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Administrative Sciences

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*Suggested Citation:* Amo, Daniel; García-López, María-José; Hamoudi, Hamid (2025) : Gender diversity on boards: A myth or a missed opportunity for financial performance?, Administrative Sciences, ISSN 2076-3387, MDPI, Basel, Vol. 15, Iss. 5, pp. 1-21, <https://doi.org/10.3390/admsci15050167>

This Version is available at:

<https://hdl.handle.net/10419/321311>

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## Article

# Gender Diversity on Boards: A Myth or a Missed Opportunity for Financial Performance?

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**Abstract:** This study examines the influence of gender composition on corporate financial performance, measured by the Price-to-Earnings (P/E) ratio and Tobin's Q, considering both male and female directors. Using an econometric panel data analysis, a dual fixed effects model and the Generalized Method of Moments (GMM) were applied to all Spanish listed companies from 2017 to 2022. The findings reveal no statistically significant correlation between gender diversity in the boards of directors (hereinafter, the board) and the financial performance indicators analyzed. However, a significant association was observed between gender diversity in non-board managerial positions and improved firm economic performance. This challenges the traditional focus on female representation in boards by highlighting the broader impact of gender composition across corporate structures. This study underscores the need for a comprehensive theoretical framework that considers both male and female directors to better understand gender diversity dynamics in governance. From a practical perspective, the results emphasize the importance of promoting gender diversity not only at the board level but also across all managerial positions. Policymakers and corporations should implement strategies to foster balanced gender representation throughout management levels to enhance economic performance.

**Keywords:** board gender diversity; corporate financial performance; gender quotas; fixed effects; GMM



Received: 21 February 2025

Revised: 25 March 2025

Accepted: 24 April 2025

Published: 29 April 2025

**Citation:** Amo, D., García-López, M.-J., & Hamoudi, H. (2025). Gender Diversity on Boards: A Myth or a Missed Opportunity for Financial Performance? *Administrative Sciences*, 15(5), 167. <https://doi.org/10.3390/admsci15050167>

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## 1. Introduction

A key strategy in the sustainable behavior of companies has been the inclusion of greater diversity in general and gender in particular in the composition of staff and management teams as one of the ways to increase the value of the firm and business competitiveness (Catalyst, 2004).

For this reason, in recent years there has been a large incorporation of women into the labor market, increasing not only their participation but also their educational level (Goldin, 2014). However, this situation has not translated equally to a proportional increase in women in positions of greatest responsibility (Dezsö & Ross, 2012), nor in the participation of women in boards of directors (hereinafter, the board), although various studies have confirmed that, in today's companies, decision-making improves when these are carried out by heterogeneous groups; intellectual capital is supposed to increase and, with it, the advantages derived from knowledge, perspective, and creativity (Francoeur et al., 2008). This is why, despite the legislative efforts developed by regulators in countries such as Norway, Spain, France, the Netherlands, and Italy, which have established by law that at least 40% of board members must be women (Adams & Ferreira, 2009), most of these boards remain male-dominated (Torchia et al., 2011).

The interest or obligation of organizations to implement gender diversity policies in the board has caused an increase in research in the academic environment around this phenomenon. For example, the theory of “Resources and Capacities” proposes that gender diversity in the board facilitates the generation of essential resources for the proper development of the entity (Gallego-Álvarez et al., 2010). Several studies based on this last theory have analyzed the relationship between gender diversity, fundamentally in the board, and business performance (Adams & Ferreira, 2004), trying to demonstrate whether greater gender diversity contributes positively to obtaining greater profitability and finding abundant research justifying this relationship, although the variety of results does not always support them.

Additionally, in recent decades, empirical studies that analyze the effects of gender diversity in management positions have also proliferated, with these aiming to measure its influence on different aspects of the organization, such as its operation and business results. Frequently, these investigations focus on the gender composition of boards and use both market measures (Lee & James, 2007) and accounting measures or a combination of both as performance measures (Nørreklit & Cinquini, 2023). The literature review shows contradictory conclusions. Some empirical studies find positive results when analyzing the relationship between gender diversity and economic/financial measures, while other research finds no evidence or concludes that there is a negative effect.

However, there are hardly any studies that have studied whether the results are the same or different when analyzing men and women. In this work, we start from the premise that, to understand whether the financial performance of companies is really influenced by the gender composition of the boards, we must study gender diversity both from the point of view of the women group and the men collective and compare whether the effects of both groups on certain economic/financial measures are convergent or divergent. Additionally, there has been little in-depth study of the different categories of existing directors and their impact, depending on gender, on the financial performance of the organization. This study addresses a notable gap in the literature, as few studies have examined whether the effects of board composition on financial performance differ between men and women. To properly assess the role of gender diversity in boards, it is essential to analyze the influence of both female and male groups separately and determine whether their impact on financial outcomes is convergent or divergent. Furthermore, limited attention has been given to how different categories of directors—executive, proprietary, and external—affect performance depending on gender. Building on these underexplored aspects and in line with the growing interest in board composition and its impact on firm outcomes, this study seeks to examine the following research questions:

1. Does the gender composition of the board influence the financial performance of companies?
2. How does the presence of executive, proprietary, and external directors—disaggregated by gender—affect financial performance?
3. Do executives who are not board members contribute to improved financial outcomes, and does this vary by gender?

To conduct our analysis, we built a panel dataset comprising 155 companies listed on the Spanish continuous market over the period 2017–2022. The empirical strategy is based on two complementary econometric approaches—fixed effects (FE) and the Generalized Method of Moments (GMM)—selected to ensure robustness in capturing both unobserved heterogeneity and potential endogeneity in the dynamic relationships examined. Within this framework, we investigate whether the gender composition of the board, as well as the different categories of directors disaggregated by gender—executive, proprietary, exter-

nal, and non-board executives—significantly influences corporate financial performance, measured through the Price-to-Earnings (P/E) ratio and Tobin's Q.

Our work makes a novel contribution to the scientific literature, jointly exploring variables that in previous studies have only been considered in isolation or have not been studied. This study generates valuable contributions across academic, organizational, and societal spheres. From an academic standpoint, it offers a more nuanced and complete analysis of gender diversity in boards by examining not only female representation—which dominates the existing literature—but also the influence of male participation, a dimension largely neglected in prior empirical research. This dual-gender perspective enriches the theoretical understanding of how board composition affects corporate outcomes. On a practical level, the findings provide evidence-based guidance for companies regarding the optimal gender distribution and configuration of board and top management roles to enhance financial performance. Moreover, the societal relevance of this work lies in its potential to inform public policy, offering robust empirical support for the design of more balanced and effective gender quotas in corporate governance frameworks.

The article is organized as follows. Section 3 describes the theoretical framework for the analysis of the research questions, characteristics of the sample, and the associated econometric models. Section 4 presents the discussion of the results, and, finally, in Section 5, the conclusions are presented, and future lines of research are proposed.

## 2. Literature Review and Hypothesis Development

A growing body of research has drawn on a variety of theoretical frameworks to explain the underrepresentation and influence of women in organizational leadership. These frameworks span individual, organizational, and institutional levels, reflecting the multifaceted nature of gender dynamics in corporate governance.

From an individual-level perspective, Human Capital Theory posits that differences in education, skills, and experience between men and women explain disparities in access to leadership positions (Becker, 1964). However, empirical studies have increasingly challenged this view, noting that even women with comparable human capital remain underrepresented in senior roles, indicating that structural and cultural factors must also be considered (Terjesen et al., 2009). To address these systemic dynamics, Social Identity Theory (Tajfel & Turner, 1979) and Social Role Theory (Eagly & Karau, 2002) offer psychological and sociological explanations, suggesting that group affiliation and gendered expectations influence promotion patterns and evaluations of leadership potential. These biases can perpetuate the selection of leaders who conform to masculine norms, reinforcing gender homogeneity in top management.

At the organizational level, Agency Theory and Resource Dependence Theory are frequently used in studies of board composition. Agency Theory suggests that board diversity can enhance monitoring and reduce agency costs, leading to more effective governance (Jensen & Meckling, 1976). In contrast, Resource Dependence Theory emphasizes the instrumental value of women directors, proposing that they contribute novel resources—such as legitimacy, stakeholder access, and diverse perspectives—that strengthen strategic decision-making (Pfeffer & Salancik, 1978). Still, these contributions may only be fully realized when women reach a sufficient level of influence, as explained by Critical Mass Theory, which argues that a threshold of at least three women on the board is needed for their voices to meaningfully impact group dynamics and firm outcomes (Kramer et al., 2006).

Beyond the organizational structure, Institutional Theory (DiMaggio & Powell, 1983) and Gendered Organizations Theory (Acker, 1990) offer macro-level explanations. Institutional Theory argues that companies adopt diversity practices in response to societal expectations or regulatory pressures, sometimes without changing underlying power dy-

namics. Gendered Organizations Theory further contends that organizational processes and cultures are inherently structured to favor masculine norms, making it difficult for women to gain and exercise authority, even in the presence of formal equality mechanisms. This aligns with the notion of the Glass Ceiling ([Morrison et al., 1987](#)), a metaphor for the invisible barriers that prevent qualified women from ascending to the highest corporate levels.

In general, these theories underscore the finding that women's underrepresentation in management is not merely the result of individual choice or meritocratic failure but the product of deeply embedded organizational and societal structures. Some of the studies developed on this topic attempt to explain the main obstacles that women may encounter when promoted to management and board positions, defining the main barriers as follows: (1) the existence of informal promotion processes to senior management, where settled men turn to their male network of acquaintances to carry out an equal selection ([La Rocca et al., 2024](#)); (2) the attribution of family responsibilities to women; and (3) the perception of a culture that places women in a disadvantageous position with respect to men, with these factors causing women to be placed in a discriminatory socioeconomic position in comparison to men.

However, we cannot ignore the fact that when it comes to relating the benefits of gender diversity to business performance, much of the literature developed in this field is based on the composition of boards of directors and management positions, given that it is at these levels where decision-making requires greater responsibility and where discrimination manifests itself with greater social intensity ([Bear et al., 2010](#); [Datta et al., 2023](#)).

The arguments in favor of increasing female representation in boards and management positions are based on ethical and economic considerations. Economically, it is argued that greater diversity improves decision-making and the financial results of companies, if gender diversity enhances financial performance through a more exhaustive analysis of corporate strategies, which allows organizations to mitigate risks, according to [Post and Byron \(2015\)](#).

The literature studied to date shows a diversity of results regarding the relationship between gender diversity and the financial performance of companies, with no consensus existing in the literature. On the one hand, there is a high number of authors who have found a direct positive relationship between gender diversity and financial results ([Reguera-Alvarado et al., 2017](#); [Mastella et al., 2021](#)).

Other authors found a negative relationship. In this group, there are works that stand out, suggesting that the imposition of a director quota may decrease the value of a company due to excessive regulatory oversight of such quotas. Based on Agency Theory, they suggest that this negative effect can be determined by the increase in agency costs, reducing the stock market value of the company.

Third, several authors did not find a statistically significant relationship between gender diversity and financial results.

However, most studies that have focused on gender diversity in boards of directors only concern groups of women, leaving a gap in the research on the influence of groups of men on the same variables. Additionally, the different existing categories of counselors have not been delved into, given that, in the in-depth review of the literature carried out, only the work of [Cho and Chung \(2022\)](#) has been found. In said study, they analyze how board characteristics and ownership structure influence the P/E of Vietnamese companies. In Spain, boards have two categories of directors, internal and external. This distinction between the different types of counselors is relevant when defining our study, given their different characteristics when accessing the board.

Internal directors are directors who maintain a direct relationship with the company in terms of employment or executive roles and are divided into two categories, executive and proprietary. Executive directors are those members of the board who perform executive and managerial functions within the company, maintaining a contractual relationship with it. Generally, they have a technical profile related to their management responsibilities, while proprietary directors are members of the board because they are owners or representatives of shareholding packages that can influence the control of the company, by themselves or through agreements with other relevant shareholders; they are directly linked to controlling shareholders or groups of significant shareholders (Songini et al., 2022).

As for external directors, they are not linked to the company in terms of employment or executive roles but rather provide an independent perspective from outside the organization. External directors are not members of the company's senior management, which distinguishes them from internal directors. This type of director is chosen with the purpose of providing an external and impartial perspective, and to safeguard the interests of all shareholders, especially minority shareholders; they are generally representatives of financial entities or strategic partners, although they may also be experts in specific topics or community representatives.

Additionally, listed or large companies have managers who, even if they do not belong to the board, can influence business management (Adams & Ferreira, 2009).

Based on the research questions previously outlined, the following hypotheses are developed to empirically test the relationship between gender composition in corporate leadership and firm financial performance. These hypotheses are structured to reflect the different dimensions explored—namely, the overall gender composition of the board, the impact of gender across specific board roles (executive, proprietary, and external), and the influence of gender among senior executives who are not board members. This approach allows for a comprehensive and nuanced analysis of how gender diversity, both in form and function, may shape financial outcomes in publicly listed firms.

**Hypothesis 1. (H<sub>1</sub>).** *The gender of the board members has an impact on the financial performance of the company.*

**Hypothesis 1.1. (H<sub>1.1</sub>).** *The percentage of women in the board increases the financial performance of the company.*

**Hypothesis 1.2. (H<sub>1.2</sub>).** *The percentage of men in the board increases the financial performance of the company.*

This hypothesis explores the aggregate effect of gender diversity in the board on firm performance, with a balanced focus on both female and male representation. We analyzed the literature and found that Adams and Ferreira (2009) discovered that gender-diverse boards can lead to better governance through enhanced monitoring and board activity; Post and Byron (2015), in a meta-analysis, show that female board representation correlates positively with firm performance, particularly in contexts with strong investor protections; Joecks et al. (2013) argue that the relationship between gender diversity and firm performance depends on reaching a critical mass, suggesting the effects may differ across gender balances; and Terjesen et al. (2009) call for gender diversity research to analyze both male and female representation, rather than treating the male presence as the default, aligning with H<sub>1.2</sub>. But, while those previous studies examined the effects of gender diversity on boards, most of them focus predominantly on female representation as the key variable of interest, often neglecting the role of male composition or assuming it as a static default. By developing hypotheses that explicitly analyze the financial impact of both



male and female board representation, this study offers a more balanced and comparative framework. This dual-gender approach allows us to test whether gender composition as a whole, rather than female presence alone, significantly shapes financial performance, thus contributing a more integrative and less biased lens to the literature on board diversity and firm value.

**Hypothesis 2. (H<sub>2</sub>).** *The percentage of executive directors on the board increases the financial performance of the company.*

**Hypothesis 2.1. (H<sub>2,1</sub>).** *The percentage of female executive directors on the board increases the financial performance of the company.*

**Hypothesis 2.2. (H<sub>2,2</sub>).** *The percentage of male executive directors on the board increases the financial performance of the company.*

**Hypothesis 3. (H<sub>3</sub>).** *The percentage of proprietary directors on the board increases the financial performance of the company.*

**Hypothesis 3.1. (H<sub>3,1</sub>).** *The percentage of female proprietary directors on the board increases the financial performance of the company.*

**Hypothesis 3.2. (H<sub>3,2</sub>).** *The percentage of male proprietary directors on the board increases the financial performance of the company.*

**Hypothesis 4. (H<sub>4</sub>).** *The percentage of external directors on the board increases the financial performance of the company.*

**Hypothesis 4.1. (H<sub>4,1</sub>).** *The percentage of female external directors on the board increases the financial performance of the company.*

**Hypothesis 4.2. (H<sub>4,2</sub>).** *The percentage of male external directors on the board increases the financial performance of the company.*

These hypotheses are grounded in the premise that the function of board members matters and that gender may interact with specific roles—such as executive, proprietary, or external directorships—to produce differentiated effects on financial performance. [Hillman et al. \(2002\)](#) highlights that board members contribute distinct resources and exert influence in varying ways depending on their role, which in turn shapes firm outcomes. Building on this, [Fernández-Temprano and Tejerina-Gaite \(2020\)](#) argue that analyzing gender diversity without considering the type of directorship may obscure important variations in influence and effectiveness, particularly for female board members. Supporting this view, [Glass and Cook \(2018\)](#) find that women in executive roles are more likely to drive innovation and foster long-term strategic outcomes, suggesting that gender effects are not uniform across board structures. Additionally, [Torchia et al. \(2011\)](#) emphasize that the presence of women on boards is most impactful when they hold strategic or decision-making positions, rather than being symbolic appointees, reinforcing the need to evaluate gender diversity through a role-specific lens.

Although prior studies recognize the fact that directors' functions vary (e.g., executive vs. independent), few empirical studies have disaggregated gender effects by specific board roles. The hypotheses proposed here introduce a granular analysis, differentiating how male and female directors in executive, proprietary, and external positions may influence financial performance. This level of detail allows us to explore whether gender effects are

role-contingent, thereby extending the literature beyond aggregate diversity measures and into the functional mechanics of board composition. This approach adds novel empirical insight into how gender intersects with board structure to shape firm outcomes.

**Hypothesis 5. (H<sub>5</sub>).** *The percentage of executives not belonging to the board increases the financial performance of the company.*

**Hypothesis 5.1. (H<sub>5.1</sub>).** *The percentage of female executives not belonging to the board increases the company's financial performance.*

**Hypothesis 5.2. (H<sub>5.2</sub>).** *The percentage of male executives not belonging to the board increases the company's financial performance.*

This hypothesis focuses on the influence of top executives who do not sit on the board of directors, a group that remains relatively underexplored in the corporate governance literature despite their critical role in shaping operational and strategic outcomes. [Fahlenbrach et al. \(2010\)](#) state that non-board executives often exert greater influence on firm performance than board members due to their proximity to day-to-day decision-making. In parallel, [Cook and Glass \(2014\)](#) highlight that gendered perceptions outside the boardroom can affect how leadership is evaluated, with female executives frequently facing higher barriers and skepticism despite comparable qualifications and achievements. This indicates that gender may interact with executive function in distinct ways beyond formal board settings. Supporting this, [Kanadli et al. \(2018\)](#) suggest that non-board executive roles may provide women with more meaningful opportunities to shape outcomes, as these positions emphasize execution over oversight, potentially reducing symbolic appointments. Finally, [Mishra and Nielsen \(2021\)](#) reinforce the relevance of gender diversity in upper management more broadly—beyond board composition—by demonstrating its positive effect on firm financial performance, thereby justifying the inclusion of gender-disaggregated hypotheses focused on top executives outside the board.

While board composition has been extensively studied, the role of executives who are not board members remains underexplored in gender diversity research. By focusing on the gendered impact of non-board executives, these hypotheses address a critical gap in the literature. The analysis acknowledges that key financial decisions often lie in the hands of senior managers outside the board, whose gender composition may significantly affect firm performance. This contribution is particularly novel because it shifts the focus from formal governance bodies to operational leadership, offering a more complete understanding of how gender diversity functions across corporate hierarchies.

### 3. Materials and Methods

Starting from the works of [Brahma et al. \(2021\)](#), [Mastella et al. \(2021\)](#), and [Min et al. \(2022\)](#), we extend their models to consider the different typologies of positions of responsibility inside and outside the board for women and men. For the analysis of our models that we describe below, we use the following sample.

#### 3.1. Sample

To carry out our work, we have developed a sample of panel data. This sample considers the data of the 155 companies that have been listed on the Spanish continuous market between 2017 and 2022. The selection of Spain is due to the fact that its supervisory body (CNMV) is the only one, along with the Norwegian Finanstilsynet, that has published these data in the aforementioned time horizon, given that the rest of the countries of the European Union have begun to publish them in 2023 as of the entry into force of Directive



(EU) 2022/2381 of the European Parliament and of the Council, approved on 23 November 2022, which establishes measures to improve the gender balance among the directors of listed companies in the EU, requiring that by the end of June 2026 at least 40% of non-executive director positions be occupied by members of the less represented sex. This fact reinforces the validity of our study, which assumes that we are not talking about women but about any group that is less represented.

Of the 155 companies, only 94 were trading continuously during the study period, leading us to eliminate those organizations for which all financial data were not available for the entire period studied. Therefore, the final sample is made up of 94 companies that represent a capitalization greater than 85% of the continuous market, resulting in a representative sample. The type of data used follow an unbalanced panel data structure, given that all listed companies for which data were available in the study period have been considered, regardless of whether they were additionally listed on the Ibex 35. The database has been prepared based on information obtained from the consolidated annual accounts, corporate governance reports, and data from the financial platform Tiker.com of Spanish continuous market companies.

### 3.2. Econometric Design

To test the hypotheses raised (H1–H4), two regression approaches are used: fixed effects (FE) and generalized method of moments (GMM). The generic expressions of these models are as follows:

Fixed effects (FE) model:

$$Y_{i,t} = \alpha_i + \tau_t + X_{i,t}\beta + \varepsilon_{i,t}. \quad (1)$$

GMM model:

$$Y_{i,t} = \alpha_0 + \delta Y_{i,t-l} + X_{i,t}\beta + u_{i,t}. \quad (2)$$

where both models share the following expressions:

- $Y_{i,t}$ : dependent variable for cross section  $I$  in period  $t$ .
- $X_{i,t}$ : independent variables associated with  $\beta$  parameters, which reflect their influence on  $Y_{i,t}$ .
- Error terms: (FE model) and (GMM model)  $\varepsilon_{i,t}u_{i,t}$ .

In addition, the following specific components have been used in the FE model:

- $\alpha_i$ : Unit-specific fixed effects,  $i$ .
- $\tau_t$ : temporary fixed effects,  $t$ .

And other different specific components in the GMM model, as follows:

- $\alpha_0$ : model constant.
- $\delta$  lagging dependent variable, with delays,  $Y_{i,t-l}$ :  $l = 1, 2$ .
- $\delta$ : coefficients associated with delays-.
- Gender composition variables ( $X_{k,i,t}^g$ )
  - Proportions related to the composition of the board of directors (CA) and management, disaggregated by gender ( $g = M, H$ ).
  - Parameters:  $\beta_{j,k}^g$ .

Dichotomous variables:

- They capture key differentiating effects.
  - $D_1$ : IBEX 35 membership;
  - $D_2$ : market capitalization > EUR 500 million;
  - $D_3$ : pandemic period (2020–2022);

- $D_4$ : belonging to a specific sector ( $m = 1, 2, \dots, 12$ ).
- Parameters:  $\theta_{s,j}, \lambda_{j,m}$   
Control variables ( $C_{h,i,t}$ )
- They include board size, years of listing, company size, solvency, leverage, operating cash flow, and operating fund needs.
- Parameters:  $\gamma_{j,h}$

As a result, the adjusted models would be as follows:

FE model adjusted:

$$R_{j,i,t} = \alpha_{j,i} + \tau_{j,t} + \sum_{k=1}^{10} \beta_{j,k}^g X_{k,i,t}^g + \theta_{j,1} D_{1,i,t} + \theta_{j,2} D_{2,i,t} + \theta_{j,3} D_{3,t} + \lambda_{j,m} D_{4,m,i} + \sum_{h=1}^7 \gamma_{j,h} C_{h,i,t} + \varepsilon_{j,i,t}. \quad (3)$$

GMM model adjusted:

$$R_{j,i,t} = \alpha_j + \tau_{j,t} + \sum_{l=1}^2 \delta_l R_{j,i,t-l} + \sum_{k=1}^{10} \beta_{j,k}^g X_{k,i,t}^g + \theta_{j,1} D_{1,i,t} + \theta_{j,2} D_{2,i,t} + \theta_{j,3} D_{3,t} + \lambda_{j,m} D_{4,m,i} + \sum_{h=1}^7 \gamma_{j,h} C_{h,i,t} + u_{j,i,t}. \quad (4)$$

Regarding the potential endogeneity issues, as widely acknowledged in the literature (Arellano & Bond, 1991; Blundell & Bond, 1998), the system GMM is specifically designed to address endogeneity in dynamic panel data models, particularly when explanatory variables are potentially endogenous and unobserved heterogeneity is present. Given that our model specification, instrument selection, and estimation method were built around this concern, we did not consider it necessary to include additional endogeneity tests or robustness checks beyond those already embedded in the GMM framework.

These models have yielded the results that are offered in the following section.

## 4. Results

To carry out our analysis, we estimated all the coefficients in Equations (3) and (4). Of these estimates, we only collected estimates related to the coefficients related to the proposed hypotheses—the coefficients  $\beta_{j,k}^g$  associated with gender variables  $X_k^g$  and differentiating effects  $\theta_{j,s}$  associated with the binary variables  $D_s$   $s = 1, 2, 3$  in both the FE and GMM estimation, as well as the coefficients  $\delta_l$  associated with the lags of the dependent variable itself that only appear in the GMM model since the other variables were not related to the hypotheses to be tested.

Regarding the binary variable  $D_4$  related to the sectors, in our analysis we included only 11 sectoral binary variables and not 12 so as not to cause a problem of exact multicollinearity that would not allow for the models to be estimated.

Additionally, in the analysis carried out using GMM, a hypothesis contrast was carried out to evaluate the relevance of the coefficients associated with the different sectors of economic activity. The contrast results provide statistically significant evidence in favor of the joint importance of these sector coefficients, indicating that the inclusion of sector variables in the model substantially improves the precision and relevance of the estimate.

For a better understanding of the results, and with the aim of being able to carry out a comparative analysis, the different estimates are presented below in eight tables that contain the results. In the first four tables, the female gender is considered, and the P/E by FE is estimated first (Table 1); in the second, the P/E by GMM is estimated (Table 2); in the third, the Q-Tobin by FE is estimated (Table 3); and finally the Q-Tobin by GMM is estimated (Table 4). In the next four tables, the process is repeated for the male gender. In

these tables, the results in parentheses represent the standard deviations; those with three stars (\*\*\*) indicate that the estimate is significant at 1%, those with two stars (\*\*) indicate that the estimate is significant at 5%, and those with one star (\*) indicate that the estimate is significant at 10%.

#### 4.1. Results of the Women's Team

Firstly, starting from the FE model given in (3), we estimate the coefficients associated with the P/E for women. Table 1 shows the results for the coefficients described as  $\alpha_{10}$  above.  $\beta_{1,k}^M$ ,  $k = 1, 5$ , and  $\theta_{1,s}$ ,  $s = 1, 3$ .

**Table 1.** Estimates of the coefficients associated with P/E for women with FE.

P/E	$\alpha_{10}$	$\beta_{11}^M$	$\beta_{12}^M$	$\beta_{13}^M$	$\beta_{14}^M$	$\beta_{15}^M$	$\theta_{11}$	$\theta_{12}$	$\theta_{13}$
Fixed effects Women	9.5092 (7.8006)	3.3619 (5.4324)	1.2699 (1.9025)	−1.3133 (3.3518)	0.0491 (2.2316)	6.4292 ** (2.9008)	−0.5005 (0.7803)	1.0327 (1.3023)	0.6085 (1.3558)

*Join test* (This test assesses whether the fixed effects are jointly significant across all units. A low test statistic suggests that individual effects are not statistically different from each other, supporting the use of a pooled model): 1.01987. *Hausman test* (This test evaluates whether the individual effects are correlated with the regressors. A highly significant result ( $p < 0.01$ ) indicates that the fixed effects model is preferred over the random effects model due to endogeneity concerns.): 855.593 \*\*\*. *Robust test of intercepts* (This test examines whether there are significant differences in intercepts across units while allowing for heteroskedasticity or other violations of classical assumptions. A significant result implies heterogeneity in intercepts and supports the use of a fixed effects approach): 168.187 \*\*\*.

The estimation results reveal that, among all the evaluated coefficients, only the coefficient associated with female executives not serving on the board ( $\beta_{15}$ ) is statistically significant at conventional levels. Specifically, this coefficient exhibits a positive and significant relationship with the company's P/E ratio, with a 95% confidence interval ranging from 0.66 to 12.18. This result suggests that the presence of women in senior management positions—outside the formal structure of the board of directors—has a meaningful impact on market-based financial performance. This finding is particularly relevant in light of recent studies emphasizing the strategic value of female leadership. Women in executive roles often bring distinct competencies, earnings, and future growth expectations. Hence, the statistical significance and magnitude of  $\beta_{15}$  provide empirical support for the idea that female executive leadership enhances investor confidence and perceived firm value, ultimately contributing to stronger financial market performance.

Now for the GMM model given in (4), Table 2 shows the estimates, differentiating without sectors and with sectors, of the coefficients associated with the P/E for women using  $\delta_{11}$ ,  $\delta_{12}$ ,  $\alpha_{10}$ ,  $\beta_{1,k}^M$ ,  $k = 1, 5$ , and  $\theta_{1,s}$ ,  $s = 1, 3$ .

**Table 2.** Estimates of the coefficients associated with P/E for women with GMM.

P/E	$\delta_{11}$	$\delta_{12}$	$\alpha_{10}$	$\beta_{11}^M$	$\beta_{12}^M$	$\beta_{13}^M$	$\beta_{14}^M$	$\beta_{15}^M$	$\theta_{11}$	$\theta_{12}$	$\theta_{13}$
GMM Women without sectors	0.706 *** (0.050)	0.107 *** (0.031)	0.583 (1.585)	−0.147 (3.050)	0.229 (1.110)	−0.870 (1.278)	0.163 (1.624)	1.922 (1.441)	1.859 (2.522)	−0.279 (0.612)	1.103 * (0.6442)
GMM Women with sectors	0.706 *** (0.057)	0.117 *** (0.037)	−2.905 (2.9185)	1.316 (3.974)	0.310 (1.225)	−0.787 (1.442)	−0.075 (2.188)	0.886 (1.542)	1.442 (2.536)	−0.374 (0.641)	1.264 * (0.766)
	Join test		AR test (1)		AR test (2)		Sargan test				
GMM Women without sectors	1454.280 ***		−2.211 **		−1.053		−1.099				
GMM Women with sectors	1623.930 ***		−2.284 **		30.272 ***		26.170 ***				

The results show that the parameters from  $\beta_{11}$  to  $\beta_{15}$ —which correspond to the various categories of female directors and executives—are statistically irrelevant. This suggests that, under dynamic panel specification, the presence of women in these roles does not exert

a measurable impact on the variability of the P/E ratio within the observed period. This outcome may reflect the current limitations in the structural influence of female leadership within Spanish listed firms. It could indicate that the presence of women in key decision-making roles has not yet reached a critical mass capable of shaping investor perceptions or financial expectations, at least to a degree captured by market-based performance indicators such as the P/E ratio. Additionally, the model reveals that the company's market capitalization exerts a statistically significant and positive effect on the P/E ratio, both in specifications that include sectoral controls and those that do not. Firms with capitalizations above 500 million euros consistently exhibit higher P/E values compared to smaller firms. This finding underscores the role of firm size as a signal of market stability and growth potential. Larger firms may benefit from increased investor confidence, access to capital, and the ability to leverage economies of scale—factors that contribute to stronger market valuations. Therefore, while gender composition may not yet play a decisive role in shaping the P/E ratio in this context, firm size emerges as a robust determinant of market-based financial performance.

Table 3 shows the estimates of the coefficients associated with Tobin's Q for women using the FE model given in (3), using  $\alpha_{20}$ ,  $\beta_{2,k}^M$ ,  $k = 1, 5$ , and  $\theta_{2,s}$ ,  $s = 1, 3$ .

**Table 3.** Estimates of the coefficients associated with Tobin's Q for women with FE.

TOBIN's Q	$\alpha_{20}$	$\beta_{21}^M$	$\beta_{22}^M$	$\beta_{23}^M$	$\beta_{24}^M$	$\beta_{25}^M$	$\theta_{21}$	$\theta_{22}$	$\theta_{23}$
Fixed effects Women	−2.080 (4.062)	0.806 (2.997)	−0.513 (0.590)	−0.962 (0.758)	0.786 (1.114)	−0.989 (0.729)	0.028 (2.118)	1.262 *** (0.335)	0.190 (0.469)

Joint test: 3.976 \*\*\*. Hausman test: 4.345 \*\*\*. Robust intercept test: 20.796 \*\*\*.

Table 4 shows the estimates without sectors and with sectors of the coefficients associated with Tobin's Q for women using the GMM model given in (4) from  $\delta_{11}$ ,  $\delta_{12}$ ,  $\alpha_{10}$ ,  $\beta_{1,k}^M$ ,  $k = 1, 5$ , and  $\theta_{1,s}$ ,  $s = 1, 3$ .

**Table 4.** Estimates of the coefficients associated with Tobin's Q for women with GMM.

Tobin's Q	$\delta_{21}$	$\delta_{22}$	$\alpha_{20}$	$\beta_{21}^M$	$\beta_{22}^M$	$\beta_{23}^M$	$\beta_{24}^M$	$\beta_{25}^M$	$\theta_{12}$	$\theta_{22}$	$\theta_{23}$
GMM Women without sectors	0.579 *** (0.032)	0.235 *** (0.055)	1.205 ** (0.600)	−0.841 (1.056)	0.001 (0.292)	−0.829 ** (0.374)	−0.183 (0.464)	0.236 (0.424)	0.478 (1.419)	0.542 ** (0.247)	−0.006 (0.235)
GMM Women with sectors	0.447 *** (0.087)	0.226 *** (0.062)	1.877 ** (0.810)	−1.619 (1.097)	0.148 (0.393)	−0.511 (0.414)	0.201 (0.509)	−0.139 (0.497)	0.570 (1.339)	0.604 ** (0.245)	−0.028 (0.036)
	Join test		AR test (1)		AR test (2)		Sargan test				
GMM Women without sectors	374.220 ***		−2.023 **		−1.053		10.223 ***				
GMM Women with sectors	319.63 ***		−1.935 *		−1.081		11.290				

The results presented in Tables 3 and 4 indicate that none of the coefficients associated with female representation in leadership positions are statistically significant in explaining Tobin's Q under the fixed effects and GMM models. While this suggests a limited influence of the female presence on firm market valuation in the sample analyzed, it is important to consider that the estimated effect—though not significant—tends toward a negative relationship. This finding may be reflective of deeper structural and contextual factors influencing how financial markets respond to female leadership.

One plausible explanation lies in investor perception and behavioral biases. Empirical studies have shown that markets do not always respond neutrally to the presence of women in top management roles. For instance, Lee and James (2007) found that the appointment of female CEOs led to negative abnormal stock returns, which they attributed to investor stereotypes and expectations inconsistent with traditional leadership norms. Similarly,

Dezső et al. (2016) argue that despite equal or superior competence, women in executive roles often face implicit biases that reduce their perceived legitimacy in the eyes of investors, thereby affecting market-based valuation measures such as Tobin's Q.

In addition to market biases, internal leadership dynamics may also play a role. Research by Pletzer et al. (2021) suggests that the presence of women in executive roles can challenge established decision-making norms, particularly in traditionally male-dominated industries. While this can introduce innovation and long-term thinking, it may also initially create friction or be perceived as a departure from conventional strategic approaches, especially if female executives are underrepresented and lack critical mass to influence broader governance structures.

Moreover, the effect of female leadership on market valuation may be highly contingent on the industry context. Industries with low levels of female representation or those that are more conservative in their leadership models may exhibit resistance—both internally and externally—to changes in executive composition. As Terjesen et al. (2009) note, sectoral differences can mediate how board diversity translates into firm performance, and, in some contexts, female leadership may not be immediately recognized or valued in market terms.

Considering these considerations, the absence of a significant and positive relationship between female leadership and Tobin's Q does not necessarily imply a lack of value contribution. Rather, it may reflect broader socio-economic and perceptual dynamics that condition how such contributions are received and measured by the market.

However, a notable exception emerges in the case of the proportion of female executive directors, which shows a negative and statistically significant association with Tobin's Q. This finding suggests that, under current market dynamics, an increase in the presence of women in executive roles may be perceived—rightly or wrongly—as detrimental to firm value, as measured by this market-based indicator. While this does not necessarily imply lower actual performance, it may reflect deeper investor biases or structural barriers affecting how female leadership is evaluated. As documented by Lee and James (2007), female executives often face heightened scrutiny and skepticism, which can translate into market undervaluation despite their qualifications or performance.

The implications of these results are twofold. First, they suggest that female participation in executive roles—unlike more general forms of board inclusion—can have a differentiated and significant impact on firm valuation, highlighting the importance of role specificity in studies of gender diversity. Second, the negative market response may signal the persistence of gendered expectations and leadership stereotypes that continue to shape corporate and investor perceptions. As Dezső et al. (2016) argue, female executives often operate within environments that may undervalue their contributions or constrain their influence, particularly in traditionally male-dominated sectors.

In the same estimation, the parameter  $\theta_{22}$ , which captures whether a firm is listed on the Ibex 35, is statistically significant at the 90% confidence level. This indicates that firms included in the index tend to exhibit higher Tobin's Q values, likely due to enhanced investor visibility, greater liquidity, and reputational signaling associated with belonging to Spain's main stock market index.

Finally, the constant term in Tobin's Q estimation is significantly different from zero, suggesting that market valuation exceeds book-based financial expectations. This result points to the presence of non-accounting intangible factors, such as brand reputation, investor sentiment, or perceived leadership quality, which are valued by the market but not fully captured by traditional financial metrics. As noted by Black and Scholes (1974) and Edmans (2011), such intangible elements increasingly shape firm value in modern capital markets.

#### 4.2. Results of the Male Group

After analyzing the effects of the econometric models defined on women, we present the results when analyzing the male group below.

Table 5 shows the estimates of the coefficients associated with the P/E for men using the FE model given in (3) from  $\alpha_{10}$ ,  $\beta_{1,k}^H$ ,  $k = 1, 5$ , and  $\theta_{1,s}$ ,  $s = 1, 3$ .

**Table 5.** Estimates of the coefficients associated with P/E for men with FE.

P/E	$\alpha_{10}$	$\beta_{11}^H$	$\beta_{12}^H$	$\beta_{13}^H$	$\beta_{14}^H$	$\beta_{15}^H$	$\theta_{11}$	$\theta_{12}$	$\theta_{13}$
<i>Fixed effects Men</i>	1.421 (1.460)	−1.059 (1.288)	−1.048 (1.200)	−1.059 (1.288)	−1.048 (1.200)	−1.518 (2.085)	−0.605 (0.840)	0.841 (1.352)	0.368 (1.415)

Joint test: 0.5250. Hausman test: 463.86 \*\*\*. Robust intercept test: 178.42 \*\*\*.

The estimation of the P/E ratio using the fixed effects (FE) model, as shown in Table 5, reveals that none of the coefficients associated with male representation across various leadership categories are statistically significant. This finding suggests that the male presence in executive and board-level positions does not exert a measurable influence on the financial performance of listed firms, at least as captured by market-based indicators such as the P/E ratio. This result runs counter to traditional assumptions in the corporate governance literature, which often associate male leadership with stability, experience, and enhanced firm value (Post & Byron, 2015). One possible explanation is that male dominance in corporate leadership has been historically normalized and, therefore, already “priced in” by investors. As a result, variations in male representation may no longer generate meaningful changes in market expectations or firm valuation (Sila et al., 2016).

Table 6 shows the estimates of the coefficients associated with the P/E for men with sectors and without sectors using the GMM model given in (4) with  $\delta_{11}$ ,  $\delta_{12}$ ,  $\alpha_{10}$ ,  $\beta_{1,k}^H$ ,  $k = 1, 5$ , and  $\theta_{1,s}$ ,  $s = 1, 3$ .

**Table 6.** Estimates of the coefficients associated with P/E for men with GMM.

P/E	$\delta_{11}$	$\delta_{12}$	$\alpha_{10}$	$\beta_{11}^H$	$\beta_{12}^H$	$\beta_{13}^H$	$\beta_{14}^H$	$\beta_{15}^H$	$\theta_{11}$	$\theta_{12}$	$\theta_{13}$
<i>GMM Men without sectors</i>	0.712 *** (0.056)	0.096 *** (0.035)	0.809 (2.183)	−0.287 (2.712)	0.233 (0.569)	−0.496 (0.746)	−0.478 (1.511)	1.274 * (0.763)	1.626 (2.314)	−0.010 (0.609)	1.172 * (0.626)
<i>GMM Men with sectors</i>	0.698 *** (0.055)	0.109 ** (0.043)	−2.260 (3.010)	−0.063 (3.234)	0.257 (0.666)	−0.790 (0.873)	−0.538 (1.888)	1.566 ** (0.795)	1.554 (2.381)	−0.157 (0.662)	1.395 * (0.776)
	Join test		AR test (1)		AR test (2)		Sargan test				
<i>GMM Men without sectors</i>	2026.490 ***		−2.241 ***		−0.966		29.309 ***				
<i>GMM Men with sectors</i>	1643.120 ***		−2.307 ***		−1.047		25.754 ***				

Table 6 presents the results of the GMM estimation and reveals a more nuanced outcome. While the overall male presence in board roles continues to lack significance, the coefficient corresponding to male executives outside the board of directors ( $\beta_{15}$ ) is statistically significant and positively associated with the P/E ratio. This suggests that male leadership in operational roles—distinct from formal board membership—may play a more direct and influential role in shaping market perceptions of firm performance. This finding is consistent with previous studies emphasizing the importance of managerial roles in driving firm outcomes, as opposed to board-level oversight alone (Fahlenbrach et al., 2010). It also reflects the operational proximity of executives outside the board to the strategic decisions and business performance metrics that markets tend to value.

Additionally, the analysis confirms that firms with a market capitalization exceeding EUR 500 million show significantly higher P/E ratios. Larger firms often enjoy greater visibility, investor trust, and access to capital, all of which positively affect market valuation



(Dang et al., 2018). These firms may also benefit from economies of scale and stronger corporate governance frameworks, further reinforcing their superior market performance.

The statistically non-significant constant term in the P/E GMM model further supports the robustness of the specification, suggesting that the key drivers of P/E have been adequately captured by the explanatory variables. This adds credibility to the interpretation that firm size and specific types of male leadership—particularly in non-board executive roles—are more relevant to financial performance than general male representation on corporate boards.

Taking together, these findings suggest that gender alone is not a sufficient explanatory factor for variations in financial performance and that role-specific dynamics are critical. The results also support a more balanced and nuanced view of gender diversity, moving beyond binary assumptions and encouraging further exploration of how different leadership structures—both within and outside the boardroom—affect firm value.

Table 7 shows the estimates of the coefficients associated with Tobin's Q for men using the FE model given in (3) from  $\alpha_{20}$ ,  $\beta_{2,k}^H$ ,  $k = 1, 5$ , and  $\theta_{1,s}$ ,  $s = 1, 3$ .

**Table 7.** Estimates of the coefficients associated with Tobin's Q for men with FE.

TOBIN's Q	$\alpha_{20}$	$\beta_{21}^H$	$\beta_{22}^H$	$\beta_{23}^H$	$\beta_{24}^H$	$\beta_{25}^H$	$\theta_{21}$	$\theta_{22}$	$\theta_{23}$
Fixed effects Men	−1.351 (4.591)	0.686 (1.669)	0.351 (0.473)	−0.101 (0.337)	−1.313 * (0.773)	−0.113 (0.436)	−0.043 (2.083)	1.181 *** (0.340)	0.119 (0.476)

Joint test: 3.556 \*\*\*. Hausman test: 375.727 \*\*\*. Robust intercept test: 17.098 \*\*\*.

The fixed effects (FE) estimation presented in Table 7 reveals that a decrease in the proportion of male external directors is associated with a statistically significant improvement in Tobin's Q. This result suggests that a higher presence of men in external board positions does not enhance market valuation and may even be counterproductive under certain conditions. Prior studies support this interpretation, as overrepresentation of homogenous profiles on corporate boards—particularly in terms of gender and professional background—can limit the diversity of perspectives and hinder effective governance (Adams & Ferreira, 2009; Joecks et al., 2013). These findings reinforce the view that diversity in leadership composition, including gender diversity, contributes to more balanced and informed decision-making, which is increasingly valued by investors.

The same estimation also indicates that the coefficient  $\theta_{22}$ , associated with membership in the Ibex 35, is statistically significant and positively correlated with Tobin's Q. This outcome is consistent with studies that show that firms included in major stock indices benefit from increased visibility, liquidity, and investor confidence, which in turn raise their market valuation (Capelle-Blancard & Petit, 2019).

Table 8 shows the estimates of the coefficients without sectors and with sectors associated with Tobin's Q for men using the GMM model given in (4), with the parameters  $\delta_{21}$ ,  $\delta_{22}$ ,  $\alpha_{20}$ ,  $\beta_{2,k}^H$ ,  $k = 1, 5$ , and  $\theta_{2,s}$ ,  $s = 1, 3$ .

In Table 8, using the GMM model, several additional patterns emerge. The coefficients  $\delta_{21}$  and  $\delta_{22}$ , capturing male representation in the board with and without sector controls, are both statistically significant and positively associated with Tobin's Q. This suggests that male participation in the board, in general, is positively perceived by the market. However, when examining more specific roles, nuanced effects are observed. Notably, the coefficient  $\beta_{22}$ , corresponding to male executive directors, is statistically significant but negatively correlated with Tobin's Q. This implies that a high concentration of men in executive board positions may reduce firm value, potentially due to reduced diversity in strategic leadership. Similar conclusions have been drawn in studies indicating that

excessive homogeneity at the top management level can limit innovation and adaptability (Terjesen et al., 2009; Post & Byron, 2015).

**Table 8.** Estimates of the coefficients associated with Tobin’s Q for men with GMM.

<i>Tobin’s Q</i>	$\delta_{21}$	$\delta_{22}$	$\alpha_{20}$	$\beta_{21}^H$	$\beta_{22}^H$	$\beta_{23}^H$	$\beta_{24}^H$	$\beta_{25}^H$	$\theta_{21}$	$\theta_{22}$	$\theta_{23}$
<i>GMM Men without sectors</i>	0.590 *** (0.091)	0.234 *** (0.055)	−0.499 (0.760)	2.226 ** (1.012)	−0.485 ** (0.221)	0.086 (0.249)	−0.370 (0.427)	0.523 * (0.280)	0.773 (1.479)	0.549 ** (0.247)	0.087 (0.233)
<i>GMM Men with sectors</i>	0.467 *** (0.095)	0.235 *** (0.065)	−0.184 (0.027)	2.686 *** (1.012)	−0.520 ** (0.236)	−0.0003 (0.249)	−0.623 (0.533)	0.647 ** (0.293)	0.905 (1.378)	0.569 ** (0.231)	0.053 (0.253)
	<b>Join test</b>			<b>AR test (1)</b>		<b>AR test (2)</b>		<b>Sargan test</b>			
<i>GMM Men without sectors</i>	298.425 ***			−2.046 ***		−1.054		11.485			
<i>GMM Men with sectors</i>	326.785 ***			−1.966 **		−1.082		12.451			

On the other hand, the positive coefficient  $\beta_{25}$ , representing male executives not serving on the board, indicates that operational leadership roles outside the board can positively influence firm valuation, as measured by Tobin’s Q. This finding may reflect the greater proximity of these roles to core business activities, where strategic decisions are executed, and financial outcomes are directly shaped. As noted by Fahlenbrach et al. (2010), executives in non-board roles typically exert substantial influence on firm performance due to their involvement in daily operations and strategic implementation, in contrast to the more supervisory function of board members.

Importantly, this result highlights that gender dynamics outside the boardroom may have a more pronounced effect on firm performance than board-level diversity alone. This is consistent with findings by Glass and Cook (2018), who argue that female executives in senior management roles are more likely to drive innovation, risk moderation, and organizational adaptability, all of which are key drivers of market valuation. In contrast, the influence of gender diversity within boards may be structurally limited. Board members often meet infrequently and may lack real-time involvement in operational decisions, which can reduce their capacity to influence immediate performance outcomes (Adams & Ferreira, 2009). Moreover, institutional and cultural barriers can constrain the effectiveness of female board members. Kanter’s (1977) theory of tokenism suggests that when women are underrepresented in a group, their influence is often marginalized, and their presence becomes symbolic rather than transformative. As a result, board-level diversity may not translate into significant strategic shifts unless accompanied by broader cultural and organizational change (Torchia et al., 2011). This may explain why diversity in operational leadership roles—where women and men have more sustained engagement with organizational processes—has a greater impact on firm performance.

This evidence suggests that while improving board diversity remains important for governance legitimacy and long-term strategy, greater emphasis should be placed on fostering gender diversity within executive teams and senior management layers. These roles offer more direct channels for influence and decision-making and thus may yield stronger financial benefits in both investor perception and real performance metrics.

Finally, the positive and significant coefficient for Ibex 35 membership is again confirmed, underscoring the relevance of index inclusion as a signal of financial strength and stability in the eyes of investors (Dang et al., 2018).

## 5. Discussion

The results obtained have been interpreted from the perspective of previous studies and the working hypotheses previously formulated for women and men. So, each result  $R_q$  is numbered based on the number of hypotheses formulated, that is,  $R_1$  to  $R_5$ .

$R_1$ . The analysis carried out on the samples of women and men in relation to the P/E and Tobin's Q valuation ratios found that significant differences were observed in the impact of gender representation on financial results. For the sample of women, the data did not reveal any independent gender variable that significantly determined an increase in either the P/E or Tobin's Q. This leads to the rejection of hypothesis  $H_{11}$  for women, suggesting that the female presence, in general terms, has not yet reached a sufficiently high level in continuous market companies to influence stock market prices. On the contrary, in the sample of men, it was found that the presence of men does not increase the P/E decisively, but it does present a relevant increase for Tobin's Q. This implies that hypothesis  $H_{12}$  is accepted for men, indicating that the general proportion of men increases the financial performance of companies. These results are consistent with Critical Mass Theory, which suggests that a minority group in an organization needs to reach a critical threshold to effect significant change.

$R_2$ . The analysis of the samples differentiated by the gender and type of executive director does not show statistical relevance for the group of women. On the other hand, in the male sample, it was observed that an increase in the proportion of executive directors is associated with a decrease in both valuation ratios, which implies a decrease in financial performance. These results suggest that a greater concentration of men in executive positions could be correlated with negative market perception regarding the company's management and strategic decisions, adversely affecting its stock market valuation. These findings lead to the rejection of hypothesis  $H_2$ , which proposes that the proportion of executive directors increases the financial performance of the company. In the case of women,  $H_{21}$  is rejected due to its lack of statistical significance, and, in the case of men,  $H_{22}$  is rejected because it presents the opposite effect.

$R_3$ . In the analysis of the samples differentiated by gender and type of proprietary director, the results indicate that this coefficient is not statistically significant in either of the two samples, suggesting that variations in the proportion of proprietary directors, both men and women, do not increase the financial performance of the company. These findings lead to the rejection of hypothesis  $H_3$ , which proposes that the proportion of executive directors increases the financial performance of the company. Both  $H_{31}$  and  $H_{32}$  are rejected due to lack of statistical significance.

$R_4$ . The analysis of the samples differentiated by gender and type of external director reveals that the coefficient is not statistically significant in either of the two categories. This implies that variations in the proportion of external directors, both men and women, do not improve the financial performance of the company. Consequently, hypothesis  $H_4$  is rejected, which postulates that the proportion of executive directors increases the financial performance of the company. Both  $H_{41}$  and  $H_{42}$  are rejected due to lack of statistical significance.

This finding contributes to the academic debate on the effectiveness of external directors in improving the financial performance and market valuation of companies. Although external directors should theoretically provide an independent perspective that improves decision-making and supervision, the absence of a significant impact suggests that their effectiveness may be conditioned by other operational or structural factors within companies.

$R_5$ . In the analysis carried out in both samples, it was observed that an increase in the proportion of directors who are not part of the board leads to an increase in financial performance. The parameter associated with this effect proved to be positive with 95%

confidence intervals that support this statement for both men and women. This increase in financial performance is comparable, indicating that the influence of increasing the proportion of directors, regardless of gender, on financial performance is similar. Therefore, hypothesis  $H_5$  is accepted, which postulated that the proportion of executives not belonging to the board increases the financial performance of the company. Both  $H_{51}$  and  $H_{52}$  are accepted as they yield statistically significant results.

## 6. Conclusions

This study has analyzed the influence of gender composition within the board and top executive positions on the financial performance of Spanish listed companies over the period 2017–2022. Specifically, the analysis focused on both the percentage of men and women across various governance roles and the impact of gender disaggregated by director type (executive, proprietary, and external), as well as non-board executives.

This article contributes to academia, business, and society. From an academic perspective, this work contributes a novel and more holistic approach to the study of gender diversity in corporate governance. Unlike much of the existing literature, which tends to focus exclusively on female representation, this study incorporates both male and female presence into the analysis and evaluates their respective impacts across specific board and executive roles. This dual-gender, role-specific approach offers a richer understanding of how gender diversity functions within governance structures, aligning with calls in the literature for more granular and inclusive frameworks (Post & Byron, 2015; Joecks et al., 2013).

For companies, the findings provide actionable insights into the design of their leadership structures. The results show that the presence of male executives outside the boardroom has a positive and statistically significant effect on financial performance, while neither male nor female executive or proprietary directors within the board significantly affect outcomes. This suggests that firms should consider enhancing gender diversity and leadership competencies specifically in non-board executive roles, which appear more directly linked to market valuation (Fahlenbrach et al., 2010; Glass & Cook, 2018).

At the societal level, the findings reveal that female leadership has not yet reached a level of influence sufficient to drive significant market impact in Spain, possibly due to underrepresentation or persistent gender biases in market perception (Cook & Glass, 2014; Kanter, 1977). These insights are valuable for policymakers, as they suggest that diversity quotas alone may be insufficient unless accompanied by broader cultural shifts and support mechanisms that empower women in senior executive roles. This study thus supports the need for more nuanced public policies that address structural barriers to gender equity in corporate leadership. In doing so, it contributes directly to the advancement of the United Nations' Sustainable Development Goals (SDGs), particularly SDG 5 (Gender Equality) and SDG 8 (Decent Work and Economic Growth), by emphasizing the importance of inclusive leadership in achieving equitable and sustainable corporate practices.

Regarding the results obtained for research question 1 (Does the gender composition of the board influence the financial performance of companies?), the results suggest that the overall gender composition of the board does not have a statistically significant impact on financial performance as measured by P/E and Tobin's Q. While this may initially appear to challenge previous findings, it likely reflects a normalization of male leadership and an insufficient critical mass of female participation to influence market metrics (Terjesen et al., 2009; Joecks et al., 2013). Importantly, the analysis highlights that the absence of significant effects does not imply irrelevance but rather underscores the complexity of the relationship and the need for further longitudinal and cross-cultural studies.

When examining the research question 2 (How does the presence of executive, proprietary, and external directors—disaggregated by gender—affect financial performance?),

regarding the influence of executive, proprietary, and external directors by gender, the findings indicate that gender effects are highly contingent on role type. External male directors are negatively associated with Tobin's Q, suggesting potential overrepresentation or limited value addition in that role. In contrast, no significant effects were found for male or female executive and proprietary directors, indicating that these roles may have a less direct influence on market-based performance or are constrained by other structural factors (Hillman et al., 2002; Torchia et al., 2011). These results reinforce the importance of adopting a role-specific lens in gender diversity research.

Finally, when analyzing the research question 3 (Do executives who are not board members contribute to improved financial outcomes, and does this vary by gender?), the study finds that male executives outside the board have a positive and statistically significant effect on P/E and Tobin's Q, whereas female non-board executives do not yet show the same impact. This discrepancy may reflect differences in role access, tenure, or market perception, aligning with theories of gender bias and organizational tokenism (Kanter, 1977; Cook & Glass, 2014). Importantly, this highlights the finding that non-board executive roles are crucial levers of firm performance and that gender diversity in these positions may be more influential than in formal governance roles. Companies and policymakers should therefore focus not only on board quotas but also on enabling pathways for women in strategic operational leadership.

In conclusion, this research provides an in-depth, empirically grounded understanding of how gender and role interact within corporate leadership structures to influence financial outcomes. The findings suggest that meaningful improvements in performance and equity will require not just representation but thoughtful integration of gender diversity into the functional core of organizational leadership.

#### *Limitations and Future Research*

Despite its contributions, this study has limitations. One of the main constraints lies in the geographic and temporal scope of the analysis. The sample is limited to companies listed on the Spanish continuous market between 2017 and 2022, which may reduce the generalizability of the findings to other national or regional contexts. Additionally, differences in regulatory frameworks, corporate governance cultures, and gender diversity policies across countries may yield different results. Future studies could expand the geographic coverage to include comparative cross-country analyses, particularly within the European Union, where diversity policies vary in scope and enforcement.

Another limitation arises from the indicators used to measure financial performance, namely Tobin's Q and the P/E ratio. While these are well-established metrics that capture both market valuation and investor expectations, they do not account for operational or accounting-based efficiency (e.g., ROA, ROE), nor do they capture non-financial outcomes. Furthermore, this study adopted a predominantly quantitative approach, leaving out qualitative dimensions such as organizational culture, informal power structures, or perceptions of gender bias, which could offer a richer understanding of how gender influences leadership effectiveness and performance outcomes.

Future research could address these gaps by incorporating non-financial performance indicators, particularly those related to environmental, social, and governance (ESG) criteria. As Elkington (1997) proposed in his Triple Bottom Line framework—People, Planet, and Profit—a truly sustainable business must account for its social and environmental impact in addition to economic value. In this sense, aligning the analysis with the Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda, especially SDG 5 (Gender Equality) and SDG 8 (Decent Work and Economic Growth), opens important new lines of inquiry. Understanding how gender diversity in leadership relates not only to profit but

also to sustainability metrics, such as employee well-being, carbon footprint, or stakeholder engagement, will be key for both academic research and policy development.

**Author Contributions:** Conceptualization, M.-J.G.-L. and D.A.; data curation, H.H.; investigation, M.-J.G.-L. and D.A.; methodology, M.-J.G.-L. and H.H.; project administration, M.-J.G.-L.; resources, M.-J.G.-L.; supervision, M.-J.G.-L.; validation, M.-J.G.-L., D.A. and H.H.; writing—original draft, M.-J.G.-L., D.A. and H.H.; writing—review and editing, M.-J.G.-L. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Data is contained within the article. Available upon request.

**Conflicts of Interest:** The authors declare no conflict of interest.

## References

- Acker, J. (1990). Hierarchies, jobs, bodies: A theory of gendered organizations. *Gender & Society*, 4(2), 139–158. [\[CrossRef\]](#)
- Adams, R. B., & Ferreira, D. (2004). Gender diversity in the boardroom. *European Corporate Governance Institute, Finance Working Paper*, 57, 30. [\[CrossRef\]](#)
- Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, 94(2), 291–309. [\[CrossRef\]](#)
- Arellano, M., & Bond, S. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. *Review of Economic Studies*, 58, 277–297. [\[CrossRef\]](#)
- Bear, S., Rahman, N., & Post, C. (2010). The Impact of Board Diversity and Gender Composition on Corporate Social Responsibility and Firm Reputation. *Journal of Business Ethics*, 97, 207–221. [\[CrossRef\]](#)
- Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education*. University of Chicago Press.
- Black, F., & Scholes, M. (1974). The effects of dividend yield and dividend policy on common stock prices and returns. *Journal of Financial Economics*, 1(1), 1–22. [\[CrossRef\]](#)
- Blundell, R., & Bond, S. (1998). Initial Conditions and Moment Restrictions in Dynamic Panel Data Models. *Journal of Econometrics*, 87, 115–143. [\[CrossRef\]](#)
- Brahma, S., Nwafor, C., & Boateng, A. (2021). Board gender diversity and firm performance: The UK evidence. *International Journal of Finance & Economics*, 26(4), 5704–5719. [\[CrossRef\]](#)
- Capelle-Blancard, G., & Petit, A. (2019). Every little helps? ESG news and stock market reaction. *Journal of Business Ethics*, 157, 543–565. [\[CrossRef\]](#)
- Catalyst. (2004). *The bottom line: Connecting corporate performance and gender diversity*. Catalyst.
- Cho, S., & Chung, C. (2022). Board Characteristics and Earnings Management: Evidence from the Vietnamese Market. *Journal of Risk and Financial Management*, 15, 395. [\[CrossRef\]](#)
- Cook, A., & Glass, C. (2014). Women and top leadership positions: Towards an institutional analysis. *Human Relations*, 67(2), 203–228. [\[CrossRef\]](#)
- Dang, R., Li, F., & Yang, J. (2018). Measuring firm size in empirical corporate finance. *Journal of Banking & Finance*, 86, 159–176. [\[CrossRef\]](#)
- Datta, S., Doan, T., & Toscano, F. (2023). Top executive gender, corporate culture, and the value of corporate cash holdings. *Journal of Financial Stability*, 67, 101154. [\[CrossRef\]](#)
- Dezsö, C. L., & Ross, D. G. (2012). Does female representation in top management improve firm performance? A panel data investigation. *Strategic Management Journal*, 33(9), 1072–1089. [\[CrossRef\]](#)
- Dezsö, C. L., Ross, D. G., & Uribe, J. (2016). Is there an implicit quota on women in top management? A large-sample statistical analysis. *Strategic Management Journal*, 37(1), 98–115. [\[CrossRef\]](#)
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160. [\[CrossRef\]](#)
- Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review*, 109(3), 573–598. [\[CrossRef\]](#)
- Edmans, A. (2011). Does the stock market fully value intangibles? Employee satisfaction and equity prices. *Journal of Financial Economics*, 101(3), 621–640. [\[CrossRef\]](#)



- Elkington, J. (1997). *Cannibals with forks—Triple bottom line of 21st century business*. New Society Publishers.
- Fahlenbrach, R., Low, A., & Stulz, R. M. (2010). Why do firms appoint CEOs as outside directors? *Journal of Financial Economics*, 97(1), 12–32. [\[CrossRef\]](#)
- Fernández-Temprano, M. A., & Tejerina-Gaite, F. (2020). Types of directors and firm performance: The moderating effect of board service. *Sustainability*, 12(1), 36. [\[CrossRef\]](#)
- Francoeur, C., Labelle, R., & Sinclair-Desgagné, B. (2008). Gender Diversity in Corporate Governance and Top Management. *Journal of Business Ethics*, 81, 83–95. [\[CrossRef\]](#)
- Gallego-Álvarez, I., García-Sánchez, I. M., & Rodríguez-Dominguez, L. (2010). The influence of gender diversity on corporate performance: La influencia de la diversidad de género en el rendimiento empresarial. *Revista de Contabilidad-Spanish Accounting Review*, 13(1), 53–88. [\[CrossRef\]](#)
- Glass, C., & Cook, A. (2018). Do women leaders promote sustainability? Analyzing the effect of corporate governance composition on environmental performance. *Business Strategy and the Environment*, 27(7), 894–903. [\[CrossRef\]](#)
- Goldin, C. (2014). A grand gender convergence: Its last chapter. *American Economic Review*, 104(4), 1091–1119. [\[CrossRef\]](#)
- Hillman, A. J., Cannella, A. A., & Paetzold, R. L. (2002). The resource dependence role of corporate directors: Strategic adaptation of board composition in response to environmental change. *Journal of Management Studies*, 39(2), 351–373. [\[CrossRef\]](#)
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [\[CrossRef\]](#)
- Joecks, J., Pull, K., & Vetter, K. (2013). Gender diversity in the boardroom and firm performance: What exactly constitutes a “critical mass?”. *Journal of Business Ethics*, 118(1), 61–72. [\[CrossRef\]](#)
- Kanadli, S. B., Torchia, M., Gabaldon, P., & Calabrò, A. (2018). Women in management and firm performance: An overview of academic research. *Journal of Business Research*, 89, 140–148. [\[CrossRef\]](#)
- Kanter, R. M. (1977). Some effects of proportions on group life: Skewed sex ratios and responses to token women. *American Journal of Sociology*, 82(5), 965–990. [\[CrossRef\]](#)
- Kramer, V. W., Konrad, A. M., & Erkut, S. (2006). *Critical mass on corporate boards: Why three or more women enhance governance*. Wellesley Centers for Women.
- La Rocca, M., Fasano, F., La Rocca, T., & Neha, N. (2024). Women in CEO duality and firm performance in Europe. *Journal of Management and Governance*, 28, 177–214. [\[CrossRef\]](#)
- Lee, P. M., & James, E. H. (2007). She-e-os: Gender effects and investor reactions to the announcements of top executive appointments. *Strategic Management Journal*, 28, 227–241. [\[CrossRef\]](#)
- Mastella, M., Vancin, D., Perlin, M., & Kirch, G. (2021). Board gender diversity: Performance and risk of Brazilian firms. *Gender in Management: An International Journal*, 36(4), 498–518. [\[CrossRef\]](#)
- Min, B., Kim, Y., & Park, B. I. (2022). Board gender diversity and ESG performance: The mediating role of short-term orientation. *Journal of Cleaner Production*, 370, 133601. [\[CrossRef\]](#)
- Mishra, S., & Nielsen, S. (2021). Board gender diversity and firm performance: The role of firm-level institutional context. *Journal of Business Research*, 134, 626–639. [\[CrossRef\]](#)
- Morrison, A. M., White, R. P., Van Velsor, E., & The Center for Creative Leadership. (1987). *Breaking the glass ceiling: Can women reach the top of America's largest corporations?* Addison-Wesley.
- Nørreklit, H., & Cinquini, L. (2023). Introduction to the special issue: “Performance, management and governance in the digital age”. *Journal of Management and Governance*, 27, 689–693. [\[CrossRef\]](#)
- Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependence perspective*. Harper & Row.
- Pletzer, J. L., Nikolova, R., Kedzior, K. K., & Voelkle, M. C. (2021). Does gender matter? Female representation on corporate boards and firm financial performance—A meta-analysis. *PLoS ONE*, 16(6), e0252264. [\[CrossRef\]](#)
- Post, C., & Byron, K. (2015). Women on boards and firm financial performance: A meta-analysis. *Academy of Management Journal*, 58(5), 1546–1571. [\[CrossRef\]](#)
- Reguera-Alvarado, N., De Fuentes, P., & Laffarga, J. (2017). Does board gender diversity influence financial performance? Evidence from Spain. *Journal of Business Ethics*, 141, 337–350. [\[CrossRef\]](#)
- Sila, V., Gonzalez, A., & Hagendorff, J. (2016). Women on board: Does boardroom gender diversity affect firm risk? *Journal of Corporate Finance*, 36, 26–53. [\[CrossRef\]](#)
- Songini, L., Pistoni, A., Tettamanzi, P., Fratini, F., & Minutiello, V. (2022). Integrated reporting quality and board characteristics: An empirical analysis. *Journal of Management and Governance*, 26, 579–620. [\[CrossRef\]](#)
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin, & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33–47). Brooks/Cole.

- Terjesen, S., Sealy, R., & Singh, V. (2009). Women directors on corporate boards: A review and research agenda. *Corporate Governance: An International Review*, 17(3), 320–337. [[CrossRef](#)]
- Torchia, M., Calabrò, A., & Huse, M. (2011). Women Directors on Corporate Boards: From Tokenism to Critical Mass. *Journal of Business Ethics*, 102, 299–317. [[CrossRef](#)]

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