

Can high quality independent directors reduce CEO overconfidence?

Paola Schwizer

Full Professor of Financial Markets and Institutions at Parma University
SDA Bocconi Professor, Banking and Insurance Department
paola.schwizer@unipr.it

Alessandro Carretta

Full Professor of Financial Markets and Institutions at Tor Vergata University
SDA Bocconi Professor, Banking and Insurance Department
carretta@uniroma2.it

Maria-Gaia Soana*

Adjunct Professor of Financial Markets and Institutions at Parma University
SDA Bocconi Assistant Professor, Banking and Insurance Department
mariagaia.soana@unipr.it

Abstract

Previous studies show that CEO overconfidence impacts different firms' decisions, many of which do not prove optimal for companies. We believe that the actions of overconfident CEOs can be moderated by the presence of high quality independent directors. The paper examines a sample of 345 listed Italian firms in the period 2006-2011 and shows that companies with the best economic performance introduce more high quality independent members on boards. Moreover, we find evidence that high quality independent directors enhance firm value and reduce the impact of CEO overconfidence on the amount of corporate investments and on the exposure to corporate risk. No relationship emerged between the presence of high quality independent board members and the cost of equity capital.

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* Corresponding author: Maria-Gaia Soana, Parma University, mariagaia.soana@unipr.it.

1. Introduction

According to the European Commission (2010), the origin of the crisis begun in 2007 can be found in the inability of board of directors (BoD) to understand and control the risks, especially within financial companies. Among the weaknesses in control mechanisms (i.e. internal governance) revealed by the crisis, the European Commission identified independent directors' difficulties in raising objections or even questions to omnipresent and authoritarian chief executive officers (CEOs), due to a lack of technical expertise or confidence.

Although the Supervisory Authorities almost unanimously believed deficiencies in internal governance responsible for the crisis, extant literature does not provide strong evidence to the hypothesis of corporate governance failure (Akhigbe et al., 2008; Pathan 2009; Fortin et al., 2010; Fahlenbrach and Stulz, 2011; Beltratti and Stulz, 2012). However, despite all efforts to raise corporate governance standards of listed companies, it is undeniable that the real BoD mechanisms of functioning (in which the key decision-making processes are played) are often ineffective and opaque, difficult to standardize and exposed to the phenomena of non-rationality.

In the past, the most of literature aiming to investigate the relationship between corporate governance quality and corporate performance was based on the assumption of rational individuals. These studies lead to conflicting results, not allowing to explain unambiguously the impact of governance choices on firm economic and financial ratios.

In order to overcome this limit, the behavioral corporate governance theory rejects the hypothesis of rational individuals, recognizing people and organizations a reduced ability to effectively obtain and process information, since their choices are often dictated by behavioral bias. Among these bias, the most studied in the literature is CEO overconfidence or hubristic pride, which leads executives to feel superior to others, to search for less help and direction in making major choices and to centralize decisions. Managerial hubristic pride can impact many firms' decisions, such as merger and acquisitions (Roll, 1986; Paredes, 2004; Doukas and Petmezas, 2007; Malmendier and Tate, 2008; Ferris et al., 2013), dividend policy (Cordeiro, 2009; Deshmukh et al., 2010), investments

(Malmendier and Tate, 2005) and financing choices (Malmendier et al., 2011). As the actions of overconfident CEOs can be moderated by the presence of independent directors (Morck, 2008; Banerjee et al., 2013), we believe that the introduction of high quality independent directors on boards could be interpreted as a governance strategy aiming to reduce executive hubristic pride.

In this context, our paper aims to identify the companies with the best corporate governance strategy and to test the effectiveness of high quality independent directors in moderating overconfident CEO decisions. The remainder of the paper is organized as follows. In Section 2, we illustrate literature review and hypotheses, while Section 3 describes the sample and the methodology. In Section 4 we present and comment empirical results, followed by the conclusion of the paper.

2. Literature review and hypotheses

The agency theory (Jensen and Mecking, 1976; Fama and Jensen, 1983) has been for a long time the dominant paradigm in the study of corporate governance. This theory concerns the difficulties in motivating the agent (corporate management) to act in the best interest of the principal (shareholders) rather than in his own interest. In order to align the interests of shareholders and executive management, the literature (Walsh and Seward, 1990) suggests both internal (ownership concentration, board of directors, and executive compensation) and external governance mechanisms (market for corporate control). In this context, many studies tried to test the existence of a positive relationship between corporate economic-financial performance and corporate governance quality (perceived as a factor reducing opportunistic behaviors). The latter was proxied by variables measuring the compliance with corporate governance codes of conduct, such as the presence of a large number of independent directors (Daily and Dalton, 1994; Singh and Davidson, 2003; Helland and Sykuta, 2005; Caselli, 2006), board diversity (Carter et al., 2003; Erhardt et al., 2003; Roberson and Park, 2007; Darmadi, 2011), board dimension (Anderson et al., 2004; Brown and Caylor, 2004) and the separation of the chair and CEO roles (Rechner and Dalton, 1991;

Yermack, 1996; Dalton et al., 1999; Brown and Caylor, 2004). Results of these studies are conflicting (Huse, 2005; Morck, 2008; Van Ees et al., 2009) and do not identify a positive relationship between economic and financial performance and corporate governance quality.

These mixed results may be explained considering that abovementioned studies, as well as the operational practice, focused on regulatory issues and compliance with formal rules (Maharaj, 2007), thus neglecting the analysis of processes and behavioral dynamics that characterize the BoD (Daily et al., 2003; Tosi, 2008). On the contrary, the behavioral corporate governance focuses on the analysis of informal structures, that is on the "spirit" with which the formal rules are implemented in organizations. This research area investigates the consequences of behaviors undertaken by CEOs, non-executive directors and, more generally, the relationships between the key players in the corporate governance system, group dynamics and decision-making processes (Huse, 2007). The behavioral corporate governance rejects the hypothesis of rational individuals and recognizes people and organizations a reduced ability to effectively obtain and process information, since their choices are often dictated by behavioral bias. Unlike the agency theory, the behavioral corporate governance states that managers are absolutely loyal to shareholders and that CEO work aims to maximize shareholder value (Paredes, 2004). Consequently, the causes of managerial errors can be found in executive behavioral biases (Shefrin, 2007), i.e. in executive prejudice or propensity to make decisions while already being influenced by an underlying belief. Shefrin (2007) states that the main executive biases are: (i) excessive optimism, (ii) illusion of control, (iii) confirmation, and (iv) overconfidence. The excessive optimism leads managers to overestimate the number of the favorable outcomes in comparison to the unfavorable ones (Lowe and Ziedonis, 2006), while illusion of control is the tendency of CEOs to believe they can control or influence outcomes that, in reality, they have no influence over. Moreover, executive board members would tend to ignore information which contradict previously held beliefs and preconceptions (confirmation bias) and to overestimate their ability to perform well, not recognizing their limits (overconfidence).

Managerial overconfidence (Bainbridge, 2002; Paredes, 2004; Malmendier and Tate, 2005) or *hubristic pride* (Li and Tang, 2010; Bodolica and Spraggon, 2011) leads executives to feel superior to others, to underestimate competitors, to search for less help and direction in making major choices, and, finally, to centralize decisions. For this reason, CEOs often show an attitude of self-protection, attributing the cause of their errors to bad luck or external events beyond their control rather than to their inabilities (Campbell et al., 2004; Paredes, 2004; Bodolica and Spraggon, 2011). Managerial overconfidence has been measured in previous literature following two main different approaches. The first approach, dubbed as “revealed belief”, requires detailed information about CEOs’ personal portfolio transactions in their companies’ stocks and options: CEOs are classified as overconfident if they hold options beyond rational thresholds, more specifically if the average option value per share of their exercisable options is more than or equal to 67% of the average exercise price at least twice during the sample period (Malmendier and Tate, 2005; Galasso and Simcoe, 2011; Hirshleifer et al., 2012; Ahmed and Duellman, 2013; Deshmukh et al., 2013). The second approach consists in a press-based overconfidence measure, which captures how outsiders perceive the CEO (Malmendier and Tate, 2005; Hirshleifer et al., 2012; Deshmukh et al., 2013; Ferris et al., 2013). It is constructed by collecting data on how the press portrays each CEO and calculating the differences between CEO positive (as “confident” and “optimistic”) and negative (as “reliable”, “conservative”, “frugal” and “steady”) words. This measure is consistent with the literature that considers the press responsible for the construction of the CEO image as a leader, the so-called "*celebrity status*" (Chen and Meindl, 1991, Pastor et al., 2002; Hayward et al., 2006; Malmendier and Tate, 2009), a factor which increases the managerial hubristic pride (Bodolica and Spraggon, 2011).

The abovementioned overconfidence measures have been alternatively used in the literature in order to investigate the impact of executive overconfidence on firms’ decisions, almost exclusively in the US market. Previous studies show that overconfident managers are engaged in more acquisitions and value-destroying mergers (Roll, 1986; Paredes, 2004; Doukas and Petmezas, 2007; Malmendier

and Tate, 2008; Ferris et al., 2013) and pay less dividends than other managers (Cordeiro, 2009; Deshmukh et al., 2010). Moreover, firms with overconfident CEOs tend to accept greater risk (Hirshleifer et al., 2012; Hribar et al., 2013), over-invest (Malmendier and Tate, 2005), achieve greater innovation (Galasso and Simcoe, 2011; Hirshleifer et al., 2012) and overestimate earnings forecasts (Hilary and Hsu, 2011; Felleg et al., 2012; Libby and Rennekamp, 2012). Recent work have also examined the implications of managerial hubristic pride for intentional misreporting or fraud (Schrand and Zachman, 2011), audit fees (Hribar et al., 2013), accounting conservatism (Ahmed and Duellman, 2013) financing decisions (Malmendier et al., 2011) and company performance (Lowe e Ziedonis, 2006; Malmendier and Tate, 2009). Other studies have investigated the relationship between CEO overconfidence and CEO decisions to sell equity (Jin and Kothari, 2008) and CEO turnover (Campbell et al., 2011).

Some papers show that the actions of overconfident CEOs can be moderated by the presence of independent directors with different viewpoints (Morck, 2008; Banerjee et al., 2013). Therefore, the introduction of high quality independent directors on boards can be interpreted as a governance strategy aiming to reduce managerial hubristic pride. In this context, we suppose that companies with the best economic performance implement the best governance strategy. This suggests the following hypotheses:

H₁: companies with the best operating performance introduce a large percentage of independent directors on boards;

H₂: companies with the best operating performance introduce high quality independent directors on boards.

We also suppose that high quality independent directors on boards, willing to subject the management actions to greater control, could moderate overconfident CEO decisions. This suggests the following hypotheses:

H₃: *high quality independent directors reduce the impact of CEO overconfidence on the amount of corporate investments;*

H₄: *high quality independent directors enhance firm value;*

H₅: *high quality independent directors weaken the impact of CEO overconfidence on the exposure to corporate risk;*

H₆: *high quality independent directors reduce the impact of CEO overconfidence on the cost of equity capital.*

We contribute to the literature on managerial overconfidence in four respects. First, while previous studies consider the benefits of introducing a large number of independent directors on board, we focus on their quality. Second, we study the possible moderating effect of high quality independent directors on overconfident CEO decisions by elaborating a new press-based overconfidence measure. Third, whereas the literature mainly focuses on the US market, we investigate the managerial hubristic pride phenomenon in a European market (Italy). Fourth, in our knowledge, this is the first paper trying to study the relationship between CEO overconfidence and cost of equity capital.

3. Sample and Methodology

We collect data of all Italian listed companies with available information in Bloomberg from 2006-2011. Our sample consists of 345 firms, for a total of 1,438 observations (Table 1).

Table 1
Distribution of observations over years

	2006	2007	2008	2009	2010	2011	Total
Consumer goods	38	40	40	43	42	41	244
Chemical	18	20	17	17	15	14	101
Financial	61	67	59	54	53	49	343
Industry	23	30	30	28	29	29	169
Services	63	67	70	71	69	66	406
Communication and Tecnology	22	25	26	27	26	25	151
Others	6	5	5	4	2	2	24
Total	231	254	247	244	236	226	1,438

Table 1 shows the number of observations of 345 Italian listed companies in the period 2006-2011 over different industries. The data source is the Italian Stock Exchange website.

In order to test our six hypotheses, we conduct some OLS regressions using panel data.

We measure corporate governance strategy by means of two variables: (i) the percentage of independent directors on board (IND) and (ii) the quality of independent directors (HQ_IND). The first variable is calculated as the percentage of independent directors to total board members and is estimated by processing the information contained in the “Report on company governance and ownership” published annually by Italian listed firms and available on the Italian Stock Exchange website. The second variable is measured as the sum of all the news published in the Italian press citing the independent directors (name and surname) of each firm of the sample. This proxy is based on the assumption that high quality independent directors are the most active, with the greatest reputation and, therefore, the most cited in the press. We extracted all the news from the Factiva database. To test hypotheses 1 and 2 we estimate regressions (1) and (2), respectively:

$$IND_{i,t} = \alpha + OP_{i,t} + SIZE_{i,t} + LEV_{i,t} + \varepsilon \quad (1)$$

$$HQ_IND_{i,t} = \alpha + OP_{i,t} + SIZE_{i,t} + LEV_{i,t} + TOT_IND_{i,t} + \varepsilon \quad (2)$$

where $OP_{i,t}$ is the operating performance of company i at time t measured by the natural logarithm of EBITDA (earnings before interest, taxes, depreciation, and amortization), $SIZE_{i,t}$ is the size of company i at time t calculated as the natural logarithm of market capitalization, $LEV_{i,t}$ is the market financial leverage of company i at time t proxied by the ratio between the market value of debts and

the equity capital and $TOT_IND_{i,t}$ is the number of independent directors on board of company i at time t .

Moreover, in order to test whether high quality independent directors on boards could moderate overconfident CEO decisions, we construct a “new” press-based overconfidence measure. Unlike previous studies, this proxy estimates managerial hubristic pride considering the moderating effect of independent directors. We calculate our overconfidence measure ($OVER_{i,t}$) as the difference between the number of news citing the CEO ($CEO_{i,t}$) and the mean number of news citing independent directors (name and surname) of each firm of the sample ($MHQ_IND_{i,t}$):

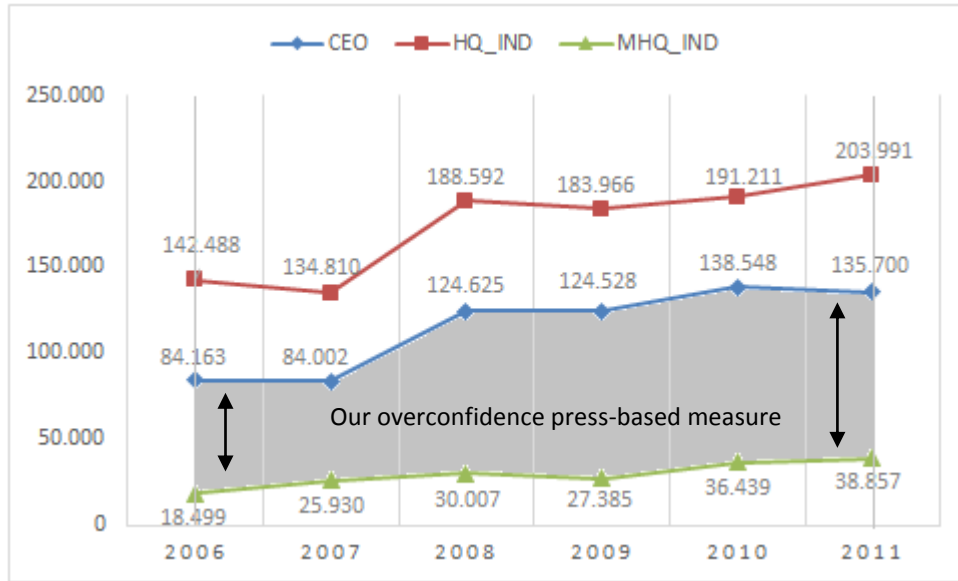
$$OVER_{i,t} = CEO_{i,t} - MHQ_IND_{i,t} \quad (3)$$

where $MHQ_IND_{i,t}$ is estimated as the ratio between the number of all news citing independent directors ($HQ_IND_{i,t}$) and the number of independent directors on board ($TOT_IND_{i,t}$)

$$MHQ_IND_{i,t} = \frac{HQ_IND_{i,t}}{TOT_IND_{i,t}} \quad (4)$$

All these news are extracted from the Factiva database and are contained in the Italian press. Graph 1 shows the trend of variables CEO, HQ_IND and MHQ_IND in the period 2006-2011, thus providing a graphical representation of our overconfidence measure. Graph 1 shows that the CEO is cited in the Italian press much more than individual independent directors. On the contrary, considering all independent board members as a whole, their citations exceed the CEO ones. Both CEO and all independent directors’ citations show a growing trend in the period 2006-2011, especially between 2007 and 2008.

Graph 1
CEO and independent director citations



Graph 1 shows the trend of variables “CEO citations” (CEO), “high quality independent directors” (HQ_IND) and “mean independent citations” (MHQ_IND) in the period 2006-2011. CEO is calculated as the number of news citing the CEO, HQ_IND is proxied by the sum of all the news published in the Italian press citing independent directors (name and surname) and MHQ_IND is the mean number of news citing independent directors and is calculated as the ratio between HQ_IND and TOT_IND. The graph provides a graphical representation of our press-based overconfidence measure (the grey area). The sample consists of 1,438 observations of 345 Italian listed firms in the period 2006-2011.

In order to investigate whether high quality independent directors on boards could reduce the impact of CEO overconfidence on the amount of corporate investments and enhance firm value, we estimate regressions (5) and (6), respectively:

$$INV_{i,t} = \alpha + OVER_{i,t} + SIZE_{i,t} + LEV_{i,t} + CASH_{i,t} + \varepsilon \quad (5)$$

$$VAL_{i,t} = \alpha + OVER_{i,t} + LEV_{i,t} + DIV_{i,t} + \varepsilon \quad (6)$$

where $INV_{i,t}$ is the amount of corporate investments of company i at time t measured by the natural logarithm of capital expenditures, $CASH_{i,t}$ is the liquidity of company i at time t estimated as the sum of cash and marketable securities divided by firm value, $VAL_{i,t}$ is the firm value of company i at time t calculated as enterprise value to EBITDA and $DIV_{i,t}$ is the dividend yield of company i at time t estimated by dividend per share divided by the current stock price.

Finally, we test whether high quality independent directors on boards could weaken the impact of CEO overconfidence on the exposure to corporate risk and the cost of equity capital by estimating regressions (7a), (7b) and (8), respectively:

$$\text{BETA}_{i,t} = \alpha + \text{OVER}_{i,t} + \text{SIZE}_{i,t} + \text{LEV}_{i,t} + \text{DIV}_{i,t} + \text{CASH}_{i,t} + \varepsilon \quad (7a)$$

$$\text{SD}_{i,t} = \alpha + \text{OVER}_{i,t} + \text{SIZE}_{i,t} + \text{LEV}_{i,t} + \text{DIV}_{i,t} + \text{CASH}_{i,t} + \varepsilon \quad (7b)$$

$$\text{KE}_{i,t} = \alpha + \text{OVER}_{i,t} + \text{BETA}_{i,t} + \text{LEV}_{i,t} + \text{SIZE}_{i,t} + \text{CASH}_{i,t} + \varepsilon \quad (8)$$

where $\text{BETA}_{i,t}$ expresses firm systematic risk of company i at time t , i.e., the risk associated with aggregate market returns and measured by the covariance of company stock returns to market stock return over 5 years, $\text{SD}_{i,t}$ is the standard deviation in monthly stock prices estimated using 5-years of data and $\text{KE}_{i,t}$ is the cost of equity capital of company i at time t . The cost of equity capital is derived from the one-stage dividend discount model (Gordon, 1959), as reported in equation (9):

$$\text{KE} = (\text{DIV}_1 / P_0) + g \quad (9)$$

where DIV_1 is the dividend per share at time $t+1$, P_0 is the share price at time t and g is the growth rate of dividends, calculated as follows:

$$g = \text{ROE} * (1 - \text{Payout Ratio}) \quad (10)$$

where ROE is the return on equity capital and Payout Ratio is estimated by dividing cumulated dividends by net income. Table 2 details data sources and variable definitions, which descriptive statistics are shown in Table 3.

Table 2
Variable definitions and data sources

Variable	Symbol	Definition and calculation method
Number of independent directors ^a	<i>TOT_IND</i>	This is the number of independent directors on board
Percentage of independent directors ^a	<i>IND</i>	This is calculated as the percentage of independent directors to total board members
High quality independent directors ^b	<i>HQ_IND</i>	This is proxied by the sum of all the news published in the Italian press citing independent directors (name and surname)
Mean independent citations ^b	<i>MHQ_IND</i>	This is the mean number of news citing independent directors and is calculated as the ratio between <i>HQ_IND</i> and <i>TOT_IND</i>
CEO citations ^b	<i>CEO</i>	This is the number of news citing the CEO
Overconfidence ^b	<i>OVER</i>	This is calculated as the difference between <i>CEO</i> and <i>MHQ_IND</i>
Operating performance ^c	<i>OP</i>	This is proxied by the natural logarithm of EBITDA (earnings before interest, taxes, depreciation, and amortization)
Size ^c	<i>SIZE</i>	This is calculated as the natural logarithm of market capitalization
Market financial leverage ^c	<i>LEV</i>	This is calculated as the ratio between the market value of debts and the equity capital
Corporate investments ^c	<i>INV</i>	This is measured by the natural logarithm of capital expenditures
Firm liquidity ^c	<i>CASH</i>	This is estimated as the sum of cash and marketable securities divided by firm value
Firm value ^c	<i>VAL</i>	This is calculated as enterprise value to EBITDA
Dividend yield ^c	<i>DIV</i>	This is proxied by the dividend yield, estimated by dividend per share divided by the current stock price
Systematic risk ^c	<i>BETA</i>	This expresses firm systematic risk, i.e., the risk associated with aggregate market returns and measured by the covariance of company stock returns to market stock return over 5 years
Standard deviation ^c	<i>SD</i>	This is the standard deviation in monthly stock prices estimated using 5-years of data
Cost of equity capital ^c	<i>KE</i>	This is derived from the one-stage dividend discount model

^a Denotes that data source is “Report on company governance and ownership” of each firm of the sample.

^b Denotes that data source is Factiva.

^c Denotes that data source is Bloomberg.

This table defines the variables used in the paper.

Table 3
Descriptive statistics

Variable	Mean	Median	Std. Dev.	Skewness	Kurtosis
HQ_IND	599.807	158.500	1529.820	5.533	36.258
OVER	199.285	0.000	843.192	5.561	52.448
TOT_IND	4.164	3.000	3.000	2.049	6.758
IND	0.377	0.333	0.188	1.011	4.275
BETA	1.058	1.010	0.473	0.588	0.860
SD	0.402	0.368	0.207	2.171	10.538
SIZE	5.993	5.831	1.880	0.456	-0.111
LEV	2.118	0.705	7.577	15.941	330.990
CASH	0.085	0.047	0.131	4.547	35.028
VAL	15.722	8.180	26.972	5.494	37.840
DIV	0.018	0.000	0.040	6.648	84.122
OP	4.191	4.053	2.021	0.285	0.027
INV	2.862	2.858	2.422	-0.115	0.061
KE	0.163	0.114	0.231	7.150	81.774

Table 3 presents the descriptive statistics of the variables used in the analysis: high quality independent directors (HQ_IND), CEO overconfidence (OVER), number of independent directors (TOT_IND), percentage of independent directors (IND), firm systematic risk (BETA), standard deviation of stock return (SD), firm size (SIZE), firm leverage (LEV), firm liquidity (CASH), firm value (VAL), dividend policy (DIV), firm operating performance (OP), firm investments (INV) and cost of equity capital (KE). The sample consists of 1,438 observations of 345 Italian listed firms in the period 2006-2011.

We also ascertain the correlation between the independent variables. Our analysis seems to support the assumption that every independent variable has its own peculiar informative value in the ability to explain dependent variables (Table 4).

Table 4
Correlation matrix

	OVER	TOT_IND	BETA	SIZE	LEV	CASH	DIV	OP
OVER	1.000							
TOT_IND	0.245	1.000						
BETA	0.137	0.175	1.000					
SIZE	0.310	0.450	0.233	1.000				
LEV	-0.015	0.087	0.190	-0.042	1.000			
CASH	0.017	-0.056	0.041	-0.081	-0.083	1.000		
DIV	0.053	0.064	0.003	0.192	0.292	0.010	1.000	
OP	0.292	0.342	0.157	0.652	0.084	-0.040	0.229	1.000

Table 4 shows the correlations between the independent variables considered in the regression: CEO overconfidence (OVER), number of independent directors (TOT_IND), firm systematic risk (BETA), firm size (SIZE), firm leverage (LEV), firm liquidity (CASH), dividend policy (DIV) and firm operating performance (OP). The sample consists of 1,438 observations of 345 Italian listed firms in the period 2006-2011.

4. Results

Our results, presented in Tables 5, 6 and 7, refer to OLS multivariate regressions using panel data.

Evidences on the relationship between corporate governance strategy and operating performance are reported in Table 5.

Table 5
Corporate governance strategy and operating performance

	(a) Dependent variable IND	(b) Dependent variable HQ_IND
const	0.240*** (9.152)	-845.21*** (-3.253)
OP	0.019*** (2.817)	149.39** (2.437)
SIZE	0.009 (1.169)	36.053 (0.536)
LEV	0.005** (2.574)	123.64 (0.515)
TOT_IND		135.16*** (6.333)
Adjusted R-squared	0.082	0.149

Table 5 presents the results of the regression made considering as dependent variable the percentage of independent directors (a) and the presence of high quality independent directors (b). The independent variables are: firm operating performance (OP), firm size (SIZE), firm leverage (LEV) and number of independent directors (TOT_IND). The sample consists of 1,438 observations of 345 Italian listed firms in the period 2006-2011. We present robust t-statistics in brackets. One, two, or three asterisks represent the significance of the coefficients, i.e., the rejection of the hypothesis of nullity of the coefficient, with a level of probability of 10%, 5%, and 1%, respectively.

It shows the existence of a statistically significant positive relationship not only between operating performance (OP) and percentage of independent directors on board (IND) (Table 5 column (a)), but also between operating performance (OP) and presence of high quality independent board member (HQ_IND) (Table 5 column (b)). Our results also point out a positive link between the number of independent directors on board (TOT_IND) and their quality (HQ_IND) (Table 5 column (b)). This means that the most operating profitable companies are those implementing the best corporate governance strategy, as they introduce many and high quality independent directors on their boards. Therefore, hypotheses 1 and 2 are accepted. Moreover, Table 5 shows the existence of a statistically significant positive relationship between market financial leverage (LEV) and percentage of independent directors on board (IND) (Table 5 column (a)): this means that more indebted firms tend to introduce more independent directors on boards.

As regards the impact of high quality independent directors on overconfident CEO decisions about corporate investments and firm value, results are reported in Table 6.

Table 6
High quality independent directors and CEO overconfidence:
the effects on corporate investments and firm value

	(a) Dependent variable INV	(b) Dependent variable VAL
const	-2.596*** (-8.312)	12.175*** (10.452)
OVER	0.001** (1.980)	-0.002* (-1.851)
SIZE	0.836*** (17.913)	
LEV	0.035*** (3.761)	1.763*** (7.203)
CASH	1.147* (1.752)	
DIV		-73.244*** (-2.973)
Adjusted R-squared	0.443	0.081

Table 6 presents the results of the regression made considering as dependent variable firm investments (a) and firm value (b). The independent variables are: CEO overconfidence (OVER), firm size (SIZE), firm leverage (LEV), firm liquidity (CASH) and dividend policy (DIV). The sample consists of 1,438 observations of 345 Italian listed firms in the period 2006-2011. We present robust t-statistics in brackets. One, two, or three asterisks represent the significance of the coefficients, i.e., the rejection of the hypothesis of nullity of the coefficient, with a level of probability of 10%, 5%, and 1%, respectively.

Table 6 column (a) shows that corporate investments are positively related to CEO overconfidence (OVER), firm size (SIZE), leverage (LEV) and liquidity (CASH). In other words, companies making major investments are those more indebted, with more liquidity and higher dimension. Firms with overconfident managers seem to over-invest, as suggested by Malmendier and Tate (2005) and Banerjee, Humphrey-Jenner and Nanda (2013). In this context, the presence of high quality independent directors reduces the impact of CEO hubristic pride on the amount of corporate investments, thus corroborating hypothesis 3.

It also emerged (Table 6 column (b)) that firm value (VAL) is positively related to leverage (LEV) and negatively related to dividend policy (DIV) and CEO overconfidence (OVER). This means that companies to which the market recognizes the higher value are those characterized by higher levels of debts, less dividends distributed and less overconfident CEO. Therefore, the presence of high quality independent directors mitigates managerial hubristic pride, thus enhancing enterprise value, as suggested by hypothesis 4.

Finally, Table 7 reports the evidence found on the effect of high quality independent directors and CEO overconfidence on corporate risk and cost of equity capital.

Table 7
High quality independent directors and CEO overconfidence:
the effects on corporate risk and cost of equity capital

	Dependent variable BETA	Dependent variable SD	Dependent variable KE
const	0.739*** (12.609)	0.609*** (23.922)	0.233*** (5.805)
OVER	0.001*** (2.743)	0.001** (2.251)	0.000 (0.548)
SIZE	0.046*** (4.545)	-0.022*** (-5.078)	-0.025*** (-4.232)
LEV	0.014*** (7.731)	0.004*** (5.320)	0.005*** (2.662)
DIV	-1.648*** (-3.126)	-1.143*** (-5.043)	
CASH	0.438*** (3.172)	-0.031 (-0.527)	-0.134*** (-1.735)
BETA			0.077*** (3.644)
Adjusted R-squared	0.115	0.095	0.074

Table 7 presents the results of the regression made considering as dependent variable firm systematic risk (a), standard deviation of stock returns (b) and cost of equity capital (c). The independent variables are: CEO overconfidence (OVER), firm size (SIZE), firm leverage (LEV), dividend policy (DIV) and firm liquidity. The sample consists of 1,438 observations of 345 Italian listed firms in the period 2006-2011. We present robust t-statistics in brackets. One, two, or three asterisks represent the significance of the coefficients, i.e., the rejection of the hypothesis of nullity of the coefficient, with a level of probability of 10%, 5%, and 1%, respectively.

Table 7 column (a) shows the existence of a statistically significant positive relationship between systematic risk (BETA) and CEO overconfidence (OVER), firm size (SIZE), leverage (LEV) and liquidity (CASH) and the existence of a statistically significant negative relationship between systematic risk (BETA) and dividend policy (DIV). Therefore, the higher the managerial hubristic pride, the company dimension, the indebtedness level and the firm liquidity, the higher non-diversifiable risk. On the contrary, the higher dividends distributed, the lower systematic risk. These evidence are essentially confirmed (except for size and liquidity) also when considering global risk, measured by stock return standard deviation (SD), instead of the beta (Table 7, column (b)). Our results show that overconfident CEOs tend to accept greater risk, as suggested by previous literature (Hirshleifer et al., 2012; Hribar et al., 2013). For this reason, the presence of high quality independent directors contributes to weaken the impact of managerial hubristic pride on the exposure to corporate risk, thus corroborating hypothesis 5.

As regards cost of equity capital (KE), Table 7 column (c) shows that the dependent variable is positively linked to leverage (LEV) and systematic risk (BETA) and negatively linked to firm size and liquidity (CASH). No relationship emerged between cost of equity capital and CEO overconfidence (OVER). For this reason, we can't state that high quality independent directors reduce the impact of CEO overconfidence on the cost of equity capital, thus rejecting hypothesis 6.

5. Conclusions

The new behavioral corporate governance literature highlights that CEO overconfidence impacts on different firms' decisions, that can lead to suboptimal strategic and financial performances. We posit that the introduction of high quality independent directors on boards could reduce executive hubristic pride and enhance the monitoring function over CEOs' behaviors and choices.

In this paper we demonstrate that Italian listed companies with the best economic performance, over the period 2006-2011, introduced more high quality independent members on boards, thus reducing

the potential negative effects of CEO overconfidence in terms of excessive corporate investments and exposure to corporate risk.

Our contribution is manifold. First, this study provides a new empirical application of the behavioural corporate governance framework, whose investigation is still limited due to the difficulties in constructing relevant evidence on BoD real functioning and dynamics. Second, we apply a new proprietary dataset of press citations of single directors, that can be further explored in order to build up measures of personal reputation. Finally, we create an indicator of reputational gap between independent directors and CEO in order to assess the overconfidence of the latter and the effectiveness of the board in its monitoring function.

Our paper has some important implications in terms of corporate governance effectiveness and best practices, since it focuses on the relevance of directors' nomination processes and the power of an active role played by independent board members, that must be supported by a personal compelling strength in order to counterbalance the power of CEOs. Furthermore, it opens up new debate on the impact of press news on directors' reputation, whereas media are able or willing to report on the role played by different board members in the companies' decision making processes. The study could be further developed, though a text analysis, in order to define if the press citations on each individual are of a positive or a negative sign, in order to sustain the significance of the reputational gap.

6. References

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