors with "an opportunity to look at the registrant through the eyes of management". The SEC requires foreign listed companies to present the 20-F form, disclosing all information related to potential risks.

In the United Kingdom, the Combined Code (Turnbull Report) (1999) has strongly recommended that companies should disclose all risks and related effects in a section of the Annual Report, the Operating and Financial Review, which is similar to the MC. The English standard setter, the Accounting Standards Board (ASB), since 2006, has issued various standards that called for more transparency in risk disclosure. In 1997, the Institute of Chartered Accountants in England and Wales (ICAEW) suggested complementing financial communications with a section "reporting on business risks" that should be systematically included.

In Germany, the GAS 5 was issued in 2000. It was devoted exclusively to risk disclosure. Since then, German listed companies have been requested to assign a specific section in the MC to exploring potential risks. More recently, in December 2010, the International Accounting Standards Board (IASB) issued the IFRS practice statement on MC. It pointed out that the MC is a narrative report that is an integral part of the Annual Report and that it "provides management with an opportunity to explain its objectives and its strategies for achieving those objectives". Subsequently, in January 2013, the IASB included in its agenda the Disclosure Framework Project which aims to make disclosure more effective. Though by no means exhaustive, this brief overview shows how professional bodies and standard setters have reacted to the need to stimulate and encourage Companies to report on forward-looking and risk content.

In Italy, until 2007, there was no clear and specific regulation of non-financial risk reporting. In 2008, legislation was passed whereby all information related to risks, as well as future expectations, was to be disclosed in the MC (Maffei, 2010; Caldarelli and Fiondella, 2013).

In fact, art. 2428 of the Italian Civil Code requires directors to provide, in the MC a fair, balanced and comprehensive description of the company's situation and an illustration of the principal risks and uncertainties. The new request is mandatory only in its general framework, but not with respect to the content to be provided. In order to fill this gap, in 2007 the National Accountancy Professional Body (CNDCEC) issued a recommendation inviting all Companies to provide this kind of information, identifying eleven non financial risk micro-items (see next Section 4.2).

As far as international regulation is concerned, there are very few indications specifically referring to LGCs. Only the OECD has issued guidelines related to the Corporate Governance of Government-owned firms (OECD, 2005). In the paragraph concerning disclosure, it recommends that companies "should disclose material information […and] any material risk factors and measures taken to manage such risks".

3. Hypotheses

This part of the present study investigates the effects of ownership concentration, Board composition and Board diversity on MC in order to determine whether they influence non-financial risk disclosure in LGCs.

Ownership concentration has already been discussed in relation to voluntary and mandatory disclosure as a proxy for transparency. Jensen and Meckling (1976) argue that large shareholders are expected to have greater interest in monitoring their company, because they have more wealth dependent upon its performance.

However, up to now a number of empirical investigations appear to have provided differing conclusions. For example, referring to risk disclosure as a component of voluntary disclosure, Abraham and Cox (2007) suggest that ownership concentration is a determinant of the quantity of risk disclosure. With regard to reporting on internal risk management, Deumes and Knechel (2008) show that Dutch-listed companies disclose less when they face fewer information and agency problems.

The present study enters the largely uncharted territory of the nature of the controlling owner, the Government, and its impact on corporate conduct. Some studies (Eng and Mak, 2003; Tooley et al., 2010) confirm that concentrated Government-owned companies communicate a wide range of information on their performance.

On the other hand, observing a sample of Chinese listed firms, Huafang and Yuan (2007) reveal that Government-ownership concentration is not associated with increased voluntary disclosure, and Jalila (2012) also finds no link. Based on these arguments, in order to reduce agency problems and in accordance with the accountability paradigm, we suggest that the Government blockholder, acting as the citizens' agent, represents an additional monitor that might encourage directors to provide more risk information. Hence, the first hypothesis to be tested is:

H1) Increased Government-ownership concentration has a positive effect on non-financial risk disclosure in the MC of LGCs.

Agency theory studies reveal how Board characteristics regarding composition, diversity and expertise affect the ability of the Board and how it carries out its duties (Hinna et al., 2010). In particular, Board composition and Board diversity have been extensively explored in the literature related to private-owned companies as a tool to affect disclosure in order to mitigate agency problems and help ensure transparency. Up to now, in this respect, LGCs have been under-researched (Hinna et al., 2010).

Results of empirical investigations into the effects of Board independence on voluntary disclosure have revealed some contradictions. Beasley (1996) provided evidence that the proportion of independent members is positively related to the Board's ability to improve disclosure.

Recent studies confirm this positive correlation in countries such as New Zealand and Zimbabwe (Adams and Hossain, 1998; Felo et al., 2009; Mangena and Tauringana, 2007).

By contrast, other papers focusing on Malaysia, Singapore and Kenya, find a negative relationship (Barako et al., 2006; Eng and Mak, 2003; Hannifa and Cooke, 2005). Another set of studies shows insignificant links between voluntary disclosure and Board independence in Hong Kong (Ho and Wong, 2001) and in the UK markets (Brammer and Pavelin, 2006). Referring to risk disclosure, Abraham and Cox (2007) reveal positive influence from independent members. With all this in mind, our second hypothesis to be tested is:

H2) Having a greater proportion of independent members on the Board has a positive effect on non-financial risk disclosure in the MC of LGCs.

Board diversity has been studied in terms of gender composition, age, nationality, professional experiences and functional education. In recent years there has been greater awareness of the importance of gender composition. Traditionally, however, the application of agency theory has not provided insights into whether gender composition, in particular greater female representation, can improve the Board's effectiveness.

While it is assumed that gender can explain differences in behaviour and skills (consider, for instance, gender-related differences in leadership theories) (Yukl, 2002), studies on the subject have provided mixed results. For example some studies on Norwegian Companies highlight that women directors influence the Board positively through their contribution to decision-making and effectiveness (Gul et al., 2011; Nielsen and Huse, 2010).

In contrast to this, Burke (2000) has questioned whether the presence of more women would necessarily contribute significantly to the Board's performance. These studies on the subject have mainly focused on the private sector.

In Italy, a recent survey conducted by Bianco et al. (2011) shows that, at the end of 2010, the relationship between women directors and good governance proxies seems to be negative. Listed companies with at least one woman have a lower Board attendance and a lower number of Board meetings than listed companies without women. Nevertheless, our third hypothesis for verification is:

H3) Having a greater number of women on the Board positively affects non-financial risk disclosure in the MC of LGCs.

Still on the subject of Board diversity, there is as yet very little empirical evidence on the effect of the age of Board members and it is mostly unrelated to disclosure practices. However, age may be considered one of the background diversity issues to be observed, as it may offer broader perspective in the decision-making process. Core et al. (1999), focusing on Board remuneration, found, perhaps surprisingly, that CEO remuneration is inversely proportional to age. In a similarly way, Kang et al. (2007) found that the age of directors in the top 100 Australian companies is a significant element of diversity that should be taken into consideration.

Considering the paucity of studies on the relationship between the age of directors and non-financial risk disclosure and assuming that older members have maturity and experience that could favourably affect corporate conduct, we have formulated our fourth hypothesis as follows:

H4) A greater number of older members on the Board positively affects non-financial risk disclosure in the MC of LGCs.

Finally, in order to isolate the effect of the above-mentioned determinants from that of others, a number of control variables has been included, as was the case in previous studies discussing determinants of risk disclosure (e.g., Beretta and Bozzolan, 2004; Barako et al., 2006; Eng and Mak, 2003; Linsley and Shrives, 2006).

In the present study company size, sector, leverage and profitability have been included as control variables to identify company-specific characteristics.

4. Sample and method

The research conducted in the present study analyses non-financial risk disclosure in the narrative section of the MC of the Annual Reports of Italian LGCs over a three-year period from 2008 to 2010. The commencement of our sample period in 2008 was chosen to coincide with the introduction and application of the new Italian legislation on risk disclosure in the MC.

We end our analysis in 2010 with conclusions based on the data available at the time.

The sample observed in this study consists entirely of Italian LGCs listed on the Italian Stock Exchange (ISE). Newly listed, delisted and bankrupt companies are not included. A total of 17 companies were checked once a year for three years. Although relatively few in number, LGCs in 2010 represented almost 36% of the total market capitalization of the entire Italian Stock Exchange. The present study encompasses LGCs where the Government either: 1) owns over 50% of the share equity or 2) owns less than 50% of share equity but is entitled to appoint of the majority of directors and consequently prevails in voting at general meetings.

Quantitative and qualitative independent variables for each year were collected through company web sites and Datastream database.

To test our hypotheses, the study was carried out in two stages as follows.

First, manual content analysis was conducted on all Italian LGCs' annual MCs, to determine their disclosure level by using an information index.

Secondly, the association between the independent variables and the information index was tested by applying the Poisson regression model.

4.1. Independent variables

Ownership concentration. Empirical studies have used various criteria to examine the relationship between disclosure and ownership concentration. Papers have focussed on the percentage of the company owned either by the largest, or the largest two, or all the main shareholders (e.g. Lim et al., 2007; Mangena and Tauringana, 2007; Patelli and Prencipe, 2007). The present study measures Government-ownership concentration as the total percentage of shares held.

Board Independence. There is no general consensus on how the concept of Board independence should be defined. The most common proxy for measuring independence in relation to disclosure is the number of non-executive and independent directors in relation to the size of the Board (Adams and Hossain, 1998; Barako et al., 2006; Lim et al., 2007).

We use this proxy in line with Menozzi et al. (2010). For the definition of independence we refer to the Italian legislation for listed companies (Legislative Decree no. 58/1998) and use the concept of independence as outlined in article 148 of the Italian regulation (T.U.F.), which excludes directors with kinship, professional, employee or economic relationships with the company. Thus, in the present study the proxy for Board independence is the number of independent directors at the end of each period examined in relation to the size of the Board.

Board diversity. We evaluate Board diversity by two different proxies: gender diversity and age diversity. Previous studies have usually assessed gender diversity by counting male and female directors on the Board (e.g., Kang et al., 2007; Nielsen and Huse, 2010). Here, the proxy for gender diversity is the proportion of the number of women directors at the end of each period examined in relation to the size of the Board.

Kang et al. (2007) considered the age of 50 as the age threshold for directors, while Core et al. (1999), focusing on the relationship between remuneration and Board composition, considered 69 as the age threshold for directors. Taking 65 to be the normal retirement age, we adopted 65 as the age threshold for directors. In the present study the proxy for age diversity is the proportion of directors over the age of 65, at the end of each period examined, in relation to the size of the Board.

Control variables. Lastly, in line with previous studies on disclosure (Beretta and Bozzolan, 2004; Barako et al., 2006; Linsley and Shrives, 2006; Ntim et al., 2013) we have also adopted the following as control variables: size (total assets at the end of each period), sector (1 if the company is Utility, otherwise zero) leverage (debt/ equity ratio) and profitability (ROE, i.e. Return on Equity ratio).

4.2. Dependent variable

A considerable amount of research has already been carried out on content analysis for risk disclosure (Beattie et al., 2004; Beretta and Bozzolan, 2004; Lajili and Zeghal, 2005; O' Sullivan et al., 2008). However, the manual content analysis in the present study focuses exclusively on various non-financial risk issues as identified in the 2008 guidelines provided by the CNDCEC.

Distinct risk categories have already been identified. For example Linsley and Shrives (2006) adopted a framework consisting of 37 sub-risk categories, while Papa (2007) used 75 specific risk categories. The Italian guidelines list 11 macro-items of non-financial risk disclosure (process, commitment, human resources, ethics, informativeness, dependence, market, regulation, natural disaster, competition, scenario). For each of them, it provides sub-classifications concerning information on strategies (four items: prevention, transfer, face risk and elimination) adopted by companies to deal with risks; information on expected investments (two items: qualitative and quantitative data); and information on expected effects related to risks (two items: qualitative and quantitative data) making a total of 88 items.

In line with previous studies (Abu Bakar and Saleh, 2011), to determine the dependent variable we have adopted the risk items related to non-financial risk disclosure as defined by Italian guidelines, and used a dichotomous binary method of scoring in which all items are given equal weight. Thus, for each LGC the total disclosure score (TDS) is expressed as follows:

$$\text{TDS} = \Sigma \text{ fi}$$

where TDS is the total disclosure score (minimum value = 0; maximum value = 88) for each company; f = 1 (YES) if the risk item fi is disclosed, and f = 0 (NO) if the risk item fi is not disclosed.

4.3. The method

The Poisson regression (log-linear model) is applied in this study since the dependent variable counts the number of realizations (Agresti, 2007). The model belongs to the family of generalized linear models (McCullagh and Nelder, 1989; Wacholder, 1986) in which the link function is the logarithm and the response variable follows a Poisson distribution. The model adopted is:

$$\log(E(TDS)) = \beta_0 + \beta_1 SH + \beta_2 IND + \beta_3 W + \beta_4 AGE + \beta_5 SIZE + \beta_6 SEC + \beta_7 LEV + \beta_8 \Pr$$

where:
TDS = total disclosure index
SH = % of shares held by the Governmental owner
IND = ratio of independent directors
W = ratio of women directors

AGE = ratio of old directors
SIZE= total assets
SEC = sector (assuming 1 for utility, 0 otherwise)
LEV = debt to equity ratio
Pr = return on equity ratio (ROE)

5. Results

Table 1 is an overview of our sample during the three year period of observation.

Table 1 – Overall sample description – Mean value of three years 2008-2010

Company name	Sector 1=utilities 0=others	No of employees	Board size	Sales	Return on investments
A2A	1	1,654	15	775,333	0.017
Acea	1	525	12	1,201,933	-0.015
Acegas	1	1,387	13	404,926	0.038
Acque potabili	1	216	9	56,234	0.007
Acsm	1	237	10	138,206	-0.005
Ansaldo Sts	0	1,510	9	1,059,053	0.048
Ascopiave	1	227	5	68,811	0.047
Centrale Latte Torino	0	156	10	58,762	0.051
Enel S.p.a.	1	735	9	692,920	0.003
Eni	1	12,448	10	38,466,291	0.016
Fiera di Milano	0	370	9	173,961	0.041
Finmeccanica	0	302	12	74,124	-0.006
Hera	1	3,990	18	1,137,071	0.027
Iride	1	139	13	6,506	-0.005
Saipem	0	18,120	9	4,238,914	0.080
Snam Rete Gas	1	3,539	9	2,605,000	0.074
Terna	1	3,499	9	1,316,809	0.071
total sample	70.58% utilities	2,885	11	3,086,756	0.030

Table 2 shows descriptive statistics related both to the total disclosure index (TDS) and to all variables during the three year observation window (no. 51 total observations).

Table 2 – Descriptive statistic

Variables	**Mean**	**Median**	**Min**	**Max**	**St dev**
TDS	12	12	1	24	5
SH	50	51	30	75	13
IND	54	56	7	100	25
W	4	0	0	22	6
AGE	24	22	0	77	21
SIZE	5,266,149	645,000	4,399	74,383,927	16,172,361
LEV	59	60	21	83	13
Pr	15	6	-9	33	47

The overall TDS mean score (as well as the median score) of 12 risk items (out of a possible 88) suggests a low level of risk disclosure in the MC of LGCs. The table also displays that there is a large variation among companies, with a minimum of 1 and a maximum of 24 risk items disclosed. The mean (50 percent) and median (51 percent) of Government-ownership concentration are relatively high, exhibiting a predominantly public ownership concentration. The minimum percentage concentration was found to be 30% while the maximum was 75%. The mean of independent directors is relatively high at 54 percent, although there is a wide range of variation (from a minimum 7% up to 100%). However, in Board diversity, we observe a very low (almost absent) presence of women Board members, as the mean is close to 4%. Furthermore, the range is both low and narrow varying from a minimum of 0% to a maximum of 22%. The mean presence of members older than 65 years is 24% ranging from a minimum of 0% to a maximum of 77%.

For size the overall mean of total assets is € 5,266,149 (while the median is € 645,000) as is consistent with the coexistence of both very big and small sized companies. Leverage is high. Both the mean and the median are almost 60 percent. The range of leverage is from 21% to 83%. Lastly, profitability (measured as ROE) ranges from -9% to 33% with a mean of 15%.

The mean risk categorisations of TDS during the three-year observation period is detailed in Table 3.

Table 3 – Distribution of TDS – Mean value of three years 2008-2010

Non-financial risk items	**Strategies**	**Expected Investments**	**Expected Effects**
Process	56	12	7
Commitment	7	4	0
Human Resources	14	7	3
Ethics	11	9	1
Informativeness	12	7	1
Dependence	10	5	5
Market	23	12	4
Regulation	16	8	4
Natural disaster	5	3	0
Competition	3	2	1
Scenario	8	5	1

The highest scores: process (56), market (23), regulation (16) and human resources (14) suggest that Italian LGCs tend to focus their non-financial risk disclosure strategies in these areas. By contrast, LGCs appear to give very little attention to the disclosure of "expected investments" and "expected effects". For the former, the highest scores are for process (12) and market (12) while for the latter the highest scores are for process (7) and dependence (5).

Looking at the table as a whole it is striking and disturbing that, the two items with zero disclosures to be found under the heading "expected effects" are: commitment and natural disaster.

The complete findings of the Poisson regression are displayed in Table 4.

Table 4 – Regression model

Variables	**Coefficient**	**p-value**
SH	-0.000	0.856
IND	0.108	0.608
W	-2.034	0.010***
AGE	0.497	0.024**
Control variables		
SIZE	-0.000	0.717
SEC (*utility*)	-0.377	0.001***
LEV	0.960	0.010***
Pr	-0.002	0.982
Intercept	2.096	0.000
Omnibus test		0.000
Log Likelihood: -140.786; LRchi2: 59.45		

***Significant at 1%; ** Significant at 5%
***Significant at 1%; ** Significant at 5%

Since the model indicates that some variables are not statistically significant, we have gone backwards dropping the non significant explanatory variables one by one and forwards again (adding one by one the explanatory variables) procedures of selection. Table 5 displays these findings, confirming that the model is correctly specified, provides significant results and is able to identify and explain a number of determinants affecting risk disclosure.

Table 5 – Regression model – Backward and Forward procedures of selection

Backward procedure 1) p = 0.982 >= 0.050 removing Pr; 2) p = 0.854 >= 0.050 removing SH; 3) p = 0.748 >= 0.050 removing SIZE; 4) p = 0.592 >= 0.050 removing IND		
Variables	**Coefficient**	**p-value**
W	-2.042	0.009***
AGE	0.546	0.005***
SEC (*utility*)	-0.380	0.000***
LEV	1.043	0.003***
Intercept	2.054	0.000
Omnibus test		0.000
Log Likelihood: -140.999; LRchi2: 59.02		
***Significant at 1%; ** Significant at 5% ***Significant at 1%; ** Significant at 5%		
Forward procedure 1) p = 0.000 < 0.050 adding SEC; 2) p = 0.000 < 0.050 adding W; 3) p = 0.005 < 0.050 adding LEV; 4) p = 0.005 < 0.050 adding AGE		
Variables	**Coefficient**	**p-value**
W	-2.042	0.000***
AGE	0.546	0.005***
SEC (*utility*)	-0.380	0.000***
LEV	1.043	0.003***
Intercept	2.054	0.000
Omnibus test		0.000
Log Likelihood: -140.999; LRchi2: 59.02		
***Significant at 1%; ** Significant at 5%		

For each of the hypotheses formulated in Section 3, the conclusions drawn are shown below.

Confirming the findings of Huafang and Yuan (2007), our results show that since the coefficient is not statistically significant, on the whole, Governmental presence as shareholder does not affect risk disclosure.

Our findings on Board composition differ from those of previous studies (Chen and Jaggi, 2000; Garcia-Meca and Sanchez-Ballesta, 2010; Huafang and Jianguo, 2007; Ntim et al., 2013; Patelli and Prencipe, 2007); The second hypothesis is refuted because the number of independent directors on the Board is not shown to be related to non-financial risk disclosure.

In regards to Board diversity our findings are perhaps counter-intuitive. In contrast with the findings of most other analyses (e.g. Gul et al., 2011), our results indicate that women directors have a negative influence on disclosure practices. In particular, confirming prior empirical findings in Italy (Bianco et al., 2011), the presence of women on the Boards of LGCs actually decreases the level of non-financial risk disclosure. The coefficient is -2.042 with a p-value of 1 percent. A possible explanation could be that the female presence is still limited to a minority of Companies, as corporate governance in Italy is predominantly male-oriented. When women sit on Boards, in most cases they are alone and possibly not keen on influencing the conduct of the other (male) Board members. Moreover, according to Nielsen and Huse (2010), the perception of women directors as non-equal, token members, may actually decrease the potential for women to influence Board decision-making. This result contributes to the literature questioning women's ability to contribute to Board activities when the context is predominantly male-value-oriented (Burke, 2000; Schein, 1973).

The research reveals that the greater the presence of old directors, the greater the disclosure of non-financial risk items, hence greater accountability. Thus our hypothesis is confirmed. The coefficient associated with age diversity is 0.546, at 1 percent level of significance (p-value = 0.005). In line with a prior study (Kang et al., 2007), this result suggests that, on average, age diversity should be considered a positive element in improving corporate conduct and Board decision making in Italian LGCs. Possibly the experience of older directors may be looked upon as being more conducive to responsible conduct than the new ideas from younger directors. The findings that there are very few women on Boards and that there is preference for older (experienced) male directors may reflect features that are specific to the Italian situation.

Considering the control variables, our results indicate that only sector and leverage are related to greater risk disclosure. For sector, in contrast to previous contributions (e.g. Abraham and Cox, 2007), we find a negative coefficient of -0.380 with a p-value of 1 percent. This suggests that generally Italian listed government utility companies are particularly reticent when disclosing risk information. On the other hand, where leverage is concerned, there is a positive coefficient of 1.043 with a p-value of 1 percent. In line with studies in the private sector (e.g. Barako et al., 2006; Deumes and Knechel, 2008) our findings confirm that highly leveraged LGCs increase their level of risk disclosure, thus reducing monitoring costs and enhancing the accountability paradigm.

Lastly, consistent with previous findings, the present study shows that in the Italian context, the size and profitability of LGCs are not significant determinants of risk disclosure (Beretta and Bozzolan, 2004; Elshandidy et al., 2013).

6. Concluding reflections

In the present study the impact of corporate governance mechanisms and company-specific characteristics on non-financial risk disclosure has been tested in Italian LGCs.

The main findings suggest, in particular, that Board diversity in terms of age and gender composition, leverage and sector affect this type of disclosure. Quantitative and qualitative information is conducive to accountability. This paper fulfils a need for more studies on governance mechanisms in the public domain (Grossi and Reichard, 2008) and offers conclusions of interest to both standard setters and policy-makers.

Indeed, it adds to recent studies on disclosure by analysing specific aspects of non-financial risk disclosure in Italy, which hitherto have been patchy and mainly anecdotal or descriptive. It provides an empirical rationale for the current debate on improving narrative reporting of Italian LGCs.

Efforts need to be made to induce LGCs to release more detailed information on planned investment and how they propose to manage non-financial risks and related effects. Such information, of course, is essential both for shareholders and citizens who have a right to know how a Government-owned company is coping with markets, competitors, threats and opportunities and, above all, how it is employing public resources.

Guidelines to enhance accountability for both listed and non-listed Government-owned companies are therefore desirable (Ryan, 2012).

The findings of the present study also suggest that corporate governance could be made more effective if Board diversity in terms of age and gender are reconsidered.

However, the present research has some inherent limitations.

Our disclosure index only investigates the presence of non-financial risk disclosure items provided in the MC. It does not assign any value to the quality of those items, since any scale of values would be considered subjective. However, the addressees of corporate narrative reporting also have interest in the quality of disclosure which is beyond the scope of the present study.

Our contribute has focussed specifically on the Italian context. As already explored in literature, a country's legal origin derives from a long and stratified process that might influence the relation between corporate governance characteristics and voluntary disclosure policies by firms (La Porta et al., 1998). Accordingly, a broader, transnational analysis would also be of interest.

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