CULTURAL DIFFERENCES AND BOARD GENDER DIVERSITY

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ABSTRACT

As evidence of the continuing interest raised by "board gender diversity", major studies (Catalyst, 2008; World Economic Forum, 2010; European Board Diversity Analysis, 2010) were recently carried out and have all led to reports confirming the imbalance of women on boards and the need to address this issue. Moreover, our analysis of these reports indicates that the low proportion of women observed on corporate boards varies across countries, which raises the question as to why? Based on institutional theory and the two sets of cultural dimensions proposed by Hofstede (1980) and House (2004), this study hypothesizes and tests whether this variation can be attributed to differences in the cultural settings. Our analysis of the representation of women on board for 5 European countries during 2006 reveals that the culture of a country indeed explains the observed differences. Of the cultural dimensions examined, power distance or a tolerance of inequality, uncertainty avoidance or a lack of tolerance for ambiguity, and masculinity or a preference for domination versus cooperation in superior/subordinate relationships have the highest explicative power for the differences in representation of women on boards that are observed around the world.

Key words: National culture, boards of directors, gender diversity, cross-country, corporate governance.

CULTURAL DIFFERENCES AND BOARD GENDER DIVERSITY

There have been countless national and international studies examining the factors influencing the composition of boards of directors (Dalton, Daily, Ellstrand & Johnson, 1998) and women directors on corporate boards (Terjesen, Sealy, & Singh, 2009). One strand of this type of research looks into the presumed relationship between national culture and board structure (Li & Harrison, 2008; House, Hanges, Ruiz-Quintanilla, Dorfman, Javidan & Dickson, 1999; Licht, Golschmidt, & Schartz, 2006; Semenov, 2000; Hickson & Pugh, 1995). We wish to extend this line of research by focusing on whether there exists a relation between culture and the differences in the representation of women on boards that are observed between countries (Catalyst, 2004-2008, EPWN, 2004-2008, Heidrick & Struggles, 2005, 2007).

Indeed, Catalyst (2008)[i] published the following statistics on the proportion of women on boards by country: Sweden (26.9 %); Finland (25 %); Denmark (18.1 %); United Kingdom (11.5 %); Belgium (7 %); Spain (6.6 %) and Italy (2.1 %). Concerned about this under-representation of women and the slow rate of progress in that regard, several European Union countries are trying to bridge the gap between genders in the circles of economic power by imposing or suggesting quotas to listed companies. For instance, in 2003, Norway adopted a law requiring that 40 percent of all publicly listed company board members be women by 2008 which explains that Norway has the highest rate at 44.2 % (Catalyst, 2008). Spain, France and Belgium have passed similar laws, with compliance deadlines in 2015 (Clark, 2010) 2017 and 2018 (Catalyst, 2011) respectively. Germany and Sweden have adopted a comply or explain approach (Catalyst, 2011). In Britain, the Financial Reporting Council is considering amending the UK Corporate Governance Code to require listed companies to establish a policy concerning boardroom diversity, including measurable objectives for implementing the policy, and to disclose annually a summary of the policy and progress made in achieving the objectives (Davies, 2011). Eventually, the adoption of these rules or guidelines may considerably reduce the differences between countries. However, in the mean time, the differences between countries remain of significant interest.

In light of the above statistics and reactions from governments, our research question is: Why does the level of women representation on corporate boards of directors differ so much from one country to the other? More specifically, we wish to

examine if and to what extent the culture of a country may affect this level? Despite the observed differences in women's access to boards of directors when different countries are compared, the research on this issue is scarce, and none has analyzed the possible influence of cultural dimensions. Culture is defined as the set of values, traditions, norms, ways of perceiving the world, etc., shared by a majority of citizens in a country. This shared culture conditions individual behavior in the different spheres of everyday life and may thus help us better understand these behaviors. It is on that basis that we use institutional theory to examine whether culture differently conditions the social roles assigned to men and women and even encourages gender stereotypes, which may influence shareholders' decisions to elect women on their boards of directors.

Several studies have examined how cultural dimensions influence corporate decision-making, like the seminal work of Hofstede (1980) and, among others, those by Gray (1988), Salter & Niswander (1995), Ralston, Gustafson, Cheung, & Terpstra, (1997), Pendersen & Thomsen (1997), Semenov (2000), Stulz & Williamson (2003), Hope (2003), House, Hanges, Javidan, Dorfman, & Gupta (2004) and Guiso, Sapienza & Zingales (2006). We wish to contribute to this line of research by using the cultural dimensions put forward by Hofstede (1980) and others as explanatory variables to focus on the firm's decision to give access to women on their board.

In order to carry out our study, we analyze the representation of women on boards of directors of publicly traded companies in five European countries (Belgium, Denmark, Spain, the United Kingdom and Sweden); different companies are selected in each country. Along with our variable of interest pertaining to the cultural dimension of a country, we control for other factors likely to affect this corporate decision such as the country's code of corporate governance, the firm's industrial sector, and its activity turnover ratio. Our results show that the culture of the country, as proxied by the cultural dimensions of Hofstede (1980) and GLOBE (House *et al*. 2004), explains the differences observed in the level of women representation in corporate boards.

Our study is structured as follows. The first section presents the cultural factors and the theoretical framework on which we base our research; the second section presents the research design, the sample, and the variables of our empirical study. Then, the results of our descriptive, univariate and multivariate analyses are presented and interpreted, followed by a robustness analysis. The last section is devoted to conclusions.

THEORETICAL FRAMEWORK LINKING CULTURE AND GENDER BOARD DIVERSITY

There is no agreement within the fields of social sciences on a definition of the concept of culture. In general, culture refers to a set of parameters which significantly differentiates one group from another. For Hofstede (1980), culture can be considered as the collective social program which determines the set of values, beliefs, principles, and attitudes shared by the members of a specific social community. As House *et al*. (2004) suggest, culture serves as the reference frame which makes possible the interpretation and meaning of significant common events experienced by the members of a community. Those experiences are very important and passed down through generations. The fundamental characteristic of culture is that of being a social design which conditions the majority of social practices and processes. Therefore, a great deal of social behavior can be understood through the prevailing culture or social norms. With regard to the object of this study, culture may thus socially assign different roles to men and women and exacerbate gender stereotypes.

The notion of gender is in itself a cultural construct created to refer to differences between men and women in society in terms of attitude, mental structures and expectations. Gender as a notion exceeds biological differences. Social beliefs about the distribution of roles for men and women surface in notions like gender equality or discrimination. Some societies seem to ignore these differences when assigning roles, others seem to maximize them (House *et al*., 1999).

Several studies have examined the different roles assigned to men and women in society on the basis of variables like religion, economic development or political systems. Results show that a difference in economic development does not create new roles for women (Nuss & Majka, 1983; Moore & Shackman, 1996). However, there are indications that political systems fulfill an important function when determining women's role in society and, above all, their access to positions of responsibility traditionally reserved to men (Paxton, 1997; Clark & Carvalho, 1996).

Pioneering studies like Friedland & Alford (1990), Hofstede (1991) and Hickson & Pugh (1995) have concluded that the cultural and social characteristics of a country have a great influence on the structure of corporate management. However, since the culture of a country is intimately linked to a specific institutional environment, it is fair to say that culture is also institutionally determined. Along these lines, Aguilera &

Jackson (2003), and Lubatkin, Lane, Collin, & Very (2005, 2007) have recently studied the influence of the institutional context on corporate control mechanisms, and have recognized the importance of institutional differences, like the legal or cultural aspects which condition corporate practices.

Institutional theory assumes that organizations are subjected to the institutional environment (which includes culture) in which they operate, and that corporate models are based on the institutional norms present in a specific society (Meyer & Rowan, 1977). Such norms can simply be assumed, endorsed by public opinion, or enforced by law (Starbuck, 1976). Therefore, these norms inevitably involve normative obligations, but also the shared values and beliefs which contribute to the culture of a society. Authors like Aguilera & Jackson (2003) or Lubatkin *et al*., (2007) indicate how differences in institutional environment are the basis for divergences in government structures.

Li & Harrison (2008) use institutional theory to develop hypotheses related to the composition and structure of multinational company boards by using Hofstede's dimensions of culture and data from 15 different countries. Their definition of board composition is limited to the percentage of outside, or non-management, directors. Their results confirm that culture exerts a significant influence on the structure of boards of directors. Institutional theory has also been used to explore the presence of women on corporate boards in relation to other parameters, such as their representation at other levels within companies (Bilimora, 2006), their participation as political representatives (Terjesen & Singh, 2008), or gender stereotypes and/or discrimination in the labor market (Nelson & Levesque, 2007).

If we take the above into account, we consider that institutional theory provides a suitable framework to examine which dimensions of the cultural environment are related to the observed between-country variations in women representation on board. To sum up, several reasons may justify the use of culture as an explanatory element. First, comparative studies have shown that not only the proportion of women on board is generally low except in Norway where a law was adopted, but that this proportion varies between countries. Second, research has shown that institutional theory provides a good instrument to study the presumed relationship between national cultures and the structure of corporate boards. So, the objective of this paper is to relate both lines of research to analyze to what extent the culture of a country may explain more or less disparity in terms of gender board diversity. Our thesis is that the level of women

representation on the corporate the boards of a country is influenced through the prevailing culture.

From an analytical point of view, the fundamental task is to measure existing cultural differences between countries and examine if they lead to different social realities and processes. Several authors have proposed various cultural dimensions or values to explain the cultural differences between countries. Hofstede (1980) was the first to propose 4 cultural dimensions. He was followed by others whose goal was to improve and extend his work or specify other measurements of the culture of a country. With Hofstede himself adding a fifth cultural dimension denominated long term orientation in 1987, works on cultural values by Schwartz (1992), Ingleharts (1977, 2001), Trompenaars (1993), and on the cultural framework proposed in the Global Leadership Organizational Behavior Effectiveness (GLOBE) program (House *et al*, 2004) have nourished the evolution of the concept.

As pointed out by Robbins (2004, p. 69), over the years, Hofstede's cultural dimensions have become the basic theoretical framework to differentiate national cultures. So, to examine the relation between culture, our variable of interest, and board gender diversity, we use the values provided by Hofstede (1980) to measure the different countries cultural dimensions. He identified 4 cultural dimensions that distinguished the different countries: power distance, uncertainty avoidance, individualism and masculinity.

Power distance refers the degree to which a society accepts unequal distribution of power in institutions and organizations. A high value indicates that power and wealth inequalities are considered acceptable within society. As we have seen, current statistics show that the access of women to positions of responsibility in the organization power structure is generally low but more so in some countries. So, companies operating in a country exhibiting a higher power distance value are expected to show a lower level of female representation on corporate boards. Thus, the expectation is that the relationship between these variables is negative.

Uncertainty avoidance reflects that the people of a country prefer structured situations over non-structured situations. A high value indicates that citizens have a low tolerance for uncertainty and ambiguity, favoring a society oriented towards rules, norms, laws, regulations and controls to reduce the level of uncertainty. Conversely, a low value indicates that society is less worried about uncertainty and ambiguity, being less oriented to rules and, subsequently, more open to accept change. Countries with

low uncertainty avoidance are more tolerant of opinions and alternative behaviors as well as open to more and larger risks. As a result, one expects that those countries with a higher capacity to confront change and adapt to new realities, as is the case with allowing a larger number of women in the power structure of organizations, will show a higher level of female representation on corporate boards. Consequently, the expected sign for this variable is negative.

The variable individualism is the degree to which individuals prefer to behave individually instead of behaving as group members. Therefore, it is a measure of the degree to which a society appreciates personal goals, autonomy and privacy in terms of loyalty to the group, as commitment to group norms, collective activities and social cohesion. A high value of this variable indicates a more individualistic society. Since the debate about gender equality touches upon the collective values of society, it can be argued that high values for this variable can be related negatively to the level of female representation on boards of directors. This is why we forecast a negative relation between both variables.

The final masculinity variable concerns the degree to which values like assertiveness, performance, success and competitiveness, as traditionally associated with the masculine, prevail over values like the quality of life, personal relationships, service, and solidarity, which are considered values commonly associated with the feminine role. High values of masculinity indicate that the masculine role prevails in that particular national culture. This is the reason why we expect a negative sign in the relation between both variables.[ii]

Despite the pervasiveness of Hofstede's approach in this strand of research, it has been criticized on several fronts. For instance, Hofstede's original research (1980) is based on a questionnaire addressed to employees of IBM, in 40 countries and two periods of time (1967-1968 and 1971-1973). The fact that the data come from a single company and were collected 30 years ago may reduce and impair the capacity of the dimensions to explain current cultural differences among countries although the culture of a country is not something that normally change on a year to year basis. However, one cannot ignore the continuous and intense geopolitical changes of the last three decades such as the fall of the Soviet bloc, the end of the apartheid in South Africa, the ascent of China as a world power and the Arab Spring. The main implication of these events is the mutability character of culture which may not, therefore, be considered a

structural conceptual construct without its own dynamics and susceptibility to change in time (McSweeney, 2002; Shenkar, 2001; Smith, Peterson & Schwartz 2002).

To address these critics and the necessity of an updated and continuous evaluation of the cultural dimensions, we will strengthen our research design by conducting a robustness test using the cultural dimensions of House *et al.* (2004) and will compare the findings to those obtained with Hofstede's framework.

In 2004, the GLOBE research program (House *et al.,* 2004) conducted a study whose main goal was to describe, understand and predict the influence of cultural variables on leadership, management processes and effectiveness around the world. This program began in 1993 and used data from 825 organizations in 62 countries, identifying 9 dimensions: uncertainty avoidance; power distance; Institutional collectivism; in-group collectivism; gender egalitarianism; assertiveness; future orientation; performance orientation and humane orientation.

In summary, in section 4, we will use the seminal work of Hofstede to conduct our initial tests and, in section 5, the work of House et al. as a robustness check.

EMPIRICAL ANALYSIS

Sample

The sample object of this study is composed of different companies from Belgium, Denmark, Spain, England and Sweden. Several reasons justify this selection. First, within Europe, these countries provide the most significant differences with respect to the percentage of women who are boards of director members (Carrasco & Laffarga, 2008). Secondly, these countries have distinct legal systems: the English system or Common Law (England); the Scandinavian system or civil law of Scandinavian origin (Denmark and Sweden); and the Mediterranean system or civil law of French origin (Belgium and Spain). These differences imply a different approach to the regulation of gender parity. Once established which countries show different cultural traditions and different levels of female representation on boards of directors, we used the Osiris International Database to obtain our sample. The initial data pool consisted of all companies of the selected five countries. However, in order to obtain homogeneous and comparable accounting information, data from Osiris was limited to listed companies in 2006 with consolidated accounting information prepared under international accounting

standards. For technical reasons, some further restrictions had to be applied, in particular with respect to the case of England, where the high number of listed companies would make complete statistical processing unfeasible. Therefore, the sample of English companies was stratified based on the number of employees. The result was structured in quartiles: only the first 100 firms with the highest number of employees in each quartile were taken into consideration. A total of 400 companies were selected, which resulted in a final number of 213 firms, including only those firms that provided consolidated information according to the NIIF standards. With regards to Spain, apart from accounting information for 2006 processed in accordance to international standards, one more criterion was applied: companies registered in the National Securities Market Commission (CNMV, Comisión Nacional del Mercado de Valores). In addition, until the database was complete, we used information contained in the corporate governance report for listed companies for the year 2006.

The final sample is composed by 989 companies from 5 European countries: 131 Spanish; 213 English; 117 Belgian; 150 Danish; 378 Swedish.

Model and Variables

In order to analyze to what extent women's access to boards of directors is different as related to culture, we use a model in which the independent variable is the country's national culture as measured by the four dimensions presented earlier. It allows us to check on cultural differences between countries as the determining parameter for women's access to boards of directors. In order to monitor the variables which determine differences between companies, regardless of the country of origin, and which may explain the different values, we also introduce a series of control variables. In analytical terms, the model can be specified as follows:

Women's access = f (culture of the country; control variables)

With respect to the dependant variable, women's access to positions of representation in boards of directors of the company will be evaluated through the variable PARTICIPATION. This variable measures the level of women representation on corporate boards. It is computed as the quotient of the number of women represented in the boards divided by the total number of board members. The variables POWERDI

(Power distance), UNCERTAINTY (Uncertainty avoidance), INDIVIDUALISM and MASCULINITY represent the cultural dimensions examined.

In order to analyze whether differences in female access to boards of directors can be explained by factors other than the cultural dimensions, we introduced several control variables which incorporate the differences between the companies in our analysis, regardless of their country of origin. Several studies have tried to explain female access to board positions and justify the selection of these control variables thus providing existing explanatory power on which we draw in our study. For example, Brewer (2001) and McDonals (2000) indicate that companies in different sectors with different traditions and dynamics influence the degree of opportunity for women to access positions of responsibility. Following these studies, we have classified our company sample according to their ascribed sector. Hence, the different observations have been classified depending on the sectors of Energy, Materials, Industrials, Consumer Discretionary, Consumer Staples, Health Cares, Financials, Information Technology, Telecommunication services, Utilities.

Following industry differences as control variable, we considered the possible effect of company size on the level of female access to the Board of Directors, even though results obtained in previous studies are inconclusive in this respect. Some studies found that in small companies, women have bigger possibilities to get promoted (Bertrand & Hallock, 2001; Andre, 1995). This is mainly due to the fact that a small staff allows for a better knowledge of the potential of women to carry board of director responsibilities. However, other studies found a positive relationship between the size of the company and the presence of women on the board (Harrigan, 1981; Heidrick & Struggles, 1977; Catalyst, 2001). This finding could be explained by the existence of formal processes of evaluation and promotion within larger companies, allowing for improved access of women to senior positions only based on criteria of training and capacity. Given the inconclusive evidence, we forecasted in our study no expected sign in the relationship between the size of the activity level and female management board representation. In order to quantify this size variable, many studies have used either turnover (Hillman & Cannella, 2007; Hambrick & Cannella, 2004; Sander & Boivie, 2004; Coffey & Wang (1998); McCormick Hyland, & Marcellino, 2002), total assets (Peng, 2004; Carter, Simkins & Simpson, 2003; Erhardt, Werbel & Shrader, 2003) or the number of employees (Konrad & Mangel, 2000; Coffey & Wang, 1998; Smith, 2007). In our study, we employ the variable ACTIVITY as a means to infer the size of the company.

This variable is measured by the logarithm of company turnover level in order to avoid possible scale problems.

In order to analyze whether the size of the board of directors may have an influence on the level of representation of women in the board, we introduced the variable DIRECTORS. This variable is calculated as the total number of board of director members (Coffey & Wang, 1998; Carter, Simkins & Simpson, 2003; Erhardt, Werbel & Shrader, 2003; Hillman & Cannella, 2007). The expectation is that a large board of directors provides bigger opportunities for female membership; this why we expect a positive relation between the size of the board of directors and the percentage of women represented on the board.

We have also introduced in our model a control variable related to company performance. Previous studies have concluded that diversity in the boards of directors facilitates an improved economic functioning of the company. This is essentially due to the existence of different points of view, which favor obtaining higher performance. In order to analyze to what extent the differential performance of a company can justify a greater access of women to positions in boards of directors, we have introduced in our model the variable RETURN calculated as net profit divided by total equity relating it to female board participation, which is as close as possible to calculating a "return" on female board membership (Adler, 2001; Carter, Simkins, & Simpson, 2003; Catalyst, 2004).

Finally, we would like to verify the institutional efforts to promote the participation of women in boards of directors in the different countries. Indeed, certain governments are favoring parity policies, by introducing, to a larger or lesser degree, aspects of board diversity within the codes of good governance. Some countries in particular, recommend special attention to establishing a balance between the number of male and female members on the board (Norway, Finland, Sweden and Spain).[iii] To capture this, we have created the dichotomizing variable CODE, which takes value 1 when the codes of good governance in the countries under study make reference to the necessity to favor women's participation on the boards (Sweden, Spain and England), and 0 when such a reference is not present (Belgium and Denmark).[iv]

RESULTS

Descriptive statistics and univariate analyses.

Table 1 shows some data that characterize the data samples for the present study.[v]

Insert Table 1 about here

If we focus on the variable referring to the representation of women on the boards of directors of the companies in Table 1, several relevant data are worth to emphasize.

First of all, the average value of the variable PARTICIPATION is about 9 percent. This is consistent with previous research indicating a low level of female representational at the highest levels of the governance structures within the companies. Since our study attempts to analyze whether cultural dimensions provoke the differences between countries we focus on the different female board-representation levels depending on the country of origin of the sampled companies. To this extent, data for the variable PARTICIPATION appear in Table 2. Along with the average value of the variable, we apply the Kruskal-Walis non-parametric test in order to determine whether there are significant statistical differences between the different countries:

Insert Table 2 about here

As can be observed from the results in Table 2, the variable PARTICIPATION (number of women divided by the total number of members of the boards of directors) shows significant differences among countries depending on the statistical value used. If one looks further at the data, Sweden is the country with the highest level of female presence on boards of directors, approximately 14 %, while Denmark has approximately 7 %, and Spain 6.5 %. England has a lower level of female representation according to the data of our sample with 5.5 %, followed of Belgium with 5 %. To sum up, the level of representation of women in the boards of directors is different depending on the geographic origin of the companies in the sample.

Secondly, an interesting analytical aspect originated from the statistical descriptions in Table 1; the existence of a minimum value of 0 for the variable that indicates the percentage of women represented on the boards of directors. This value implies that there is no presence of women at all on some boards of directors. In order to further analyze this observation, we have distributed the sample based on whether there is presence of women in the boards of directors. Within the total number of observations

in our sample, there is no presence of women in boards of directors in 50.6 %, that is, 500 cases; whereas in 489 cases, 49.4%, there is at least one woman on the board of directors. These data are perhaps more revealing than the one above on the difficulty of women to access positions in boards of directors: there is no female presence at all in half of the total number of boards of the analyzed companies.

If we look into the distribution of the sample depending on the number of women accessing positions in boards of directors, we will find results as shown in Table 3.

Insert Table 3 about here

As already indicated, there is no presence of women in approximately 50 percent of the boards of directors, which reveals that a very high degree of board membership is still reserved for men only. Similarly, the high percentage of boards with the presence of just one woman (33.4%) is remarkable. This fact reveals a timid presence of women which may find its explanation more in the institutional pressure put on companies to promote diversity and equality of representation, than in the conviction that women may play an important role in the governance structure of a company. One can also observe that the number of boards in which one could *a priori* consider a situation of fairness and equality to exist, that is, boards with three or more women, is rather small (approximately 5%).

The previous data reveal in a random manner the obstacles that women have to overcome to access boards of directors, even though these obstacles differ according to the companies' country of origin. Table 4 provides further empirical evidence on this question by showing data on the number of boards with female presence as classified with respect to the different countries analyzed.

Insert Table 4 about here

The data above reveal different dynamics concerning female presence on the boards of management depending on the country of origin. These differences are authenticated when applying a Chi-square test= 61.593 (p=0,000). The test significantly determines the existence of statistical differences by country on the presence of women. An individualized analysis shows that Sweden is the only country where there are more boards of directors with female presence than in any other country. At a second place,

we find Denmark and Spain where, even though with a high number of boards in which women are not present, the female representation percentage is still near 50 %. The countries of Belgium and England come in third place. In these countries, there is no female presence on management boards in approximately 65 % of the cases. This fact implies that there are major difficulties for women to access the boards in Belgium and England. Even from its descriptive and univariate nature, these data confirm our hypothesis: the culture of the country is a determining factor when explaining access of woman to the positions in boards of management of companies.

In order to improve our understanding of the data sample, Table 5 shows the distribution as depending on the number of women present on boards of directors divided by the countries in our sample.

Insert Table 5 about here

The data in Table 5 reveal that the previously emphasized country differences become more distinct if we take into account the total number of women on boards of directors in the different countries. Note, for example, that there are 389 women represented on boards of management in Swedish companies. In relative terms, this means that there are 1.03 women represented on each board of directors. By the same token, in absolute terms, England has 105 women present on boards of directors, which means approximately 0.49 women on management boards. The third country in which there is a greater presence of women in relative terms, is Spain: in total 90 women present on the boards, which in relative terms approximates 0.69 women on each management board. Denmark follows with a total number of 85 women and 0.6 women per board. In the last position, we find Belgium with the lowest number of women in absolute terms, 55, which is about 0.47 women per board.

The total data set of Tables 2 and 3 show the different conditions with respect to the access of women to board positions when the country of origin is taken into account. Three levels can be distinguished in this respect: on the first place comes Sweden, were women are theoretically presented on the boards of directors; on the second place come Denmark and Spain, where although the data reveal a less favorable situation as compared to Sweden, the female representation levels are more acceptable than in Belgium and England, representing the third place with the lowest presence of women in our sample.

Before concluding this descriptive analysis, it seems pertinent to qualify the results taking into account the size of the boards of directors. This aspect contributes with revealing data about the relative position of female versus male representation on the different boards of directors. To this extent, Table 6 shows not only the percentage of women but also the total number of board members.

Insert Table 6 about here

The differences in size of management boards across the different countries are statistically significant. Even though the smallest boards of administration are in Sweden, of all the countries analyzed this country has the highest representation of women. This means that in absolute terms, a higher level of female presence is obtained with smaller boards. This makes these boards more balanced and equitable with respect to gender. On the opposite end of the scale, we find the Spanish case. Representation of women is obtained only on boards of a larger size. This may indicate that the level of representation has not been achieved through gender parity policies, but by increasing the number of board members.

Multivariate analysis

The model discussed above has been designed to analyze how the interaction of all variables can explain the level of women's presence on boards of management. We present below specific statistical data reflecting goodness-of-fit along with the values obtained by the coefficients of the variables as well as their significance level. In all our models, the sector in which our sample companies are active, have also been considered.

Table 7 shows the results estimated for the different experimental and control variables, with the dependant variable being the percentage of women represented on the boards of directors. The estimation method used is that of ordinary square minimums.

Insert Table 7 about here

Different models have been used in order to further the understanding of the relationships studied. Model one is based only on control variables. As can be inferred

from Table 7, two variables acquire explanatory power, the size of the board and the activity variable. The level of female participation on management boards is higher in companies whose boards are larger, as well as in companies of larger absolute size, as measured by their business volume.

Some important questions emerge from these findings. First of all, and with respect to the size of the board, we can confirm that the positive relationship between size of the board and percentage of representation puts stress on greater representation obtained through increasing the number of members of the boards of directors: Men do not lose representation in absolute terms. This may be an answer from companies to debates involving gender parity policies, to make boards larger but not more balanced.

Secondly, with respect to company size, the empirical relationship is positive; women have better access to the boards of directors when the company is bigger. This is the reason why in companies with specific and more formal promotion processes, that is, in larger companies, women have less difficulty to access board positions. These empirical relationships remain the same for the different models used, and we consider them robust with respect to the different specifications of the model.

For model 2, the variable CODE is introduced on the base model. The goal is to analyze whether institutional efforts, carried out by means of corporate governance codes to increase diversity and a greater presence of women on boards of directors, can explain the increase of female presence on the boards. Results obtained reveal that the coefficient of this variable is positive and significantly different from zero. As a result, this shows that the efforts realized in the countries to create a gender parity policy for boards of directors, seem to be effective.

Model 3 attempts to analyze whether the participation of women on boards of directors can be explained by a country effect. In other to do so, different dichotomized variables identifying the country of origin of the companies (BELGIUM, DENMARK, SPAIN and ENGLAND) are introduced. Sweden acts as a base category according to which the country effect is analyzed. As already indicated at the univariate level, the four variables referring to the countries under study are statistically significant. The relationship of those variables with the variable PARTICIPATION is negative in all the cases. What comes out of this analysis is that the country of origin explains a higher or lower representation of women on boards of administration, and that all countries have a lower presence of women on boards than has Sweden.

In order to further the study with respect to specific aspects of each country which may explain the difference in the level of women's presence in boards of administration, the different cultural dimensions which characterize each country are introduced in model 4. In other to do so: we use the values of the different cultural dimensions by Hofstede (1980), which will allow us to deduce whether the culture of the country can explain the greater progress of women in positions of greater responsibility within the companies. As we can see, the variables related to the culture of the country are statistically relevant. The variable POWERDI is significant and the sign of the coefficient is negative, which reveals that in societies with a higher degree of parity in a short distance from power, there is a higher number of women are present in boards of administration. This result all terms our expectations. With respect to the variable uncertainty avoidance (UNCERTAINTY), the coefficient is significantly different from zero and the relation with the dependent variable is negative. This result confirms that societies more open to change, alternative behaviors, more accepting of risks, facilitate more in the presence of women in boards of directors. Finally, the variable MASCULINITY also acquires statistical meaning and its relation with the dependant variable is negative, revealing that in those societies where the values associated to the female prevail, there is a greater level of representation of women in the boards of directors.

The results obtained allow us to conclude that the culture of the country, as calculated through the cultural dimensions of Hofstede (1980), show capacity to explain differences detected in the level of representation of women in the boards of directors. These results allow confirming the research question proposed at the beginning of this paper.

ROBUSTNESS ANALYSIS OF RESULTS

In order to analyze the robustness of the results obtained in our study two additional analyzes were carried out. The first of these analyses introduces different metrics in relation to the cultural dimensions that characterize the country. For this purpose we have taken as a reference the study by GLOBE (House *et al*. 2004).

In order to analyze whether our results are affected by an evaluation of the culture used, an alternative measure of cultural dimension is proposed. A comparison between

the dimensions by GLOBE and those of Hofstede shows that the former complement and further the work of the latter. The study of GLOBE confirms that the five dimensions of Hofstede still are valid; nevertheless, it adds others and it contributes with an updated measurement of the qualifications of several countries for each dimension. In addition, this study measures the nine dimensions by using scales multi-items, which analyze the description given by the subjects surveyed about "what their culture is like" and "what it should be like". The valuation scale is from 1 to 7 points, where 7, indicates highest degree in the corresponding dimension:[vi]

Table 8 shows the results obtained for the estimation by ordinary square minimums.

Insert Table 8 about here

The cultural dimensions by GLOBE are contained in a single model which reveals a series of important questions. First, we have to indicate that, as in the previous case, there are specific variables which develop a statistical meaning: distance from power, uncertainty, assertiveness, and gender equality; this confirms that variables determining the culture of the country explain, regardless of the metrics used, a higher level of representation of women in boards of directors. Secondly, results seem to confirm the existing correlation between the cultural dimensions of Hofstede (1980) and those of GLOBE (House *et al.* 2004). We can infer from all these facts that our results are robust, regardless of the metrics used to analyze the determining factors of the culture of a country.

The second additional analysis tries to measure the robustness of our results with respect to the estimated dependant variable. We are going to calculate the representation of women through another variable, because the calculation of the dependant variable that we have used in our study, that is to say, the percentage of women by the total number of members of the board, can be closely conditioned by the total number of members in the board. This size can be very different depending on the country. Thus, we defined the variable PRESENCE. The variable PRESENCE is a dichotomizing variable which tries to capture a qualitative and more conservative dimension of the representation of women in boards. The variable will take value 1 when there is presence of women and 0 when there is no such a presence. Table 9 shows the estimation of the model using a logistic regression due to the nature of the dependant variable.

Insert Table 9 about here

Five models have been considered. In first of them, only the basic control variables are introduced. In model 2, apart from these basic variables, the variable introduced reflects on the institutional efforts to improve the presence of women in the boards of directors. Model 3 tries to analyze the existence of a country effect. Model 4 introduces the cultural dimensions of Hofstede. Finally, model 5 introduces variables for the cultural dimensions of the GLOBE model (we have eliminated observations about Belgium because they are not available). The results obtained for the variable PRESENCE confirm the primary results obtained for the variable PARTICIPATION, that is to say, the same variables acquire statistical significance. We can conclude that our results are robust and they are not affected by the dependant variable calculation method.

CONCLUSIONS

There has been increasing interest in the subject of gender equality in companies. The subject has also acquired relevance with respect to the power structures in organizations and, in particular, with respect to representation of women in boards of directors of companies. The interest in the topic is justified in political and academic circles by the empirical reality showing that women's access to labor market and responsibility positions in organizations is considerably lesser than men's. This reality does not seem to find an explanation on the basis of training, professional capacity and motivation: women are equally trained, have the same professional capacity to face responsibilities, and have also similar motivations and desire to access positions of responsibility in companies. This question has provoked research in specialized literature for the reasons which may explain the relative disadvantage women have in the most developed societies.

As indicated above, a lot of factors have come under consideration and empirical evidence produced over the last years. Results of research are not entirely conclusive and do not completely account for the reasons of the reduced access of women to positions within boards of directors. However it can be inferred, from the comparative analysis of accumulated evidence, that the level of women's access is not similar when

different countries are compared. This fact is important in an everyday more and more globalized society; something particularly relevant when the goal is to reach similar quotas of welfare and equal opportunities in the different countries. Failure to encompass such a goal may result in social inequality in terms of gender which would make impossible the growth of an egalitarian social welfare similar in different countries.

The fact that differences in the access of women to positions of the boards of directors exist when diverse countries are compared has made us raise the question of a country effect; In particular, culture of the country as determinant of higher levels of gender parity. Indeed, the culture of a country determines the set of beliefs and values that, to greater or lesser degree, can be shared by all the citizen of a country. These shared beliefs can specifically influence many social processes in society and cause the creation of stereotypes and roles associated to gender. These stereotypes can condition the possibility of professional progress for women. In order to explore the question, our study has tried to compare the level of representation of women in the boards of administration in five countries. Our analysis looks specifically into whether the prevailing culture can have an effect in the capacity of women to access to positions in boards of directors, traditionally reserved to men.

In this sense, in order to provide a specific and relatively objective evaluation of the culture of a country, we have used the cultural dimensions of Hofstede (1980); because this work has had greater influence has had for the studies attempting to compare the different cultures of different countries. Our study reveals indeed that the culture of the country has capacity to explain the different level of representation of the women in the boards of directors in the different countries under consideration here. In particular, three of the four cultural dimensions considered by Hofstede (1980) reveal themselves significant in our study. The first of them is "Power Distance": Those societies in which equality is higher and distance from power lower have a greater proportion of women represented in the boards of directors. Second, "Uncertainty Avoidance": the conclusion is that those societies which accept better change, alternative behaviors and risk, facilitate more the presence of women in boards. Finally, the third explanatory dimension in our study is "Masculinity": it becomes clear that in those societies in which values associated to the feminine role prevail, there is a higher level of women's presence in positions of greater responsibility. This conclusion is also confirmed by the results obtained when introducing the cultural dimensions of GLOBE (2004). This

approach further ratifies that the variables which determine the culture of a country, regardless of the metrics used, explain the greater level of representation of women in the boards of directors.

Our study has specific political implications. Since culture, as system of social beliefs tends to be irremovable in the short term, important institutional efforts are required to break the barriers blocking women's access senior positions in companies. This gives validity to gender parity policies, and obliges governments to make efforts to definitively clear the way for women to access top responsibility positions on the basis of their equal training, capacities, and professional motivations, insuring the same opportunities men have.

Our study has a series of limitations which should be noted. First of all, we have carried out a comparison only among five countries. For this reason, our results must be considered in relation to those countries and, therefore, should not be extrapolated to other countries. This possibility remains the extension of the work here presented and it will be the object of future research. Moreover, we have to indicate that due to sample limitations, we have used specific criteria to select companies, in particular for England. This may have an impact on the results of our study. Improvement of the criteria of selection for companies will also be a future line of work.

Footnotes

i. Several other prominent organisations confirm the imbalance of women on board worldwide and the wide variation between countries. The Corporate Gender Gap Report of 2010, published by the World Economic Forum, presents the results of a survey of more than 3,400 companies including the 100 largest employers in each of the 30 member countries of the Organisation for Economic Co-operation and Development (OECD) together with Brazil, Russia and China. The European Board Diversity Analysis 2010, prepared by Egon Zehnder International (2010), has analysed data relating to a total of 340 of the largest companies (market capitalisation of more than EUR 4 billion) across 17 European countries. The report of Lord Davies of Abersosch published on 24 February 2011 and commissioned by the United Kingdom Government examines the current situation of the FSTE 350 boards and gives its conclusion after a wide consultation of various interested parties.

ii. In 1987, Hofstede added a fifth cultural dimension, long term orientation, which aims to capture the long-term orientation of the members of society: the degree in which the members of society accept to delay the allowance of their material, social and emotional needs. A low value indicates a culture, in

which the changes can happen more quickly, because long term commitments are not an obstacle for change (Hofstede 2001). This cultural dimension is not included in this study.

[iii] In this sense, the Norwegian government has made a great effort in favor of gender diversity when filling directors positions. Since January 2004, public companies must have at least a 40% representation of each gender on the board of directors. The private sector has had a period of adaptation until 2005 July, with fines already being given in 2007 for companies that do not fill their quota. In 2008, the average amount of women on boards was of 44%, the highest percentage of all European countries, whereas in 2004 the percentage was 22% (EPWM, 2004-2008). In contrast, the Unified Spanish Code (CNMV, 2006), dedicates section 15 to diversity and recommends that the board reflects diversity of knowledge, gender and experiences necessary to perform its functions with efficiency, objectivity and independence. The code invites companies with small female presence on their boards to make a deliberate effort to look for possible female candidates whenever a vacancy in the board must be filled, in particular for independent positions. Along the same lines, article 75 of the Statutory Law of Equality (2007) tries to achieve a balanced presence of women and men within eight years. The percentage of women in boards of directors in Spain has gone from 3% to 6.6% from 2004 to 2008 (EPWN, 2004-2008).

[iv] If the date of the used data is considered, and in order to assign value to this variable, we have taken the recommendations from the approved codes of good governance until 2006. In 2008 and 2009 the Danish and Belgian codes have been reviewed, recommending gender diversity in boards of directors.

[v] With respect to the variable activity, we reproduce in these descriptive statistics the amounts without processing the variable into logarithm.

[vi] Assertiveness. Degree in which society encourages people to be hard, controversial, assertive and competitive unlike being modest and smooth. Basically, it is equivalent to the dimension of masculinity/femininity of Hofstede.

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TABLES

TABLE 1

Descriptive statistics

Variable	Minimum	Maximum	Average	Standard deviation
Participation	0	0,70	0,088	0,11
Presence	0	1	0,49	0,50
Members	1	26	7,86	3,43
Activity	0	319056000	4679594,3	21457638,462
Return	-775	298	9,38	57,753

TABLE 2

Average values of presence of women in the boards of directors

Variable	Belgium	Denmark	Spain	England	Sweden	Test (p-VALUE)
Participation	0,050	0,069	0,065	0,055	0,134	112,377 (0,000)

TABLE 3

Number of women in Boards of Directors

Number of women	Number of members	Percentage
0	500	50,6
1	330	33,4
2	109	11,0
3	32	3,2
4	14	1,4
5	2	0,2
7	2	0,2

TABLE 4

Presence of women on boards of management in the sampled countries

boards of management	Belgium		Denmark		Spain		England		Sweden	
	N	%	N	%	N	%	N	%	N	%
Without female presence	77	65,8	82	54,7	69	52,7	137	64,3	135	35,7

With female presence	40	34,2	68	45,3	62	47,3	76	35,7	243	64,3
TOTAL	117	100	150	100	131	100	213	100	378	100

TABLE 5
Number of women on the boards of directors by country

Nº Women	Belgium		Denmark		Spain		England		Sweden	
	N B	%	N B	%	N B	%	N B	%	N B	%
0	77	65,8	82	54,7	69	52,7	137	64,3	135	35,7
1	29	24,8	52	34,7	49	37,4	55	25,8	145	38,4
2	8	6,8	15	10	5	3,8	13	6,1	68	18,0
3	2	1,7	1	0,7	5	3,8	8	3,8	16	4,2
4	1	0,9	0	0	1	0,8	0	0	12	3,2
5	0	0	0	0	1	0,8	0	0	1	0,3
7	0	0	0	0	1	0,8	0	0	1	0,3
TOTAL BOARDS	117	100	150	100	131	100	213	100	378	100
TOTAL WOMEN	55		85		90		105		389	
W/B	0.47		0.6		0.69		0.49		1.03	

TABLE 6

Average Values of the presence of women on boards and Size of the boards

Variable	Belgium	Denmark	Spain	England	Sweden	Test (p-VALUE)
Participation	0,050	0,069	0,065	0,055	0,134	112,377 (0,000)
Members	8,70	7,05	10,82	7,62	7,02	100,618 (0,000)

TABLE 7

Results for the PARTICIPATION variable

VARIABLES	**MODEL 1**	**MODEL 2**	**MODEL 3**	**MODEL 4**
CONSTANT	7,75 (0,000)	3,936 (0,000)	10,47 (0,000)	0,81 (0,417)
DIRECTORS	1,85 (0,064)	1,90 (0,058)	4,69 (0,000)	3,21 (0,000)
ACTIVITY	3,35 (0,000)	3,40 (0,000)	3,21, (0,000)	2,34 (0,000)
RETURN	-0,33 (0,739)	-0,17 (0,867)	0,48 (0,628)	0,69 (0,758)
CODE	-	4,65 (0,000)	-	-
BELGIUM	-	-	-8,03 (0,000)	
DENMARK	-	-	-6,63 (0,000)	-
SPAIN	-	-	-7,86 (0,000)	-
ENGLAND	-	-	-9,27 (0,000)	-
POWERDI	-	-	-	-5,39 (0,000)
UNCERTAINTY	-	-	-	-4,87 (0,000)
INDIVIDUALISM	-	-	-	-0,28 (0,781)
MASCULINITY	-	-	-	-5,01 (0,000)

Sector control	YES	YES	YES	YES
Square R	0,018	0,039	0,140	0,140
F-Test	6,900	10,683	22,402	23,341
p-VALUE	0,000	0,000	0,000	0,000

TABLE 8

Results obtained using the cultural dimensions of GLOBE for the percentage of women represented in the boards of directors

VARIABLES	**MODEL**
CONSTANT	3,901 (0,000)
DIRECTORS	5,43 (0,000)
ACTIVITY	1,69 (0,090)
RETURN	0,45 (0,653)
POWERDI	-2,11 (0,035)
UNCERTAINTY	-4,72 (0,000)
ORIENTATION	0,46 (0,456)
GROUP COLLECTIVISM	1,34 (0,325)
INSTITUTIONAL COLLECTIVISM	0,43 (0,345)
ASSERTIVENESS	-4,56 (0,000)
FUTURE	0,78 (0,367)
PERFORMANCE	0,56 (0,789)
GENDER EQUALITY	3,22 (0,000)
Sector control	IF
Square R	0,144
F-Test	25,091
p-VALUE	0,000

Future Orientation. Degree in which society stimulates and rewards behaviors oriented to the future, like planning, investing in the future and delaying gratification.
Gender equality. Degree in which society attenuates the differences in the traditionally given roles for each sex.
Uncertainty avoidance. Dependency of society on its norms and procedures to attenuate uncertainty.
Power distance. Degree in which the members of society hope that the distribution of powers is unequal.
Individualism or collectivism, also denominated institutional collectivism. Degree in which social institutions encourage individuals to integrate in groups within the organizations and society.
Collectivism in groups. Degree in which the members of society are proud to be members of small groups, like their family, and intimate circle of friendships, as well as the organization for which they work. Scandinavian countries value highly institutional collectivism (Sweden, 5,22; Denmark, 4.80, and lower values in collectivism in groups, Sweden, 3.66 and Denmark 3,53)
Performance orientation. Degree in which society stimulates and rewards the members of groups by the improvement of their performance and excellence.
Human orientation. Degree in which society promotes and rewards individuals so that they are just, altruistic, generous, kind and interested by others. (House ET to, 2004).

TABLE 9

Estimation of the model using a logistic regression

VARIABLES	**MODEL 1**	**MODEL 2**	**MODEL 3**	**MODEL 4**	**MODEL 5**
CONSTANT	-1,36 (0,000)	-1,77 (0,000)	-1,20 (0,000)	-1,62 (0,000)	-4,75 (0,000)
DIRECTORS	0,16 (0,000)	0,15 (0,000)	0,25 (0,000)	0,35 (0,000)	0,31 (0,000)
ACTIVITY	0,00 (0,001)	0,00 (0,001)	0,00 (0,050)	0,00 (0,049)	0,00 (0,032)

RETURN	-0,01 (0,433)	-0,04 (0,457)	0,00 (0,753)	0,00 (0,754)	0,00 (0,589)
CODE	-	0,53 (0,000)	-	-	-
BELGIUM	-	-	-1,90 (0,000)	-	-
DENMARK	-	-	-0,90 (0,000)	-	-
SPAIN	-	-	-1,72 (0,000)	-	-
ENGLAND	-	-	-1,45 (0,000)	-	-
POWERDI	-	-	-	-0,07 (0,000)	-
UNCERTAINTY	-	-	-	-0,50 (0,000)	-
INDIVIDUALISM	-	-	-	0,04 (0,798)	-
MASCULINITY	-	-	-	-0,23 (0,000)	-
POWERDI	-	-	-	-	-0,46 (0,000)
UNCERTAINTY	-	-	-	-	-0,37 (0,021)
ORIENTATION	-	-	-	-	0,37 (0,322)
GROUP COLLECTIVISM	-	-	-	-	0,56 (0,215)
INSTITUTIONAL COLLECTIVISM	-	-	-	-	0,68 (0,117)
ASSERTIVENESS	-	-	-	-	-0,47 (0,000)
FUTURE	-	-	-	-	0,36 (0,321)
PERFORMANCE	-	-	-	-	0,05 (0,532)
GENDER EQUALITY	-	-	-	-	0,29 (0,000)
Sector control	IF	IF	IF	IF	IF
Chi-squared	107,443	118,904	207,153	214,345	212,445
p-VALUE	0,000	0,000	0,000	0,000	0,000
Square Pseudo R	0,140	0,195	0,258	0,272	0,292
% Classification	61,6	63,3	69,2	69,8	71,5