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Promoting women's participation in the boards of directors and top management positions of spanish companies

Fomentando la participación de las mujeres en los consejos de administración y altos cargos directivos de las empresas españolas

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Resumen: En un contexto de creciente aumento de las regulaciones y recomendaciones en distintas jurisdicciones a nivel internacional, con la finalidad última de lograr un aumento de la presencia de mujeres en los órganos de decisión de las empresas, el objetivo es comprobar si las empresas están cumpliendo con las recomendaciones de los organismos reguladores vigentes en cuanto a la presencia de mujeres en las empresas cotizadas españolas. Y evaluar si tanto la presencia de mujeres en los consejos de administración (WoB) como en los puestos de alta dirección o alta gerencia (TM) influye en una serie de medidas financieras. Los resultados muestran que el porcentaje medio de WoB estaba por debajo de la recomendación de los reguladores. Por lo tanto, sigue siendo necesaria una mayor aplicación de nuevas normas y recomendaciones para lograr una mayor paridad o equilibrio entre hombres y mujeres. Pero se obtienen evidencias de que una mayor presencia de mujeres tiene un efecto positivo en la solvencia (liquidez) a corto plazo de las entidades. Esto confirmaría que una mayor diversidad de género mejora el mecanismo de control y supervisión del Consejo de Administración de la empresa, lo que va en consonancia con la Teoría de la Agencia. En todo caso, los resultados sobre el efecto positivo en la solvencia a corto plazo muestran que la presencia de mujeres en los consejos de administración es beneficiosa para la situación financiera de la entidad a largo plazo.
Por lo tanto, los resultados pueden ser de interés tanto para las personas empleadas en las empresas, como para quienes forman parte de sus órganos internos de decisión, otras partes interesadas externas, así como para los reguladores y la sociedad en general.
Palabras Clave: Género, Igualdad, Consejo De Administración, Alta Dirección, Solvencia,

Abstract: In a context of increasing regulations and recommendations in different jurisdictions at the international level, with the ultimate aim of achieving an increase in the presence of women in the decision-making bodies of companies,
the aim is to verify whether companies are complying with the recommendations of current regulatory bodies regarding the presence of women in Spanish listed companies and to assess whether both the presence of women on boards (WoB) and in senior or top management positions (TM) influences a number of financial measures. Results show that the average percentage of WoB was below the regulators recommendation. Therefore, there is still a need for further implementation of new rules and recommendations to achieve greater parity or balance between men and women. But that it has a positive effect on short-term solvency (liquidity) of the entities. This would confirm that greater gender diversity improves the control and oversight mechanism of the company's Board of Directors, which would confirm the Agency Theory. But there is evidence that a higher presence of women has a positive effect on short-term solvency of the companies. This would confirm that greater gender diversity improves the control and supervision mechanism of the company's board of directors, which is in line with the Agency Theory. In any case, show that the presence of women on boards is beneficial for the financial situation of the entity in the long term.
Therefore, the results may be of interest both for people employed in companies, those who are part of their internal decision-making bodies, other external stakeholders, as well as regulators and the wider society.
Keywords: Gender, Equality, Board Of Directors, Top Management, Solvency,

1. INTRODUCTION

The *Gender Equality* movement has been gaining in importance in social, governmental and economic spheres (CE, 2001; Elomäki and Kantola, 2020). Gender equality between men and women is one of the social concerns (Saeed et al*.*, 2022) but gender discrimination still persists (Macarie and Moldovan, 2015; Mateos de Cabo et al*.,* 2019). And this discrimination has even been intensified by the pandemic of Covid19 (Malisch et al., 2020).

In terms of the *Upper echelons perspective* (Hambrick and Mason, 1984), although the incorporation of women into top positions in companies is increasing (Farrell and Hersch, 2005), it is still insufficient to close the gender gap (Lee and Pollitzer, 2020). Women are under-represented in armed forces (Alvinius et al., 2018) or in leadership positions of science, technology, engineering, mathematics and medicine (STEMM) fields (Nash & Moore, 2019). This discrimination may be due to causes related to the skills of the workers, organisational culture, etc. However, Gennari (2016) conclude that the scarce presence of women in the boardrooms is not ascribable to a scarcity of expertise, but it is associated with a social background and a corporate culture not inspired by corporate global responsibility values.

Besides, the actual effect of regulatory gender quotas depends on the design of the law and the institutional and social context in which the law is implemented (Comi et al., 2020). In particular, it is worth exploring the case of Spain, as it was the first EU country to introduce a quota to secure the presence of women on boards of directors (BD) in 2007. It was followed by Belgium, France, Italy and the Netherlands (2011), Germany (2015), Austria and Portugal (2017) and Greece (2020), even if that legislation without sanctions – as in Spain and the Netherlands – is less effective in achieving the quota targets than legislation with sanctions (Kirsch, 2021).

Specifically, in the comparison of the quota target levels with the proportion of women already present on the boards of the largest listed companies in each country at the time the quota was introduced, Spanish quota requested the largest increase (>30 percent) (Mensi-Klarbach and Seierstad, 2020). Over the last decade, Spain is improving the gender equality in companies, but there is still a way to go (Mateos de Cabo et al*.,* 2006; Mateos de Cabo et al*.,* 2019; Castro et al*.,* 2020). Spanish workplaces are away from achieving a perfect diversity score (Safiullah et al., 2022). The IBEX index measures the joint behaviour of the 35 most traded companies in Spain. In 2019, women represented 27.5% of IBEX35 of BD (CNMV, 2020a). They did not reach the 30% target set for 2020 in the Good Governance Code (CNMV, 2015), with only 15 of the 35 firms above 30%, long away from the recommendation of 40% to be attained in 2022 (CNMV, 2020). Besides, women only held 16% of Top Management (TM) positions in listed companies (CNMV, 2019).

This study contributes to the previous literature regarding the influence of Women on Boards (WoB) in several ways. Firstly, we integrate the review of the literatures on the moral case and the business case to provide a better understanding of the causes and consequences of the phenomenon of gender mainstreaming in top management and business supervisory bodies.

Afterwards, since much of the literature has been focused on Europe and the USA (Shrader et al., 1997; Carter et al., 2003; Isidro and Sobral, 2015; Marinova et al., 2016), this article contributes to the literature on Spain. It provides conclusions drawn from current data taking into account the fact that Spanish legislation regulated a soft law in 2007 has not been very successful in promoting real gender equality (Mateos de Cabo *el al.,* 2019) and that the recommendations for listed companies were first introduced in 2015 (CNMV, 2015).

After this introduction, Section 2 reviews previous literature on the presence of women on BD and proposes the expected relationship between women on high positions and economic profitability, based on theoretical framework. Section 3 and 4 present the methodology and results of the study, and the last section is devoted to concluding remarks, contributions of this study and lines for future research.

2. LITERATURE REVIEW AND RESEARCH HYPOTHESIS

Some of the arguments for participation of women on boards (WoB) may be framed in terms of ethical considerations (Campbell and Mínguez-Vera, 2008), which is known as "*moral justice case*" (Terjesen, Sealy, and Singh, 2009). As socially conscious consumers, employees and investors increasingly pressure companies to address social issues (Castaldo et al. 2009; Dodd and Supa, 2014; Edelman et al., 2017), many companies are responding by attempting to address these issues through *Corporate Social Responsibility* (CSR) (Benjamin et al., 2020; Sterbenk et al., 2022). In the 20th century, CSR policies have undergone a considerable change from the sole responsibility of the manager to the overall responsibility of the company within society (Setó-Pamies, 2015; Lamarche and Bodet, 2018). An emerging area of CSR is to promote *Gender Equality* (Grosser, 2009).

Specifically, the work situation characterised by gender segregation means that women encounter more problems in their careers than do men (Cabrera-Fernández et al., 2016; Li, and Zhang, 2019). Horizontal gender segregation and "glass ceiling" prevents them from reaching the highest hierarchical levels in the business world (Powell and Butterfield, 2015). Most women do not have an equitable share in the governance of the firms in which they enact their careers (Terjesen, Sealy, and Singh, 2009) and remain underrepresented on corporate Boards of Directors (BD) (Mensi-Klarbach and Seierstad, 2020). On the other hand, the scope of CSR has broadened considerably to encompass general *Sustainability* concerns (CE, 2006; Moon, 2007; Miemczyk et al*.,* 2012; Kramar, 2014; Schönherr, Findler, and Martinuzzi, 2017) which includes gender equality aspects (Saeed, Riaz and Baloch, 2022).

In any case, both CSR and Sustainability approaches have incorporated concern for the *Corporate Governance* of organisations. Corporate governance deals with the ways in which finance providers to corporations are assured of getting a return on their investment. But even in advanced market economies, there is a great deal of disagreement on how good or bad the existing governance mechanisms are (Shleifer and Vishny, 1997). In a corporation, the shareholders are the principals and the managers are the agents working on behalf of, and for the interests of, the principals. Developing an effective board of directors (BD) remains an important and feasible option for an optimal corporate governance mechanism (Bonazzi and Islam, 2007).

The BD has other functions such as setting the strategy of a company (Castellanos and George, 2020). In fact, the board´s main function is to provide value to the firms (Koutoupis et al. 2022) and the composition of the board affects the way that it performs its functions, which reflects, in part, on the performance of the company (Kiel and Nicholson, 2003). BD with greater *diversity* will perform better because decisions are based on the inputs from diverse individuals with a range of expertise (Anderson et al., 2012). Diversity relates to the appointment of different professional backgrounds, levels of independence, age, gender and ethnicity that may have different implications for decision-making. This links with the "business case", that is, the literature that indicates that appointing more women to boards will not only improve the financial performance of companies, but will also lead companies to behave in ways that are beneficial for stakeholders and for society as a whole, even if such research findings must be carefully interpreted (Kirsch, 2021).

So, the gender composition of the BD can affect the quality of this monitoring role (Adams and Ferreira, 2009) and thus the financial performance of the firm (Campbell and Mínguez-Vera, 2008; Francoeur et al., 2008). But there is no agreement on the results relating to the effect of the presence of women on these boards. Moreover, there is no well-defined theoretical basis to explain this relationship, making it necessary to use a multi-theoretical approach (Cabrera-Fernández et al., 2016). Smith et al., (2006) analysed data for the 2,500 largest Danish firms during the period 1993-2001. The model for the estimated relationship between the proportion of women in top management (CEOs and on boards of directors) and firm performance, show that the proportion of women in top management jobs tends to have positive effects on firm performance, even after controlling for numerous characteristics of the firm and direction of causality (Smith et al., 2006). Also, the study of on listed companies on Bursa Malaysia for the period between 2009 and 2013, using unbalanced panel data analysis, suggests that a higher degree of female representation on the board increases a firm's financial performance (Lee-Kuen et al., 2017). Similarly, for a sample of USA Standard & Poor's 500 companies belonging to the information technology sector over 12 years, Simionescu et al. (2021) showed a positive influence of women on corporate boards (BD) on both measures of company performance, ROA (Return on Assets) and PER (Price to Earning).

All in all, different jurisdictions have provided regulations and recommendations for companies to help promote a sustainable development (Bansal, 2005) which includes both corporate governance mechanisms and a gender perspective. In 2015, the United Nations adopted the *Agenda 2030* with 17 Sustainable Development Goals (SDG) (UN, 2015). Specifically, SDG number 5 aims to ensure full and effective participation of women in all areas, including equal opportunities for leadership at all levels of decision-making in political, economic and public life (UN, 2015). In this sense, the boards of socially responsible firms have more female directors than boards in non-socially responsible companies (Garcia-Torea et al., 2016). Further, the results of Terjesen, Couto, and Francisco (2016) suggest that external independent directors do not contribute to firm performance unless the board is gender diversified.

Gender quotas define a proportion or number of positions to be filled by, or allocated to, women and to men (Kirsch, 2021). In the context of European listed companies, in 2012 the European Commission announced the intention to introduce a 40% quota for the under-represented gender (women) among non-executive directors (European Commission, 2012). Ten years later, in November 2022 the European Union (EU) adopted a Directive 2022/2381 the so-called Women on Boards Directive on improving the gender balance among directors of listed companies (EU, 2022). As a transposition of this directive, Spain passed Organic Law 2/2024 (Ley Orgánica, 2/2024), on equal representation and balanced presence of women and men, which came into force on 22 August 2024, the effects of which will have to be analysed in the future.

In this context, Spain has had minimal female participation in the workforce historically (Campbell and Mínguez-Vera, 2008). But in 2007, Spain introduced statutory electoral and corporate board gender quotas as part of a broader gender equality programme, being electoral quotas by far the most successful ones (Verge and Lombardo, 2015). This Ley Orgánica 3/2007, art.75, established a “soft” quota with no sanctions (Gennari, 2016) of at least 40% of each gender on the boards of all public limited companies with more than 250 employees. The law stated that gender diversity in the BD would be positively evaluated by the public administration when awarding public contracts and expected companies to reach that quota by 2015. Its results were practically insignificant, and "intolerable inequalities still persist" (RDL 6/2019).

With regard to listed companies, although the first EU's attempt to extend the quota for women on the BD did not succeed, the Spanish stock market regulator introduced a first soft quota in 2015. Recommendation 14 called for the number of female directors to represent at least 30% of board members by the end of 2020 (CNMV, 2015).

So, as we have reviewed from previous literature, gender diversity may have a positive, negative, or neutral effect on the firm’s financial performance (Carter et al., 2010). Here, the vast majority of works study corporate boards (BD) (Dezsö and Ross, 2012). And these positive or negative relationships could be underpinned by different theories (Ali, Ng and Kulik, 2014). On the one hand, in relation to the theories that have been used to try to explain the effect of the presence of women on the board of directors. The *Social Identity Theory* (Krishnan and Park, 2005) argues that social identification is a perception of unity with a group of people that derives from the categorisation of individuals. And that this identity perception leads to activities that are congruent with identity by reinforcing the antecedents of identification (Ashforth and Mael, 1989). Wwe believe that it would fit more into the "Moral case" approach.

On the other, in regards the "Business case", the theory states that organizational outcomes, both strategic choices and performance levels, are partially predicted by managerial background characteristics (Hambrick and Mason, 1984). In this sense, some studies have used the *Resource-Based Theory of Competitive Advantage*, as well as *Diversity* and *Stakeholder* arguments to hypothesise that firms employing greater percentages of female managers at general management, TM and BD levels will experience relatively better financial performance (Shrader et al*.,* 1997; Lee-Kuen et al., 2017; Simionescu et al. (2021).

Nevertheless, one of the theories mainly used to propose the positive effect of the presence or increase in female representation in BD and TM is *Agency Theory* (Carter et al., 2003). It seems that Adolf Berle and Gardiner Means declared as early as 1932 that the separation of ownership and control was a distinctive feature of large American corporations (Cheffins and Bank, 2011). The organisation, characterised by agents, who make decisions but do not receive a substantial share of the wealth effects of their decisions, bases its survival on the separation of the (1) decision-making and (2) risk-taking functions that is found in large firms as well as in other types of organisations (Fama and Jensen, 1983). In this context, the Board of Directors (BD) emerged as a solution to the problem of agency generated by the separation of ownership and control, constituting a governance and control mechanism for the proper functioning of organisations. Thus, the effect of corporate governance on firm performance has long been of interest to financiers, economists, behavioural scientists, legal practitioners and business operators (Bonazzi and Islam, 2007).

Ain et al. (2021) examine whether board gender diversity reduces the agency costs of firms. In the context of 23,340 firm-year observations of Chinese listed companies during 2004-2017, evidence reveals that the participation of female directors in corporate board reduces agency costs, which correlates with conflicts of interest. Female directors also provide better monitoring roles in more-developed areas. Finally, corporate boards that have a critical mass of female directors have a greater tendency to reduce agency costs as compared to their token participation. Overall, their findings support the validity of agency theory and also the institutional theory in way that the effect of gender diversity varies in relation to ownership structure and region (Ain et al., 2021).

Thus, taking the *Agency Theory* as a reference, as the monitoring role performed by the BD is an important corporate governance control mechanism (Campbell and Mínguez-Vera, 2008), it could be expected that the presence of women on BD has a positive effect on economic profitability. Although, Garanina and Muravyev (2020) documented that a minimum of three women on board are necessary to achieve a positive effect.

On the other hand, top management (TM) is seen as providing strategic direction and integration especially when rapid decisions are required (Heaton and Teece, 2013). But traditional masculinized top manager stereotypes put women at a disadvantage, contributing to the existence of a glass ceiling. In a temporal comparison research, men still aspired to top management positions more than women (Powell and Butterfield, 2003). Dezsö & Ross (2012) argue that female representation in TM brings informational and social diversity benefits to the top management team, enriches the behaviors exhibited by managers throughout the firm, and motivates women in middle management. The result should be improved managerial task performance and thus better firm performance. They test this theory using 15 years of panel data on the TM teams of the S&P 1,500 firms. They find that female representation in TM improves firm performance but only to the extent that a firm's strategy is focused on innovation, in which context the informational and social benefits of gender diversity and the behaviors associated with women in management are likely to be especially important for managerial task performance (Dezsö and Ross, 2012). So, the results are mixed.

Accordingly, the following hypothesis expresses:

H1: The percentage of women on the BD of IBEX-35 companies has no significant effect on economic profitability

H2: The percentage of women on TM positions of IBEX-35 companies has no significant effect on economic profitability

3. MATERIALS AND METHODS

3.1. Sample description

The initial sample of this work comprises the companies belonging to the IBEX-35 capitalisation index at the close of the 2019 financial year, as they were the most liquid of those listed on the Spanish Stock Exchange Interconnection System (SIBE). As these are the companies with the largest market capitalization, they are the entities that bear the most public scrutiny and therefore, we assume, are more likely to have the recommended percentages of women. We chose the pre-Covid19 year, 2019 so as not to alter the profitability results due to the economic slowdown caused by the health situation and the mobility restriction decisions of the national governments (Allen, 2022).

The starting point for defining the sample was to include those organisations, whose information on gender is in the report "Presence of women on the boards of directors and in the senior management of listed companies" (CNMV, 2020a). However, some companies, whose characteristics could generate bias in the results were eliminated. On the one hand, in line with Hassan et al. (2017) the six financial institutions and the insurance companies were eliminated as they tend to be companies with higher debt or leverage ratios due to the type of activity they carry out (Pucheta and Sánchez, 2013), which could distort the results. This tends to occur because the activity of these type of financial institutions focuses on attracting customer funds, which represent a liability for these companies. Secondly, ArcelorMittal was discarded because it is a company whose registered office is outside Spain and its annual financial reports are expressed in a currency other than the euro. Moreover, no official economic or gender-related data in Spain have been available since 2002. Finally, Técnicas Reunidas does not appear in the report, because it left the stock market index in June 2019, and neither do Mediaset and ENCE, as they did so at a later date. Therefore, the total sample consists of 24 companies.

3.2. Model and description of variables

Some of the variables that have been shown to be associated with the presence of women on BD are firm size, leverage, short-term liquidity, sales growth, and return on assets (ROA) (Li and Zhang, 2019) but in other geographical contexts.

The hypothesis suggests a relationship between women on boards of directors and economic profitability. To test the null hypothesis, the following multiple linear regression model was tested:

$$ROA = \beta 0 + \beta 1WomPerc\_BD + \beta 2WomPerc\_TM \tag{1}$$

$$+ \beta 3\ CompSize + \beta 4Leverage + \beta 5Liquidity + \beta 6SalesGrowth + \beta 7EmplP$$

Most of the literature employs financial ratios like return on assets and return on equity as a proxy of a firm´s performance (Koutopis et al., 2022). The *Dependent Variable* was the ROA used by Adler (2001) and (Erhardt et al., 2003). This measure shows the organisation’s efficiency in managing its assets in the generation of revenue and indirectly affects the value of a firm (Laisasikorn and Rompho, 2014). It was calculated as earnings before interest and taxes, divided by the average balance of total assets (for the 2018 and 2019 financial years).

The two *Independent Variables* were defined as:

a) the percentage of women on the BD (WomPerc_BD), and
b) the percentage of women in TM positions (WomPerc_TD).

They were chosen in order to measure women's participation in the company’s governance structure. We predicted a positive sign for these variables, because we assumed that the higher the number of women on BD and in TM, the more ROA the firm would have (Adler, 2001; Carter et al., 2003; Catalyst, 2004; Krishnan and Park, 2005; Moreno-Gómez, Lafuente, and Vaillant, 2018). Following previous studies (Adams and Ferreira, 2009; Ahern and Dittmar, 2012), the proportion of women on the BD was introduced first. Then, the proportion of women in TM positions (i.e. executive positions with functional capacity to implement corporate strategies, such as CFO or COO) was included (Reguera-Alvarado et al., 2015).

3.2.1. Control Variables

Five *Control Variables* that can influence the firm's economic profitability were introduced into the model. The first variable considered was the Size of the Company (CompSize), measured as the Neperian logarithm of total assets. We decided to use the logarithm in order to deflate the variable and make it easier to compare. For this variable, we did not predict any sign, so it could be either positive or negative, because the size of the company depends on the organisational structure, the sector in which it operates and the management system in place in the company.

The second control variable was the Leverage ratio (Leverage). This is measured as the total borrowing of the firm as a proportion of total assets. Firms with a higher level of indebtedness take on more risk, while those with a lower level of indebtedness and hence resort to equity as their primary source of financing are more risk-averse firms (Mateos de Cabo et al., 2006). The sign we predicted for this variable was negative, because we assumed that the more indebted a firm is, the lower its economic profitability.

The third variable was the Liquidity ratio (Liquidity), measured as the ratio of current assets to current liabilities. Liquidity determines the company's ability to pay its debts in the short term. It should be greater than one so that the company does not have liquidity problems and can meet its debts. The expected sign for this variable was positive, as a company will have more profit and therefore economic profitability will be higher if it can pay its debts without problems.

The fourth variable considered was Sales Growth (SalesGrowth), measured as the quotient between the difference between sales in 2019 and 2018, divided by sales in 2018 (sales refer to net turnover). For this variable, we predicted a positive sign, as we assumed that if sales increase, more profits are obtained and economic profitability will be higher.

The fifth and final variable in the model was Employee Productivity (EmplProd), measured as the ratio of net turnover to the number of employees in the company. This variable was introduced into the model as a Neperian logarithm in order to deflate it and make it easier to compare across firms, since the number of employees of some companies differed substantially from the rest. The expected sign for this variable was positive, as we believed that the higher the productivity of the employee, the better the company's assets will be used and therefore, the higher the economic profitability.

The number of women and the total number of members of the BD and TM were obtained from the different CNMV reports (2020a,b). The ratios of economic profitability, company size, indebtedness or leverage, liquidity, sales growth and employee productivity were calculated based on the data available in the annual financial reports for 2018 and 2019 from the SABI database (to calculate some ratios, the average values comparing two consecutive financial years have been used).

3.3. Descriptive statistics of the companies in the sample and univariate analysis

Table 1 presents the descriptive statistics for the IBEX-35 sample analysed.

	N	Minimum	Maximum	Mean	Dev.	Asymmetry		Kurtosis	
						Statistic	Standard Error	Statistic	Standard Deviat
ROA	24	-0.1524	0.4490	0.0846	0.1081	1.370	0.472	5.435	0.918
WomPerc_BD	24	0.0833	0.4285	0.2658	0.0870	-0.103	0.472	-0.431	0.918
WomPerc_TM	24	0.000	0.5000	0.1760	0.1601	0.842	0.472	-0.358	0.918
CompSize	24	13.3269	18.2704	15.9824	1.0899	-0.143	0.472	0.653	0.918
Leverage	24	0.1411	0.8245	0.5202	0.1986	-0.287	0.472	-0.754	0.918
Liquidity	24	0.1470	8.9500	2.1795	2.6389	1.594	0.472	1.582	0.918
SalesGrowth	24	-0.2277	11.0178	1.1146	2.4289	3.373	0.472	12.566	0.918
EmplProd	24	4.7205	11.6644	7.8764	1.5212	-0.030	0.472	1.046	0.918

Table 1. Descriptive Statistics. Source: Compiled by the authors.

The average percentage of women on BD is less than 30%, representing a percentage below the recommendation to reach at least 30% of women on the BD by 2020 (CNMV, 2015). Furthermore, the average number of women in TM is far below the percentage on BD, failing to reach 20%. There is no asymmetry in the distribution, as the sample value (0.472) is not out of range (-1.96% to 1.96%). Finally, as far as kurtosis is concerned, the distribution does not deviate from the normal distribution, as the sample value is 0.918 (it is positive and is close to zero).

Then, a mean difference analysis of the independent variables (WomPerc_BD and WomPerc_TD) and the control variables was performed. The median of economic profitability (ROA) is 6.865%. Therefore, a group of means has been created for the variables when the median is greater than or equal to 6.865% and another group when it is less than 6.865%. The aim is to analyse whether there are differences in means between the two groups. For the variable percentage of women on BD and in TM, the difference between the means is low, 5.2% and 1.6%, respectively. This difference is not statistically significant and is negative in the case of BD. This result allows the null hypothesis to be rejected. Therefore, it can be concluded that the presence of women on BD and in TM of IBEX-35 companies is not positively associated with their economic profitability.

However, the Sales Growth variable shows a positive and statistically significant mean difference at 5%, which means that, as would be expected, companies with higher sales growth obtain higher profitability.

3.4. Multivariate analysis

First of all, the results of the multiple linear regressions are presented. As can be seen on Table 2, the independent variables percentage of women on the Board of Directors and in senior management have a negative sign, which was not expected. Moreover, it is not statistically significant. Thus, as the univariate results have already shown, the null hypothesis must be rejected, and therefore, it can be affirmed that the percentage of women on the board and in senior management does not influence the economic profitability of IBEX-35 companies.

	Predicted sign	β	t	Sig
(Constant)		0.278	0.736	0.472
WomPerc_BD	(+)	-0.248	-0.734	0.474
WomPerc_TM	(+)	-0.039	-0.227	0.823
CompSize	(-)	-0.013	-0.49	0.631
Leverage	(-)	-0.177	-1.309	0.209
Liquidity	(+)	0.008	0.695	0.497
SalesGrowth	(+)	0.002	0.162	0.874
EmplProd	(+)	0.02	0.97	0.347

F= 0.759 (Sig., 0.0629). R^2= 0.249. R^2ajusted= -0.079

Table 2. Multiple linear Regression Results. Source: Compiled by the authors.

As can be seen, the fit of the model is not optimal (R^2= 0.249, R^2ajusted= -0.079), which means that all of the variables proposed do not significantly explain the Economic Profitability of companies. However, data with high variability may have a significant trend. The trend indicates that the predictor variable still provides information about the response even if the data points fall far from the regression line.

Then, it was analysed whether multicollinearity existed. To do so, the Spearman correlation coefficients of all the variables included in the model were calculated.

Spearman's *ρ*	**ROA**	**WOMPERC_BD**	**WOMPERC_TM**	**COMP SIZE**	**LEVERAGE**	**LIQUIDITY**	**SALES GROWTH**
ROA							
WomPerc_BD	-0.150						
WomPerc_TM	0.106	0.026					
CompSize	-0.035	0.248	-0.164				
Leverage	-0.252	-0.265	-0.121	-0.223			
Liquidity	0.108	0.579**	-0.074	-0.075	-0.143		
SalesGrowth	-0.253	0.100	-0.169	0.014	0.126	-0.014	
EmplProd	.498*	0.070	0.101	0.133	-0.223	0.008	0.212

* Correlation is significant at 0.05 (bilateral)

**Correlation is significant at 0.01 (bilateral)

Table 3. Correlations. Source: Compiled by the authors.

The correlation between some pairs of variables is significant at 1% or 5% (see Table 3). However, none of the correlation coefficients presents problems of multicollinearity, as none is greater than 0.80% (Pucheta and Sánchez, 2013).

A more detailed analysis of the data shows that there is a positive relationship between economic profitability and worker´s productivity. As would be expected, the higher the employee productivity, the higher the economic profitability.

Furthermore, there is another positive relationship. The short-term solvency (Liquidity) of a company is correlated with the existence of women on the BD (WomPerc_BD), i.e. the more women on the BD, the higher the level of short-term solvency (Liquidity) of a company.

4. DISCUSSION

In light of our findings, the average percentage of women on BD in 2019 is 26,58%, representing a percentage below the recommendation to reach at least 30% of women on the BD by 2020 (CNMV, 2015) and far away to reach the 40% recommended for 2022 (CNMV, 2020). So, we suggest that companies do not encourage enough an increase in the number of female senior managers despite the importance of doing so in order to reinforce gender diversity on boards in the long term. It would be in line with

Nadarajah and Gull (2021), who documented that firms in highly individualistic states are less likely to adopt workplace diversity policies, which, in turn, negatively affects firm performance.

Secondly, we have found that the more women on BD, the higher the level of a company's short-term solvency (liquidity). This finding is in line with Mínguez-Vera and Martin (2011) who found that family firms and firms with a financial institution as the main shareholder tend to have more women on the board, and firms with less debt, more assets and larger boards have more women as directors. Also with Li and Zhang (2019).

As mentioned in the introduction, this empirical finding contributes to the previous literature regarding the influence of WoB in several ways. Firstly, this study addresses the call for further research concerning the influence of gender on the BD on economic profitability (Pucheta and Sánchez, 2013) but it is now taken into account, not only on BD, but also in TM. Secondly, since much of the literature has been focused on Europe and the USA (Shrader et al., 1997; Carter et al., 2003; Isidro and Sobral, 2015; Marinova et al., 2016), we contribute to the literature on Spain, providing the conclusions drawn from current data and taking into account the fact that Spanish legislation requires a quota of women on boards to be met. Thirdly, this study empirically does not show a positive or negative influence on economic profitability of WoB, whereby no evidence is added to the debate in this area. In this respect, our findings follow the line of Pucheta and Sánchez (2013). The results of the analysis show that in this case the presence of WoB does not increase the economic benefit obtained by the entity. This may be due to the fact that regulations are recommending the incorporation of women on the board of directors, not in the TM (top management bodies of the companies), so that women cannot have as much impact on all decisions regarding the day-to-day activity of the business.

However, we found a positive relationship between women on boards and liquidity. Thus, women prefer to maintain high levels of solvency to face short-term payments instead of having to borrow, which improves the current financial position of the company. We agree with Croson and Gneezy (2009), who suggest that women can be more risk-averse due to gender differences in the emotional experience of outcomes, in risk attitudes related to confidence or in the interpretation of a risky situation.

We agree with the notion that board diversity is a topic of research that remains highly complicate as it tries to model aspects both of human personality and behaviour (Koutoupis et al., 2022). We find that the greater presence of women improves the liquidity of the company. We understand that this occurs as an effect of their contribution to the supervision of the company's decisions. In this sense, we believe that our results confirm in some extent the Agency Theory. Nevertheless, our results would not confirm so much the Resources and Capabilities Theory, since a greater presence in TM has not been found to be significant for the economic-financial variables. However, we understand that a greater presence of women in TMs is a necessary prior step to be able to "climb" afterwards to BD, so that it should also be, directly (justified by the Moral case) or indirectly (by pursuing the Business case), promoted by companies.

5. CONCLUSIONS

This study contributes to the literature in the field of gender equality and its influence on the functioning of Spanish listed corporate boards. On the one hand, the empirical evidence related to the sample of this study confirms that the average percentage of women on Boards of Directors (WoB) is less than 30%, representing a percentage below the recommendation set out in the CNMV (2015) for companies to reach by 2020 and far below the recommendation (CNMV, 2020 to reach at least 40% of women on BD by 2022. Furthermore, the average number of women in TM is 17,6% far below the percentage on BD, with the average failing to reach 20%. Thus, it can be seen that companies do not encourage an increase in the number of female senior managers, despite its importance to reinforce gender diversity on boards in terms of moral case, and CSR and Sustainability concerns. On the other hand, after several empirical analyses, this study concludes that the percentage of women on BD and in TM does not influence the economic profitability of IBEX-35 companies. However, we have found that the more women on BD, the higher the level of a company’s short-term solvency (liquidity). This result is in line with Li, and Zhang (2019).

This study enriches the literature on gender in management norms. The findings about positive effect on short-term solvency show that the presence of women on boards is beneficial for the financial situation of the entity in the long term and suggests that the presence of women in senior or top management positions could also be beneficial.These results will help managers, regulators and other stakeholders, to take better decisions to gain a higher presence of women in companies because it confers an economic advantage, confirming the “business case”. The results will help managers, regulators and all employees, men and women, to take better decisions to improve the presence of women in companies as it confers a social advantage, related to “moral case” and regarding CSR and Sustainability approaches. Since the equality (Sustainability Developing Goal 5) pursued by the UN in the framework of its Agenda for the year 2030 has not yet been achieved, regulations are currently still being promoted to achieve greater participation of women in the decision-making bodies of companies, both in Spain and in other countries. Thus, the article's greatest contribution of value lies in its timeliness and social implications.

This study is not free of limitations that could be addressed in future research. If the sample is extended in time, future research could consider the multi-collateral effects of the CNMV recommendation (CNMV, 2020) or mandatory rules that the government may implement to increase the percentage of WoB and TM. In this regard, it is encouraging that in June 2022, the plenary of the Spanish Congress has approved the creation of a figure of Entities with Purpose, similar to those existing in Italy since 2016 and France since 2019, which could contribute to a greater awareness of listed and unlisted companies. Future studies will be able to analyse the impact of different regulations over time. Future work could also investigate the impact in other financial metrics and in more holistic measures of productivity within the organisation.

In any case, the findings of this study have the following social contributions or practical implications. Firstly, for women professionals at different levels of responsibility, so that they know and assert that their "quota" is not only a question of social justice (Moral case), but also of the financial health of the business (Business case) to encourage them to apply for positions of greater responsibility, for the sake of the long-term continuity of their organisations. Secondly, for company managers, Diversity and Development Professionals, in particular in recruitment and promotion teams, to increase the promotion of women to Top Management (TM) and Board of Directors (BD) positions. Finally, for Regulators in other countries to follow the EU example of proposing that at least the BD of listed companies should reach 40% (or even of unlisted companies).

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The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Data availability

Data cannot be shared openly but are available on request from autors.

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