

# BOARD OF DIRECTORS AND BOARD OF STATUTORY AUDITORS' DIVERSITY AND EARNINGS MANAGEMENT: EVIDENCE FROM ITALY

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## Abstract

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The importance of diversity within corporate boards has been demonstrated both from the literature and also from the national and international regulation. The aim of this paper is to analyse the impact of diversity on the Board of Directors and in the Board of Statutory Auditor on Earnings Management behaviour. Starting with a random sample of 121 non-financial Italian listed companies, we hand-collected corporate governance data from the corporate governance report to investigate how firms deal with the opportunistic behaviour of EM, through the appointment of members with specific features. Our findings show that, even though diversity within the Board of Directors is not associated with Earnings Management, the presence of female and member expertise on Board of Statutory Auditor instead curb Earnings Management. Based on these findings we argue that pursuing a good degree of diversity in the corporate boards could help to improve the earnings quality and, in particular, to reduce Earnings Management behaviour.

**Keywords:** Board of Directors, Board of Statutory Auditor, Diversity, Earnings Management

## 1. INTRODUCTION

*The quality of group decision-making is enhanced with diverse opinions. Functionally diverse teams are more innovative, set clearer strategies, are more likely to react to competition, and are quicker to adapt to organizational changes* (Dizin, 2016).

The topic of diversity has been studied for many years and is still the interest of many authors within a different field of research. The concept of diversity is vast; Williams and O'Reilly (1998) define it, as 'any attribute that people use to tell themselves that another person is different'. Diversity is traditionally conceptualized in terms of visible differences such as age, gender, and race (Hicks-Clarke & Illes, 2000, Erhardt et al., 2003). However, individuals differ on less visible characteristics such as level of education, expertise and tenure with the company (Thatcher and Jehn, 1998; Tsui et al., 1992; Williams and O'Reilly, 1998).

Some authors attempt to investigate and describe benefits and costs of diversity, based on physiological studies on human characteristic, cultures, races and background. As Ferreira (2010) points out, people from different backgrounds and with different life experiences are likely to approach similar problems in different ways and gain to different resources; diverse groups foster creativity and produce a greater range of perspectives and solutions (e.g., Wiersema and Bantel, 1992; Watson et al., 1993). On the other hand, diversity could also increase the costs: conflicts, lack of cooperation and communication between the directors, unqualified managers and so on.

Since member's specific characteristics have been considered fundamental to understand the dynamic of boards and member's behaviour, many authors have focused their attention on a specific feature of diversity that is gender. They study different leadership style and personality traits

according to the presence of a female or male manager. Some studies underline that the presence of women on boards is still limited (Lee and James, 2007; Burgess and Threnou, 2002) and others try to investigate the reasons behind this scarce involvement, observing the social context, the social role of women, the status, the psychosocial processes underlying the ideological construction of a male superiority, and pre-existing social networks (Hillman et al., 2007; Ibarra, 1993; Smith, 2002). Women tend to have interpersonally oriented and democratic styles, while men tend to be task-oriented, have an autocratic style and act more aggressively (Eagly et al., 2003). Women in social situations smile and laugh more than men, use their bodies more expressively (Anderson and Blanchard, 1982; Carli, 1990; Lockheed, 1985; Eagly and Steffen, 1986; Eagly and Johnson, 1990; Eagly and Wood, 1991; Eagly, 1993), are more risk-averse, cautious and ethical (Powell and Ansic, 1997; Gold et al., 2009). Furthermore, a greater presence of female appears to be associated with more attention to conflict-of-interest issues (Brown et al., 2002) and a higher percentage of women on corporate boards leads to better attendance on board meetings (Adams and Ferreira, 2009).

An extensive part of literature related to the characteristics of diversity in the boards has grown, due to the global desire of better governance (Adams and Funk, 2012; Anderson et al., 2011; Maznevski, 1994; Milliken and Martins, 1996; Burke, 2000). The Board of Directors (BoD) is the most important decision-making body in a corporation; boards are responsible for approving major strategic and financial decisions, thus the characteristic of board members may have an impact on their decisions and on firm performances. At the same time, the Audit Committee and the Board of Statutory Auditor (BSA) have a fundamental role to control and ensure the quality of financial reporting. Despite many previous studies have revealed that committee's size, member's independence degree and meeting frequency affect the quality of financial report (Abbott et al., 2004; Lin et al., 2006), it is difficult to draw final conclusions on the impact of diversity.

Many studies on the effects of members' characteristics on firm performances achieved different conclusions (Erhardt et al., 2003; Adams and Ferreira, 2009; Terjesen et al., 2009; Carter et al., 2010; Abbott et al., 2012; Haslam and Ryan, 2008; Vinnicombe et al., 2008) and few studies have investigated if diversity, both in the BoD and, in particular, in the BSA, leads to the problems earnings management (EM) instead.

Based on the agency theory perspective, this study aims to investigate the effects of BoD and BSA diversity on EM practices. The research focuses on specific characteristics of diversity within a sample of 121 Italian listed companies in the years 2008, 2011 and 2016. To test our hypothesis we measure EM following the Francis and Wang (2008) model.

We expect that diversity on BoD reduce EM practice, helping firms to be more ethical. Similarly, we expect that diversity inside of BSA reduces EM behaviours. Our findings show that, while diversity within the BoD seems to be irrelevant, diversity within the BSA seems to reduce EM. Specifically,

looking at the BoD, gender diversity and level of education are not significantly associated with EM, while the financial expertise of directors is significantly and positively associated with EM. At the same time, focusing on the BSA, the presence of female and the presence of auditors who are professional accountants and also academic professors are associated with lower EM.

Our results contribute to extending literature on diversity in the particular field of corporate governance. Differently, from previous studies, we focus also on diversity in control system, through the analyses of BSA, emphasizing its central role in the corporate governance structure. Moreover, in this research, we take into consideration particular characteristics of diversity as the level of education and the degree of experience.

The paper is structured as follow. Section 2 reviews the literature and section 3 shows the hypotheses development. In section 4 we present the methodological design and in section 5 we describe the sample. Section 6 proposes our results and section 7 discusses them and concludes.

## 2. LITERATURE REVIEW

### 2.1. The concept of diversity

The topic of diversity has been investigated for many years at the company and political level. Following Williams and O'Reilly (1998) diversity is "*any attribute that people use to tell themselves that another person is different*" and it is conceptualized in terms of visible differences such as age, gender, and race (Hicks-Clarke & Illes, 2000; Erhardt et al., 2003) or less visible characteristics such as level of education, expertise and tenure with the company (Thatcher and Jehn, 1998; Tsui et al., 1992; Williams and O'Reilly, 1998). Companies recognize the importance of diversity of their employees to sustain their competitive advantages in a global marketplace (Offerman & Gowing, 1990; Thomas & Ely, 1996). Some authors analysing human characteristics such as cultures and races affirmed that people from different backgrounds and with different life experiences are likely to approach similar problems in different ways and gain to different resources; moreover, diverse groups foster creativity and produce a greater range of perspectives and solutions (e.g., Wiersema and Bantel, 1992; Watson et al., 1993).

More in-depth, diversity has been studied by previous researchers considering only the gender point of view. Women have always fought to gain their positions; they were considered the minority group and they did not have the same opportunities as men in a career context, indeed they face more barriers to become leaders (Eagly and Johannessen-Schmidt, 2001). While Chaganti (1986) and Powell (1990) find no significant differences in management decision-making values or styles between man and women, Birley (1988), Sexton and Bowman-Upton (1990) find more similarities than differences in personality traits. Hudgens and Fatkin (1985), Johnson and Powell (1994) find that male and female are equally capable of performing in terms of achieving outcomes. Eagly and Johnson in

1990 conduct a laboratory experiments and they find that women tend to manifest relatively interpersonally oriented and democratic styles, whereas men tend to manifest relatively task-oriented and autocratic style. Women are better nonverbal encoders than men as well as better decoders. In social situations, women smile and laugh more than men, use their bodies more expressively and show more involvement with others behaviour (Eagly, 1993). Women leaders tend to be more people-oriented, democratic, consultative, showing interpersonally oriented behaviour and concern for other people's satisfaction as compared to men (Lamsa and Sintonen, 2001).

## 2.2. Diversity and earnings management

For several years, many types of research have investigated the issue of differences within corporate BoD and BSA (Daily et al., 1999; Kanter, 1977). Some papers consider the topic of diversity not only from the gender diversity perspective but also from differences in terms of age, race, culture, competence and expertise (Adams and Funk, 2012; Maznevski, 1994; Milliken, Martins, 1996; Burke, 2000). Women directors and ethnic minority directors may have different impact and different roles inside of the board (Hillman et al., 2002; Peterson and Philpot, 2007; Carter et al., 2010). Diversity brings benefits to the board: new ideas, better communication and outcomes as turnover and performance (Terjesen et al., 2016; Reguera-Alvarado et al., 2017; Milliken and Martins, 1996; Velte, 2017). Singh et al. (2008), in their study, discover that, while it is more likely that female directors are from different nationalities, have an MBA education, and have expertise in small companies, male directors have experience as executives. More in detail, focusing on gender diversity, female directors are known to be tougher monitors (Farrell and Hersch, 2005) and contribute to the heterogeneity of boardrooms. Moreover, female representation on corporate boards improves governance efficiency in areas such as monitoring (Adams and Ferreira, 2009) and reduces agency conflicts (Arfken et al., 2004; Farrell and Hersch, 2005; Francoeur et al., 2008; Peterson and Philpot, 2007).

Recently some authors showed an interest in the relation between diversity and EM (Xie et al., 2003; Carcello et al., 2006; Kyaw et al., 2015; Hardies et al., 2016). The literature defines EM as a situation that occurs when "managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers" (Healy and Wahlen, 1999).

Studies attempt to analyse the specific characteristics of both BoD and Audit Committees members and EM practices. Audit Committee is the board in charge of the control; it oversees the financial reporting process, including risks and plays an important role in company's financial integrity.

Xie et al. (2003) find that board and committee meetings, as well as corporate and financial

expertise and independence, are associated with a low level of EM. Ebrahim (2007), like Xie et al. (2003), shows that a more independent and active board helps in reducing EM. In a sample of U.S firms for the year 2003, Carcello et al. (2006) examine the relationship between audit committee financial expertise and both abnormal accruals and real EM. They consider as a financial expert not only the education and the certification process but also previous experiences the directors had within firms. They find mixed results, positive or negative association between financial expertise and earnings management, based on the type of EM practice. Qi and Tian (2012) analyse how some characteristics of audit committees' members, as age, gender, education level and work experiences affect the quality of financial reports. Their findings show a positive relation between the older board, female presence financial working experience and the quality of financial information, while they do not find any relation testing education level variable.

Looking at gender, few studies are focused on its relation with EM. Sun et al. (2011), investigate if women are ethical and against EM and they argue that "it is difficult to test audit committee member's real ethical attitudes towards earnings management", thus they do not claim any association. Arun et al. (2015) investigate how the presence of women in the role of independent directors helps firms experiencing less EM. Krishnan and Parsons (2008) find a positive and significant relation between the presence of more women on board and earnings quality. Furthermore, they analyse high-debt and low-debt firms, indicating that in the second type when the number of female is high, female directors are more conservative and help in reducing EM. Barua et al., (2010) conclude that firms with female CFO show a lower level of absolute abnormal accruals and estimation of errors. Kyaw et al. (2015) claim "*female directors can bring benefits to the company if the workplace environment empowers them*", revealing that high presence of female on board is associated with a lower level of EM. While some studies find that in the larger board, the number of female directors is greater (Brammer et al., 2009; Hyland and Marcellino, 2002), others show that the monitoring process the less effective (Fama and Jensen, 1983). Lastly, Thiruvadi and Huang (2011) show that the presence of female director on audit committees constrains EM measured by discretionary accruals.

Overall diversity, in terms of gender, age, expertise, nationality and so on, offers valuable and interesting opportunities for research on governance structure.

## 3. HYPOTHESIS DEVELOPMENT

Our analysis focuses on the Italian context due to the peculiarities of the ownership and corporate governance structure and the limited role of stock market (Melis, 2000). The Italian Latin or Traditional system (Section 2380 and following of the Italian Civil Code) requires that shareholders' meeting appoints two main boards: the BoD and the BSA. As Fama and Jensen (1983) affirm "*an effective system for decision control implies that the control of*

decision is to some extent separate from the management of decision". The BoD makes decisions on shareholders' behalf, helps firms to reach their goals and is responsible for managing firm's resources. BSA instead is in charge of the control of firms' compliance with the law and by the-laws, the respect of good managing practice and the adequacy of organizational, administrative and accounting systems adopted. BSA represents a peculiarity of the Italian governance and its importance is increasing especially after some financial scandals occurred during the last years. Moreover, in terms of gender, the Italian Law n.120/2011 promotes gender balance in governing boards of listed companies, forcing firms to appoint at least one-third of female.

As known, when cooperating parties have different goals and desires, an agency problem could occur (Eisenhardt, 1989). Agency theory (Jensen and Meckling, 1976) could concern conflict of interest between managers and shareholders or majority and minorities. In the first case, managers are tempted to manipulate earnings in their own interest to extract shareholders' wealth, while, in the second one, controlling shareholders may have the incentive and the ability to expropriate minority. We assume either that managers, after their appointment, act in

favour of their own interests at the expense of the shareholders' wealth or that they represent the controlling parties and make decisions to the detriment of the minorities.

Bearing in mind the characteristics of the context, the paper investigates if diversity within the BoD and BSA helps to reduce the manipulation of earnings. We develop our hypotheses relying on the agency theory, helpful to understand the problem of agency and opportunistic behaviour at the governance level. Based on the previous literature about diversity and EM we develop the following hypothesis:

*H1: Board of director's diversity is related to lower earnings management.*

*H2: Board of Statutory Auditor's diversity is related to lower earnings management.*

#### 4. RESEARCH METHODOLOGY

We measure the signed abnormal accruals following the Francis and Wang (2008) model. To test our hypotheses we run the regression model in equation (1):

$$EM_i = (ACC_t - [WC_{t-1}/SALES_{t-1} * SALES_t + DEP_{t-1}/GPPE_{t-1} * GPPE_t]) / ASSET_{t-1} \quad (1)$$

where:

ACC = (earnings before extraordinary items - cash flow from operation) / total assets.

WC = working capital as (current assets - cash and short-term investment) - (current liabilities - debt in current liability).

SALES = sales.

DEP = depreciation.

GPPE = gross property plant equipment / total assets t-1.

ASSET = total assets.

Hypotheses are tested with the Regression model in equation (2):

$$EM = \beta_1 FemaleBoD + \beta_2 EducationBoD + \beta_3 ExpertiseBoD + \beta_4 FemaleBSA + \beta_5 DiligenceBSA + \beta_6 ExpertiseBSA + \beta_7 Year + \beta_8 Loss + \beta_9 Size + \beta_{10} Leverage + \beta_{11} SalesGrowth \quad (2)$$

Following previous academics work we consider Female BoD as the percentage of female on BoD (see Appendix 1). We divided the education of BoD members into four levels: 1 = high school; 2 = bachelor or master degree; 3 = MBA or other Masters; 4 = PhD (Hillman et al., 2002; Jehn and Bezrukova, 2004; Singh et al., 2008; Nekhili and Gatfaoui, 2013). We take the average education level of BoD as final proxy of education (Herrmann and Datta, 2005; Qi and Tian, 2012). Expertise BoD takes value 1 if at least one member of the BoD has the CPA (Certificate Public Accountant) (Lin et al., 2006; Carcello et al., 2006). The variable Female BSA is the percentage of female on BSA (Thiruvadi and Huang, 2011; Sun et al., 2011; Qi and Tian, 2012). Inspired by the study of Srinidhi et al. (2011), where the percentage of meetings is the fraction of directors who have attended over 75 percent of meetings, we define the variable Diligence BSA equal to 1 if the majority of BSA members attend the meetings during the year, 0 otherwise. Expertise BSA takes the value 1 if at least one member of the BSA is, not only expert in finance, accounting or law (Carcello et al., 2006; Lin et al., 2006; Abbott et al., 2012) but also is an academic professor.

We control for SIZE that is the natural logarithm of total assets for firm i in year t (Francis

and Wang, 2008; Campbell and Vera, 2008; Campbell and Vera, 2010; Barua et al., 2010; Peni and Vahamaa, 2010; Sun et al., 2011; Gul et al., 2013; Arun et al., 2015; Kyaw et al., 2015). LEV is total assets scaled by total equity at the end of the fiscal year (Carcello et al., 2006; Campbell and Vera, 2008; Campbell and Vera, 2010; Peni and Vahamaa, 2010; Qi and Tian, 2012; Arun et al., 2015; Kyaw et al., 2015). GSALES is (revenue at time t - revenue at time t-1) revenues at time t scaled by revenues at time t-1 (Francis and Wang, 2008; Barua et al., 2010; Peni and Vahamaa, 2010; Sun et al., 2011; Qi and Tian, 2012, Arun et al., 2015). LOSS is a dummy variable equal to 1 if firm i reported negative net income in year t, and 0 otherwise (Francis and Wang, 2008; Peni and Vahamaa, 2010; Qi and Tian, 2012, Gul et al., 2013; Arun et al., 2015).

#### 5. SAMPLE

In the sample, we randomly select 121 non-financial companies listed on the Milan Stock Exchange as of 6 February 2017 (unbalanced sample). Our analysis considers the periods 2008, 2011 and 2016. We start with the whole population of Italian listed companies and exclude financial companies, banks and insurance companies due to their particular

activity and regulation. We consider only companies that are listed during the whole years of analysis (2008, 2011 and 2016) and we also have kept out companies for which, even only in some period, we have missing corporate governance data. Definitively, we have 223 observations for the BoD and 224 observations for the BSA.

The particular years considered in our analyses have been suggested by a provision of the Italian Civil code that imposes that members of both boards are appointed for three years; for this reason we collect data for the years 2008, 2011 and 2016 in order to capture the changes in the management and investigate possible changes in EM practices. Moreover, during the year 2012, listed companies are forced to appoint members based on the Italian Gender Quota (Law 120/2011), thus we investigate if and how the presence of women is associated with the earnings management.

We hand-collected data about BoD and BSA member's characteristics from the Corporate

Governance Reports and from directors' curricula. We obtain financial data from the Aida Bureau Van Dijk database and from financial reports.

Table 1 displays the descriptive statistics. The mean of Earnings management is -0.182. The average proportion of female directors within the BoD is 0.157 while the average proportion of female within the BSA is 0.161; the proportion is quite low, in fact as we said before the Law requires a certain percentage of female on board from the year 2012. Education on average is 1.659 indicating that most of the members on the board have a bachelor or master degree. The expertise of BoD is 0.566 indicating that half of the firms in our sample have at least one professional accountant on their board. Most of the directors attend all the BSA meetings as the variable Diligence BSA indicates 0.778. Less than half of the firms in our sample have at least one director who is not only accountant or lawyer but also an academic professor; the average of Expertise BSA is indeed 0.373.

Table 1. Descriptive statistics

<i>Dependent variables</i>	<i>Mean</i>	<i>25% Percentile</i>	<i>Median</i>	<i>75% Percentile</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
EM	-0.182	-0.288	-0.131	-0.023	0.363	-3.293	0.688
<i>Independent variables</i>	<i>Mean</i>	<i>25% Percentile</i>	<i>Median</i>	<i>75% Percentile</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
FemaleBoD	0.157	0.000	0.143	0.273	0.1444	0.000	0.556
EducationBoD	1.659	1.500	1.750	2.000	0.477	0.000	2.667
ExpertiseBoD	0.566	0.000	1.000	1.000	0.496	0.000	1.000
FemaleBSA	0.161	0.000	0.000	0.333	0.187	0.000	0.667
DiligenceBSA	0.778	1.000	1.000	1.000	0.416	0.000	1.000
ExpertiseBSA	0.373	0.000	0.000	1.000	0.484	0.000	1.000
<i>Control variables</i>	<i>Mean</i>	<i>25% Percentile</i>	<i>Median</i>	<i>75% Percentile</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
YEAR	2011	2008	2011	2016	3.288	2008	2016
LOSS <sub><i>t</i></sub>	0.282	0.000	0.000	1.000	0.451	0.000	1.000
SIZE <sub><i>t</i></sub>	12.683	11.633	12.442	13.608	1.742	3.526	18.301
LEV <sub><i>t</i></sub>	2.866	1.608	2.212	3.070	6.588	-67.461	77.220
GSALES <sub><i>t</i></sub>	4.943	-0.214	0.015	0.174	55.981	-19.393	804.445

Table 2 illustrates the univariate correlation between variables. The expertise of BoD members is positively correlated with the level of education on BoD; female on BSA is negatively correlated with the earnings management as expected and positively

correlated with the level of education on BoD and expertise of BoD members. VIF is well below 5, so we conclude that there are no problems of multicollinearity.

Table 2. Pearson correlation matrix

		1	2	3	4	5	6	7	8	9	10	11	12
1	EM	<b>1.000</b>											
2	FemaleBoD	-0.018	<b>1.000</b>										
3	EducationBoD	-0.049	0.056	<b>1.000</b>									
4	ExpertiseBoD	0.119	0.032	<b>0.213</b>	<b>1.000</b>								
5	FemaleBSA	<b>-0.134</b>	<b>0.550</b>	0.064	<b>0.022</b>	<b>1.000</b>							
6	DiligenceBSA	-0.043	-0.125	0.081	0.001	0.048	<b>1.000</b>						
7	ExpertiseBSA	-0.088	0.109	0.062	0.058	0.024	-0.020	<b>1.000</b>					
8	YEAR	0.012	<b>0.728</b>	<b>0.168</b>	0.049	<b>0.602</b>	-0.009	0.103	<b>1.000</b>				
9	LOSS	0.051	0.023	<b>-0.148</b>	0.003	0.0035	-0.111	-0.042	-0.018	<b>1.000</b>			
10	SIZE	0.076	<b>-0.116</b>	<b>0.143</b>	0.086	-0.092	-0.039	<b>0.253</b>	0.001	<b>-0.234</b>	<b>1.000</b>		
11	LEV	0.062	0.062	0.080	0.050	0.036	-0.041	0.088	0.029	0.043	0.033	<b>1.000</b>	
12	GSALES	0.033	-0.044	-0.031	-0.033	-0.062	-0.067	-0.063	-0.056	<b>0.123</b>	-0.000	-0.019	<b>1.000</b>

## 6. RESULTS

Table 3 presents the results of the first hypothesis on the relationship between BoD diversity and EM. First, we regress EM and BoD diversity and, even though we expected a negative and a significant association between the presence of female on board, the level of education and EM, we find

negative coefficients but not statistically significant. The expertise of BoD directors is significant and positive (coefficient = 0.058), indicating that, boards where at least one member is a professional accountant, appear more related to EM. This unexpected result could be explained through the majors financial and accounting skills of managers.

**Table 3.** Regression on earnings management and BoD diversity variables

Variables	Coef.	Std. Err.	t	P-value	95% Conf.	Interval
Intercept	-9.441	23.445	-0.400	0.688	-55.655	36.772
FemaleBoD	-0.090	0.242	-0.370	0.710	-0.568	0.387
EducationBoD	-0.068	0.053	-1.290	0.199	-0.173	0.036
ExpertiseBoD	0.096	0.050	1.900	0.058	-0.003	0.196
YEAR	0.004	0.011	0.390	0.700	-0.018	0.027
LOSS	0.044	0.057	0.770	0.444	-0.069	0.157
SIZE	0.017	0.015	1.190	0.236	-0.011	0.047
LEV	0.002	0.003	0.880	0.382	-0.003	0.009
GSALES	0.000	0.000	0.270	0.788	-0.001	0.001
N	223					
R <sup>2</sup>	0.04					

Table 4 shows findings related to the second hypothesis on BSA diversity and EM. The presence of female on board is negatively and significantly associated with EM (coefficient = -0.359; p-value = 0.024) confirming our hypothesis. This first result confirms what has been finding in literature; women are ethical and are less tolerant to opportunistic behavior (Thorne et al., 2003; Brown et al., 2002; Thiruvadi and Huang, 2011; Barua et al., 2010; Krishnan and Parsons, 2008; Kyaw et al., 2015).

Another interesting result shows that the variable Expertise on BSA is negative related to EM (coefficient = -0.101; p-value = 0.055) meaning that, BSA directors who are not only financial experts, accountant or lawyer but also academic professors, curb EM. Though the coefficient of Diligence BSA is negative but the variable is not statistically significant we cannot conclude any relation between the diligence on BSA and EM.

**Table 4.** Regression on earnings management and BSA diversity variables

Variables	Coef.	Std. Err.	t	P>t	95%Conf.	Interval
Intercept	-23.005	20.857	-1.100	0.271	-64.116	18.105
FemaleBSA	-0.359	0.157	-2.280	0.024	-0.670	-0.048
DiligenceBSA	-0.015	0.058	-0.270	0.791	-0.131	0.100
ExpertiseBSA	-0.101	0.052	-1.930	0.055	-0.204	0.002
YEAR	0.011	0.010	1.080	0.281	-0.009	0.0317
LOSS	0.067	0.057	1.190	0.237	-0.044	0.180
SIZE	0.022	0.015	1.460	0.146	-0.007	0.053
LEV	0.003	0.003	1.050	0.293	-0.002	0.009
GSALES	6.26E-05	0.000	0.100	0.923	-0.001	0.001
N	224					
R <sup>2</sup>	0.05					

## 7. DISCUSSION AND CONCLUSION

Inspiring by the Italian context and its peculiarities, we focus our analysis on some characteristics of diversity within governance boards (BoD and BSA), in a sample of listed companies for the years 2008, 2011 and 2016.

Many studies have analysed characteristics of diversity within boards of administration and control from a different perspective but the results are different and, sometimes, in conflict. Numerous researches have investigated the association between diversity on board and firm performances, focusing in particular on the board of management like a board of directors (Terjesen et al., 2016; Reguera-Alvarado et al., 2017). Despite BoD has been properly investigated in the literature, few studies focus their attention on monitoring boards. Thus, our study attempts to feel the gap existing in the literature, both through an analysis on unexplored characteristics of diversity and also considering the peculiar Italian control committee (BSA). It is interesting to notice a negative association between EM and two proxies of diversity within the BSA: the presence of female and the expertise. This means that having female members and academic professors in the BSA help in reducing EM behaviours.

Our findings are relevant for investors, both controlling and minority shareholders, who should

pay attention to the specific characteristics of managers and spend more time to the appointment phase. This could help them to reduce the agency conflict and better safeguard their own interests, avoiding earnings manipulation.

Our research is not exempted from limitations. The sample includes only one country, i.e., Italy, reducing the generalizability of our results, even though they are meaningful for the reasons explained before. We measure EM following the Francis and Wang (2008) model; the same research questions could be investigated using other EM models to compare different results. Finally, some diversity variables could be measured otherwise (e.g ExpertiseBSA and ExpertiseBoD).

Considering the crucial role of monitoring boards for the corporate governance system, an interesting further analysis could take into account diversity of the Internal Control Committee. Moreover, since the Law 120/2011 is still in place, some studies could monitor how boards change across a wider period of time. We think this study can inspire research on corporate governance and diversity in other countries due to the importance of the topic worldwide, also with a cross-country analysis between nations with the different corporate governance structure. Furthermore, an interesting further step could study diversity and its contribution to the effectiveness of corporate governance.

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**Appendix 1. Variable definitions**

<i>Dependent Variables</i>	
EM	Francis and Wang (2008) model = signed abnormal accruals measured as follow Abnormal accruals EMT = $(ACt - [WCt-1/SALESt-1 *SALESt + DEP t-1/GPPE t-1*GPPE t]) / ASSETt-1$ where, ACC = (earnings before extraordinary items - cash flow from operation) / total assets WC = working capital as (current assets - cash and short term investment) - (current liabilities - debt in current liability) SALES = sales DEP = depreciation GPPE = gross property plant equipment / total assets t-1 ASSET = total assets
<i>Independent Variables</i>	
Female BoD	% of female on Board of Directors (Peterson and Philpot, 2007; Campbell and Vera, 2008; Huse et al., 2009; Adams and Ferreira, 2009; Bear et al., 2010; Campbell and Vera, 2010; Nielsen and Huse, 2010; Thiruvadi and Huang, 2011; Ahern and Dittmar, 2012; Qi and Tian, 2012; Larkin et al., 2013; Wang and Kelan, 2013; Bianco et al., 2015; Kyaw et al., 2015).
EducatorBoD	The education level of Board of Directors as the average education (Herrmann and Datta, 2005; Qi and Tian, 2012).
ExpertiseBoD	1 if the firm has at least one accounting financial expert on the Board of Directors, 0 otherwise (Carcello et al., 2006; Lin et al., 2006).
Female BSA	% of female on the Board of Statutory Auditor (Thiruvadi and Huang, 2011; Sun et al., 2011; Qi and Tian, 2012).
DiligenceBSA	1 if the majority of the Board of Statutory Auditor members attend the meetings during the year, 0 otherwise (Srinidhi et al., 2011).
ExpertiseBSA	1 if at least one member of the Board of Statutory Auditor is, not only expert in Finance, accounting or law, (Carcello et al., 2006; Lin et al., 2006; Abbott et al., 2012) but also is an academic professor.
<i>Control variables</i>	
YEAR	2008, 2011, 2016
SIZE <sub>it</sub>	The natural logarithm of total assets at the end of the fiscal year (Francis and Wang, 2008; Campbell and Vera, 2008; Campbell and Vera, 2010; Barua et al., 2010; Peni and Vahamaa, 2010; Sun et al., 2011; Gul et al., 2013; Arun et al., 2015; Kyaw et al., 2015).
LEV <sub>it</sub>	Total assets scaled by total equity at the end of the fiscal year (Carcello et al., 2006; Campbell and Vera, 2008; Campbell and Vera, 2010; Peni and Vahamaa, 2010; Qi and Tian, 2012; Arun et al., 2015; Kyaw et al., 2015).
GSALES <sub>it</sub>	(Revenues t - Revenues t-1) scaled by revenues t-1 (Francis and Wang, 2008; Barua et al., 2010; Peni and Vahamaa, 2010; Sun et al., 2011; Qi and Tian, 2012, Arun et al., 2015).
LOSS <sub>it</sub>	1 if firm i reported negative net income in year t, 0 otherwise (Francis and Wang, 2008; Peni and Vahamaa, 2010; Qi and Tian, 2012, Gul et al., 2013; Arun et al., 2015).