Lisbon School of Economics & Management
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MASTER´S FINAL WORK

DISSERTATION

WOMEN ON BOARD AND VALUE ADDED

LOREDANA GEORGIANA STEF

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SUPERVISION:
MARIA JOÃO COELHO GUEDES

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ABSTRACT

The composition of the board of directors, such as its tenure, independence, ethnicity or gender is highly relevant to a firm's outputs. Past studies have centred the attention in the relationship between the composition of boards and performance and the results have rendered mixed conclusions. One of the aspects that is vastly researched is the gender composition of boards, and, again, the studies have not, yet, shown unequivocal evidence of the relationship between the representation of women on boards and performance. Thus, in order to advance the knowledge of the role of women on boards in firms' outputs, this study analyses the relationship between the representation of women on boards and the creation and distribution of value added for a sample of non-listed companies in Portugal from 2012 to 2021.

Results show that more women on boards have a negative effect on the overall value added of a firm. Furthermore, when separating the value added by type of stakeholder, the results show that in the presence of more women on boards, top managers capture less value for themselves, while the salaries of their employees remain unaffected. Additionally, it is observable that with the presence of women on boards, managers pay less interest, pay fewer taxes, and add less value to shareholders, as well.

KEYWORDS: Corporate Governance; Gender Diversity; Board; Value Added

RESUMO

As características do conselho de administração, nomeadamente o seu mandato, independência, e diversidade apresentam bastante relevância para os resultados de uma entidade. Estudos passados têm-se focado na relação entre as caraterísticas do conselho de administração e o desempenho económico e financeiro, no entanto os resultados apresentam-se como inconclusivos. Uma das caraterísticas mais analisadas é o género dos indivíduos integrantes do conselho, e os resultados não apresentam conclusões inequívocas acerca da relação entre a representação de mulheres na administração e a desempenho das entidades. Neste sentido, de maneira a expandir o conhecimento acerca do papel das mulheres presentes no conselho de administração, este estudo analisa a relação entre a representação das mulheres na administração e a criação e distribuição do valor acrescentado bruto para uma amostra de entidades privadas portugueses no período de 2012 a 2021.

Os resultados indicam que uma representação mais acentuada de mulheres na administração afeta negativamente o valor acrescentado bruto no geral de uma entidade. Adicionalmente, quando dividido pelas diversas partes interessadas, os resultados sugerem que na presença de mulheres na administração, o conselho de administração captura menos valor para si, enquanto os salários dos seus empregados não são afetados. É também notório que, na presença da mesma variável, o conselho de administração paga menos juros, menos impostos e diminuem valor aos acionistas.

KEYWORDS: Corporate Governance; Gender Diversity; Board; Value Added

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It is safe to say that ISEG, throughout this master's, has brought me many challenges, and this dissertation was not an exception. All those sleepless nights and weekends at the library were worth it, I am very proud of my work and the accomplishment it symbolizes. I am extremely grateful for everybody that was part of my journey, and I would like to take a moment to acknowledge the people that helped me get there.

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GLOSSARY

AT – Asset Turnover

DtA – Debt to Assets

OLS – Ordinary Least Squares

ROA – Return on Assets

VA – Value Added

WoB – Women on Board

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1. INTRODUCTION

In recent years, the firm's purpose has been under scrutiny. Now, corporations need to behave responsibly and are held accountable for their actions (Edmans, 2023). Moreover, its orientation is more focused on the environmental, social, and governance factors which are more inclined to a stakeholder-dominated approach, rather than a shareholder-dominated approach (Guedes, 2020). The former is more engaged in distributing wealth and value to all its stakeholders groups and, consequently, considers the firm's contribution to the well-being of the individuals involved in its activity and the value it creates for them. Irrespectively of the prevailing approach - shareholder vs stakeholder view -, the characteristics of the board need to be considered in order to understand the decisions regarding the distribution of the value created, since the board of directors is in charge of the most important decisions regarding the organization's future and strategy (Zattoni, 2007). Consequently, firms distribute their value differently according to their corporate board features, namely, board composition and board characteristics (Alves & Guedes, 2022).

One feature that has been in the agenda is the diversity of the boards. Diversity is defined as the divergencies amongst individuals, but this concept has been altered to a more strategic oriented direction where such differences are valued (Arfken et al., 2004). These differences can be associated with age, cultural background, race, religious beliefs, gender, and sexual orientation, among others. However, one of the most common aspects is considered to be the gender of directors, especially after the introduction of Gender Quotas, especially in many European countries (Ciavarella, 2017).

Despite being widely researched, the evidence regarding the contribution of women in the board of directors to firms' outputs is still up to debate. However, it is undeniable that gender-balanced boards may bring different outlooks perspectives (Hillman & Dalziel, 2003). Past studies indicate that female directors tend to enrich boards of directors' effectiveness and that gender-balanced boards manage to be present in corporations that operate in more complex environments and want to reach higher productivity levels (Terjesen et al., 2015).

To date, most studies that examine the impact of gender on firms' outputs have been focused on performance. However, the subject of firm value goes beyond the question of the one-dimensional economic and financial performance. The key to evaluating a firm's actual performance in the market is determining whether the firm's outputs and investment decisions as a whole are adding value for the individuals involved in its activity (Peterson & Peterson, 1996), in this sense, financial and non-financial factors are equally relevant and have to be considered to tackle this subject. In light of the scarce evidence on other dimensions besides performance, the proposed research question of the present thesis is: Does the presence of women on boards matter for the distribution of the value added?

The present thesis investigates whether the presence of women on boards influences the creation and distribution of value in the firm among the distinct types of stakeholders – employees, top managers, the government, creditors, and shareholders.

The thesis contributes to the existing literature by providing empirical evidence of the relationship between women on board and the value added of firms. Until now the main literature developed on the topic of gender diversity has highlighted the benefits of female directors on firm performance, using diverse performance indicators and

indexes. However, to the best of my knowledge, the impact on value added remains still unexplored and unclear. Additionally, the study will also investigate the different divisions of value added according to the several types of stakeholders, namely, top managers, employees, creditors, tax collectors and shareholders.

This thesis is structured into 5 sections. Section 1 is the Introduction. In section 2, it is presented the Literature Review with the theoretical concepts and research that support the hypothesis of the study. Section 3 contains the description of the data and the methodology. In Section 4 is presented the analysis and discussion of the results. Finally, Section 5 presents the Conclusion and Limitations of the research.

2. LITERATURE REVIEW

2.1. Corporate Governance and Board Diversity

Corporate Governance has become a wide and "flexible" topic throughout the years, in the sense it adapts to each geographical, social, political, and economic context (Kocmanová et al., 2011). In these conditions, there is not a specific and clear definition of the concept. In consequence, it became an increasingly relevant subject nowadays, not only in the academia but also in the media. It gained a lot of attention due to the big financial scandals involving large well-known public U.S. corporations, for example, the scandals involving *Wells Fargo* and *Equifax* are the most recent in the long line of problematic firms, and further back in time, at the beginning of the millennium, scandals in *Enron*, *WorldCom*, *Tyco*, and *Qwest* led to their failure (Bhagat & Bolton, 2019).

Thus, policymakers started questioning the effectiveness of the Corporate Governance mechanisms (Bhagat & Bolton, 2019) and, consequently, firms started changing their ways and developing new purposes in the market. In this sense, new approaches are being put together to monitor firms and to ensure the going concern and well-being of all different types of stakeholders. Concepts of transparency, accountability, and sustainability are becoming some of the most popular buzzwords when looking at firms (Kolk, 2016).

This shift in the firm's governance ideologies led inevitably to a more stakeholder-centred approach, focusing on the individuals that are integrant parts of the activity and in improving ways to create value for them. However, the assessment of value distribution will depend exclusively of each corporation's internal features, namely the

composition of the board of directors (Alves & Guedes, 2022), since they take the most important decisions for the firm's future (Zattoni, 2007).

Since the assessment of value distribution to each type of stakeholder and rent management is carried out by the firms' directors (Alves & Guedes, 2022), consequently, the former will reflect board member characteristics, in the sense that "organizations become reflections of their top executives" (Hambrick & Mason, 1984, p.193). This idea is the base of the Upper Echelon Theory and suggests that individuals in top management positions act based on their understanding of situations, influenced by their specific personal traits (Hambrick & Mason, 1984).

Among the characteristics of the board, what has gathered more attention is board independence and board diversity. In what independence is concerned, it is considered essential due to its supervisory nature, and its impact on the range of firm variables relating to corporate performance. In this context, boards are often the main target of discussion and are critiqued for having weak mechanisms and being unable to inhibit the negative effects caused by more pressuring periods (Fernández-Temprano & Tejerina-Gaite, 2020).

The concept of Diversity is considered a very broad subject matter in our everyday life, as well as from an organizational point of view. Diversity is considered one of the pivotal concerns for most businesses (Henry & Evans, 2007) and consists of the similarities and divergencies among employees and board members in terms of, for instance, age, cultural background, race, religious beliefs, gender, among others. However, one of the most common characteristic of diversity is considered to be the gender of directors. The topic gained more importance in the aftermath of gender quotas and regulations in many European countries (Ciavarella, 2017).

Moreover, the role of diversity is becoming increasingly vital to understand since it is one of the main factors of active policy development in businesses as it affects several other important aspects of the firm, as board independence or as activism (Fernández-Temprano & Tejerina-Gaite, 2020), since men and women are different in nature, and, in this sense, it will influence their behaviour in the workplace and the possible firm outcomes. Thus, corporations that focus on having a diverse workforce expect to have higher returns, higher productivity levels, and increase their creativity among co-workers (Arfken et al., 2004). Additionally, from a resource dependence perspective, diverse boardrooms bring more resources, which, in this sense, helps reduce external dependency, uncertainty, and enrich reputation. Consequently, it adds more value to the firm (Hillman & Dalziel, 2003).

Given the stress being assigned to gender diversity as a part of good corporate governance levels, the relation between board diversity and firms' value distribution has become one of the pivotal elements in the regarding literature (Ciavarella, 2017). This factor brings multiple benefits to the board room, such as new ideologies, different opinions to tackle several firm issues, additional knowledge (Arfken et al., 2004), and it can improve board functions (Fernández-Temprano & Tejerina-Gaite, 2020) in order to expand the corporations' position in the market with a better understanding of the marketplace (Carter et al., 2003), to attract more capital and talent, and to ensure its survival.

2.2. The Presence of Women on Boards

The presence of women on boards has increased in the last years. For example, in Europe (EU-27) the average of women on boards was 30% by 2021, having increased since 2010, from 11.9% to 30.6% in 2021 (EIGE, 2022; Casaca et al., 2021, p. 43). Similar trend was registered in Portugal, that increased from 5.4% in 2010 to 28.1% in the end of 2021 (Casaca et al., 2021, p. 43). One can observe that there has been a decrease in the average gap when comparing with the EU.

Despite the positive trend registered, women are still under-represented on boards worldwide probably to the mind frames that *"women do not have what it takes"* for such positions. Additionally, there are some barriers based on the perception of society that women's family responsibilities can hinder lack of organisational performance and commitment, as well as gender social systems, where work roles are defined by genders, which, consequently, will lead to discrimination and stereotyping (Terjesen & Singh, 2008).

The gender pay gap is also considered an obstacle when analysing women's inclusion in workplaces, since smaller gaps imply a greater gender inclusion (Kulik, 2022). However, the gender pay gap in the EU-27 stands at 12.7% in 2021 not showing yet rapid improvements throughout the last decade (Eurostat, 2023). Researchers claim that women, as a consequence of the persistent evidence related to gender discrimination, have developed "gender fatigue" and prefer to see workplaces as gender egalitarian, where gender does not matter (Kelan, 2009).

Throughout the years, in order to mitigate the disparities between men and women in the boardrooms, several action measures were proposed. Some countries such as

Estonia, Malta and Hungary opted for recommendations *(soft law)*, while others opted by *the hard law* route, establishing gender quota laws, such in countries as France, Norway, and Iceland (Casaca et al., 2021, p. 43). The gender quota legislation has a variety of forms, depending on the geographical and social context each firm is inserted, but, in a nutshell, it relies on a set gender quota, a time period, and penalties for non-complying entities. In 2003, Norway was the first to establish a 40% female quota for state-owned firms by 2006 and for publicly traded firms by 2008, followed by Spain, which established a 40% quota in 2007 for compliance by 2015 for publicly traded firms with more than 250 employees, and so on. Countries have also included in their governance codes the requisite to disclose their gender diversity efforts, namely under the codes' "*comply or explain*" notion (Terjesen et al., 2015).

Even with increases in female representation on boards in several countries, there is still a long way to go to obtain the social and economic benefits of gender-balanced workforces regarding all firm positions (EIGE, 2022). Additionally, one can observe that this progress of women on boards remains still very symbolic rather than substantive, in which research advocates that, in the early stages of the implementation of the quota law, male and female directors appointed have similar professional profiles and characteristics, reflecting more homogeneous and standard boardroom than those appointed before the laws (Casaca et al., 2022).

Prior studies on gender diversity imply that there is no overall evidence of variations in behaviour between women and men in top management positions but, rather, women directors' leadership style may differ from men for certain duties and in certain contexts (Nielsen & Huse, 2010). For instance, women are likely to carry out a better management of the financial reporting, to be more cautious when making financial

decisions, and better comply with regulations (Srinidhi et al., 2011), suggesting that women tend to be more assertive.

Additionally, studies show that women are more likely to have better attendance than men and a greater portion of women on the board will trigger an improvement in the attendance behaviours of male directors (Adams & Ferreira, 2009). It is also noticeable that women's sensitivity towards third parties and their consideration of the interests and perspectives of others improve board oversight of corporate strategy (Nielsen & Huse, 2010). Overall, research indicates that firms will profit from having a gender-diverse boardroom, in the sense that present a wider range of resources to face external threats, such as dependency, uncertainty and may also enhance its reputation in the market (Hillman & Dalziel, 2003).

2.2.1 The Presence of Women on Boards and Value Added

There are numerous studies that analyse the impact of gender diversity, in particular as a response to the pressure by the market trends and other stakeholder groups to behave according the Environmental, Social, and Governance factors (Guedes, 2020). However, the majority of the empirical evidence links the presence of women on boards to firm performance and has presented mixed evidence and discrepancies that lead to lack of conclusive evidence. On the one hand, some studies find a positive relationship between the presence of women on boards and performance (Hunt et al., 2015; Carter et al., 2003; Gonçalves et al., 2022; Luckerath-Rovers, 2011), while others show evidence of a negative effect (Joecks et al., 2013; Adams & Ferreira,

2009; Shehata et al., 2017). Also, other present evidence of no relationship at all (Rose, 2007; Fernández-Temprano & Tejerina-Gaite, 2020).

Considering such mixed findings, one may ask what is driving such inconclusive evidence. One possibility is the way firms measure performance or the way we measure the presence of women on boards. The present thesis will focus on the former.

Apart from measuring financial performance, there have been other equally relevant topics being highlighted in the Corporate Governance literature, namely, the measurement of earnings management, innovation or others and its relationship with gender diversity (Guedes et al., 2018; Torchia et al., 2011) However, to the best of my knowledge no previous study has investigated the relationship between the presence of women on boards and the value added by firms.

As some previous research has shown, very high or very low percentages of one gender in a board of directors are associated with more positive firm outcomes, and balanced proportions may lead to negative outcomes, regarding earnings management (Guedes et al., 2018), suggesting that men and women may contribute differently to the firms decision making, thus, it is reasonable to expect that also the value created by firms may be related to the gender board composition.

One reason may be the differences between men and women. For example, findings on gender differences in generosity indicate that men tend to be more responsive to the price of giving and are inclined to do it when it is cheap, whereas women are more generous when it is more expensive and prefer to share evenly. That is, men are more likely to be perfectly selfless or perfectly selfish, while women have a tendency to be "equalitarians" (Andreoni & Vesterlund, 2001). In this sense, the

increased presence of female directors is associated with greater philanthropic contributions (Marquis & Lee, 2013), which indicates that women tend to be fairer and have a higher propensity for philanthropy than their male colleagues in upper echelons. Additionally, according to Isidro & Sobral (2015), female representation on boards expand the firm's observance of non-financial dimensions of the business, namely, ethical and social policies, which will, in consequence, affect the value of the firm.

Moreover, when considering the composition of the board of directors, women are more likely assigned to monitoring-related committees, such as corporate governance, audit, and nominating, and less likely to sit on compensation committees, which implies that gender diversity on boards is not a major determinant in setting CEO pay (Adams & Ferreira, 2009). Thus, they are likely to carry out a different distribution of firm value. Additionally, since boards with more women directors tend to exhibit stronger monitoring (Adams & Ferreira, 2009), from an agency perspective, the female representation on boards is associated with firm value, since board monitoring can inhibit negative outcomes related to, for instance, misallocation of funds (Isidro & Sobral, 2015), which can be damaging for shareholders.

Building on the work of Alves & Guedes (2022), following the assumption that corporations are tools to create value for its numerous stakeholders, and that the board should be effective and accountable (Zattoni, 2007), because there is still scarce research on the topic, I propose, as exploratory hypothesis, that the presence of women on boards has a positive relationship with the distribution of the value created.

H1: Greater representation of women on boards is positively associated with value added.

3. DATA AND METHODOLOGY

3.3. Sample

This study intends to analyse if the presence of women on boards affects the distribution of the value created by the firm. The initial sample was comprised by the largest 10 000 Portuguese non-listed companies regarding their Revenue for the period between 2012 and 2021. The data was provided by the Portuguese data base INFORMA D&B. This initial dataset included 91 955 year-observations.

All strange cases were excluded from the sample since they do not convey the reality of the regarding financial data, namely negative assets, negative liabilities, negative provisions, negative depreciations, and negative taxes.

Finally, for this research were only selected active firms – that were not in liquidation or similar status – and those that had at least 1 board member and 1 employee, as only they present relevance for the equation of the dependent variable in this study.

The final dataset is composed by 40 577 year-observations and 5 270 firms with a complete set of data items.

3.2. Variable Description

3.2.1 Dependent Variable

Value Added (VA)

In a nutshell, Value Added (VA) reflects the contribution of a firm to the economy and it can be measured from two distinct approaches, either from the

production perspective or from the distribution perspective. The former consists of the difference between the firm's revenue (sales and services) and all the costs that were directly associated with the production, while the later comprises all the different components into which the firm's value added can be divided for the different types of stakeholders, namely, employees and top managers are moved by their salaries, the government by the taxes the regarding firms pay, creditors by the interest paid, and shareholders by the dividends the organization distributes and self-fundings (retained earnings, provisions, and depreciations).

In this research, building on the work of Alves & Guedes (2022), Value Added (VA), is the dependent variable and it is measured from the distribution perspective, in order to understand the contribution of women on boards to total firm value added and how it influences its distribution amongst the different types of stakeholders mentioned. It is defined as the sum of the different components into which value added is divided – namely, staff expenses, interest expenses, income taxes, dividends, and reinvestment or self-funding (retained earnings, provisions, and depreciation). Additionally, this variable is scaled by total assets, hence, it represents the value added for each unit of assets of the company under management.

3.2.2 Independent Variable

Women on Boards (WoB)

The presence of Women on Boards (WoB) is the independent variable and is the percentage of women on boards. It is calculated as the ratio of the number of female

directors to its total number of directors (Rose, 2007; Campbell & Mínguez-Vera, 2008).

3.2.3 Control Variables

Firm Size (Size)

The variable Firm Size is defined as the natural logarithm of total assets. It is crucial to consider this variable since larger firms engage in a higher level of activity (Lehn et al., 2009) and the number of women directors may increase with firm size (Carter et al., 2003).

Return-on-Assets (ROA)

The Return-on-Assets (ROA) variable is considered as a profitability indicator and, shows how the company uses its total assets to generate profit. It is defined as the ratio of Net Income to Total Assets. Past studies used this rationale, namely, Carter et al. (2003), Campbell & Mínguez-Vera (2008), Marquis & Lee (2013) and García & Herrero (2021).

Asset Turnover (AT)

The Asset Turnover indicator represents how the company operates its total assets in order to support its sales and revenue. It is defined as the ratio of Total Revenue to Total Assets. The higher the asset turnover, the higher the firms

performance is in the market due to the efficiency of the utilization of its assets in its operational activities (Nurlaela et al., 2019).

Debt-to-Assets (DtA)

The financial measure Debt-to-Assets is the leverage ratio of Total Debt to Total Assets, which specifies the portion of assets being financed by the company's debt. Studies indicate that larger firms acquire higher debt levels to take on a higher leverage level, since they are less financially constrained (Aljughaiman et al., 2022).

Tangibility (Tang)

Tangibility is considered as the rationale of Tangible Assets to Total Assets. It is crucial to consider this variable, since a company's tangible assets can be considered representative of the true guarantee it offers to creditors (García & Herrero, 2021).

Table 1 presents the operationalization of the variables of the study.

Table 1 - Operationalization of the variables under analysis

Type	Variable	Abbreviation	Definition	Source
Dependent	Value Added	*VA*	Sum of Staff expenses; Interest expenses; Income taxes; Dividends, and Reinvestment or Self-fundings (retained earnings, provisions, and depreciation)	Alves & Guedes (2022)
Independent	Women on Board	*WoB*	Percentage of women on boards	Rose (2007), Campbell & Mínguez-Vera (2008)
Control	Firm Size	*Size*	Logarithm of firms' total assets	Lehn et al. (2009), Carter et al. (2003)
	Return-on-Assets	*ROA*	Net Income / Total Assets	Carter et al. (2003), Campbell & Mínguez-Vera (2008), Marquis & Lee (2013), García & Herrero (2021)
	Asset Turnover	*AT*	Total Revenue / Total Assets	Nurlaela et al. (2019)
	Debt-to-Assets	*DtA*	Total Debt / Total Assets	Aljughaiman et al. (2022)
	Tangibility	*Tang*	Tangible Assets / Total Assets	García & Herrero (2021)

3.3. Method

This study used a multiple linear regression, using the Software Stata/SE 17. The results were obtained using the Ordinary Least Squares (OLS) regression, following the equations:

(1) $VA_{it} = \beta_0 + \beta_1 WoB_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 AT_{it} + \beta_5 DtA_{it} + \beta_6 Tang_{it} + \varepsilon_{it}$

(1.1) $VA\_board_{it} = \beta_0 + \beta_1 WoB_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 AT_{it} + \beta_5 DtA_{it} + \beta_6 Tang_{it} + \varepsilon_{it}$

(1.2) $VA\_emp_{it} = \beta_0 + \beta_1 WoB_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 AT_{it} + \beta_5 DtA_{it} + \beta_6 Tang_{it} + \varepsilon_{it}$

(1.3) $VA\_bank_{it} = \beta_0 + \beta_1 WoB_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 AT_{it} + \beta_5 DtA_{it} + \beta_6 Tang_{it} + \varepsilon_{it}$

(1.4) $VA\_tax_{it} = \beta_0 + \beta_1 WoB_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 AT_{it} + \beta_5 DtA_{it} + \beta_6 Tang_{it} + \varepsilon_{it}$

(1.5) $VA\_shareh_{it} = \beta_0 + \beta_1 WoB_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 AT_{it} + \beta_5 DtA_{it} + \beta_6 Tang_{it} + \varepsilon_{it}$

The index i corresponds to the entity (i=1, …, 40 577) and the index t to the years in (t=2012, …, 2021).

The general model in equation 1, VA_{it}, will be subdivided in 5 reference models, according to each type of stakeholder (top managers, employees, creditors, the government and shareholders), as in equations 1.1 to 1.5, in order to comprehend what type of impact does the presence of women on boards has on a company's value in general, and, also, to better understand how is value added distributed amongst the different individuals and entities involved in the firms activity.

Following Wooldridge (2006), all estimations were carried out with the *robust* option in Stata/SE 17 in order to control for the presence of heteroskedasticity. The author refers that in the presence of heteroskedasticity, standard errors and test statistics computed in OLS are not valid.

4. RESULTS AND DISCUSSION

4.1. Descriptive Statistics and Correlation Matrix

Table 2 presents the descriptive statistics of the sample and the correlation matrix between the variables.

Table 2 - Descriptive Statistics and Correlation Matrix

		Mean	SD	Min.	Max	1	2	3		
1	WoB	0.197	0.309	0	1	1				
2	Value added	0.255	2.167	-399.432	25.273	-0.008	1			
3	Value added for top managers	0.011	0.051	0	5.855	-0.035***	0.026***	1		
4	Value added for employees	0.008	0.027	0	2.697	-0.025***	-0.002	0.087***		
5	Value added Creditors	0.009	0.023	0	2.719	-0.018***	-0.127***	-0.009**		
6	Value added Government	0.016	0.032	0	4.383	-0.014***	0.0238***	0.055***		
7	Value added Shareholders	-0.008	2.167	-399.881	3.957	-0.003	0.978***	-0.019***		
8	Size	15.356	1.468	5.794	23.139	0.055***	-0.004	-0.218***		
9	ROA	0.030	0.221	-12.741	3.838	0.002	-0.017***	-0.226***		
10	Asset_turnover	0.667	1.091	0	33.127	-0.001	0.002	-0.011**		
11	Debt_to_assets	0.616	0.663	0	43.214	-0.013**	-0.499***	0.046***		
12	Tangibility	0.224	0.239	0	1	0.001	-0.022***	-0.055***		
		4	5	6	7	8	9	10	11	12
4	Value added for employees	1								
5	Value added Creditors	-0.015***	1							
6	Value added Government	0.119***	0.002	1						
7	Value added Shareholders	-0.073***	-0.141***	-0.019***	1					
8	Size	-0.386***	0.061***	-0.108***	0.0596***	1				
9	ROA	-0.377***	-0.229***	0.109***	0.0295***	0.109***	1			
10	Asset_turnover	-0.013***	-0.007	0.023***	0.0113**	-0.033***	0.033***	1		
11	Debt_to_assets	0.180***	0.432***	0.008	-0.562***	-0.106***	-0.389***	0.001	1	
12	Tangibility	-0.081***	0.058***	-0.109***	-0.003	0.052***	-0.054***	-0.066***	0.019***	1

Note: Min. is the minimum; Max. is the maximum; SD is the standard deviation
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

The mean of the dependent variable *VA* is of 0.255, while its disaggregation shows that the largest portion is for the government, stating 0.016, followed by top managers with 0.011, while the lowest portion is for shareholders, presenting a negative value of -0.008.

The mean value of *WoB* is approximately 20%. This value is fairly remote from the average of 31% presented by the European Institution of Gender Equality regarding public listed companies in October of 2021 (EIGE, 2022). Also, the average representation of *WoB* is still far from the value established by the law 62/2017, which mandates listed and firms from the public sector to have at least 33% of the under-represented sex in the board seats in Portugal (law 62/2017, 2017). Nevertheless, these are non-listed firms and the statistics for these types of firms are scarce and in need for further investigation.

Additionally, it is noticeable that the average percentage of female representation on boards in this study is below the "critical mass" range of 30% supported by Joecks et al. (2013). They argue that boards need a critical mass or considerable percentage of women to show the benefits and advantages a more diverse board may offer. Gender diversity will have positive outcomes for the company. Moreover, the inclusion of *WoB* must be carried out thoroughly based on qualifications and experience, in order to prevent negative effects (Shehata et al., 2017).

Regarding the control variables, *Firm Size*, has a mean of 15.356. Moreover, it is also important noting that the average value of *Total Assets* is of 19 839 955€, since it represents all the assets owned by the firms in the regarding sample. On average, the profitability of these firms, scaled by the financial measure *ROA*, is 0.030.

Most of these firms are being financed by their debt rather than equity, since the average leverage level is of 0.616, which may be troubling in more pressuring periods, namely in crisis contexts, and if there are restrictions in credits, due to the leverage risks (Breia et al., 2014, p. 91). Additionally, they present approximately 22% of Fixed Tangible Assets of their Total Assets in order to cover debts.

4.2. Regression Results

Table 3 presents the regression results using OLS. Model 1 refers to the hypothesis in analysis, while Models 2 to 6 describe the disaggregation of the dependent variable to the various types of stakeholders.

Table 3 – Regression Results

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Overall value added	Top managers (salaries)	Employees (salaries)	Creditors (interest paid)	Government (taxes)	Shareholders (Dividends and self-fundings)
WoB	-0.089*	-0.004***	-0.000	-0.001***	-0.001*	-0.082*
	(-1.886)	(-5.982)	(-1.405)	(-5.579)	(-1.864)	(-1.779)
Size	-0.057***	-0.007***	-0.006***	0.002***	-0.002***	0.025**
	(-4.765)	(-22.092)	(-38.029)	(8.639)	(-23.267)	(2.098)
ROA	-2.423	-0.053*	-0.041**	-0.008	0.020	-2.210
	(-1.547)	(-1.687)	(-2.530)	(-1.636)	(1.160)	(-1.442)
Asset_turnover	0.016	-0.001***	-0.000***	0.000	0.000*	0.040***
	(1.013)	(-3.559)	(-4.160)	(0.394)	(1.849)	(2.607)
Debt_to_assets	-1.958**	-0.005	0.001	0.015***	0.002***	-2.117**
	(-2.071)	(-1.334)	(0.476)	(4.059)	(2.721)	(-2.272)
Tangibility	-0.191***	-0.012***	-0.009***	0.004***	-0.013***	-0.025
	(-8.660)	(-5.965)	(-8.784)	(6.448)	(-12.724)	(-1.254)
Constant	2.465***	0.123***	0.107***	-0.027***	0.055***	0.972
	(3.172)	(16.592)	(41.390)	(-5.647)	(32.892)	(1.263)
Observations	40,577	40,577	40,577	40,577	40,577	40,577
R-squared	0.304	0.096	0.270	0.205	0.038	0.359

Robust t-statistics in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Hypothesis 1 proposes that a greater representation of women on boards influences positively the distribution of value added, which will then be subdivided in the stakeholders. The results of Table 3 show that there is a significant negative relationship (Model 1, β=-0,089, $p<0,1$) between the presence of *WoB* and *VA*, which does not support the hypothesis in study, meaning that, overall, having female representatives on boards does not add value for the company. Thus, the results suggest that more gender-diverse boards are not creating value for the firms, overall.

As there is not similar past studies, I cannot compare the obtained results. Nevertheless, there is some indication that the benefits of having more women on boards, such as better monitoring or new ideas and talent is not being translated into traditional value for these firms. In line with Shehata et al. (2017), which found a negative association of gender diversity on firm performance, this result should be interpreted with caution. To that end, it does not necessarily imply that the inclusion of female representatives on board of directors is detrimental for firms in all aspects but instead it can be pointing that their positive contributions need to be assessed in multiple dimensions.

Relatively to the different division of the dependent variable to the various types of stakeholders, the results are not contradictory to the main ones. Thus, the results show that top managers and creditors are substantially affected by the presence of female representatives on boards, as it presents a significant negative relationship (Model 2 and 4, β=-0,004 and β=-0,001, p<0,01, respectively) with *WoB*. This reflects that the salaries of top managers and the interest paid are negatively influenced, implying that in more gender-balanced boards, top managers capture less value for themselves and pay less interest. One possible explanation may be that women tend to be more associated with philanthropic contributions in top management teams (Marquis & Lee, 2013) and are more generous and prefer to share evenly, whereas men are more responsive to cost and prefer to do it when it is cheap (Andreoni & Vesterlund, 2001). Consequently, the interpretation of the results is that a greater percentage of female directors will trigger a different effect on their salaries than a greater portion of male directors and it will be associated with negative effects, in this sense. Nonetheless, future studies are needed to advance in such result.

Additionally, results show that employees do not benefit from the presence of women on boards (Model 3, β=-0,000), since *WoB* is not significantly different from zero. One possible reason for this circumstance is that the representation of *WoB* is still low in this study and, following Joecks et al. (2013), the board of directors should appoint at least 30% of women representatives in order to exhibit their impacts on the firms outcomes. In this sense, it is expected that, if a greater number of women is present on boards, employee remuneration will be affected.

Relatively to the government as tax collector and shareholders that rely on the distribution of dividends and self-fundings, *WoB* has a negative influence in these types of stakeholders, as well (Model 5 and 6 β=-0,001 and β=-0,082, p<0,1, respectively). According to García-Meca et al. (2022), when a higher portion of women is present on boards, characteristics associated with risk aversion, financially conservative approaches, and lower overconfidence are pointed out, which will, in consequence, reduce dividend payment. Conversely, low levels of female representation on boards will increase dividends in order to decrease agency conflicts or to enrich reputation and legitimacy.

5. CONCLUSION AND LIMITATIONS

5.1. Final Conclusions

Throughout history and across the globe, one can observe that women have fought immensely for emancipation, from their right to vote to be an integrant part of boards and committees worldwide. In the past years, it is noticeable that females are entering the labour force in increasing numbers, since firms are valuing more diversity and the individuals that play a role in their activity (Arfken et al., 2004).

This study extends the existing literature on corporate governance and, more specifically, board diversity by providing empirical evidence on the effect of women on board on the firms' value added from the distribution perspective. A firm's management creates value for the company and for its stakeholders, when it makes decisions that provide additional benefits for all its integrant parts. In this context, the composition of boards is considered fundamental for the going concern and reputation of the organization. Whereas the results show that women do not add value for companies nor for the regarding stakeholders and increasing gender diversity in the boardroom can lead to a decrease in firm value. It is, also, evident that with the presence of *WoB*, managers capture less value for themselves, pay less interest, pay fewer taxes, and add less value to shareholders, as well. Employees' remuneration, on the other side, remains unaffected.

The average percentage of women in this study is approximately 20%, making it harder to interpret the results, since this value is still low and far from 31% presented by the European Institution of Gender Equality regarding Portuguese public listed firms in 2021 (EIGE, 2022) or even far from the parity of 40% or even 50% (Casaca et al.,

2021, p. 46). Additionally, the advantages and benefits of having a more gender-balanced boardroom will be hardly pointed out when the average percentage of female representation is that modest, since the presence of minority female directors on boards may contribute to a more time consuming and less effective decision-making (Earley & Mosakowski, 2000) which leads to negative effects on firm value. According to the *"critical mass"* range, at least 30% of women need to be present in the boardroom, when are present on average three women on boards, in order to make a significant difference (Joecks et al., 2013). However, the inclusion of *WoB* has to be carried out carefully and appoint women based on their background experience and qualifications, in order to mitigate possible negative effects (Shehata et al., 2017), since a greater portion of women on boards might not necessarily mean higher outputs in itself, but rather reflects that more gender-balanced boards are similar representation of the *"real world"*, while other aspects contribute to enhance a firms value and performance (Pletzer et al., 2015).

Despite the advantages that *WoB* may bring to the company, namely improved decision-making and external linkages, one could argue that these resources may take time before they influence the firm's performance and outputs (Ali et al., 2014). It is also worth noting that the relationship between gender diversity and firm value is still a complex and debatable topic, and there may be other factors that influence a company's outcomes and the value created. The mere representation of women on boards in itself may not be related to a firm's outcomes if other aspects are not being considered as well (Pletzer et al., 2015), namely the dynamics of the board (Westphal & Milton, 2000).

5.2. Limitations and Further Research

This study presents a few limitations, namely, regarding the sample, since the average representation of women on boards in analysis is still exceptionally low in Portugal.

Another limitation can be linked to the fact that the dataset used in this study did not provide specific information on each director, regarding the level of education, age, and their contribution to the board, which can also be considered crucial for the decision-making process and, consequently for the company's outcomes. Therefore, studies could also consider other manager characteristics such as, education, experience, and the individual contribution of each member of the board to corroborate and reinforce the existing literature.

Additionally, it would be insightful to describe the sector of activity and other board characteristics, namely, board size to have a wider view of the firms' characteristics. Moreover, it would also be informative to introduce other control variables related to liquidity and the capital structure to understand their interdependence and influence on the board and on the value created.

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