

# Gender Diversity in Corporate Governance and its Effect on Financial Performance

A Study on FTSE-MIB Listed Companies

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**Abstract** 

I examine the presence of women in Italian corporate boards after the inception of the Act

120/2011 by the Italian Government. I considered all the directors of the 40 companies listed

in the FTSE - MIB index in 2015 and analyze the implications of gender diversity in

corporate boards. Furthermore I study the correlation between gender diversity and financial

performance. Different conclusions can be extrapolated from my analysis.

My study shows a statistical significance between the presence of female directors in a

company and its Return on Asset (ROA) in two different periods.

The analysis led to the existence of a statistical significance between ROE and the percentage

of female directors in administration boards.

Finally I did not find any significant relation between Profit Margin and a diverse boards.

Keyword: Corporate Governance, Performance, Gender Diversity, Correlation

#### Introduction

Despite the introduction of the EU regulation on gender diversity in corporate boards, women still detain only a minority of corporate seats. According to Eurostat, in 2015 women held the 18.1% board seats in Europe. In the last decade, European governments have been doing a great effort to increase female participation to corporate governance; this influence is driven by the solid commitment to diminish gender gaps and by the most modern theories in the corporate governance literature suggesting that diverse boards might be more effective.

Usually the board of directors acts as an advisor for the managers and as a monitor who represents shareholder interests. These two roles found their roots in the agency theory which investigate how to have a board of directors that pursue the interests of the shareholder rather than their own.

According to corporate governance theories a more diverse board allows to control better the activities of executive directors with the purpose of protecting shareholders interests. This theory found its root on the fact that people with a different gender or a diverse backgrounds offer an alternative point of view to board oversight (Anderson, 2009; Adams and Funk, 2010). Furthermore, according to Adams and Ferreira (2009) women may boost the independence of thought of the board.

In modern corporate governance, directors offer a primary contribution to their company; first of all they represent the firm entertaining relationship with the external environment. Thus, a larger diversity in corporate boards guarantees a stronger approach to problem solving, a faster generation of ideas and a more qualified counselling activity to managers. Another important aspect related to the presence of women in corporate boards, concerns the fact that they may have better approach handling conflict of interests.

Without any doubt, gender diversity on corporate boards has a better influence on companies' approach to stakeholder interests. Many of the researches conducted in the last decade put their attention on the relationship between gender diversity and financial performances. In particular, Erhardt and Carter (2003) found a very strict connection between diversity and financial performance; they argue that gender diversity has a positive impact on the performance of big companies. In the last decade many authors tried to explain how gender diversity may have an impact on ROE, ROA and Profit Margin.

Korad Kakabadse claims that a diverse board is able to carry out its function in a more efficient way; he also consider that positive economic performances are strictly related to a more efficient corporate board.

The contribution of gender diversity in corporate boards has a direct impact on two different aspects. First of all it enhances the supervision of the actions of the board; then it also facilitates manager to implement directors' recommendations.

The first country introducing gender quotas was Norway, which imposed the presence of 40% of women in each corporate board. On the path Scandinavian countries, gender diversity has been debated by all the European governments which eventually introduced mandatory quotas for the executive boards in their countries. Table 1 reports the current regulation on gender quotas across many of the EU members.

Lately, Italian Government introduced with Act 120/2011 a one-third gender quota basing its quotas regulations on the principles of equality, fairness and social inclusion.

Nevertheless, many practitioners argue that constraining board structure could influence companies' efficiency restraining their ability to select a candidate that fit better their preferences.

On the other hand scholars' opinion supports the fact that if companies structure their boards with the only purpose to increase their value, then the regulatory constraint would not have any harmful effect. Furthermore, if boards are structured with the only purpose to increase the private benefits of the directors, then the regulation on gender diversity would act as a guarantor of shareholders' interests.

However a recent study published by Ahern and Dittmar in 2010 defends the hypothesis that the gender quota regulation may be harmful for the companies without any woman in their board. This may derive from the fact that a sudden radical change in the board of directors could have a negative impact on its decision making, its policies and the definition of its goals and priorities.

In my research I decided to focus only on the Italian boards of the FTSE-MIB listed companies. In Italy, the participation of females in labor market appears very weak. According to the Gender Diversity Index, between 2011 and 2015, Italy ranked in a very low position compared the other countries of the European Union; this is mainly due to the size of its gender inequality gap. Italy also shows one of the smallest percentage rates of women employed by private enterprises with only Russia, China, Turkey and Hungary ranking lower. Unfortunately, Italian poor performances do not only depend from the scarce female participation to the labour markets; it also depend from the function that women are carrying out, which frequently coincide with back or middle office positions.

My research considers all the 981 executives of the FTSE – MIB listed firms at the end of 2015; it also studies the most important peculiarities of female executives and the potential implication of having diversity in corporate boards. During my analysis I decided to take into consideration also the existence of a possible relationship between women directors and the controlling shareholder.

Moreover, I look at the correlation between female directorship and some performance measures, in order to get some insights on the possible effects of gender diversity.

In Italy female directors are still gold dust, but since the end of 2010 we assisted to a slow growth (Table 2) in their number.

During the analysis of the relationship between female directors and the controlling shareholders, it emerged that the presence of women is often justified by a family connection within the company. I discovered that in the 63% of the companies with gender diversity in their boards all the female directors have a familiar link with the controlling shareholder or with at least one of the executive directors.

Another curious aspect concern the fact that almost the 20% of the female directors are independent director; on the other hand almost the 50% of women are non-executive directors, while only the last 30% of them hold an executive role. In most of the cases it happens to find executive and non-executive roles filled by women with family connections; while all the others hold positions as independent directors.

However, It is important to recognize that it is more likely to find women without any family connection in those companies with a younger and higher educated boards which also have a larger number of independent director and a very small number of family-linked directors. Lastly, according to the research conducted by Banca d'Italia, most of the companies with a diverse board are more likely to attract institutional investors.

#### The effect of a diverse board

During the last decades, scholars have debated on the importance of board diversity and its effect within the corporate environment. They appointed mainly to two kinds of diversity:

I) Diversity in responsibility implies the presence of non-executive seats in order to guarantee the independence of the board. The main purpose is to act in the interest of the shareholders protecting them from a possible opportunistic behavior of the board directors.

II) Diversity in professional background, skills and gender in order to cultivate a wide range of demographic attributes and characteristic in the boardroom. For instance, a shared measure to promote board diversity, is to increase female participation to corporate governance.

A more effective decision making can be seen as one of the most important benefit deriving from board diversity. Enhancing the spectrum of perspectives avoids the risk of "groupthink"; in fact the combination of contributions of people with different background and skills helps dealing with problems with a more critical approach raising challenging questions; furthermore, diversified board members are more likely to own different characteristics which drive to a different thinking and a different approach to leadership. According to this, from a more developed multiple-perspective analysis derives a higher quality decision making process. Board diversity can enhance the orientation of the company toward its stakeholders; which has a vital importance especially for customer facing industries. For instance, Gender diversity in corporate boards improve the understanding of stakeholder necessities.

#### **Peculiarities of Italian Boards**

Italian polity contemplate three different board structures:

- I) The first one can be defined as a "classical" model comprising of two boards. The first one is the board of directors which is in charge of taking decision and structure the strategy to accomplish with the goals of the company. The second board is named "collegio sindacale" and holds a monitory function on the action of the board of directors. Both the boards are elected by the shareholders' meeting.
- II) The second structure is called dualistic model. In this case shareholders have the only obligation to elect a supervisory board during the shareholders' meeting. After that, the supervisory board will appoint the management board. It is important to specify that the supervisory board does not detain any executive power.
- III) The last model, which is called "monistico", has a board of directors which is elected by shareholders. The peculiarity of this model is the presence of a management control committee composed by non-executive directors of the board.

The classical approach is considered the most used governance model in Italy; in fact there is a very small evidence of listed companies within the FTSE-MIB who have adopted the dualistic or the monistic models.

In general directors have a mandate valid for three years. Despite this common orientation, some companies appoint directors for a shorter time period. Scholars confirmed that shorter mandate do not encourage the stability of companies' strategies and purposes.

Another peculiarity of the recent legislation concerns the board composition and its monitoring role; for this purpose Act 120/2011 establish as constrain the presence of a minimum quota of independent directors. According to Italian regulation, each board counting of more than seven members has to have at least an independent director.

Furthermore, after the Parmalat and Cirio scandals of 2003, Italian regulator has imposed substantial modification to the law concerning the voting mechanism; according to the new regulation at least one of the member of the corporate board has to be elected by minority shareholders.

The main purpose of the new regulation is to enhance the capacity of external shareholders to control the managing shareholders electing a member on their own.

As already discussed, the main purpose of Act 120/2011 is to impose a gender quota for all Italian listed companies. Considering the scarce women representation in company boards the regulator decided to impose a minimum quota of one-third of board sits reserved to women. The new regulation became applicable from April 2012. Italian corporate boards of the FTSE – MIB listed companies count on average of 25 directors; the 25% of the board is composed by the executive directors (Including the CEO); on the other hand the independent non-executive directors only account for the 30% of the board.

It is important to specify that after the introduction of Act120/2011 the nomination of minority independent directors is growing. Minority independent director are more likely to be present in large companies, where there is a more equal distribution of the ownership among shareholders.

As shown in Table 2 the number of women in corporate boards has been growing between 2010 and 2015; after five years the percentage rate of representation of female director growth by 388%.

# **Data and Methodology**

The sample used during my study considers all the companies listed under the FTSE-MIB Index and all their directors between 2012 and 2015. The sample is composed by 1,081 directors divided per sex from 40 different companies. Starting from this I also built a dataset containing all the most relevant companies' financial performance indexes. All the data derive from Morning Star and Bloomberg databases. In Table 3 I describe the theory behind all the variables taken into consideration in my econometric model. On the other hand, Table 4 contain all the most relevant statistics concerning the variable in my sample. In 2015 only the 35% of the boards of directors of the sample were meeting the 1/3 of women representation imposed by Act 120/2011. According to this we can argue that most of the corporate boards are lead by males. Unfortunately, the data revealing female participation in Italian corporate governance are not even close to those calculated in the US where on average one out of three directors is a woman. The most comforting data regarding female participation derive from Scandinavia where on average one out of two directors is a woman. Another curious aspect of Italian boards is that most of the women participating to corporate governance family connection with the majority shareholder. A more detailed approach suggests that in the 65% of diverse boards, all the female directors have family connections while in another 7% there is at least one family connected female. According to this we can argue that the 72% of female composing my sample have family connection. As already said family connected women have a bigger number of board sits than non-connected women. Furthermore in 40% of the cases, female directors with a family connection hold an executive role.

On the other hand, the remaining non-connected women hold a sits as independent directors holding only in the 25% of the cases an executive role.

According to all of this, I decided to study the effects and the drivers of gender diversity in Italian corporate boards. The purpose of my study is to find the existence of a possible relation between gender diversity and financial performance. In detail, I decided to analyze the existence of any possible connection between gender diversity in corporate board and financial performances. My research take in consideration the following variables: Return on Equity (ROE), the Return on Assets (ROA), the Profit Margin (PM) and the percentage of women present in each corporate board (%WD).

# Definition of variables, econometric models and hypothesis

The econometric theory used to support this thesis is based on three different regressive models:

(1) 
$$ROA_t = \beta_0 + \beta_1(\%FD)_t + \varepsilon_t$$

(2) 
$$ROE_t = \beta_0 + \beta_1 (\%FD)_t + \varepsilon_t$$

(3) 
$$PM_t = \beta_0 + \beta_1 (\%FD)_t + \varepsilon_t$$

 $\beta_0$ : Costant  $\beta_1$ : Vector of parameter to be estimated  $\epsilon$ : Random error component

**ROA:** Return on assets is an indicator of how profitable a company is relative to its total assets.

$$ROA = \frac{Net\ Income}{Total\ Assets}$$

**ROE:** Return on equity is the amount of net income returned as a percentage of shareholder equity.

$$ROE = \frac{Net\ Income}{Equity}$$

**PM:** Profit Margin is a profitability ratio calculated as Net Income divided by Total Revenues.

$$PM = \frac{Net\ Income}{Total\ Revenue}$$

**%FD:** it's a variable which measures in percentage terms the number of female directors in a board.

I conducted a time based analysis running the same regressions referring to two different time periods. The first time period collects all the data in 2012, while the second one considers all the data between 2013 and 2015.

For 2012 I used an OLS model in order to test whether or not a diverse boards lead to strong financial performances. For the second period, going from 2013 to 2015, my analysis has been conducted using a panel data approach using OLS. The sample includes all the companies listed under the FTSE-MIB Index and the members of their board of directors for the period 2013-2015.

The purpose of this approach is to understand both the short-term and the long-term effect of the regulation on gender quotas. The initial sample consists of an unbalanced panel of 1,081 director-level observations from 40 companies. All the data have been sourced using Bloomberg and Morningstar databases. Then I proceeded defining the Hypothesis of my research:

**Null Hypothesis H\_0:** The number of female directors in corporate boards have an effects on corporate performance.

Alternative Hypothesis  $H_1$ : There is no correlation between gender diversity and corporate performance.

# **Empirical Results (2012)**

The results of the first regression model (1) are shown in table 5. According to my analysis there is a statistical significance of %WD on Return on Asset (ROA).

The correlation matrix between %WD and ROA shows a large correlation index ( $\rho$ =0.63); Furthermore the result of the t-test leads to a p-value smaller than  $\alpha$  (at 5% level of confidence) which implies that the dependent variable (%WD) is statistically significant. The estimated coefficient ( $\beta_1$ ) also describes a positive impact of female directors on return on assets (ROA). Nevertheless, we should consider that my analysis concerns a small segment of listed companies and its results may not be extended to a wider number of companies. Furthermore the literature considered to support my thesis states that a larger number of women in administration boards leads to solid financial performances.

The second regression (2) study the relation between %WD and ROE and its results are shown in table 6. My empirical analysis shows the existence of statistical significance of %WD on ROE. These results confirmed in part the studies of Erhardt and Carter 2003, who assume that the regulation has a negative impact on ROE. The correlation matrix between ROE and %WD shows a large correlation index ( $\rho$ = -0.78); Also in this case the result of the t-test leads to a p-value smaller than  $\alpha$  (at 5% level of confidence) which implies that the dependent variable (%WD) is statistically significant. In this case, the estimated coefficient ( $\beta$ 1) describes a negative impact of female directors on return on assets (ROE). According to my research this is true only for the immediate period after the introduction of the regulation (data referring to 2012). The last regression (3) studies the relation between %WD and PM and its results are shown in table 7. In this case I did not find any statistical significance of %WD on Profit Margin (PM); furthermore, the correlation matrix between %WD and PM shows the absence of any correlation between these two variables.

# **Empirical Results (2013-2015)**

Since the second period studied considers a set of panel data referring to 2013-2015, I used a standard fixed effect model with least square.

The results of the first regression model (1) are shown in table 8. Also in this case there is a statistical significance of %WD on Return on Asset (ROA).

The correlation matrix between %WD and ROA shows again large correlation index ( $\rho$ =0.54); Furthermore the result of the t-test leads to a p-value smaller than  $\alpha$  (at 5% level of confidence) which implies that the dependent variable (%WD) is statistically significant. The estimated coefficient ( $\beta_1$ ) also describes a positive impact of female directors on return on assets (ROA).

The long-term analysis of the second regression (2) shows a surprising result (table 9). Again there is y a statistical significance of %WD on ROE but in this case there is a positive correlation between the two variables. This is confirmed by the correlation matrix between ROE and %WD shows a large correlation index ( $\rho$ =0.62). Also in this case the result of the t-test leads to a p-value smaller than  $\alpha$  (at 5% level of confidence) which implies that the dependent variable (%WD) is statistically significant.

However, the estimated coefficient ( $\beta_1$ ) describes a positive impact of female directors on return on assets (ROE). According to this, we can state that in the long-term the percentage of female directors influences positively the return on equity.

Also in the long-term the results of the third regression show the absence of a statistical significance of %WD on Profit Margin (PM); again, the correlation matrix between %WD and PM shows the absence of any correlation between these two variables.

#### **Conclusions**

The average gender diverse representation for the companies within my sample is 26.9% (3.1% lower than the threshold of 30% defined by law 120/2011). Unfortunately, only the 35% of the companies listed in the FTSE – MIB index meet the requirements of act 120/2011, which want the corporate boards to show a gender diversity ratio greater than 30%. I notice that in most of the diverse boards at least one of the women has a family connection with the major shareholder; furthermore, family connected females are more likely to be found in family managed companies. From my study emerges that the presence of women in Italian corporate boards still regards a small percentage of companies (mainly the bigger ones). Concerning the impact of the presence of women in Italian boards my analysis substain that a greater number of women in corporate boards is associated with stronger financial performance in the long-term. Within the companies listed in the FTSE – MIB selected during the period 2012-2015, the empirical results of the models presented above show that the presence of female directors in administration boards may lead to positive financial performances in the long-term. This hypothesis has been confirmed by the results of the ROE and ROA regression models. Also in the short-term the presence of female directors in administration boards has a positive effect on ROA. On the other hand, I found a inverse correlation between ROE and the presence of female directors for the first year after the introduction of the regulation; the causality of this negative relationship has not been studied in my analysis but may find confirmation as the effect of a radical change in the decision making of the board and in its business orientation.

# Appendix

TABLE 1

Country	Applicable Law			
Spain	The law requires a 40% gender quota in board of directors.			
France	The law requires a 40% gender quota for larger companies.			
United Kingdom	Absence of specific legislation on gender quota.			
Italy	The law requires a one-third gender quota for listed and state-owned firms.			
Germany	The issue of gender quota is still being discussed.			
Netherland	Minimum representation of 30% of each gender in large companies (>250 employees).			
Belgium	Law imposes at least 1/3 of each gender in management boards of state and listed companies.			
Norway	All public limited firms are required to have at least 40% female directors.			
Finland	A 40% gender quota is required for wholly state-owned companies			
Sweden  The issue of gender quota is statement of discussed.				

TABLE 1 – Gender quotas regulations in EU

TABLE 2

	2010	2011	2012	2013	2014	2015
# Total Directors	961	944	1013	972	956	981
# Women Directors	66	70	219	210	231	259
% Female Directors	6.8%	7.4%	16.7%	21.6%	24.2%	26.4%

TABLE 2 - Female representation in corporate boards for Italian listed companies in 2004-2011

TABLE 3

	Description
%WD	Percentage of female directors per year in each administration board.
ROA	Return on Assets is a financial performance measure defined as the ratio between Net Income and Total Assets.
ROE	Return on Assets is a financial performance measure defined as the ratio between Net Income and Total Assets.
PM	Ratio between Net Income and Total Revenues

**TABLE 3 – Variable Description** 

**TABLE 4** 

	Observations	Mean	St. Deviation	Variance	Skewness	Kurtosis
%WD	40	26.9	0.09	0.08	0.0	2.8
ROA	40	2.5	2.36	5.57	0.3	1.9
ROE	40	4.4	1.62	2.62	0.1	3.1
PM	40	7.4	2.05	4.20	0.6	1.4

TABLE 4 – Most Relevant Statistics

# **TABLE 5**

	Coefficient	St. Error	t	p-value	[95% Con	f. Interval]	$\mathbb{R}^2$
ROA	0.04658	0.0028	16.23	0.000	0.0409066	0.0522576	0.6784

TABLE 5 – Regression (1) results 2012

# **TABLE 6**

	Coefficient	St. Error	t	p-value	[95% Con	f. Interval]	$\mathbb{R}^2$
ROE	-0.65632	0.0731	5.46	0.000	2.1405091	3.0756172	0.5901

**TABLE 6 – Regression (2) results 2012** 

# **TABLE 7**

	Coefficient	St. Error	t	p-value	[95% Conf	f. Interval]	$\mathbb{R}^2$
PM	0.72669	0.0182265	-0.36	0.719	-0.426096	0.294832	0.1377

TABLE 7 – Regression (3) results 2012

# **TABLE 8**

	Coefficient	St. Error	t	p-value	[95% Con	f. Interval]	$\mathbb{R}^2$
ROA	0.27120	0.0551	8.11	0.000	0.0313067	0.0993057	0.6531

TABLE 8 – Regression (1) results 2013-2015

TABLE 9

	Coefficient	St. Error	t	p-value	[95% Con	f. Interval]	$\mathbb{R}^2$
ROE	0.12315	0.121	7.12	0.000	2.1405091	3.0756172	0.5817

TABLE 9 – Regression (2) results 2013-2015

# TABLE 10

	St. Error	t	p-value	[95% Conf. Interval]		$\mathbb{R}^2$
PM	1.30398	-0.97	0.638	-1.416346	1.532173	0.1926

TABLE 10 – Regression (3) results 2013-2015

# **Bibliography**

A. Agrawal, C. K. (2001). Do Some Outside Directors Play a Political Role?

A. Hillman. (2002). Women and racial minorities in the boardroom: How do directors differ?

A. Miller, D. M. (2010). A female style in Corporate Leadership? Evidence from Quotas.

A.Gompers, A. M. (n.d.). *Corporate Governance and Equity Prices.* 

Assonime. (2011). An analysis of the compliance with the Italian corporate governance code.

Assonime. (2012). La corporate governance in Italia: autodisciplina e operazioni con parti correlate.

Assonime. (2014). XIV Rapporto sulla corporate governance in Italia.

B. Elstadt, G. L. (2010). Women on Corporate Boards: Key Influencers or Tokens?

B. Hermalin, M. W. (2003). Boards of Directors as an Endogenously Determined Institution:

A Survey of the Economic Literature.

Catalyst. (2010). Women on Boards.

Consob. (2014). Relazione per l'anno 2014.

D. Rhode, A. P. (2010). Diversity on Corporate Boards: How much difference does difference make?

Dittmar, K. A. (2010). The Changing of the Boards: the Value Effect of a Massive Exogenous Shock.

Funk, P. (2010). Beyond the Glass Ceiling: Does Gender Matter?

Guest, P. (2009). The Impact of Board Size on Firm Performance: Evidence from the UK.

J. Coles, L. D. (2008). Boards: Does one size fit all?

Litch A.N., S. L. (2010). Shareholders and Stakeholders: How Do Directors Decide?

- M Bianchi, M. B. (2006). *Italian Corporate Governance in the Last 15 Years:*From Pyramids to Coalitions?
- M. Bange, M. M. (n.d.). Board composition, board effectiveness, and the observed form of takeover bids.
- M. Bianchi, M. B. (2008). The Evolution of Ownership and Control Structure in Italy in the last 15 years.
- M. Gamba, A. G. (2008). The gender dimension of business elites: Italian women directors.
- M. Konrad, V. K. (2008). Critical mass: The impact of three or more women on corporate boards,.
- M. Malik, D. W. (2014). Role Of Board Size In Corporate Governance And Firm Performance
  Applying Pareto Approach, Is It Cultural Phenomena?
- M. Nieto, R. G. (2009). *Gender diversity on European banks board of directors:*Traces of discrimination.
- Moscu, R. (2013). Does CEO Duality Really Affect Corporate Performance?
- Network, E. P. (2010). European PWN Board Women Monitor.
- Peterson, C. (2007). Women's roles on US Fortune 500 boards: Director expertise and committee membership.
- R. Adams, D. F. (2009). Women in the Boardroom and Their Impact on Governance and Performance.
- R. Anderson, D. R. (2009). The Economics of Director.
- Raheja, C. (2005). Determinants of Board Size and Composition: A Theory of Corporate Boards.
- S. Brammer, A. M. (2007). Gender and ethnic diversity among UK corporate boards.

- S. Gillan, L. S. (2000). *Corporate governance proposals and shareholder activism:*The role of institutional investors.
- S. Grat, N. J. (2010). Is there a Business Case for Female Directors?

  Evidence from the Market Reaction to All New Director Appointments.
- T. Yang, S. Z. (2014). CEO Duality and Firm Performance: Evidence from an Exogenous Shock to the Competitive Environment.

Terjesen, V. (2008). Newly appointed directors in the boardroom: How do women and men differ?

V. Singh, S. V. (2010). Women directors on top UK boards.

Vinnicombe, S. (2004). Why so few women directors in top UK boardrooms?

Evidence and theoretical explanations.