

Corporate Governance and Performance in Italian Banking Groups

Giulia Romano - *Phd*
g.romano@ec.unipi.it

Paola Ferretti - *Phd*
ferretti@ec.unipi.it

Alessandra Rigolini - *Phd*
a.rigolini@ec.unipi.it

Department of Business Administration
University of Pisa
Via C. Ridolfi, 10
56124 Pisa
Italy
Tel. + 39 050 2216409
Fax: + 39 050 2216267

Abstract

The paper analyzes the interaction between corporate governance and performance in the Italian banking groups during the period 2006-2010. Using the fixed effect model on a panel dataset, we test seven hypothesis concerning board size, board composition, existence of board committees, control and risk (audit) committee size and membership, board remuneration, and women directorship. The empirical research gives evidence of the influence board of directors' composition and structure exercise on banks' profitability in terms of ROE and ROA. We find that board size does not affect Italian bank holding companies' performance and that smaller audit committees charged with internal control activities perform better, increasing vigilance over board decisions and activities and, thus, concurring to enhance banks' profitability. We also find a significant negative relationship between the percentage of independent directors in the audit committee and banks' performance in terms of both ROE and ROA. Our study shows also a significant positive relationship between the presence of women on the board of directors and both ROE and ROA, even if the representation of women in Italian bank holding companies' boards is still scarce. The other dimensions of corporate governance (board independence, board committees' existence, audit committee size, and board remuneration) do not have a statistically significant relationship with bank groups' profitability.

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1. Introduction

Corporate governance represents a central issue for the modern banking industry (Adams and Mehran, 2003; Mulbert, 2010). The importance of such matter surely depends on the role that banks play in the financial markets and in the economy. We mainly refer to the credit intermediation activity, to the particular budgetary structure and, more in general, to the sound and prudent management as a condition to defend all the stakeholders (shareholders, depositors, supervisory authorities, etc.). As a matter of fact, corporate governance in banks should help assure an efficient resources allocation and the soundness of the financial system (Caprio et al., 2007; Levine, 2006).

Nowadays the debate on the central importance of corporate governance in banks has further risen because of the financial crisis, the most part of the financial systems is experiencing since 2007 (Peni and Vähämaa, 2012; Beltratti and Stulz, 2010). Weak corporate governance mechanisms have in fact concurred to accumulate too high and imprudent level of risk: as a consequence, many problems rose in terms of stability of the single institution and of the whole banking sector.

Good corporate governance practices could indeed be considered as a complement to risk management and to the control processes (Beltratti and Stulz, 2010), particularly in absence of quantitative approaches of risk measurement. In other words, corporate governance, capital adequacy and organizations represent the three pillars for the international financial system soundness (Draghi, 2008).

During the financial turmoil “a sort of dominance” of the top management within the governance structure has occurred (the running of the compensation and incentive practices are an example of that). Besides, the existing corporate governance models have showed their partial or total inadequacy with regard to the financial innovation process.

The present paper aims to analyze the interaction between corporate governance and performance of the Italian banking groups during the period 2006-2010. In particular, the paper gives evidence of the influence board of directors’ composition and structure are able to exercise on banks’ profitability.

In developing the research’s hypotheses, we build on agency theory (Jensen and Meckling, 1976) considering that rigorous corporate governance practices concur to better align the interests of managers and shareholders and therefore enhance firm performance.

Recent researches (Grove et al., 2011) state that agency theory should be applied to banking industry with cautious consideration because of its peculiar aspects (the special role of regulators, the objective of banks that should not only maximize shareholder value but also protect the interests of non-shareholding stakeholders, such as depositors and, finally, the complexity and opaqueness of

these intermediaries that could intensify agency problems) which may alter the functioning of governance mechanisms. However, the competent authorities both at national and international level have highlighted the necessity of a corporate governance strengthening process. The existing practices and guidelines should assure the focus on this priority in the context of the financial markets reform and of the crisis prevention program (BCBS, 2006; BCBS, 2010; CEBS, 2010; EBA 2011; Bank of Italy, 2008).

Moreover, corporate governance best practices seem to have still the capability to enhance banks' reputation on the market and the trust the financial system puts on them (Draghi, 2008).

For these reasons, we consider a relevant issue investigates if the way the corporate governance structure of banks is defined, in compliance with the regulatory framework, could be able to contribute to reach efficiency objectives and increase bank performances.

The paper is organized as follows: section 2 focuses on the structure of the Italian banking system and on the trend of the most significant indicators of profitability; section 3 reviews the existing literature about the role of board of directors' attributes on banks' profitability, with particular reference to board composition and board structure. Moreover, the hypotheses to be tested are developed. Section 4 describes data and method; next, we present the results of the empirical study and, lastly, concluding remarks highlight the most significant implications of the research.

2. An overview of the Italian banking sector

Since the Nineties many and deep changes have occurred in the Italian banking system. Privatisation, European monetary and economic unification, increased international competition and more operational and organizational complexity represent some examples of the most significant factors that have influenced the evolution of the Italian banking system (Chiorazzo et al., 2008).

The need to address a different operational scenario – characterized, first of all, by a decreasing capacity of the net interest income to support the whole banking profitability as in the past and by the necessity to diversify the offer in order to satisfy better the more complex financial demand of the customers – has forced Italian banks to modify their strategies and organizational structures (Chiorazzo et al., 2008). So, they have answered to these changes also by increasing mergers and takeovers, for the first time considered as a way to enhance profitability, efficiency and the competitive positioning on an international basis. The concentration process approach by banks is in fact connected to the achievement of some advantages, such as economies of scale, especially when referred to the information technology, the possibility to enter in specific market segments where

the business-size is a relevant factor in order to compose an adequate and well diversified-portfolio and, at the same time, to manage a global risk.

With particular reference to the last decade, the Italian banking system degree of concentration has increased significantly. Between 2001 and 2009 the Herfindahl-Hirschman index, a measure of market concentration calculated on the total assets of the units operating in Italy on a scale of 10,000, grew up from 550 to 740; however, as highlighted by Bank of Italy in the Annual Report for 2010, the last year it changed its trend, decreasing by 20 points.

Table 1 shows the evolution of the structure of the Italian banking system during the last five years.

Table 1 – The structure of the Italian banking system

	2006	2007	2008	2009	2010
Banking groups	87 (2)	82 (-5)	81 (-1)	75 (-6)	76 (1)
Banks of which:	703 (9)	806 (13)	799 (-7)	788 (-11)	760 (-28)
Limited company banks	245 (2)	249 (4)	247 (-2)	247 (0)	233 (-14)
Cooperative banks	38 (2)	38 (0)	38 (0)	38 (0)	37 (-1)
Mutual banks	436 (-3)	440 (4)	432 (-8)	421 (-11)	415 (-6)
Branches of foreign banks	74 (12)	79 (5)	82 (3)	82 (0)	75 (-7)

Data in brackets indicate the variation with respect to the previous year.

Source: Bank of Italy, Annual Report, various years.

The gradual relevance of groups in Italian banking sector is further underlined by the fact that at the end of 2010 – as stated by Bank of Italy (2011) – the two largest groups (UniCredit and Intesa Sanpaolo) and the three medium-sized and large groups (Banca Monte dei Paschi di Siena, Banco Popolare and Unione di Banche Italiane - UBI) held respectively 32.9 and 18.9% of the total assets. The remaining 48.2 of the system assets refers to 58 medium-sized and small groups and stand-alone banks (for 36.9%) and to 571 small banks principally oriented to local markets (for 11.3%).

During the period 2001-2010 the portion of total assets held by the top five Italian banking groups (by total assets) rose from 46.5 to 51.8%.

Until 2006 and 2007 the profitability of the Italian banking groups was not yet largely influenced by the effects of the financial turmoil (table 2 and table 3).

In 2006 both the Net interest income, as result of the core business, and the Gross income (Net interest income plus Non-interest income) rise, respectively, by 10.0 and 8.8%. The Ratio of non-

interest income to gross income, as measure of diversification of revenues, is 47,4% (the previous year it was 48%); the Cost-income ratio (operating expenses to gross income) is 59.9% (62.3); the Return on equity (ROE) is 13.8% (12.7). Considering the five largest banking groups, values are quite similar: the Net interest income is 9.0% and the Gross income is 8.0%; the Ratio of non-interest income to gross income is 48.2% (48.7), the Cost-income ratio is 59.5% (61.3) and the ROE is 15.6% (14.6).

With reference to 2007 all the groups register an increase of 8.4% in Net interest income, due principally to the volume of business that continues to grow strongly; the Gross income on the contrary decreases by 0.6, because of the negative impact from trading in securities portfolio and the fair-value valuation of securities, especially structured finance instruments. The main groups register worse changes for the two mentioned margins: in the first case 5.2 percent and in the second one -3,5%. Table 2 shows the profitability indicators for all the groups; there are no big differences for the five largest ones.

In 2008 the changes the financial crisis transfers on the profitability of the banking groups are more evident. Even if the Net interest income increases by 10.8%, it is not sufficient to offset the fall in other incomes. For the five largest groups the Net interest income grows up by 10.3% and the Gross income decreases more than the others' one (-7.5%). The Ratio of non-interest income to gross income is 33.4%, the Cost-income ratio is 66.3% and the ROE (5.9%) is a little better than the average one; it is important to notice that the ROE of the main euro-area banking groups averages just over 3%.

Table 2 – Profitability Margins and Indicators of the Italian banking groups

	2006		2007		2008	
	All groups	Main groups	All groups	Main groups	All groups	Main groups
Margins (growth rate percentage)						
Net interest income	10.0	9.0	8.4	5.2	10.8	10.3
Gross income	8.8	8.0	0.6	-3.5	-5.6	-7.5
Indicators (percentage)						
Ratio of non-interest income to gross income	47.4	48.2	43.4	44.4	33.6	33.4
Cost-income ratio	59.9	59.5	59.8	58.8	66.5	66.3
ROE	13.8	15.6	12.9	14.7	4.8	5.9

Source: Bank of Italy, Annual Report, various years.

Since 2009 data on the Italian banking groups' profitability are no longer available; existing data refer to the whole banking system and to the five largest groups.

In 2009 banking profitability deteriorates further: the decrease in the Net interest income (-5.8%) depends on the reduction in the margins on funding and in the volume of assets; the slight increase in the Gross income is driven principally by profits connected to trading. For the main groups the profitability values are worse than the national average ones; also in comparison with 12 European large banks the five Italian main groups show bad results. In particular the ROE of the foreigner sample is 7.0%; the difference seems to depend on the smaller intensity of the trading activity and on the bigger influence of taxes in the case of the Italian institutions.

The worsening of profitability goes on also during 2010. The strong decrease of the Net interest income (-8.2) is mainly due to a further narrowing of the spread between lending and deposit rates, close to zero. Also for the main groups there is no significant improvement. The very slight increase of the ROE leads to 3.9%, while the value registered by the sample of 12 European large banks is 7.8%. The higher value for the foreigner banks is connected to the profitability of the trading activity and to the raise of the Net Interest income; both of them instead decline in the Italian largest groups.

Table 3 – Profitability Margins and Indicators of the total banking system and of the five largest banking groups

	2009		2010	
	Total banking system	Main groups	Total banking system	Main groups
Margins (growth rate percentage)				
Net interest income	-5.8	-6.2	-7.6	-8.2
Gross income	1.0	-3.7	-1.8	-4.2
Indicators (percentage)				
Ratio of non-interest income to gross income	39.0	41.4	37.9	41.5
Cost-income ratio	62.7	65.5	61.9	63.7
ROE	3.6	3.4	3.6	3.9

Source: Bank of Italy, Annual Report, various years.

3. Performance and corporate governance in banks: a review of international studies and testable hypotheses

In the last twenty years several studies have analysed throughout the world the relationship between performance and corporate governance in banks (see Table 4). Existing empirical researches regard banks operating in different countries, from American (the USA, Canada, Argentina, Brasil) to European ones (UK, Spain, France etc), from Asian (China, India, Taiwan etc) to African ones (Tunisia). In addition, many of them offer an international cross-country comparison (e.g. Agoraki *et al.*, 2009; De Andres and Vallelado, 2008; Busta, 2007).

Numerous studies focus on bank efficiency and productivity growth and use mainly the Data Envelopment Analysis (DEA) method (Fethi and Pasiouras, 2010). However to analyse bank performance, many other empirical researches use financial performance indicators, such as Return on Asset (ROA) and ROE, and/or other measures of performance, such as Tobin's q. As highlighted recently by Grove *et al.* (2011), ROA is the most widely used financial indicator.

The number of banks analysed varies from a maximum of more than three hundred considering 17 countries (Grigorian and Manole, 2006) to a minimum of 10 banks in Tunisia (Trabelsi, 2010).

To the best of our knowledge, the interaction between the corporate governance of Italian banks and their performance has been studied only by few papers, both exclusively (Romano *et al.*, 2012; Favero and Papi, 1995) and in international cross-country comparisons (Agoraki *et al.*, 2009; De Andres and Vallelado, 2008; Busta, 2007; Staikouras *et al.*, 2007). The two studies that focused only on the Italian banking system use the DEA method; moreover, they concern limited periods (one year, 1991, for Favero and Papi, 1995 and two years, 2007 and 2010, for Romano *et al.*, 2012) and few corporate governance issues (bank type for Favero and Papi, 1995 and board size and composition for Romano *et al.*, 2012).

The most studied corporate governance issue linked with bank performance is bank ownership structure, even if with contrasting results (e.g. state-owned vs private banks: Staub *et al.*, 2009, Berger *et al.*, 2005, Mercan *et al.*, 2003; state-owned commercial banks vs joint-stock commercial banks: Ariff and Can, 2008; foreign vs domestic banks: Isik, 2008, Sathye, 2003). Quite scarce are the empirical researches that analyse the link between the performance of banks and board of directors attributes, such as size and composition (number or percentage of non-executive or independent members), board remuneration, existence, size and composition of board committees and women directorship. Moreover, even in this case, existing researches show contrasting results.

The present paper aims to improve the scientific literature on the governance-performance linkage by providing an analysis of the Italian banking industry for five years (2006-2010) and analysing all the above cited board of directors attributes. Italy provides a potentially valuable environment for analyzing this issue because it represents one of the most relevant European Union countries and it is experiencing, along with its banking system, many problems in terms of stability and reputation. Afterward, we develop the research hypotheses relating bank profitability and seven corporate governance practices which have been identified as relevant issues by existing corporate governance literature (board size, board composition, existence of board committees, audit committee size and membership, board remuneration and women directorship).

Table 4 – Main studies that link bank corporate governance and performance

Authors	Performance method/indicators	Country	Observation period	Board size	Board composition	Board remuneration	Board committees existence and composition	Women directorship	Ownership
Romano et al., 2012	DEA	Italy	2007 and 2010	=	=				
Grove et al., 2011	ROA	USA	2005-2008	concave		+			X
Shelash Al-Hawary, 2011	Tobin's Q	Jordan	2002-2009	=	+				X
Trabelsi, 2010	Tobin's Q	Tunisia	1997-2007	-	+				X
Agoraki et al., 2009	Stochastic frontier model	Europe	2002-2006	-	no linear				
Belkir, 2009	Tobin's Q	USA	2002						X
Staub et al., 2009	DEA	Brasil	2000-2007						X
Adams and Mehran, 2008	Tobin's Q and ROA	USA	1986-1999	+	=				
Ariff and Can, 2008	DEA	China	1995-2004						X
De Andres and Vallelado, 2008	Tobin's Q, ROA, annual market return of a bank shareholder	Canada, USA, UK, Spain, France, Italy	1996-2005	inverted U shaped	+				
Garcia-Cestona and Surroca, 2008	DEA	Spain	1998-2002						X
Isik, 2008	DEA	Turkey	1981-1996						X
Tanna et al., 2008	DEA	UK	2001-2006		+				
Bino and Tomar, 2007	ROA and ROE	Jordan	1997-2006	=	+				X
Busta, 2007	Market-to-book value, ROIC, ROA	France, Germany, Italy, Spain, UK	1996-2005	=	+				
Love and Rachinsky, 2007	ROA, ROE and other financial indicators	Russia and Ukraine	2003-2006	=	=				X
Pathan et al., 2007	ROA and ROE	Thailand	1999-2003	-	+				
Staikouras et al., 2007	ROA, ROE and Tobin's Q	Europe	2002-2004	-	+				
Zulkafli and Samad, 2007	ROA and Tobin's Q	Malaysia, Thailand, the Philippines, Indonesia, Korea, Singapore, Hong Kong, Taiwan, India	2004	=	=				
Dutta and Bose, 2006	ROA and ROE	Bangladesh	2002-2005					+	
Grigorian and Manole, 2006	DEA	17 East Europe countries	1995-1998						X
Mayur and Saravanan, 2006	Tobin's Q and Market-to-Book ratio	India	2001-2005	=					
Selvam et al., 2006	Tobin's Q and ROCE	India	2004	-			+	+	
Sierra et al., 2006	ROA and shareholder return	USA	1992-1997	-	+	+			
Adams and Mehran, 2005	ROA and Tobin's Q	USA	1959-1999	+	=				
Berger et al., 2005	Profit Efficiency Rank, ROE, Cost Efficiency Rank, Costs/Assets and NPL	Argentina	1993-1999						X
Hauner, 2005	DEA	Germany and Austria	1995-1999						X
Amess and Drake, 2003	DEA	UK	1991-1996			+			
Isik and Hassan, 2003	DEA	Turkey	1988-1996						X
Mercan et al., 2003	DEA	Turkey	1989-1999						X
Sathye, 2003	DEA	India	1997						X
Griffith et al., 2002	MVA, EVA and Tobin's q	USA	1995-1999						X
Isik and Hassan, 2002	DEA	Turkey	1988-1996		+				X
Simpson and Gleason, 1999	SNL Safety Rating	USA	1993	=	=				X
Chen, 1998	DEA	Taiwan	1996						X
Favero and Papi, 1995	DEA	Italy	1991						X
Pi and Timme, 1993	ROA and Stochastic frontier model	USA	1988-1990		=				X

Note: +: positive relationship; -: negative relationship; =: no relationship with bank performance; X: issue analysed

Board size

Nowadays, it is still a relevant question which is the appropriate board size.

The empirical evidences on the best board size in influencing firm performance are inconclusive. Some Authors argue that when boards grow, they become less likely to function effectively (Jensen, 1993), may create a diminished sense of individual responsibility and might be more involved in bureaucratic problems: increasing board size might significantly inhibit board processes due to the potential group dynamics problems associated with large groups. Larger boards are more difficult to coordinate and may experience problems with communication, organization, participation, providing worst financial reporting oversight and lowering company performance (Judge and Zeithaml, 1992; Goodstein et al., 1994; Yermack, 1996; Amason and Sapienza, 1997; Eisenberg et al., 1998; Conyon and Peck, 1998; Forbes and Milliken, 1999; Golden and Zajac, 2001; Mak and Kusnadi, 2005); other Authors, conversely, argue that larger boards are positively associated with higher corporate performance (Pearce and Zahra, 1992) and that a larger board might be more effective in monitoring financial reporting, because the company might be able to appoint directors with relevant and complementary expertise and skills and, thus, draw from a broader range of knowledge and experiences (Xie et al., 2003; Van de Berghe and Levrau, 2004).

Booth et al. (2002), Adams and Mehran (2003), and Hayes et al. (2004) find that US largest banks or bank holding companies have larger boards than manufacturing firms. Moreover, Cornett et al. (2009) find that larger banks tend to have larger boards.

With specific reference to bank industry, some empirical researches regarding different countries find no significant relationship between performance measures and board size (Romano et al., 2012; Shelash Al-Hawary, 2011; Bino and Tomar, 2007; Busta, 2007; Love and Rachinsky, 2007; Zulkafli and Samad, 2007; Mayur and Saravanan, 2006; Simpson and Gleason, 1999).

Differently, some other studies report that improving board size negatively affects banks' performance calculated using different methods and indicators (Trabelsi, 2010; Agoraki et al., 2009; Pathan et al., 2007; Staikouras et al., 2007; Selvam et al., 2006; Sierra et al., 2006).

Only Adams and Mehran (2005 and 2008), analysing publicly traded US bank holding companies, find that banking firms with larger boards do not underperform their peers in terms of Tobin's Q and that constraints on board size in the banking industry may be counter-productive. Thus, the Authors affirm that bank holdings structure and activities may make a larger board more desirable and that increases in board size due to additions of directors with subsidiary directorships may add value.

De Andres and Vallelado (2008), analysing a sample of large commercial banks from six developed countries, find an inverted U-shaped relation between board size and bank performance: the inclusion of more directors in the board improves bank performance but with a limit of 19 directors. Similarly, recently Grove et al. (2011) report a concave relationship between financial performance and board size.

Considering the above mentioned contrasting considerations and literature, our first hypothesis is:

H1: Performance of Italian banking groups is not significantly related to the size of the board of directors.

Board composition

Board composition is a debated corporate governance issue since it could influence board deliberations and the capability to control top management decisions and results.

Although there is not an optimal formula (Vance, 1978), board independence has become a relevant issue in the corporate governance agenda. As a matter of fact, non-executive and independent directors are considered one of the most important mechanisms for ensuring corporate accountability (Daily et al., 2003; Dalton et al., 1998).

Fama and Jensen (1983) argue that outside directors have the incentive to act as monitors of management because they want to protect their reputations as effective, independent decision makers. An independent board of directors has fewer conflicts of interest in monitoring managers, even if the presence of outside directors entails additional costs to the firm (fees, travel expenses, etc); moreover, as De Andres and Vallelado (2008) highlight, an excessive proportion of non-executive directors could damage the advisory role of boards, since executive directors facilitate the transfer of information between directors and management and give information and knowledge that outside directors would find difficult to gather. After the recent corporate scandals, policymakers and regulators worldwide have called for greater independence of boards of directors from the top management of firms (Aguilera, 2005; Dalton and Dalton, 2005).

He et al. (2009) state that board independence is the most effective deterrent of fraudulent financial reporting. As a matter of fact, many studies (Dechow et al., 1996; Beasley, 1996; Beasley et al., 2000; Song and Windram, 2004; Uzun et al., 2004; Farber, 2005) showed that firms committing financial reporting fraud are more likely to have a board of directors dominated by insiders. With reference to Italy, Romano and Guerrini (2012) find that the higher the percentage of

independent directors on the board, the lower the likelihood of financial fraud, arguing that a higher relative weight of independent directors appears to ensure more effective control.

Many countries have strengthened recommendations on board composition and independence (Aguilera, 2005; Huse, 2005). Even in Italy now both the regulatory framework and market best practices place emphasis on board independence from management (Bank of Italy, 2008). As a matter of fact, a recent study shows that nowadays the independence of non-executive directors is a commonly recommended governance practice (Zattoni and Cuomo, 2010).

However, in banking researches, the results regarding the effectiveness of outside directors are mixed. Some empirical researches in the last decades show no significant relationship between board composition, considered as the proportion of outsiders or of independent board members on the board, and banks performance (Romano *et al.*, 2012; Adams and Mehran, 2008; Love and Rachinsky, 2007; Zulkafli and Samad, 2007; Adams and Mehran, 2005; Simpson and Gleason, 1999; Pi and Timme, 1993).

However, the majority of the existing studies about banks shows a significantly positive relationship between board composition and banks' profitability or efficiency, highlighting how banks with a higher presence of non-executives or independent members in their boards perform better than the others (Shelash Al-Hawary, 2011; Trabelsi, 2010; De Andres and Vallelado, 2008; Tanna *et al.*, 2008; Bino and Tomar, 2007; Busta, 2007; Pathan *et al.*, 2007; Staikouras *et al.*, 2007; Sierra *et al.*, 2006; Isik and Hassan, 2002). Moreover, Brewer *et al.* (2000) find that the bid premiums offered for target banks increase with the proportion of independent outside directors.

So, considering the existing literature, our second hypothesis is:

H2: The performance of Italian banking groups is positively related to the proportion of non-executive and/or independent directors on the board of directors.

Existence of Board committees and audit committee size and membership

Board committees act in order to obtain the most effective operation of the board (Van Den Berghe and Levrau, 2004). Committees are important corporate governance tools to monitor corporate activities and can play a valuable role in the protection of shareholder value (Kesner, 1988). Italian Corporate Governance Self Discipline Code and the "Supervisory Provisions Concerning Banks' Organization and Corporate Governance" of Bank of Italy (2008) require as a best practice that Italian listed companies and banks have control and risk (audit) committee, remuneration committee and nomination committee; the first one should consist of non-executive

directors, the majority of which should be independent. Literature (Larcker et al., 2007) suggests that the presence of independent directors in the audit committee can imply a strong independence of the board.

Adams and Mehran (2003) find that US bank holding companies boards have more committees than manufacturing firms. Later, the same Authors (Adams and Mehran, 2005) show a significant and negative relationship between performance and the number of committees. Differently, Selvam et al. (2006) state that the number of board committees is one of the yardsticks for better functioning of banks; they find that the number of board committees is statistically significant to performance for banks where government has considerable stakes.

Among the committees that can be created within the board of directors, previous researches assign the most relevant role to the audit committee, charged with the task of giving advice and making proposals on problems considered relevant to the internal control of the company's activities. As a matter of fact, empirical studies show that US firms committing financial reporting fraud are less likely to have an audit committee (Dechow *et al.*, 1996; Beasley *et al.*; 2000; Uzun *et al.*, 2004).

In the light of the higher relevance of the audit committee compared to the others, we decide to focus our attention on two specific attributes of it: the size and the membership.

Although the size of audit committee is influenced mainly by the size of the company and of its board of directors, a larger audit committee may not necessary cause in more effective functioning, as a larger committee may lead to unnecessary debates and delay the decisions (Lin et al., 2008). However, some Authors have highlighted that a larger audit committee is required to better perform its role, as it requires more discussions and assures more skills, backgrounds and competences (Garcia-Sanchez et al., 2012; Alkdai and Hanefak, 2012; Raghunandan and Rama, 2007). Despite these considerations, a smaller audit committee can enhance directors' sense of participation, can make the group of directors more cohesive and able to reach consensus (Lipton and Lorsch, 1992; Dalton et al., 1999). This cohesiveness can increase audit committee vigilance over the board decisions and curtail potential managerial opportunism (Yermack, 1996).

The second important aspect we decide to focus on is audit committee membership. Prior researches have principally investigated committee membership in terms of type, gender and occupation of directors (Kesner, 1988; Klein, 1995; Spira and Bender, 2004). In particular these Authors find that the presence of outside directors in committees facilitates the strategic and monitoring role of the board, because they can provide their experience, external associations and knowledge, and can be more objective.

According to Najjar (2011) outside directors in the audit committee can be considered as a key monitoring tool since these directors improve the monitoring resources for financial reporting (Beasley, 1996; Dechow *et al.*, 1996; Sharma *et al.*, 2009; Romano and Guerrini, 2012). Similarly, Klein (2002) argues that the greater the number of non-executive directors, the higher the chances of having more audit committee independence, and hypothesizes a positive relationship between non-executive directors and audit composition. Deli and Gillan (2000) and Menon and Williams (1994) follow the same argument. Raghunandan and Rama (2007) argue that non-executive directors are important in reflecting efficient corporate governance. Also many Corporate Governance Codes suggest that audit committee should be composed by non executive directors, for most independent, in order to ensure the independence of the audit committee. The rationale behind this is that outside directors are more likely to defend the interests of outside shareholders (Belkhir, 2009).

So, our hypothesis are:

H3: The performance of Italian banking groups is positively related to the existence of audit, remuneration and nomination committees

H4: The performance of Italian banking groups is negatively related to the size of the audit committee

H5: The performance of Italian banking groups is positively related to the proportion of independent directors on the audit committee

Board remuneration

In the agency framework, board remuneration is viewed as a relevant and effective tool to align managers' and shareholders' interests, mitigating agency costs and providing a link between managerial actions and performance. Management compensation usually includes various types of incentive pay, such as performance bonuses and stock-based compensation.

Therefore, variable incentive pay is expected to have a positive impact on firm performances. However, excessive stock-based compensation is the focus of a relevant debate throughout the world, since it may encourage risk-taking and create incentives to emphasize short-term performance (Grove *et al.*, 2011; Peng and Röell, 2008).

Adams and Mehran (2003) find that the proportion of Chief Executive Officer (CEO) stock option pay to salary plus bonuses is smaller for bank holding companies than manufacturing firms. Differently, Chen et al. (2006) show that stock option-based executive compensation is more prevalent in banks than in other firms and that it promotes risk-taking in the banking industry.

Sierra *et al.* (2006) with reference to US bank holding companies report that stock option compensation is the largest component of CEO's compensation when looking at mean compensation.

Grove *et al.*, 2011 show that the extent of incentive executive pay is positively associated with financial performance. Also Amess and Drake (2003) find a strong positive relationship between profitability and pay for the highest paid director but not for the director or chair of US mutual organisations. Accordingly, Sierra *et al.* (2006) prove that CEO compensation is significantly and positively associated with bank performance.

So, our hypothesis is:

H6: The performance of Italian banking groups is positively related to the existence of incentive executive pay

Women directorship

Nowadays board diversity is a highly debated corporate governance topic. In particular, gender diversity, i.e. the presence of women on corporate boards of directors, is considered as an instrument to improve board variety and thus discussions (Anastasopoulos et al., 2002).

However, as reported by Dutta and Bose (2006), the presence of women on boards of directors is limited, even if the literature reveals a slow but steady rise in the female presence on corporate boards throughout the world.

With reference to the relationship between gender diversity and firm performance, the few existing empirical studies show contrasting results. Considering the US context, Zahra and Stanton (1988) find no statistically significant relationship between gender diversity and firm performance. Carter *et al.* (2003) report statistically significant positive relationships between both the presence and the percentage of women on the board of directors and firm value. Also Heinfeldt (2005) finds a positive relationship between the percentage of female board members and the market value added (MVA). Conversely, Shrader *et al.* (1997) show a negative relationship between the percentage of female board members and firm performance.

Focusing on the banking sector, Dutta and Bose (2006) find a positive relationship between gender diversity in the boardroom and financial performance of commercial banks in Bangladesh, even if only with reference to some years. Selvam *et al.* (2006), studying the Indian banking system, show that women directorship is statistically significant to performance for banks where government has a considerable stake.

Considering the existing literature, our last hypothesis is:

H7: The performance of Italian banking groups is positively related to the proportion of female members on the board of directors

4. Data and Method

The sample

In this study we examine the effect of board attributes, in terms of composition and structure, on bank profitability. The sample consists of 25 Italian banking groups selected from the Bank of Italy's Registry of Banking Groups, for the period 2006-2010.

We decide to focus on banking groups due to the importance of the concentration process started in Italy in the second half of Nineties; moreover, we believe that bank holding companies are more sensitive than independent banks to governance matters and that consolidated reports are more effective in terms of information disclosure. Furthermore, according to literature (Booth *et al.*, 2002; Staikouras *et al.*, 2007), the study of the influence of corporate governance on bank performance imposes to consider large and structured banks, where the potential impact of poor governance could be more relevant.

Moreover, we believe that the 5-year time period (2006-2010) is adequate to capture and observe changing in the corporate governance of the Italian bank groups, in terms of board composition and structure.

Actually, the initial sample consisted of 76 banking groups, as pointed out in the Bank of Italy's Registry at the end of 2010. 13 of them are part of bigger foreign groups, i.e. they are bank groups with a foreign holding company (e.g. Deutsche Bank, Credit Suisse, BNL etc). Since we investigate Italian banking groups we exclude them.

Only 40 of the remaining 63 groups present available financial data in Bankscope database. Only 20 groups of this new sample are listed on the Milan Stock Exchange; in these cases corporate governance data have been collected from the "Report on Corporate Governance and Ownership Structures", which intermediaries have to publish yearly. For the non-listed groups governance

information has been gathered through a questionnaire: five of the non-listed BHCs have participated to our survey. Thus, the final sample includes 25 banking groups (125 observations in total) (see Appendix A). The sample represents the 33 per cent of the population (40 per cent excluding the groups with a foreign holding company) and, in terms of total assets, the 69 per cent of the whole Italian banking system.

Data collection and measurement

In order to investigate the role of board attributes on bank profitability we have collected two different types of data. The first group of data concerns corporate governance dimensions. Data for board composition and structure are collected from the “Report on Corporate Governance and Ownership Structure” for the listed bank holding companies, and from a questionnaire for the non-listed ones.

In particular, we focus our attention on the size of the board of directors and on its composition in terms of insiders, outsiders and the representation of minorities (women). Concerning board structure, we observe the existence of three committees that the Italian Corporate Governance Self Discipline Code and Bank of Italy’s regulation suggest to appoint and the composition of the control and risk (audit) committee in terms of size and rate of outsiders. Moreover, we observe the existence of incentive executive pay (Grove et al, 2011; Peng and Röell, 2008).

The second group concerns profitability and accounting data and is constructed using Bankscope Database. The data are reviewed for reporting errors and other inconsistencies. According to literature (Grove et al., 2011), we employ two different indexes of profitability: the ROA and the ROE. Moreover, we collect other information, as the number of employees, the level of total asset, the Operating Profit/Risk Weighted Assets of the previous year, and the Tier 1 Ratio. In particular these further variables can provide an indication of the size of the banking groups and their level of risk.

Independent variables

As mentioned above, data on corporate governance dimensions have been collected from the public report of each bank holding companies and with a survey for the non-listed banks. The independent variables that we consider are: board size, board composition, existence of board committees and control and risk (audit) committee size and membership, board remuneration and women directorship.

Board size (BS) is described by the number of directors on the board of each bank holding company at the end of each examined financial year. It is captured considering the logarithm of the number of members, for each year considered.

Board composition is referred to the mix of inside/outside directors in the board room. Literature suggests that the presence of non-executive and independent directors represents one of the most important mechanism for ensuring corporate accountability and growth (Daily *et al.*, 2003; Dalton *et al.*, 1998). These variables are captured considering the percentage of non-executive directors (NE) and the percentage of independent directors (IN). According to literature (Staikouras *et al.*, 2007; Adams and Mehran, 2003) non-executive directors are board members who are not top executive. Instead, the definition of the requirement of independence for board directors is provided by the Italian Corporate Governance Self-Discipline Code. In particular, the Code points out: “An adequate number of non-executive directors shall be independent, in the sense that they do not maintain, directly or indirectly or on behalf of third parties, nor have recently maintained any business relationships with the issuer or persons linked to the issuer, of such a significance as to influence their autonomous judgement”.

Existence of board committees is captured looking at the existence of three different committees: the nomination committee (NC), the remuneration committee (RC) and the control and risk (audit) committee (AC). Each variable is considered as a dummy, which takes the value 0 if the committee is absent and 1 if it has been appointed.

Since literature suggests that the committee membership can influence firm performance (Klein, 1995) and the audit committee is the most relevant board committee, we decide to focus our attention on the composition of the control and risk (audit) committee. This variable is captured considering the size of the committee (SAC) and the percentage on independent directors who are members of this committee (INAC).

Board remuneration (BR) is observed considering the existence of incentive executive plans. This is a dummy variable, which takes the value 0 if the incentive plans are absent and 1 if there are the incentive plans.

Finally, we consider as independent variable woman directorship (WO). Board diversity and the representation of minority in the board room is one of the most debated corporate governance topics. We capture this variable considering the percentage of women in each banking groups' board, for each of the five years observed.

Dependent variables

Concerning the profitability variables, we consider two ratios: ROE and ROA. The former, the most popular among the financial performance measures, is defined as the Net income on Book value of equity and it represents how much income is brought in versus the amount of money that shareholders have invested; in other words it is an internal indicator of shareholder value. According to many empirical studies we decided to refer to the ROE, even if this ratio is not the most used measure of bank profitability, because it does not focus on relevant variables able to really assess the performance, such as risks, volatility of profits, capital, etc. and also because it is a point in time indicator, so its signaling capacity is declined, especially during the periods of crisis, as the one we are experiencing, when the long term profitability perspectives are very unsure.

With reference to the ROA, it is the Net income for the year divided by total assets. Traditionally, it is considered a more reliable profitability ratio than ROE, because of the adjustment for the leverage effect ($ROA=ROE/leverage$), but its prevision capability is not so significant (ECB, 2010).

Control variables

As mentioned above, other variables have been considered in order to better define the banking sample in terms of size, level of risk and capitalization. In particular, banks' size is captured by the logarithm of the total assets and the number of employees; the Tier 1 ratio (Tier 1 divided by Risk Weighted Assets - RWA) represents the adequacy capital ratio in compliance with the well-known Basel 3 framework and it could be considered as a proxy of banks' capital structure and consequently of their soundness.

Lastly, we consider the Operating profit on RWA as a further measure of banks' performance, more sensitive to the risk weighted assets banks have on their balance sheets; in particular we selected the ratio referred to the previous year in order to understand if and how the governance decisions in a certain year are conditioned by the past results.

Method

The aim of our paper is to investigate the relationship between banks profitability and some corporate governance dimensions. This is tested by implementing a panel technique on a longitudinal dataset. We have opted for a panel regression framework instead of a pooled approach, because the 125 observations are referred to 25 different banks over a period of 5 years. We retain important consider the heterogeneity across the banks selected in our sample and that are not visible

in cross sections. Indeed, to different banks can correspond different strategic decisions, which can influence both governance variables and performances over the considered period.

Since we find a perfect correlation among nomination committee (NC), remuneration committee (RC) and audit committee (AC) we decide to include in our models only one variable (NC).

We tested a random effects model for the analysis of corporate governance dimensions on banks' performance. Hausman test (Null hypothesis: GLS estimates are consistent; Asymptotic test statistic: Chi-square(12) = 272.476 with p-value = 2.76027e-051 for ROA and Null hypothesis: GLS estimates are consistent; Asymptotic test statistic: Chi-square(12) = 186.769 with p-value = 1.73523e-033 for ROE) shows that the regression parameters are accurately estimated by the fixed effect model.

Thus, the analysis has been conducted using a fixed effect model using the Gretl program. The following equations summarize our econometric model:

$$ROA = \alpha + \beta_1 BS + \beta_2 NE + \beta_3 IN + \beta_4 WO + \beta_5 NC + \beta_6 SAC + \beta_7 INAC + \beta_8 BR + \varepsilon$$

$$ROE = \alpha + \beta_1 BS + \beta_2 NE + \beta_3 IN + \beta_4 WO + \beta_5 NC + \beta_6 SAC + \beta_7 INAC + \beta_8 BR + \varepsilon$$

Test on significance of variables depend on the structure of the errors and in case of heteroskedasticity or autocorrelation they are not valid. For this reason we estimate a model with robust standard errors and the results are reported in the Table 7 and 9.

One possible test to validate the presence of autocorrelation is suggested by Wooldridge (2002).

As suggested by this scholar, we regress the endogenous variable on the set of explanatory one and collect the residuals. Then, we regress again the endogenous variable on both the explanatory variables and one-lag-residuals and we test for the significance of the coefficient of the latter one. We obtain significance only for the model in which dependent variable is ROA. When dependent variable is ROE, results suggest that autocorrelation is not presented in our dataset. In any case, in order to get a t-test robust to heteroskedasticity we can use robust standard errors for both dependent variables.

5. Results

Table 5 presents some descriptive statistics regarding the board composition, structure and performance measures for the sample of Italian banking groups over the period 2006-2010.

The size of the board varies from 6 to 25 people, with the mean at 14. Literature provides evidence that banks and bank holding companies maintain larger board than manufacturing firms (Adams and Mehran, 2003; Booth *et al.*, 2002; Hayes *et al.*, 2004). The larger size of the board in banking groups can be explained considering some reasons. First of all, studies have highlighted

that board size is positively related to the firm size (Yermack, 1996), and usually, banks are larger than manufacturing firms. Moreover, the concentration process and the merger and acquisition operations that have affected the banking sector since the second half of Nineties could also have played a role in maintaining large boards in bank holding companies.

The percentage of non-executives sitting in the boards of directors floats from 17.00 per cent to 100.00 per cent, with a mean of 76.90 per cent, while, in mean, the board of directors of banking group have 43.00 per cent of independent directors.

Despite some previous researchers (Anastasopoulos *et al.*, 2002) argue that the presence of women in the board room has improved in the last few years, our findings suggest that the percentage of women in the board of directors is still limited. According to the result of Dutta and Bose (2006), the presence of women on Italian bank holding companies' board floats from 0.00 to 22.20% with a mean of only 3.00%.

Table 5 - Descriptive statistics (2006-2010)

Variable	Mean	Median	Minimum	Maximum	Std. Dev.	C.V.	Skewness	Ex. Kurtosis
BS	14.13	14.00	6.00	25.00	5.11	0.36	0.47	-0.76
NE	0.76	0.78	0.17	1.00	0.21	0.28	-0.77	-0.11
IN	0.43	0.36	0.00	1.00	0.29	0.68	0.59	-0.64
WO	0.03	0.00	0.00	0.22	0.04	1.61	1.55	1.99
NC	0.42	0.00	0.00	1.00	0.50	1.17	0.31	-1.90
RC	0.72	1.00	0.00	1.00	0.45	0.62	-0.99	-1.00
AC	0.75	1.00	0.00	1.00	0.43	0.57	1.18	-0.61
SAC	3.67	3.00	0.00	9.00	1.43	0.47	0.14	1.03
INAC	0.83	0.92	0.40	1.00	0.18	0.22	0.30	-1.45
BR	0.43	0.00	0.00	1.00	0.50	1.15	0.26	-1.93
TA	141.442.008	167.659.007	0.69	375.011.009	444.193.008	3.14045	5.83351	39.3871
TIR	11.65	8.37	4.41	54.90	9.59	0.82	2.96	8.63
OP/RWA (t-1)	1.63	1.06	8.71	27.98	3.33	2.03	4.12	32.47
ROE	7.58	7.14	86.68	46.17	12.20	1.61	3.10	28.30
ROA	1.04	0.60	6.94	20.25	3.25	3.13	4.76	27.44

Concerning the existence of board committees, our findings suggest a perfect correlation among nomination committee, compensation committee and audit committee. This means that the results obtained for one variable (CN in this case) are valid also for the other two committees. This can implicate that a bank holding company that decides to follow the guidelines of the “Corporate Governance Code” and Bank of Italy’s Supervisory Provisions Concerning Banks’ Organization and Corporate Governance, and to implement the committees within the board room, decides also to

appoint all the three committees that the Code suggests. However, in 2010 only five bank holding companies have all the three committees. With reference to each committee in the five-year period analyzed, the percentages are: audit 75.00 per cent, remuneration 72.00 per cent, nomination 42.00 per cent.

Considering the composition of the audit committee, the number of members floats from 0 to 9 directors, in which, as a mean, the 83% are independents.

Finally, despite some authors have shown that stock option based executives compensation is more prevalent in banks than in other industry (Chen et al., 2006), our findings demonstrate that less than 50% (in 2010 only 40%) of the bank holding companies observed uses incentive executive plans to mitigate agency problems and motivate the executive long term view.

Tables 6, 7, 8 and 9 present our econometric results, referred to the two above mentioned different models.

When the dependent variable is ROE, both models (tables 6 and 7) confirm our Hypothesis 1, 4 and 7.

In these models we observe a non-significant relationship between the size of the board and bank's performance. Board size is one of the well-studied board characteristics, but the empirical evidences on the best board size are still inconclusive. As argued in the third paragraph, board size can have both positive and negative effects on board and firm performance.

Existing contrasting considerations and the different empirical evidences the researchers have produced over the time have led us to support that board size and banks performance are not significantly correlated and that other corporate governance dimensions can contribute to gain more influence on banks' profitability. The econometric results seem confirm our hypothesis. At the same time, in both models we can observe a significant negative relationship between the size of audit committee and banks' profitability with 5.00% level of significance in the model 1 and 10.00% in the model 2. This finding supports our hypothesis and suggests that a smaller audit committee can enhance banks' performance as the smaller size can increase audit committee vigilance over board decisions and curtail potential managerial opportunism (Yermack, 1996).

Finally, both models highlight a significant positive relationship between the percentage of women sitting in the board room and banks profitability, with 1.00% level of significance in the model 1 and 10.00% in the model 2. Despite the fact that the representation of women in the board is still rare, our findings suggest that the contribution of women participation is quite relevant. Indeed, as suggested by the existing literature, women directorship can be considered as an instrument to improve board variety and thus discussions (Anastasopoulos et al., 2002). Moreover,

if we consider that the number of women is low we can assume that the few women sitting in Italian bank holding companies' board rooms are very competent and provided with a large portfolio of knowledge and relationships. This important assumption may confirm the high relevance that female directors have on bank's profitability, as they can be considered a tool to increase the level of competences, skills and perspectives.

When the dependent variable is ROE both models reject our hypothesis 2, 3 5 and 6. However the results concerning the presence of outside directors in the audit committee deserve some considerations. We argued that the presence of outside directors in this committee facilitates the strategic and monitoring role of board, because they can provide their experience, and knowledge, and can be more objective. Actually, the presence of outside directors entails costs to the firm, that take the form of fees, travel expenses, stocks and stock-options, with a negative influence on banks' performance (Belkhir, 2009). Indeed, several studies have started to consider the negative effect associated with a high number of outside directors (Lorsch and McIver, 1989; Baysinger and Hoskisson, 1990; Denis and Sarin, 1999; Ruigrok et al., 2006). Outside board members have only limited time that they can invest in any individual board mandate and they consequently lack much of the intimate knowledge and expertise on the way things are done and decisions are reached in the firm (Ruigrok et al., 2006).

Our findings seem confirm this perspective. Indeed, in the model 2 we can observe a significant negative relationship between the percentage of independent directors in the audit committee and banks' performance in terms of ROE.

When dependent variable is ROA (tables 8 and 9) both models confirm our Hypothesis 1. Indeed both models suggest a not significant relationship between board size and banks' performance. Moreover, both models confirm our Hypothesis 4 with 10.00% of significance in the model 1 and 1.00 percent in the model 2 demonstrating that the size of audit committees negatively affects banks' performance, also in terms of ROA.

Considering ROA, model 1 rejects all the other hypothesis, while model 2 (fixed effects with robust standard errors) confirms the results found with ROE as dependent variable, even if with different levels of significance for the women directorship and the independence of the audit committee. Indeed this last model shows a significant positive relationship between the presence of woman in the board room and bank's performance and a negative relationship between the percentage of independent directors in the audit committee and banks' performance both with 1.00 per cent of significance.

These results confirm and give more emphasis to our thesis, considering that existing literature defines ROA as one of the most appropriate index to capture the financial performance of banks.

Table 6. Fixed effects. Dependent variable ROE

MODEL 1 (R-SQUARED 0,79)

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>
const	-2616.74	3017.31	-0.8672	0.40153
Year	1.33285	1.51219	0.8814	0.39410
BS	-2.893	16.7608	-0.1726	0.86562
NE	-12.5183	48.0324	-0.2606	0.79847
IN	5.45135	10.0231	0.5439	0.59573
WO	134.814	74.228	1.8162	0.09246*
NC	-1.13764	6.86466	-0.1657	0.87092
SAC	-6.37012	2.66507	-2.3902	0.03268**
INAC	-20.7043	12.4465	-1.6635	0.12013
BR	-3.83845	4.28827	-0.8951	0.38700
TA	-8.53291e-08	4.25143e-08	-2.0071	0.06600*
T1R	2.21918	0.29599	7.4975	<0.00001***
EM	-0.0007486	0.000790299	-0.9472	0.36079
OP/RWA (t-1)	0.419732	0.338019	1.2417	0.23627

Table 7. Fixed effects with Robust Standard Errors. Dependent variable ROE

MODEL 2 (R-SQUARED 0,79)

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>
const	-2616.74	2071.61	-1.2631	0.22872
Year	1.33285	1.04567	1.2746	0.22475
BS	-2.893	8.87257	-0.3261	0.74957
NE	-12.5183	39.116	-0.3200	0.75403
IN	5.45135	3.78485	1.4403	0.17343
WO	134.814	40.4213	3.3352	0.00537***
NC	-1.13764	3.00822	-0.3782	0.71140
SAC	-6.37012	1.0247	-6.2166	0.00003***
INAC	-20.7043	4.24601	-4.8762	0.00030***
BR	-3.83845	3.3767	-1.1367	0.27616
TA	-8.53291e-08	1.4413e-08	-5.9203	0.00005***
T1R	2.21918	0.339866	6.5296	0.00002***
EM	-0.0007486	0.000336205	-2.2266	0.04428**
OP/RWA (t-1)	0.419732	0.157508	2.6648	0.01945**

The t-statistics are presented in parentheses (***, **, and * indicate 1, 5 and 10% significance levels, respectively).

Table 8. Fixed effects. Dependent variable ROA

MODEL 1 (R-SQUARED 0,81)

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>
Const	-1913.33	1096.09	-1.7456	0.10445
Year	0.957805	0.549327	1.7436	0.10481
BS	-2.57246	6.08862	-0.4225	0.67956
NE	3.88443	17.4485	0.2226	0.82729
IN	1.3746	3.64106	0.3775	0.71187
WO	34.3857	26.9645	1.2752	0.22455
NC	-2.00349	2.49369	-0.8034	0.43618
SAC	-1.85218	0.968128	-1.9132	0.07801*
INAC	-6.55799	4.52139	-1.4504	0.17063
BR	0.123116	1.55778	0.0790	0.93821
TA	-2.28546e-08	1.5444e-08	-1.4798	0.16274
T1R	1.09286	0.107523	10.1640	<0.00001***
EM	-0.000245567	0.000287088	-0.8554	0.40783
OP/RWA (t-1)	0.0889853	0.122791	0.7247	0.48148

Table 9. Fixed effects with Robust Standard Errors. Dependent variable ROA

MODEL 2 (R-SQUARED 0,81)

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>
Const	-1913.33	979.502	-1.9534	0.07264*
Year	0.957805	0.493131	1.9423	0.07408*
BS	-2.57246	3.02615	-0.8501	0.41067
NE	3.88443	15.2385	0.2549	0.80278
IN	1.3746	1.66104	0.8276	0.42286
WO	34.3857	16.2569	2.1151	0.05430*
NC	-2.00349	1.16421	-1.7209	0.10897
SAC	-1.85218	0.551992	-3.3554	0.00517***
INAC	-6.55799	1.99372	-3.2893	0.00587***
BR	0.123116	0.936525	0.1315	0.89742
TA	-2.28546e-08	3.9246e-09	-5.8234	0.00006***
T1R	1.09286	0.0989767	11.0416	<0.00001***
EM	-0.000245567	8.70308e-05	-2.8216	0.01442**
OP/RWA (t-1)	0.0889853	0.0702376	1.2669	0.22741

The t-statistics are presented in parentheses (***, **, and * indicate 1, 5 and 10% significance levels, respectively).

6. Concluding remarks

The present study analyzes the relationship between corporate governance of Italian banking groups and their performances focusing on the influence of board of directors' composition and structure on bank holding companies' profitability.

Using the fixed effect model we examine the effects of board attributes on banking groups' profitability in terms of ROE and ROA. The sample consists of 25 Italian banking groups, the 69 per cent of the whole Italian banking system in terms of total assets, for the period 2006-2010.

As expected, we find that board size does not affect Italian bank holding companies' performance both in terms of ROE and ROA. This result confirms that there is not an optimal size and that increasing or decreasing the dimension of bank's boards could have both positive and negative effects on profitability.

Moreover, we observe a statistically significant negative relationship between the size of the audit committee and performance both in terms of ROE and ROA. This finding confirms that a smaller committee charged with internal control activities performs better, increasing vigilance over board decisions and activities and, thus, concurring to enhance banks' profitability. We also find a significant negative relationship between the percentage of independent directors in the audit committee and banks' profitability (both in terms of ROE and ROA) but this result is obtained only using one model, even if the most robust one (Fixed Effects with Robust Standard Errors).

Our study shows also a significant positive relationship between the presence of women on the board of directors and both ROE and ROA, supporting our hypothesis that a bank holding company's board in which women are well represented performs better and improves economic results. Since the representation of women in bank holding companies' board is still marginal, our findings suggest that their contribution is relevant and that they can provide a large portfolio of competencies, skills and relationships useful to increase economic performances.

The other dimensions of corporate governance analyzed (board independence, board committees' existence, audit committee size and board remuneration) do not have a significant relationship with Italian banking groups' profitability.

Moreover, our findings show that the great majority of Italian bank holding companies have audit and remuneration committees and that less than 50% of Italian bank holding companies uses incentive executive plans to mitigate agency problems and motivate the executive long term view.

This paper extends the literature related to the link between the performance of Italian banking groups and board of directors' attributes, since it analyses many corporate governance issues with reference to Italy, one of the most relevant European Union countries. It focuses on a recent period

of time (2006-2010), that includes the great financial crisis, the most part of the financial systems is experiencing since 2007.

The main limit of this research is the small number of bank groups observed even if this limit reflects the size of the Italian banking system and the difficulties in collecting data on non-listed banks. However, the sample represents the 40% of Italian groups and, in terms of total assets, the 69% of the whole Italian banking system.

Further research is needed in order to broaden the sample size, including more non-listed banking groups. Moreover, it could be interesting to extend the analysis to other relevant corporate governance matters, such as CEO-Chairman duality and ownership type and to realize cross countries comparisons. Finally, all results are based on the assumption that there is strict exogeneity among the independent variables and this hypothesis could be not verified. Thus, future researches could consider a dynamic framework.

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APPENDIX A

	BANKING GROUPS
1	CREDITO EMILIANO – CREDEM
2	BANCA IFIS
3	BANCA POPOLARE DELL'EMILIA ROMAGNA
4	BANCA POPOLARE DI SONDRIO
5	BANCA DI FORNACETTE
6	BANCA FINNAT EURAMERICA
7	BANCA GENERALI
8	INTESA SANPAOLO
9	BANCARIO MEDIOBANCA
10	MEDIOLANUM
11	UNIPOL BANCA
12	BANCO DI DESIO E DELLA BRIANZA (IN FORMA ABBREVIATA GRUPPO BANCO DESIO)
13	BANCO POPOLARE
14	BIPIEMME - BANCA POPOLARE DI MILANO
15	CARIGE
16	CASSA DI RISPARMIO DI RAVENNA
17	CREDITO VALTELLINESE
18	ETRURIA
19	MONTE DEI PASCHI DI SIENA
20	UNICREDIT
21	UNIONE DI BANCHE ITALIANE (UBI BANCA)
22	BANCA POPOLARE DI CIVIDALE
23	BANCA DELLE MARCHE
24	BANCA PROFILO
25	BANCA POPOLARE PUGLIESE