

Women on the Board: The Quota Debate

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Introduction

Viviane Reding (2012), Vice-President and Justice Commissioner of the European Commission, has provoked a huge debate in Europe. Reding proposed mandatory quotas to increase women's presence on boards. Nine European countries, led by United Kingdom, sent a letter against her statement.

In March 2011, EU Justice Commissioner Reding challenged business leaders to increase women's presence on corporate boards with the "Women on the Board Pledge for Europe" programme. This programme invited companies to voluntarily increase women's presence on boards to 30 percent by 2015 and 40 per cent by 2020 (see annex).

Her message was:

"I want to send a clear message to corporate Europe: women mean business".

It was supposed that Companies across Europe were picking up this message and deciding for themselves how to improve the gender balance, recruit more female talent and benefit from a potential source of sustainable growth.

A year later, on March 2012, the Commission presented a progress report. Women on boards increased by 1.9 percentage points¹. As compared to 0,5 year before, improvement is mainly due to those Member States where quota legislation was introduced. 11 Member States (Belgium, France, Italy, the Netherlands, Spain, Portugal, Denmark, Finland, Greece, Austria and Slovenia) and EEA member State Norway have chosen different legal solutions (including mandatory quotas) to strengthen gender equality on company boards. In most Member States that have not taken any action, female presence on company boards has stagnated or even decreased in recent years. Reding said that this propose is not only a matter of gender equality. EU legal action in this area will have significant micro- and macro-economic benefits (Reding, 2012).

Finally, in November the 14th, after weeks of arguments for and against, European Commission approved a gender quota law across the 27 member states, but it still requires approval from the European Parliament and the Council of the European Union. The law will require that women occupy at least 40 percent of the places on non-executive boards by 2020, and that women are given preference in companies where they are underrepresented if candidates' professional qualifications are the same. Both Germany and the UK have expressed opposition to a gender quota law. Today none of the 27 countries has this gender balance on boards. In Europe only Norway has more than 40 percent of women in boards' seats.

¹ Even only 24 firms had signed the pledge

In Spain the situation is similar to other countries around it; even Spain was one of the most advanced countries in Europe in its social and political commitment by equality of opportunities between women and men. Since 2006 the Spanish Stock Markets Commission obliges to firms to ...“make a conscious effort to include women with the target profile among the candidates for board places”. In 2007 the Constitutional Act 3/2007 of 22 March for Effective Equality between Women and Men calls for a balanced presence of women and men on corporate boards which is compulsory for public administrations and firms but it is only recommended for private companies to introduce affirmative actions. In 2008, first year that Spanish firms had to inform about gender issues, the number of women on boards was 6 percent and 8 percent the next year (2009), while in previous years it had remained about 3 percent.

Nowadays, more than ever, we need to demonstrate if the Viviane Reding’s message is true and “women mean business”. This paper studies the relationship between women’s presence on board and top management and the financial performance in the Spanish firms. The authors presented a similar paper in the last conference in Poland (De Luis et al, 2012) with data from 2004, before the current economical crisis and before the norms related with gender equality in Spain (Act 3/2007: CNMV, 2006). In this paper we analyse the data from 2009. The objective is double. On the one hand, we want to compare the results obtained before the law to observe the changes in Spain in these years. On the other hand we want to observe if several relationships that we observed in the past are currently maintained.

Theory and hypotheses

Research into gender balance on both board and top management positions has used two points of view: the financial and the ethical. The financial approach is the most used in order to explain the benefits that women, or at least a gender balance, would give to the firm’s performance. Different theories support this approach: agency theory (Carter *et al.*, 2003; Jurkus *et al.*, 2011), a resource-based view of the firm (Schyns and Sanders 2005), or social theories (Kent and Moss 1994; Nielsen and Huse, 2010). As for the ethical approach, gender balance on corporate boards is an important social issue related to the equality of opportunities between women and men, which has been studied by feminist theories (Ely and Padavic 2007; Cinar and Hakan 2008; Syed and Murray 2008; Dezso and Ross, 2008) and the corporate social responsibility approach (Carroll 1991). From this ethical approach, it has been examined how a firm’s gender balance behaviour is influenced by the managers’ system of values and psychology with respect to equality of opportunities and also that women are more likely to make ethical choices than men (Glover *et al.*, 2002) . Even these two approaches could be opposite; the current speech of Reding has demonstrated the contrary. Therefore, in this paper we use only theories from the financial approach hoping the ethical consideration is not forgotten.

Though even the new European law can affect only to gender balance on boards, in this paper we will also observe the situation in top management. The objective is double. On one hand, we want to compare the results obtained before the law to observe the changes in Spain in these years. On the other hand we want to observe if several relationships that we observed in the past are currently maintained, therefore we are going to propose the same hypotheses that we verified in our previous paper with data form 2004 (before the economical crisis and before the laws in Spain) and we are going to verify with data from 2009. The hypotheses are:

Hypothesis H1a: The greater the gender diversity of executive boards, the greater the firm performance

Hypothesis H1b: The greater the gender diversity of management teams, the greater the firm performance

The most important result in our previous research was the relation between both gender diversities. We observed that both gender diversities were positive related to different measures of financial performance, but these effects could not be cumulative because, according to resource-based view, perhaps these women provide similar resources and therefore their contribution is redundant and less valuable, so we propose:

Hypothesis H1c: the greater gender diversity on boards, the less positive the relationship between gender diversity on top management and financial performance, and vice versa. The greater gender diversity on top management, the less positive the relationship between gender diversity on boards and financial performance.

Finally, because there are studies that assure that financial performance could be a predictor of women on boards (Hillman *et al.*, 2007) we proposed that the presence of women on boards and top management can be explained by other variables than financial performance to avoid an endogeneity problem because of simultaneous causality (Ryan and Haslam, 2009). To chose these variables we use previous empirical studies made in Spain (Mateos *et al.*, 2010, 2011; Carrasco and Laffarga, 2007; del Brio and del Brio, 2009) and in other countries (Agrawal and Knoeber, 2001; Carter *et al.*, 2003, Hillman *et al.*, 2007) we also use studies about presence of women in Top Management (Dwyer *et al.*, 2003; Smith *et al.*, 2006; Bilimoria, 2006; Graham and Hotchkiss, 2008), so we propose:

Hypothesis H2a: The greater the board size, the greater the gender diversity on executive boards.

Hypothesis H2b: Family business helps women presence; therefore they have greater gender diversity on executive boards.

Hypothesis H2c: Firms listed on the Stock Exchange don't help women presence, so they have minor gender diversity on executive boards.

Hypothesis H3a: The greater the firm size, the greater the gender diversity on Top Management teams.

Hypothesis H3b: The greater the female segregated industry, the greater gender diversity on Top Management teams.

Hypothesis H3c: The greater the Top management team size, the greater gender diversity on Top Management teams.

Methods and measures

We used a two-stage least squares (2SLS) analysis in order to account for the possible reverse causality. A problematic causal variable is the dependent or endogenous variable whose error term is correlated with the other dependent variable error term. The problematic causal variable is replaced with the substitute variable in the first stage. Instrument variable is used to create a new variable by replacing the problematic variable. In ordinary least square method, there is a basic assumption that the value of the error terms is independent of

predictor variables. When this assumption is broken, two-stage least squares (2SLS) regression analysis helps us to solve this problem.

The variables used in the analysis are chosen in light of theoretical considerations and empirical determinants of issue. We apply a set of instrumental variables that have been proved to be useful by a large number of empirical studies.

To measure the gender diversity, we use the Blau's index (Blau, 1977). The index is constructed as:

$$D = 1 - \sum p_i^2$$

Where D is diversity and p_i is the proportion of the total population from group i. If the entire population is from a single group, D will equal zero. If we increase the number of groups, and have the extreme case of each individual belonging to his or her own unique group, D will approach 1 in value. So a higher value of D means more diversity. In our case, we have two different groups: males and females, so the maximum possible value for D will be 0.50, where each group represents 50 percent of the population.

Our empirical model can be expressed with the following two equations: for the first stage, we use the following equations:

$$BIB_t = c + b_1 BS + b_2 FB + b_3 LSM + b_4 FS + b_5 FSI + b_6 MTS + e'_t$$

$$BIM_t = c + b_1 BS + b_2 FB + b_3 LSM + b_4 FS + b_5 FSI + b_6 MTS + e'_t$$

Where BIB is Blau Index on Boards and BIM is Blau's Index managers. The instrumental variables are: Board size (BS), Family business (FB), Listed in Stock Market (LSM), Firm size² (FS), Female segregated industry (FSI) and Management Team Size (MTS). As control variable, we use the Firm Age.

For the second stage, we use the unstandardized predicted value from first stage.

$$FP_t = c + b_1 \hat{BIB}_t + b_2 \hat{BIM}_t + b_3 AGE_t + e_t$$

Where the dependent variable FPt is a measure of financial performance: Return on shareholders funds. The explanatory variables are: Unstandardized predicted value Gender diversity on Boards (\hat{BIB}_t) and Unstandardized predicted value Gender diversity on Management (\hat{BIM}_t). We also use the firm age as a control variable (AGEt). Our results were robust to the 2SLS procedure. To observe the interaction effects between both gender diversities, we have created a new interaction latent independent variable: "Blau's Index boards x Blau's Index managers". The instruments for this new variable are the product of all the remaining non-scaling variables across the two constructs. Since there are three non-scaling variables for each gender diversity variables we get nine new instrumental variables. Thus the original 2SLS model was run with one new explanatory variable (Blau's Index boards x Blau's Index managers) and nine new instrumental variables.

Results

First we want to observe the difference between 2004 and 2009 and the results are not very optimistic. Table 1 shows the percentage of firms that had got gender balance (Blau

² Our measure of firm size is the natural log of the number of employees

Index ≥ 0.48) in the years 2004 and 2009 in both boards and top management. Tough even we can observe an increase from 3.74% (2004) to 4.82% (2009), it is far away from the target of the European Commission, moreover if we observe that there are more than 60% of firms with no women on their boards and none of the listed firms had got a balance presence.

Table 1. Percentage of Firms with Gender Balance

	Year 2004	Year 2009
On Boards	3.47% (N=778)	4.82% (N=1.017)
On Top Management	4.16% (N=746)	6.15% (N=960)

The situation on top management is better than boards but not optimal. We observe some segregation on the jobs. Most of the women work as Human Resources Managers, it seems that the women role as taking care has transferred from home to labour market, even in top positions. They also work as Marketing or Communication Managers, few of them work as technical Managers and if they do, they work as Quality Control Managers.

Table 4. OLS Regression of Gender Diversity

Dependent variables	Gender diversity on Boards 2004		Gender diversity on Boards 2009		Gender Diversity on Top Management 2004		Gender Diversity on Top Management 2009	
	Coeff	Std. error	Coeff	Std. error	Coeff	Std. error	Coeff	Std. error
Constant	0.144***	0.036	-0.059*	0.029	0.158***	0.035	0.146**	0.037
Board size	0.006***	0.001	0.027***	0.005	0.000	0.001	-0.012*	0.006
Family business	0.106***	0.012	0.022*	0.011	0.011	0.012	-0.009	0.014
Listed on Stock Market	-0.068***	0.019	-0.025	0.020	-0.005	0.019	-0.039	0.026
Firm size	-0.020***	0.005	0.008+	0.004	-0.025***	0.005	-0.013*	0.005
Female segregated industry	0.013	0.012	0.001	0.010	0.044***	0.012	0.025*	0.013
Management team size	0.011***	0.002	0.000	0.002	0.023***	0.002	0.021***	0.002
Firm age	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Model statistics								
Number of observations	779		812		779		812	
F statistic	20.969***		7.170***		21.405***		16.410***	
Ajusted R2	0.152		0.051		0.155		0.117	

Note: +p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table 4 shows the results of the first stage where we observe the variables that are related to gender diversity on boards (first and second columns) and on Top Management (third and fourth columns) for the year 2004 and 2009. While the results with data 2004 confirm every hypothesis, in 2009 they don't. In 2004 gender diversity on boards (Blau' index boards) has a positive and significant relationship to board size and to being family business and negative to being listed on stock market (H2a, H2b, H2c). It is also negative related to firm size (ln of number of employees), and positive related to management team size. In 2009 the hypothesis H2c is not confirmed. We cannot assure the influence of being a listed firm in the presence or no presence of women on board, even the value of coefficient and standard error are very similar to 2004 regression, the variable is not significant.

For gender diversity on top management every variable is significant: firms size; female segregated industry and management team size, but while female segregated industry and management team size have a positive relationship, as we stated in hypotheses H3a and H3b, firm size has a negative relationship, being this fact contrary to our proposed hypothesis H3c.

In the first stage the results in 2009 were very similar to what we found in 2004, but for the second stage (H1a, H1b and H1c) the results are quite different. Table 5 shows the second stage of 2SLS analysis. While for 2004 the three hypotheses were confirm, none of them were confirm in 2009.

Table 5 2SLS analysis of financial performance and interactions effects.

Dependent variables	Return on shareholders funds 2004		Return on shareholders funds 2009	
	Coeff	Std. error	Coeff	Std. error
Independent variables				
Blau's Index boards	301.114***	94.098	-2.026	4.103
Blau's Index managers	225.423**	87.759	3.834	2.462
Blau's Index boards * Blau's Index managers	-1523.927**	575.280	-37.556	31.718
Control variable				
Firm age	0.135	0.138	-0.004	0.007
Constant	-21.610*	8.634	-0.126	0.422
Model statistics				
Number of observations	779		612	
F statistic	4.199**		1.105	
Ajusted R2	0.016		0.001	

Note: +p<0.1; *p<0.05; **p<0.01; ***p<0.001

Conclusions and implications

The European Commission has decided to draw a new law about mandatory quotas on boards to largest European firms (27) to get, at least, 40% of women before 2020. The law is justified by two reasons, first from a financial perspective, women are business, as Reading says (Reding, 2012) second from an ethical perspective, women are as well qualified as men or even more, therefore discrimination could be a reason to explain the lack of women on boards and we have to make a conscious effort to avoid this discrimination.

This paper presents a study with data form 2004 and 2009, before and after the current financial crisis started, and before and after the main laws pro equality of opportunities between women and men stated in Spain. In these five years gender diversity on boards and top management have lightly increased but not in the largest and listed firms that will be the more affected by the future law. In both years we confirm that women are more likely to be on board if firm is family business and the board size is big; on the other hand women are more likely to be on top management if the firm is in a female segregated industry, the management team size is bigger and the number of employees is smaller.

The results confirm that a gender balance on board and on top management had a positive relation to financial performance (ROA) in 2004 but it could not confirm in 2009. In 2004 we also confirm that the positive effect of both gender balances in the financial performance was not cumulative. Maybe the new and valuable resources that women gave to

firms are repetitive, so to get a gender balance on board could have a less positive effect to performance when the firm had already got a gender balance on top management and vice versa.

These relationships are not confirmed in 2009. None of the variables are significant and even the model is not significant ($F=1.105$) We don't know what could be the reason of these results, maybe the financial crisis, maybe the firms tried to show an artificial image about the gender balance. It is clear that we have to look into these results. Nevertheless, not finding a positive relationship between gender diversity and financial performance cannot be a reason to stop the improvements we are getting; at least, we do not confirm any negative relationship. Maybe we have to use measures of performance other than financial performance that could be affected by gender balance as ethical decision making (Glover *et al*, 2002) or even we do not have to use any measure of performance at all. Spain, as the same than other countries around it, has invest a lot of resources in education of women, not only financial resources from government, also from families and of course, the individual effort of women to get a high professional qualification, just this effort should be enough to try to get these women into the top positions they deserve.

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Table 2. Descriptive statistics and correlations (Data 2004)

		Mean	SD	Min	Max	1	2	3	4	5	6	7	8	9	10
1	Blau's Index boards	0.119	0.163	0.0	0.5	1.000									
2	Blau's Index managers	0.102	0.163	0.0	0.5	0.326**	1.000								
3	Board size	7.07	4.531	1	41	0.111**	0.027	1.000							
4	Family business	0.26	0.436	0	1	0.287**	0.037	0.019	1.000						
5	Listed on Stock Market	0.12	0.324	0	1	-0.102**	-0.044	0.425**	-0.025	1.000					
6	Firm size (ln)	6.987	1.155	5.51	11.96	-0.060	-0.066	0.378**	0.069	0.359**	1.000				
7	Female segregated industry	0.348	0.476	0	1	0.056	0.110**	0.114**	0.091*	-0.003	0.222**	1.000			
8	Management team size	4.62	2.79	1	20	0.181**	0.325**	0.194**	0.015	0.109**	0.183**	-0.005	1.000		
9	Firm age	33	21.7	1	118	-0.013	-0.038	0.203**	-0.005	0.248**	0.102**	-0.179**	0.135**	1.000	
10	ROA	0.079	0.693	-6.00	8.58	0.159**	0.171**	0.174**	0.100**	0.047	0.103**	0.062	0.069	0.090*	1.000

Table 3. Descriptive statistics and correlations (Data 2009)

		Mean	SD	Min	Max	1	2	3	4	5	6	7	8	10	9
1	Blau's Index boards	0.051	0.144	0.0	0.5	1.000									
2	Blau's Index managers	0.109	0.174	0.0	0.5	0.301	1.000								
3	Board size	2.16	1.108	1	8	0.348**	0.042	1.000							
4	Family business	0.22	0.411	0	1	0.077*	-0.014	0.108**	1.000						
5	Listed on Stock Market	0.06	0.233	0	1	-0.007	-0.030	-0.014	0.022	1.000					
6	Firm size (ln)	6.761	1.150	1.48	12.45	0.037	-0.005	0.041	0.039	0.323**	1.000				
7	Female segregated industry	0.360	0.481	0	1	0.044	0.088**	0.033	0.004	0.004	0.231**	1.000			
8	Management team size	4.11	3.04	1	19	0.011	0.309**	0.022	0.000	0.185**	0.219**	0.013	1.000		
9	Firm age	37.9	22.1	6	161	-0.029	-0.007	-0.031	0.012	0.212**	0.097**	-0.157**	0.177**	1.000	
10	ROA	0.318	4.851	-23.161	106.34	-0.031	-0.040	-0.027	0.080	-0.011	-0.056	-0.033	0.047	0.001	1.000

** Correlation is significant at 0.01 level (bilateral).

* Correlation is significant at 0.05 level (bilateral).



Women on the Board Pledge for Europe

"I pledge to reach the target of 30% female board members by 2015 and 40% by 2020 by actively recruiting qualified women to replace outgoing male board members."

Name:

This pledge concerns:

The board of directors

The supervisory board

Other (please specify)

.....

Company name:

Your function (e.g. Chief Executive Officer, Chairman, etc.):

These are the concrete steps we are taking to increase the number of women in top jobs in the company:

I am planning to put in place the following measures this year:

Date and signature

Send your signed pledge to dana.trama-zada@ec.europa.eu

Your pledge will be made public.
