

## SECTION 1. Macroeconomic processes and regional economies management

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### Alternative vs. traditional corporate governance systems in Italy: an empirical analysis

#### Abstract

The 2003 Italian Corporate Law Reform, establishing one-tier vs. two-tier board for listed and unlisted joint stock companies, introduced alternative corporate governance systems. This study implements probit regressions in order to compare 548 unlisted firms: corporations with best performances in sales and capital structure, as well as those under “control and coordination”, maintain a traditional system. Conversely, firms with a high proportion of individual shareholders adopt alternative systems. For alternative system firms, split between one-tier and two-tier boards, companies under “control and coordination” action tend to implement a one-tier system, same as firms with a higher proportion of individual shareholders.

**Keywords:** corporate governance, one-tier board, two-tier board.

**JEL Classification:** G34, K22, M42.

#### Introduction

The recent history of European corporate law has been affected by relevant changes, in particular on corporate governance branch, which affect both national and European institutions and companies. This paper is based on the Italian 2003 Reform of corporate governance which allowed companies to choose among three different models. Besides the traditional model of corporate governance, based on a board of directors and an external audit committee, two alternative Corporate Governance Systems (CGSs from now onward) have been introduced: the one-tier model, based on the Anglo-American tradition, and the two-tier model, derived from the German tradition. The two “alternative” CGSs generated by the 2003 Reform show different peculiarities in the method of appointment of managing and controlling bodies and are considered of interest in the current global financial and economic crisis, because of their adoption by some of the most important banks and financial institutions in Italy (e.g., Intesa-San Paolo, Banca Popolare Italiana, Banca Popolare di Verona, Unione delle Banche Italiane).

Generally speaking, alternative CGSs seem to attract both listed and unlisted joint stock companies in Italy. The aim of this paper is to compare traditional vs. alternative CGSs in unlisted joint stock companies; specifically, we focus on unlisted joint stock companies adopting alternative CGSs in opposition to those maintaining a traditional model. Also, we wish to 1) verify whether firms who have adopted one of these innovative alternative models of corporate governance

may be identified in terms of size, economic and financial indices and ownership structure; 2) ascertain if some characteristics might *drive* firms to adopt a different model of corporate governance compared to the traditional one.

Therefore, we implement a binary response regression in order to discover the determinants of the choice of an alternative system instead of a traditional one. Secondly, we split the different alternative systems, distinguishing the determinants of one tier or two tier model.

The paper is organized as follows: the first Section, outlining the literature on CGSs, follows this short introduction, giving also more details about the structure of the corporate governance systems analyzed. In the second Section, after the sample description, we illustrate key economic and financial features of companies with both alternative and traditional CGSs in the Italian context. The third Section describes the statistical methodology and the fourth one presents the empirical results. Comments on results and conclusions are in the final Section.

#### 1. Alternative vs. traditional corporate governance systems

Corporate governance can be viewed as the process by which investors attempt to minimize the transactions costs (Coase, 1937) and agency costs (Jensen and Meckling, 1976) associated with company financial and ownership structure (Shleifer and Vishny, 1995, 1997). Early academic debate about corporate governance in the United States focused on this issue as mechanisms for controlling agency costs (Manne, 1965). More recently there has been renewed attention to the legal responsibilities of corporate boards of directors, about the efficacy of shareholder legal action as a mechanism for control-

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ling agency costs, and, possibly, about the role of institutional investors as corporate monitors (Enriques and Volpino, 2007). It seems to come out the incompleteness of corporate contracts and the essential role of corporate governance principles to fill the gaps in these incomplete, contingent contracts and the relevance of a control managerial shrinking, to control agency costs. From this point of view, corporate law seems to provide a set of standard terms that allow for minimizing contracting costs.

The possibility of adopting an alternative corporate governance system (i.e. one-tier and two-tier boards) instead of the traditional one was introduced in Italy by the Corporate Law Reform at the beginning of 2004. This reform, which allows for the adoption of a one- or a two-tier board for both listed and unlisted joint stock companies, has modified *the traditional model of corporate governance*, that is characterized by three different corporate bodies which govern firms: the shareholders' meeting<sup>1</sup> with substantial decisional powers, the board of directors<sup>2</sup> – entrusted with particular managerial functions – and the board of auditors<sup>3</sup> that monitors the organization and, in specific case, has further monitoring functions on management of the company<sup>4</sup>.

The introduction of two-alternative (*one-tier and two-tier models*) corporate governance systems in a single legal system, and the freedom to choose among them and the traditional system represents an innovative approach to the problem of corporate governance and must be considered in the light of academic literature on global convergence of corporate law (Bebchuck and Roe, 1999; Coffee, 1999 – see also Hopt and Leyens, 2004).

*The one-tier model* derives from the Anglo-American tradition and looks like to be simpler and more flexible model than the other ones. In this system the shareholders' meeting appoints the board of directors that appoints some of its members – with peculiarity of “independence<sup>5</sup>” – to an audit committee delegated with monitoring functions. We remark that these monitoring functions involve an internal auditing control on truthfulness and fairness of management. Similarly to both the traditional and the two-tier models, we observe the presence of an external auditor who checks compliance with accounting procedures. The most

important feature of this CGS system is the unification of the monitoring and the managing bodies of the firm.

Examining the tasks granted to each corporate body, we remark that the functions of the shareholders' meeting and the functions of the board of directors are partially overlapping to the functions already seen for the same bodies in the traditional model. The main difference between the traditional system and the one-tier model is then the weaker monitoring powers of the management audit committee compared to the powers of the board of auditors in the traditional ones. According to the above definition, this model is likely to lead to a better distribution of information between the managing and controlling bodies, allowing improvements in transparency, with remarkable reductions in terms of costs and time.

In contrast, *the two-tier model* could be defined as the most multi-faceted one. This model owes its basic structure to the German tradition<sup>6</sup>, where the shareholders' meeting<sup>7</sup> appoints a supervisory board<sup>8</sup> – characterized both by monitoring functions on managing body of the firms and empowered by the implementation of the corporate strategy definition – which then appoints a management board<sup>9</sup> whose main function is to manage the company.

This model dates back to the end of XIX century (or the beginning of XX century) and draws its basic characteristics from the social-democratic culture that emerged in central Europe, during the Austro-Hungarian empire. The two-tier model became firmly established after last time of WW2 when new issues, like “economic democracy” and “employees representation in management” inside companies, started to emerge. This change of perspective took place largely in Germany, where the supervisory board was composed by some union officers<sup>10</sup> with monitoring and inspection functions on management' actions and behavior (Wirth, 2004).

The alternative CGSs and the traditional ones differ significantly in some aspects. In fact, although some functions of corporate bodies appear similar in both two-tier and traditional models, there are also specific functions which are different. In particular, beginning with the functions defined for the shareholders' meeting in the traditional model, the supervisory board has two powers: a) to approve the balance sheet, and b) to take legal action against members of the management board without dissolving the shareholders' meeting. In this model, the separation between ownership and

<sup>1</sup> Assemblée degli azionisti.

<sup>2</sup> Consiglio di amministrazione.

<sup>3</sup> Collegio sindacale.

<sup>4</sup> The monitoring function on management is provided just for listed companies. Then, this type of function is not provided for unlisted companies who compose our sample.

<sup>5</sup> By “peculiarity of independence” we mean members of the board of directors without relationship to other directors or shareholder of the firms, without other important professional tasks for the firm or the definition of shareholder in the same firm.

<sup>6</sup> But also France, Netherlands, and Portugal.

<sup>7</sup> Hauptversammlung (assemblea degli azionisti).

<sup>8</sup> Aufsichtsrat (consiglio di sorveglianza).

<sup>9</sup> Vorstand (consiglio di gestione).

<sup>10</sup> Who compose and represent the labor union too.

control is then remarkable, because the members of the management body<sup>1</sup> are not directly appointed by the shareholders' meeting but their appointment is a supervisory board duty. Finally, the two-tier model provides an important role for the supervisory board, with new controlling functions and the power to perform duties entrusted to the board of directors or to the shareholders' meeting in the traditional model.

## 2. The transition towards alternative models

In recent years, there has been an increased interest in topics related to corporate governance systems, overall in the highlight of Company Law's Reform (2003), but without finding out which corporate governance system could be the best. This lack could be due to the presence of no generally accepted criteria for the appropriate means to measure alternative systems of corporate governance.

Generally speaking, it's possible to identify three ways to measure empirically the performance of CGSs. At first, according to Shleifer and Vishny (1994, 1995) and relevant work of Zingales (1994), it is possible to categorize the performance of corporate governance systems on the basis of the capacity to hold up manager's ability to divert firm resources to their own private benefits. The second empirical measure is related to the compliance of entrepreneurs to make IPO<sup>2</sup> and finally, a third measure of the performance could be identified in the functioning of internal and external markets for corporate control.

In the consideration here above mentioned, try to identify which CGS is the best one isn't an easy issue. Moreover, the incompleteness of the regulation of the one-tier and two-tier models<sup>3</sup> combined with the uncertainty about the final shape of these systems in the Italian legal system, define a more complex framework (Ghezzi and Malberti, 2008).

This study tries to highlight the features and the identification of the determinants of the adoption of alternative corporate governance systems in the Italian context.

Bellavite Pellegrini (2006 and 2009) described summary statistics reporting Italian joint stock companies that adopted alternative CGSs.

Before analyzing the data, we mention some issues. Firstly, we underline the problems related to the path dependence of Italian firms under the traditional model, which is still the most influential and most commonly used in Italy and has been continued by the Italian legislator; secondly, many firms might have

stopped from adopting an alternative models in order to understand the final shape of the provisions of these new CGSs. Another problem could derive from the system used by the Italian Company Register to collect information that might alter the perception of the economic conditions and legal status of Italian companies<sup>4</sup>.

**2.1. Data and description.** In this survey we consider a panel data for the years 2004-2006 of all unlisted Italian joint stock operating companies, enrolled in "Register of Companies"<sup>5</sup>, with their headquarter located in the north of Italy<sup>6</sup> that during this period of time have adopted one of the three possible CGSs defined above<sup>7</sup>. All data are obtained from the Stock View Infocamere Archive<sup>8</sup>. The data include also companies in transition. We have two samples characterized by different CGSs: the traditional one and the sub-sample with one of the two alternative CGSs. The sample of companies with a traditional CGS comes from a dataset composed by Bellavite Pellegrini (2006) and is composed by companies with headquarters located in northern Italy<sup>9</sup>. This sample was obtained from the Chamber of Commerce in Milan, a legal entity which registers all companies located in this province. The sample includes 371 unlisted joint stock companies as the definition above underlined<sup>10</sup>. Concerning the sample of companies adopting an alternative CGS (one- or two-tier model), the last one does consider all the Italian companies located in Northern Italy adopting an alternative CGS. This sample includes 177 unlisted joint stock companies<sup>11</sup>. It's important to remark that these two samples are homogeneous because all of the companies analyzed in both samples have willingly decided to commit audit control to an external auditor. Then, our sample consists of 548 unlisted Italian joint stock companies adopting traditional or alternative CGSs two years after the introduction of the Reform.

The number of the joint stock companies adopting traditional or alternative CGSs of our sample is presented in Table 1.

<sup>4</sup> Because, for example, by-laws frequently grant powers not used by the board of directors during its terms of office.

<sup>5</sup> As reported by Chamber of Commerce (UnionCamere) classification, the definition of *joint stock operating companies, enrolled in "Register of Companies"* includes going concern firms, outage firms, pending firms, liquidated firms and firms in bankruptcy.

<sup>6</sup> As "North of Italy" we consider all provinces located in the following Regions: Liguria, Piemonte, Valle d'Aosta, Lombardia, Trentino Alto Adige, Friuli Venezia Giulia, Veneto and Emilia Romagna.

<sup>7</sup> Traditional or alternative CGSs (one- and/or two-tier models).

<sup>8</sup> This database, built by Infocamere (Chamber of Commerce), contains all financial statements and official documents of all Italian companies, recorded by region and province.

<sup>9</sup> All located in Milan.

<sup>10</sup> See footnote 4 on the same page.

<sup>11</sup> Our sample of analysis (focused on "northern Italy") is composed by 177 companies, which represent 57.3% of the total amount of all unlisted Italian joint stock companies who decided to adopt an alternative corporate governance system at the end of 2006 (for a total amount of 309 companies, respectively 193 unlisted joint stock companies who adopted a one-tier model and 116 who decided to adopt a two-tier one).

<sup>1</sup> Management board.

<sup>2</sup> I.e. investors who are confident that a particular system of CGs adequately protects them from inappropriate manager' actions will be more inclined to make investment. Moreover, firms operate with an appropriate and functioning CGS will be able to sell their shares to the public, otherwise, will not.

<sup>3</sup> In fact the Italian Legislature has not yet completed all the necessary adjustments.

Table 1. Number of unlisted Italian joint stock companies adopting traditional or alternative CGSs.  
PANEL 2004-2006 – SAMPLE

Description	Frequency
Companies with <i>Traditional corporate governance system</i>	371
Companies with <i>an Alternative corporate governance system</i>	177
TOTAL SAMPLE	548

Source: Our elaborations from data of the “Stock View” Archive.

Table 2. Joint stock companies adopting an alternative CGS (one- and two-tier models)

Description	Frequency	%
Joint stock companies with <i>One-tier model of corporate governance system</i> (one-tier board with an inside Audit Committee)	100	56.5%
Joint stock companies with <i>Two-tier model of corporate governance system</i> (Two board)	77	43.5%
Total	177	100%

Source: Our elaborations from data of the “Stock View” Archive.

Firstly, we considered all the unlisted joint stock companies with legal headquarter in Northern Italy that have decided to adopt a one-tier (board) model of CGS. This sample consists of 100 firms (about the 0.16% of the whole sample of unlisted joint stock operating companies enrolled in “Register of Companies”, with legal headquarter in Italy at the same time). Then, we considered all unlisted joint stock companies with legal headquarter in Northern Italy which had decided to adopt a two-tier (board) model of CGS. The sample is composed of 77 firms (about the 0.13% of the whole sample of unlisted joint stock operating companies enrolled in “Register of Companies”, with legal office in Italy at the same time).

We underline some market preferences for adopting one tier model (about 56.5%) in comparison to a two-tier one (about 43.5%); however, our sample of joint stock companies adopting an alternative CGS – 177 in total – represents just 0.3 percent of the total number of joint stock firms in Italy<sup>1</sup>.

The data indicates that the strategy followed by Italian authorities was not particularly successful in attracting national and foreign firms to the new models (Bellavite Pellegrini, 2009). Some issues affecting firms in deciding to adopt one of these three different models are worth noticing: firstly,

As reported in Table 1, the total sample is composed by 548 firms: 67.7% of companies adopted a traditional CGS, characterized by one board and an outside Audit Committee, and 32.3% of them implemented alternative ones.

Considering the 177 firms adopting an alternative CGS we suggest the following classification where Table 2 shows the distribution of firms with an alternative CGS.

it is difficult to anticipate the real success of these different systems in the future; secondly, someone has compared this “problem of choice” to a prisoner’s dilemma (Ghezzi and Malberti, 2008<sup>2</sup>); finally, other issues affect firm choice, in particular the presence of a still largely incomplete regulation for the alternative models.

**2.2. Geographic location and economic activity (sectoral distribution).** We notice that all the joint stock companies adopting a traditional CGS are located in Milan, while those joint stock companies adopting an alternative CGS show a slightly different geographic distribution, with a strong presence in Milan. Table 3 shows the distribution.

<sup>1</sup> Over the total amount of 60.631 unlisted Italian joint stock operating companies enrolled in the “Register of Companies”, at the end of 2006. This is valid for observations defined above as well. We notice geographical distribution of the total number of 309 unlisted joint stock companies in Italy who adopted an alternative CGS (about 0.5% of all joint stock firms in Italy): most of them are located in Northern Italy (177 over 309, about 57.3%).

<sup>2</sup> “... The decision to adopt an alternative system might be a risky one, because it is difficult to weight ex-ante the costs and the benefits of a model. Hence, it would be preferable to wait for other corporations to adopt alternative systems to see if and how these systems work in practice”.

Table 3. Geographic distribution of joint stock operating companies with alternative or traditional CGSs<sup>1</sup>

Geographical distribution	Alternative corporate governance systems		Traditional corporate governance system	Whole sample
	<i>One-tier model</i>	<i>Two-tier model</i>		
	Number	Number		
Northern Italy:				
- with their headquarter in Milan:	42 (42%)	35 (45.5%)	371 (100%)	448 (81.8%)
- the others <sup>2</sup> :	58 (58%)	42 (54.5%)	-	100 (18.2%)
<i>Total</i>	<i>100 (100%)</i>	<i>77 (100%)</i>	<i>371 (100%)</i>	<i>548 (100%)</i>

Source: Our elaborations from data of the “Stock View” Archive.

We observe that joint stock companies adopting alternative CGSs are quite uniformly shared by Milan and “others” with an average of 44% of companies with an alternative CGS located in Milan and a percentage (on average) of 56% of companies with the headquarters located in other places in Northern Italy. Instead, considering the whole sample (548 firms) we observe a great

prevalence of companies located in Milan (about 82%). This fact leads us to consider this Milan sub-sample as key<sup>3</sup>.

With regard to economic activity, it is possible to draw some general conclusions. Consider the whole sample of 548 unlisted Italian firms, the sectoral distribution is given in Table 4.

Table 4. Economic activity classification – whole sample – joint stock companies adopting alternative or traditional CGSs

Economic activity	Alternative corporate governance systems		Traditional corporate governance system	Whole sample
	<i>One-tier model North<sup>4</sup> Milan<sup>5</sup></i>	<i>Two-tier model North<sup>6</sup> Milan<sup>7</sup></i>		
Financial services and brokerage	8 (8%) 5 (11.9%)	8 (10.4%) 6 (17.1%)	43 (11.6%)	59 (10.8%)
Consultancy (business assistance)	6 (6%) 6 (14.2%)	10 (13%) 5 (14.3%)	58 (15.6%)	74 (13.5%)
Holdings	3 (3%) 1 (2.4%)	2 (2.6%) 1 (2.8%)	25 (6.8%)	30 (5.5%)
Real estate	11 (11%) 6 (14.2%)	17 (22%) 10 (28.7%)	26 (7%)	54 (9.9%)
Building industry	1 (1%) -	3 (3.9%) -	1 (0.3%)	5 (0.9%)
Distribution and trade/business	4 (4%) 1 (2.4%)	5 (6.5%) 2 (5.8%)	33 (8.9%)	42 (7.7%)
Textile/fashion	6 (6%) 2 (4.8%)	2 (2.6%) -	14 (3.8%)	22 (4%)
Foodstuffs	5 (5%) -	3 (3.9%) 1 (2.8%)	13 (3.5%)	21 (3.9%)
Manufacturing	28 (28%) 10 (23.8%)	13 (16.9%) 4 (11.5%)	51 (13.7%)	92 (16.8%)
Information technology	5 (5%) 5 (11.9%)	1 (1.3%) 1 (2.8%)	10 (2.7%)	16 (2.9%)
Utilities	5 (5%) -	1 (1.3%) -	29 (7.8%)	35 (6.4%)
Metallurgic and mining industry	10 (10%) 2 (4.8%)	5 (6.5%) 1 (2.8%)	9 (2.5%)	24 (4.4%)
Pharmaceutical	3 (3%) 1 (2.4%)	--	13 (3.5%)	16 (2.9%)
Tourist industry	3 (3%) 1 (2.4%)	3 (3.9%) 1 (2.8%)	6 (1.6%)	12 (2.2%)
Publishing trade	1 (1%) 1 (2.4%)	--	19 (5.1%)	20 (3.6%)
Others	1 (1%) 1 (2.4%)	1 (1.3%) -	18 (4.8%)	20 (3.6%)
Outage firms	--	1 (1.3%) 1 (2.8%)	2 (0.5%)	3 (0.5%)
N.a.	--	2 (2.6%) 2 (5.8%)	1 (0.3%)	3 (0.5%)
<i>Total</i>	<i>100 42</i>	<i>77 35</i>	<i>371 (100%)</i>	<i>548</i>

Source: Our elaborations from data of the “Stock View” Archive (Infocamere).

<sup>1</sup> The percentages over the total sample or sub-sample are in parentheses.

<sup>2</sup> I.e. other provinces in Northern Italy.

<sup>3</sup> We consider here, as well as in Sections 3-4, the companies located in Milan (named “Milan sub-sample”) in models 1 and 2, that are showed in Table 8.

<sup>4</sup> The values classified in “North” include the value registered for “Milan” too.

<sup>5</sup> The values classified in “Milan” are a subset of the Northern sample.

<sup>6</sup> See footnote 4 on the same page.

<sup>7</sup> See footnote 5 on the same page.

Considering the full sample, we underline the prominence of manufacturing companies (16.8%), a remarkable presence of consultancy (13.5%), and financial services and brokerage activities (10.8%).

Even if the alternative models of corporate governance are not yet particularly successful, it is possible to recognize some characteristics of the legal entities that have decided to adopt one of the alternative systems. According to Bellavite Pellegrini (2009), a large percentage of the legal entities that have adopted a one-tier or a two-tier model is involved in manufacturing activity. This is not surprising because of the great number of Italian firms in this sector.

Focusing our attention on companies with alternative CGSs, we observe that manufacturing and real estate firms represent the most prevalent category of companies adopting, respectively, a one-tier (board) model (28%) and a two-tier (board) model (22%). Financial services and brokerage, business consultancy, and

metallurgic and mining industries do show a clear interest in adopting alternative CGSs as well.

Considering only companies with a traditional CGS, we also remark some light differences with respect to the evidence showed by alternative systems: a considerable role is played by consultancy, financial service and brokerage sector, and holdings.

**2.3. Descriptive statistics: economic indices, income and financial size, ownership structure data – Sample of statistical model.** To gain sample reliability and data homogeneity, in the statistical analysis we consider the 371 firms with the traditional CGS<sup>1</sup> and the 177 firms characterized by an alternative CGS, all located in Northern Italy<sup>2</sup>. The whole sample consists of 548 firms.

Table 5 presents some helpful accounting indices to point up differences between the samples considered. We also care about the differentiation in economic and financial size for the sub-sample “Milan”.

Table 5. Descriptive statistics. Accounting indices. Sample of statistical model and econometric analysis (in Euro) (NORTH, Milan in parentheses)

Balance sheet items		Traditional corporate governance system	One-tier model of corporate governance system	Two-tier model of corporate governance system	Alternative corporate governance systems (aggregate data)	Total sample
Total sales	Mean	136,702,278 (-)	26,443,997 (27,903,678)	18,520,022 (15,531,021)	23,022,281 (22,368,542)	100,058,176 (117,219,399)
	Median	23,918,122 (-)	7,826,215 (6,183,889)	2,342,663 (1,650,542)	6,330,880 (4,357,824)	14,439,943 (16,863,172)
Net profit	Mean	4,353,524 (-)	1,084,936 (426,778)	824,581 (1,723,964)	972,510 (1,007,098)	3,263,673 (3,783,281)
	Median	598,127 (-)	60,904 (59,855)	5,899 (30,885)	31,489 (54,152)	211,163 (475,620)
Net worth	Mean	58,816,791 (-)	9,622,959 (9,859,659)	22,433,193 (36,586,587)	15,154,651 (21,86,442)	44,742,548 (52,511,798)
	Median	12,521,341 (-)	2,992,345 (1,892,152)	2,398,456 (2,482,659)	2,836,313 (2,360,460)	7,114,523 (9,065,331)
Total assets	Mean	495,211,759 (-)	28,778,556 (33,302,041)	73,533,908 (123,348,255)	48,104,730 (73,585,873)	351,089,347 (423,365,196)
	Median	45,643,223 (-)	11,117,962 (9,750,610)	10,832,506 (11,300,998)	11,056,476 (10,305,641)	26,369,765 (33,808,041)
Long-term liabilities	Mean	188,911,853 (-)	7,745,433 (10,346,961)	8,100,373 (7,770,206)	7,897,550 (9,194,202)	130,787,993 (158,287,320)
	Median	5,027,121 (-)	1,776,562 (1,075,149)	1,957,784 (1,330,270)	1,864,100 (1,271,459)	3,034,846 (3,465,704)
N. of total employees	Mean	313 (-)	66 (65)	53 (33)	60 (51)	230 (268)
	Median	53 (-)	35 (21)	21 (13)	27 (19)	41 (43)

Source: Elaborations from data of the “Stock View” Archive (Infocamere), financial statement and stock ledger. \* (mean and median for the subsample that includes just firms located in Milan – named “Milan only” – are given in parentheses). \*\* (-) stands for “the same value”.

<sup>1</sup> All located in Milan.

<sup>2</sup> The majority of all firms with alternative CGS around Italy (about 57%).

As we can see in Table 5, and considering the median (instead of the mean) in order not to overstate the size, we highlight the strong relevance of economic and financial size related to different CGSs. We notice some differences between companies with traditional and alternative CGSs. The empirical evidence shows that both the one-tier and two-tier models are mainly used by small and medium firms; in particular, their dimension is generally smaller than for firms with traditional CGS; firm size is slightly bigger for firms with a one-tier board compared to those with two-tier board.

The descriptive statistics defined above indicate that companies characterized by a traditional CGS show greater size, in terms of median, for total sales, number of total employees, total assets and net assets in comparison with alternative ones (Bellavite Pellegrini, 2006a, 2008 and 2009)<sup>1</sup>. These evidences confirm the idea that companies adopting an alternative CGS are likely to be smaller (considering the value(s) explained in Table 5) compared to firms with a traditional one. Comments for the sample “Northern Italy” (548 firms), are even more valid for the sub-sample named “Milan only” (in parentheses).

Table 6. Descriptive statistics. Accounting indices, financial and ownership structure data. Sample of statistical model and econometric analysis (NORTH, Milan in parentheses)

Accounting indexes, financial and ownership structure data		Traditional corporate governance system	One-tier model of corporate governance system	Two-tier model of corporate governance system	Alternative corporate governance systems Total	Total sample
Return on equity <sup>2</sup>	Mean	-0.09 (-)	-0.03 (-0.01)	-0.66 (-1.39)	-0.3 (-0.63)	-0.16 (-0.18)
	Median	0.05 (-)	0.03 (0.03)	0.01 (0.01)	0.01 (0.02)	0.04 (0.05)
Leverage <sup>3</sup>	Mean	2.71 (-)	1.76 (1.80)	1.64 (1.86)	1.71 (1.83)	2.38 (2.56)
	Median	0.28 (-)	0.58 (0.51)	0.46 (0.31)	0.49 (0.42)	0.42 (0.31)
N. of total shareholders	Mean	4.15 (-)	9.42 (4.17)	11.25 (5.91)	10.21 (4.96)	6.10 (4.29)
	Median	2.00 (-)	3.00 (2.00)	3.5 (3.00)	3.00 (2.00)	2.00 (2.00)
Majority shareholder' ownership (%)	Mean	78% (-)	69% (69%)	61% (73%)	65% (71%)	74% (77%)
	Median	97% (-)	76% (75%)	50% (85%)	65% (80%)	87% (94%)

Source: Elaborations from data of the “Stock View” Archive (Infocamere), financial statement and stock ledger. \* (mean and median for the subsample that includes just firms located in Milan, named “Milan only” are in parentheses). \*\* (-) stands for “the same value”.

Table 6 shows indexes related to ownership structure, ROE, and leverage ratio. We observe a higher ROE (in median terms) in firms with traditional CGS; these companies show also a lower leverage ratio compared to alternative CGSs firms. All these models of governance (with a preference for the traditional one) are then suitable for tightly held corporations with some peculiarities for the third one.

We notice a slightly more fragmented ownership structure for companies with alternative CGSs (65 percent is owned by the first shareholder, while for the sub-sample “Milan only” 80 percent is owned by the first shareholder), while firms with a traditional CGS show a more concentrated ownership

structure with a percentage of 97% owned by the first shareholder.

Referring to the traditional model, the evidence seems to support the idea that firms characterized by a concentrated ownership structure are more reluctant in changing CGS and prefer to maintain a traditional one. This might be due to the fact that the costs associated with the adoption of an alternative CGS may outweigh the benefits of a tailored organizational structure. We do not underestimate issues related to the adoption of these alternative systems – like indirect associated costs<sup>4</sup> – that, particularly for tightly controlled firms, may undermine their appeal. Table 7 shows the legal status of shareholders in our sample.

<sup>1</sup> Companies with a one-tier board corporate governance system show a bigger size compared to two-tier board ones.

<sup>2</sup> ROE (Return on Equity) is defined by the ratio between net profit and net worth.

<sup>3</sup> Leverage is defined by the ratio between total long-term liabilities and net assets (financial statement data).

<sup>4</sup> First of all, we need to consider the problem related to the nature of collective structure of their managing board, then some indirect costs associated to the limited powers of the shareholders' meeting that characterize the two-tier model.

Table 7. Descriptive statistics. Ownership structure data: shareholders by type. Sample of statistical model and econometric analysis

Ownership Structure data	Traditional corporate governance system (%)	One-tier model of corporate governance system (%)		Two-tier model of corporate governance system (%)		Total sample (%)	
		North	Milan	North	Milan	North	Milan
Shareholders by type (absolute values)	North (all located in Milan)	North	Milan	North	Milan	North	Milan
Individual (mean) (median)	(20.5%) (0%)	(54.7%) (66.7%)	(54%) (66.7%)	(47.2%) (52.1%)	(38.9%) (16.7%)	(30.6%) (0%)	(25.1%) (0%)
Legal entity (mean) (median)	(79.5%) (100%)	(45.3%) (33.3%)	(46%) (33.3%)	(52.8%) (47.9%)	(61.1%) (83.3%)	(69.4%) (100%)	(74.9%) (100%)
How many firms are under "Control and coordination"?							
Yes	225	47	25	10	5	282	255
No	9	52	17	66	29	127	55
N.a. <sup>1</sup>	137	1	-	1	1	139	138
Total	371	100	42	77	35	548	448

Source: Elaborations from data of the "Stock View" Archive, financial statement and stock ledger. \* (mean and median values for the subsample that includes just firms located in Milan, named "Milan only", are in parentheses).

Firms with a traditional CGS are likely to be owned mostly by legal entities (with a percentage of 79.5). Similarly, two-tier companies show a weak prevalence of legal entities among the shareholders. On the other hand, companies with a one-tier CGS show a predominance of individuals among the shareholders (with a percentage about 54). Considering the defined variable "control and coordination", we remark a considerable difference between the two sub-samples analyzed. The sample of companies that adopted a traditional CGS is characterized by a relevant presence of firms under control and coordination (61%), while firms with alternative systems are in prevalence not under control and coordination of another one (with a percentage of 60%).

We notice the presence of 137 missing values related to variable "control and coordination" for companies with a traditional CGS. Although this lack of data could be viewed as a problem, we checked that these missing values are randomly distributed across the sample. Therefore, data might be considered as adequately revealing about informational efficiency and transparency of the balance sheets and related reports.

### 3. Statistical methodology

In order to analyze the probability of adopting an alternative CGS, we use a Probit model developed as a generalization of the linear regression model in the presence of categorical outcome responses. In such cases the linear approximation is not realistic, because the dependent variable assumes only a limited number of values. Hence, the model is specified as follows:

$$y_i^* = \alpha + \mathbf{x}_i' \boldsymbol{\beta} + \varepsilon_i, \quad (1)$$

with:

$$y_i = \begin{cases} 1 & \text{if } y_i^* \geq 0 \\ 0 & \text{if } y_i^* < 0 \end{cases}, \quad (2)$$

where  $y_i$  is the outcome variable, which assumes conventionally value 1 if a firm adopts an alternative corporate governance system and 0 otherwise;  $y_i^*$  is a continuous non-observable variable, measuring the "attitude" of each firm included in the sample to adopt a one-tier board with an inside audit committee or a two-tier board instead of a traditional corporate governance system. It is assumed that only the sign of  $y_i^*$  is observed; it means that if  $y_i^* \geq 0$  the  $i$ -th firm adopts an alternative system. If  $y_i^* < 0$ , the  $i$ -th firm prefers a traditional one.

$\mathbf{x}_i'$  is the vector of covariates that are supposed to be related to the choice of the corporate governance system for each firm. The list of the independent variables includes both accounting indices (the ratio of sales to assets and the ratio of net worth to assets), and corporate governance variables as the percentage of the ownership of the first shareholder (who owns most of the stocks) and a categorical variable that indicates whether a firm is under control and coordination. Finally, we considered a last variable indicating the proportion of individual shareholders. In the same way,  $\boldsymbol{\beta}$  is the vector of parameters that measure the impact of any explanatory variable on the latent variable  $y_i^*$ : if  $\beta_j$  is positive, firms with a higher value of the relative

<sup>1</sup> We consider "N.a." (not available, then, missing values) the variable of companies that we were not able to find for after balance sheets analysis and notes related.



explanatory variable are more likely to implement an alternative system; on the other hand, if  $\beta_j < 0$ , a higher value of the explanatory variable is related to a lower probability of observing a positive outcome. Finally,  $\varepsilon_i$  is a disturbance process that is drawn from a normal distribution with mean 0 and variance 1; a reason for the presence of a disturbance term is that the relationship between the latent and the explanatory variable is not exact and depends on errors, omitted variables and unobservable factors.

#### 4. Empirical results

This section illustrates the results of the empirical analysis. Firstly, we consider a Probit model that compares traditional vs. alternative systems. In the output tables parameter estimates are reported with standard errors in parentheses.

Table 8. Results of probit estimation (alternative vs. traditional system)

Variables	Model 1	Model 2
Ratio of sales to assets: <i>SAL/AST</i>	.379*** (.123)	.451*** (.160)
Ratio of net worth to assets: <i>NWORTH/AST</i>	.862*** (.305)	1.240*** (.445)
<i>SAL/AST</i> × <i>NWORTH/AST</i>	-1.331*** (.400)	-1.167** (.516)
Majority shareholder ownership		.707 (.159)
Control and coordination		-1.975*** (.306)
Individual shareholders		1.158*** (.358)
Constant	-1.282*** (.171)	-.579 (.555)
Number of observations	446	304
Pseudo R <sup>2</sup>	.04	.39
LR Test	15.78***	134.37***

Note: Standard errors are in parentheses.

Source: Elaborations from data of the “Stock View” Archive (Infocamere), financial statement and stock ledger – Stata analysis. \*\*\* statistically significant at 1% level. \*\* statistically significant at 5% level. \* marginally significant (statistically significant at 10% level).

Table 8 presents two different models for a sub-sample that includes companies located in Milan among firms using an alternative or a traditional system. In each model the outcome variable is the type of corporate governance system implemented by the firms included in the sample, while the explanatory variables change over the two models tested.

Model 1 includes only accounting and financial indices reported in the previous section. In addition, we included an interaction variable formed by the product of the ratio of sales to assets and the ratio of net worth to assets. Interaction effects are used when movements in the variables we have multiplied are related to the dependent variable. This procedure changes the inter-

pretation of the estimates for variables that are interacting: for example, the effect of the variation for the variable *SAL/AST* on the propensity to observe an alternative system will change by  $\beta_1 + \beta_3 \cdot \text{NWORTH/AST}$  units, where  $\beta_1$  is the coefficient associated to the *SAL/AST* and  $\beta_3$  is the coefficient of the interaction term<sup>1</sup>. Since the sign of the term  $\beta_1 + \beta_3 \cdot \text{NWORTH/AST}$  is negative when *NWORTH/AST* is high, model 1 offers evidence that firms with a greater ratio of sales to assets prefer a traditional system; similarly, the correlation between the ratio of net worth to assets and the probability of observing an alternative system is negative and significant when *SAL/AST* is high. *SAL/AST* represents a respectable measure of firm performances (Bhagat and Black, 2001). Since *SAL/AST* does not consider the debt position of a corporation, we have added another performance variable *NWORTH/AST*, which is an important determinant of the value of a company, considering it is composed primarily of all the resources invested since its inception. Empirical evidence shows that firms performing better in terms of both *SAL/AST* and *NWORTH/AST* prefer a traditional corporate governance system.

Moreover, the results give broadly support for a relationship between firm size and the decision in favor of a traditional system, although the small value of  $R^2$  suggests a weak relationship.

Model 2 considers variables related to ownership structure and type of governance for each firm. We include three explanatory variables, capturing some aspects of the ownership structure and of the type of the governance: the majority shareholder ownership, the proportion of individual shareholders, and the variable related to being under control and coordination.

The last regression detects a strong and highly significant relationship between the “control and coordination” variable<sup>2</sup> and the probability of observing a traditional system: firms under control and coordination seem to be more likely to maintain or adopt a tradi-

<sup>1</sup> A simple proof of the previous statement may be summarized in the following way: considering a regression with a dependent variable  $y$  (the propensity to observe an alternative system) and two covariates (*SAL/AST* and *NWORTH/AST*) that are interacting:

$$y = \beta_1 \cdot \text{SAL/AST} + \beta_2 \cdot \text{NWORTH/AST} + \beta_3 \cdot \text{SAL/AST} \times \text{NWORTH/AST} + \varepsilon.$$

The effect of *SAL/AST* on the dependent variable could be obtained through a simple algebraic transformation:  $y = (\beta_1 + \beta_3 \cdot \text{NWORTH/AST}) \cdot \text{SAL/AST} + \beta_2 \cdot \text{NWORTH/AST} + \varepsilon$ . Hence, the effect of *SAL/AST* on  $y$  is the whole expression  $\beta_1 + \beta_3 \cdot \text{NWORTH/AST}$ .

<sup>2</sup> In spite of the high number of missing values concerning the variable control and coordination, further summary statistics show that the analysis is not biased (we are in presence of random missing values).

tional corporate governance system than to adopt an alternative one.

Conversely, companies with a greater number of shareholders in terms of individuals are more likely to choose an alternative corporate governance system, whereas the majority shareholder ownership does not have any significant impact on the choice of a CGS.

Comparing the models in Table 8, we note that accounting variables maintain their significance when governance covariates are introduced. *SAL/AST* variable and *NWORTH/AST* variable remain relevant, even if their contribution to the rise of  $R^2$  is low. Indeed, the governance and ownership variables improve the explanatory power of the model that was modest at first.

A critical issue in Table 8 deals with the specification of the model that does not allow to distinguish between a one-tier and a two-tier system; indeed results related to the alternative systems could hide differences between the two CGSs. In order to overcome this problem, we implement a second probit model that permits us to discern one- and two-tier CGS and study the determinants of the choice among them.

Because of the small number of observations considering only firms in Milan, we decided to extend the analysis to all the corporations that adopt an alternative system located in Northern Italy.

This approach was not applicable in the last regression because the traditional companies in the sub-sample were located only in Milan.

Table 9. Results of probit estimation (two-tier vs. one-tier system)

Variables	Model 1	Model 2
Ratio of sales to assets <i>SAL/AST</i>	.080 (.186)	.066 (.205)
Ratio of net worth to Assets <i>NWORTH/AST</i>	.277 (.448)	.207 (.512)
<i>SAL/AST</i> × <i>NWORTH/AST</i>	-1.816*** (.629)	-1.141* (.655)
Majority shareholder ownership		.058 (.480)
Control and coordination		-1.961*** (.379)
Individual shareholders		-1.562*** (.385)
Constant		1.333** (.530)
Number of observations	176	174
Pseudo R <sup>2</sup>	.07	.24
LR Test	17.22***	57.47***

Note: Standard errors are in parentheses.

Source: Elaborations from data of the “Stock View” Archive (Infocamere), financial statement and stock ledger – Stata analysis. \*\*\* statistically significant at 1% level. \*\* statistically significant at 5% level. \* marginally significant (statistically significant at 10% level).

As we can see in Table 9, we focus on a sub-sample composed only of alternative system companies, investigating the impact of the same set of explanatory variables discussed in the previous table.

Results concerning the main effects of accounting variables do not appear statistically significant in Model 1, even if the interaction term is significant at the 1% level showing that there is a correlation between the choice of the “one-tier” instead of a “two-tier” system related to higher values of the performance indices *SAL/AST* and *NWORTH/AST*.

As in Table 8, Model 2 appears more informative: the explanatory power of the model increases greatly when we include variables about the ownership structure and the governance of the corporations; in such cases the only highly significant variables are “control and coordination” and the proportion of individual shareholders, that are negatively connected to a two-tier system; in other words, corporations under control and coordination and characterized by a greater proportion of individual shareholders are less likely to adopt a two-tier system, preferring instead a one-tier system.

Regressions in Tables 8 and 9 present similar aspects when we focus on ownership structure and on corporate governance covariates: the variable with the strongest effect is the feasible companies condition to be under control and coordination but also the variable related to the percentage of individual shareholders has an impact on the outcome variable. Conversely, accounting variables show a weaker influence in discerning between the two alternative systems and seem to be relevant merely to explain an opposition between alternative and traditional system when the model is completely specified.

## Conclusions

The aim of this study is about the identification of the determinants of the adoption of alternative corporate governance systems in Italy. We took into consideration 548 Italian unlisted joint stock companies<sup>1</sup> adopting different corporate governance systems (one-tier and two-tier models and traditional ones). The survey supplies descriptive statistics of the main corporate features, in terms of balance sheet items, financial and ownership structures data and the nature of shareholders. The empirical analysis was divided in two parts. In the first one, we analyzed the determinants of the choice of an alternative system instead of a traditional one, meanwhile in the second section we compared the one-tier with the two-tier system within the whole sample (defined as “North”) of the firms adopting

<sup>1</sup> Representing about 0.9% of total unlisted Italian joint stock companies at the end of 2006.

alternative systems. In both cases we used a generalized regression model, targeted to the identification of meaningful statistical explanatory variables. Regarding the first model we found empirical evidence that the ratio of Sales to Assets and the ratio of Net Worth to Assets are negatively correlated with the choice of an alternative system (when the size of the indices is reasonably great), showing that corporations with better performances in terms of sales and capital structure maintain a traditional system; similarly, corporations that are under control and coordination prefer a traditional system. Conversely, firms registering a high proportion of individual shareholders in their ownership do adopt alternative systems. These first results do not explain whether companies adopt a one or a two-tier system. Therefore, we proceeded to leave out of consideration the sample of the traditional ones and focused our attention on the sample of the alternative systems, splitting between one-tier and two-tier models. Companies under control and coordination action are more likely to implement a one-tier system, such as firms with a higher proportion of individual shareholders. Other variables do not apparently contribute significantly to the determinants of the choice of one-versus two-tier alternative model.

Taking into account the fact that the percentage of firms adopting alternative governance systems is still limited, this paper represents a further contribution in the debate, highlighting the main economic, financial and ownership structure data of the unlisted joint stock companies adopting alternative corporate governance systems. The results show evidence that the strategy followed by the Italian authorities was not particularly successful in attracting national and fo-

reign firms to the new models (Bellavite Pellegrini, 2006 and 2009; Ghezzi and Malberti, 2008). The reasons of these partially “unsuccessful changes in corporate law” might be due to the fact that many corporations may have decided to postpone the decision to adopt an alternative model till the end of the natural term of their current governance structure in order to avoid the possible consequences of early termination, such as payment of damages to directors removed from the boards. However, the alternative models are still relatively new, so it may be somewhat premature for firm evidence to emerge about the choices of CGSs chosen by Italian companies.

This study can be extended in several directions, connected with the size of alternative CGSs costs in order to define which system is cheaper; changing CGS implies changes not only in the governance structure of a firm, but also in the costs of the company bodies: since the one-tier system only has the board of directors, it should be the cheapest system, followed by the traditional system and the two-tier one which is the most complex. Some explorative analysis, based on propensity score matching algorithms, a technique used in statistical observational studies, confirmed that one-tier systems are on average cheaper than two-tier ones.

The heterogeneity of the sample did not allow a multinomial comparison between all three models, in order to establish a ranking among the systems. Nevertheless, what emerges is that the ratio of costs of conduction to total assets for companies that adopted a two-tier system seems to be higher.

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