THE IMPACT OF GENDER ON FINANCIAL PERFORMANCE: EVIDENCE FROM A SAMPLE OF PORTUGUESE SMEs

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Abstract: The objective of the present paper is to study the effects of gender on financial performance and examine the variables that may influence the presence of women leading the firm or being its main shareholder. The relation between gender and profitability in the context of Small and Medium Enterprises (SMEs) is a less studied topic in the broader context of performance determinants. Contributing to fill this research gap, it is used an unbalanced panel data of 141 Portuguese firms for the period from 2010 to 2018, obtained with primary and secondary data sources. The relation between gender and financial performance is addressed with two methodologies, a Tobit regression and a Random Effects Model. Our results evidence fewer possibilities for women to be firm leaders in larger and older organizational structures, which do not seem pressured towards equality. Additionally, firm age moderates the positive relation between female leadership and profitability. Given the SMEs importance in the majority of countries, the results and implications of this paper can be generalized to other economies.

Key-words: Financial performance; Gender; SMEs; Internationalization; Firm's characteristics

DOI: 10.17512/pjms.2020.22.2.25

Article history:
Received November 2, 2020; *Revised* November 20, 2020*; Accepted* November 21, 2020

Introduction

In the last decades, Portugal witnessed an increasing participation of women in the labour market, but women presence in firms' leadership or top management roles increased slowly. Women entrepreneurship is another reality, where women have a strong presence in small, but dynamic businesses. According to D&B (2020), in 2020, women occupy 26,7% of leadership roles in Portuguese private firms and their presence in management roles has increased in all sectors, but particularly in retail and general services. Women occupy one third of the firm's positions with decision power, mainly in the areas of human resources and marketing, albeit representing 49% of the labour force. Nevertheless, these numbers steadily increased in the last decade. Comparatively with other OECD countries, Portugal is slightly above the average in terms of the share of women managers and share of

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women seats on boards (OECD, 2020). Nevertheless, the high women participation rates in the labour force imply that the country still has a way to go.

The main objective of the present paper is to study the effects of gender on financial performance and examine the variables that may influence the presence of women on leadership positions or as the main shareholder. The relation between gender and profitability in the context of Small and Medium Enterprises (SMEs) is a less studied topic in the broader context of performance determinants.

Testing whether women on the board contributes to improve firm performance is relevant since a positive relation, with women positively influencing firm value, could support further legislation. Additionally, knowing the determinants of women presence on boards constitutes a reference point for public policies aimed at increasing the number of women board members on SMEs. As argued by Martín-Ugedo and Minguez-Vera (2014), if it is found that gender does not influence firm performance, gender diversity and women presence would be primarily an ethical issue. Finally, if it is evidenced that the presence of women has a negative influence on performance, a dilemma would arise, with the confrontation between economic and ethical arguments.

The kind of relation found in the literature between gender and firm performance, mostly based on large firms' samples, may not apply to SMEs given the existing differences between smaller and larger businesses (Gray and Mabey, 2005). Namely, differences in terms of ownership and organizational structures, access to resources and management systems.

With that in mind, this paper uses an unbalanced panel data of 141 Portuguese SMEs for the period from 2010 to 2018, obtained with primary and secondary data sources and apply a random-effects regression to empirically examine the relationship between gender, measured as the fact of the firm being led by a woman or its main shareholder be a woman, and its financial performance level. Previously, it is estimated a Tobit model in order to examine the variables that may influence the presence of women leading the firm or being its main shareholder. Additionally, the paper has other two specific objectives: i) to research the possible non-linear nature of the gender-financial performance relationship and; ii) to explore the moderating role of some firm characteristics in influencing that relationship.

This paper contributes to the existing literature since it studies a topic still largely unexplored and it is focused on a small European economy. Most studies with SMEs have been conducted in English-speaking countries, whereas Portugal has distinct historical and cultural factors, legal frameworks and business characteristics and contexts compared to them. The choice of a national data set allows us to compare our results with studies made in similar countries (Du Rietz and Henrekson, 2000; Smith et al., 2006; Randøy et al., 2006; Campbell and Minguez-Vera, 2008; Martín-Ugedo and Minguez-Vera, 2014; Nekhili et al., 2018).

Our results evidence a significant positive relation between firm profitability and female leadership, indicating that women are choosing to lead firms with higher profitability levels. Aditionally, there are fewer possibilities for women to be firm leaders in larger and older organizational structures, which do not seem pressured towards equality. Finally, firm age moderates the positive relation between female leadership and profitability. Given the SMEs importance in the majority of countries, the results and implications of this paper can be generalized to other economies.

The following section presents the main issues dealt in this paper and a literature review, ending with the research hypotheses. Section three presents the variables, the data and the methodology to be used. Sections four and five present the empirical results and its discussion and the final section concludes the paper, presenting its limitations and future research avenues.

Literature review

The presence of women on a board of directors or leading a firm is often seen as a good business decision because women directors are hypothesized to increase firm value through their performance (Simpson et al., 2010). If it is evidenced that women leaders provide an additional source of economic benefit to firms, comparatively to men of equal qualifications, firms should be willing to hire and promote women. This economic incentive would reinforce ethical and social pressure to give equal opportunities to women. However, there is no *a priori* theorethical link leading to a direct relation between gender and firm performance, with contributions to that link coming from different fields (e.g., organizational behaviour or social psychology). For instance, Daily and Dalton (2003) argue that women directors may have nontraditional backgrounds and provide unique perspectives, experiences and work styles as compared to their male counterparts. Other authors argue that women change the group dynamics of communication, interpersonal interaction, and decision-making in a positive way, leading to more creative and innovative decisions, with positive impacts on performance (McInerney-Lacombe et al., 2008).

Although conceptual arguments support a positive link between female leadership and performance, there are also reasons to expect either no relationship or even a negative relationship. As argued by Simpson et al. (2010, p. 10), "(…) the effect of board gender diversity on financial performance is contigent on the circumstances that exist for a particular company at a specific time". An important caveat pointed by Simpson et al. (2010), is that variables such as board characteristics, shareholding structure and performance are largely endogenous, thus creating estimation and interpretation problems (Adams et al., 2010).

Besides gender effects on financial performance, the present paper also studies the firm specific factors determining a firm having a woman leader or main shareholder. According to Adams and Ferreira (2009), giving the reduced pool of women candidates to board or leadership roles, women would be able to choose the boards of more successful and profitable firms, thus suggesting a positive influence of profitability on women presence in the board.

Previous empirical papers researching the impact of gender on performance are mostly inconclusive. The majority of studies were dedicated to the US, with some authors supporting a positive relationship (e.g., Fenwick and Neal, 2001; Welbourne et al., 2007; Simpson et al., 2010), but others not finding a significant relation (e.g., Farell and Hersch, 2005) or even a negative relation (e.g., Adams and Ferreira, 2009). In the European context the evidence is also mixed. Campbell and Minguez-Vera (2008) found a positive effect of gender diversity on firm value for quoted Spanish firms, but Du Rietz and Henrekson (2000), Smith et al. (2006) and Randøy et al. (2006) evidenced the absence of a significant relationship for, respectively, Sweden, Denmark and a sample of Scandinavian countries. Using a sample of non-financial Spanish SMEs for 2003-2008, Martín-Ugedo and Minguez-Vera (2014), found that the probability of women on the board increases with firm performance and family ownership, but decreases with corporate ownership and firm risk. The authors also found a positive effect of the presence of women board members on firm performance, thus confirming that the presence of women is positive for economic reasons. More recently, Nekhili et al. (2018), with a sample of French firms argued that women CEOs perform better in non-family firms.

Considering other determinants of the sampled firms' profitability, and following previous authors (e.g., Martín-Ugedo and Minguez-Vera, 2014; Pacheco, 2020), the following set of control variables is included: firm age, size, indebtedness, internationalization, family presence, foreign capital and the number of board members or shareholders. It is also explored the potential moderating role (and non-linear impact) of some of those firm characteristics in influencing the gender-performance relationship, because certain specific characteristics could affect the "gender bias" (Arzubiaga et al., 2018).

Given the older firms' greater stock of knowledge and experience, that should have a positive impact on performance. Older firms learnt from their past experiences and would possess more skills to implement their learning in their decisions and new undertakings (Singla and George, 2013). Nevertheless, as firms age, they tend to become more conservative and prone to inertia (Aggarwal and Gort, 1996). So, the impact of age on profitability tends to be an empirical question (Coad et al., 2013; Capasso et al., 2015), but we expect that age has a negative influence and moderates the gender-performance relationship.

Regarding size, the literature posits that it can it can be a source of competitive advantage, with positive impact on performance, since larger firms have access to better technical and commercial opportunities, providing them economies of scale, greater bargaining power and the capacity to deter potential competitors or have an easier access to capital markets (Hirdinis, 2019). Nevertheless, those benefits deriving from the increased market power could be outweighted by the sunk costs and organizational inefficiencies associated with larger size, being the smaller firms' flexibility a competitive advantage (Chen and Hambrick, 1995). Additionally, size could only influence performance in certain industries, given sector differences in terms of competition or economies of scale (Bamiatzi et al., 2016). So, the existence of competitive advantages positively related to size is also an empirical issue.

Concerning leverage, Anderson et al. (2003) argue that SMEs, in order to finance their investments without the entry of new shareholders, prefer going into debt before increasing capital. However, other studies evidence that SMEs display a prudent behaviour, not going into debt in order to maintain their independence from creditors (López-Garcia and Aybar-Arias, 2000). Since SMEs could have specific concerns in terms of privacy, control and generational transition, tend to prefer internal financing policies and the reinvestment of their own funds to capital increases or long-term debt (Gallo et al., 2004; Zahra, 2005). Nevertheless, as generations, managers and the business as a whole evolves their attitude towards debt could change (Lussier and Sonfield, 2009). Debt ratios are included since a firm's ownership may influence its capital structure (Demsetz and Lehn, 1985; Randøy and Goel, 2003) and, alligning with the agency and pecking order theories and most of the literature, it is expected a negative relationship between indebtedness and profitability. Debt is here included as a proxy for financial risk so, regarding gender, women's preference for less risk should also yield a negative relationship between indebtedness and women as a leader or main shareholder.

The discussion regarding the effects of internationalisation on performance has mainly covered large firms, with the literature globally finding a positive relation (e.g., Lu and Beamish, 2004; Hsu et al., 2013). Lu and Beamish (2006) argued that firms have been extensively using exports as a growth strategy. Empirical studies with SMEs evidence a general positive relationship between exports and profitability, albeit with the possibility of a "liability of foreignness" at earlier stages of the internationalisation process (e.g., Hsu et al., 2013).

The impact of corporate governance on firms' strategic decision-making and, consequentially, in profitability has been thoroughly described in the literature (Shleifer and Vishny, 1986; Villalonga and Amit, 2006), albeit mostly for large and listed firms. Yet, the peculiarities of family firms and their impact on firms' performance have been less studied. Family firms possess some strengths favouring performance, namely their experience and knowledge of the business, their solid values and group-belonging culture and their long-term perspective (Nekhili et al., 2018). However, some limitations are succession turbulence, weak organizational structure, lack of professionalism and difficulties in financing (Claver et al., 2009; Le Breton-Miller and Miller, 2009). Nevertheless, we expect that family firms present higher levels of profitability and also that women leadership impacts positively on financial performance.

According to some authors (e.g., Halkos and Tzeremes, 2010), foreign-owned subsidiaries have a set of firm-specific advantages which are not available to domestic firms, namely access to technological, financial and human resources or the ability to profit from economies of scale. Nevertheless, despite the usual hypothesis that foreign-owned firms outperform domestic firms, other authors found evidence of little or no superior performance (e.g., Azzam et al., 2013). Finally, variables measuring the number of managers/directors and the number of shareholders will also be tested, being expected a negative relation with financial performance due to lower agency costs (Andres, 2008).

Considering the literature review made above, we can now present the set of research hypotheses to be tested in this paper:

H1: Financial performance has a positive relation with the presence of women as firm leaders/shareholders

H2: Firm age has a negative relation with the presence of women as firm leaders/shareholders

H3: Firm size has a positive relation with the presence of women as firm leaders/shareholders

H4: Indebtedness has a negative relation with the presence of women as firm leaders/shareholders

H5: Export intensity has a positive relation with the presence of women as firm leaders/shareholders

H6: Family presence in the firm has a positive relation with the presence of women as firm leaders/shareholders

H7: The presence of foreign capital has a positive relation with the presence of women as firm leaders/shareholders

H8: The firm's number of managers/shareholders has a negative relation with the presence of women as firm leaders/shareholders

And, finally,

H9: Women presence as firm leaders/shareholders has a positive relation with financial performance

Additionally, it is also tested the potentially non-linearity of the gender-financial performance relationship and explored the moderating role of some firm characteristics in influencing that relationship.

Variables, data and methodology

Variables

Prior studies measured the variable gender in different ways: a dummy variable, indicating the presence of at least one woman on the board or that the board is led by a woman; women's proportion on the board; or index measures of gender diversity (e.g., Blau or Shannon indexes employed by Martín-Ugedo and Minguez-Vera, 2014). Albeit diversity indexes are more suitable measurements of diversity than a dummy variable indicating the presence or women's proportion on the board, given the availability of data, the present paper uses a dummy variable. So, when the firm is led by a woman the dummy variable (GL) assumes the value of 1. Additionally, it will be tested an alternative dummy variable considering the gender of the firm's main shareholder (GS).

Regarding performance, previous papers used a broad range of performance measures, from firm value (e.g., Tobin's *q*: Carter et al., 2003; Adams and Ferreira, 2009; Nekhili et al., 2018), to accounting measures (e.g., ROA or ROI: Erhardt et al., 2003; Martín-Ugedo and Minguez-Vera, 2014) as well as internationalization measures (Pergelova et al., 2018; Idris and Saridakis, 2020). Due to data availability, this paper uses the ratio EBIT to total assets (RENT), easily available from financial statements and generally considered as a key performance indicator.

Despite the fact that the present paper focuses the relation between gender and performance, some control variables are included in order to rule out alternative determinants of the sampled firms' performance. Those variables are traditionally used when studying performance determinants, namely firm age, size and indebtnedess. Additionally, it will also be tested variables regarding the internationalization level of the firm, the fact of being or not a family firm, have a foreign stake in its equity and the logarithms of the total number of directors and shareholders (Farrell and Hersch, 2005; Martín-Ugedo and Minguez-Vera, 2014).

For kurtosis reasons, variables age (AGE) and size (SIZ) are measured, respectively, as the log of the firm age (in years) and the log of total assets. Firm's indebtedness level is measured as total debt (TD = total liabilities/ total assets) and its subdivision in short-term and long-term debt (respectively, STD and LTD, that is current liabilities/ total assets and non-current liabilities/ total assets). Regarding the variable "internationalization" (INT), it will be used the traditional measure of internationalization intensity, measured by the percentage of foreign sales in total sales. If the firm considers itself as a "family firm", the variable FAM takes a value of 1, and 0 otherwise. The variable "FOR" measures the firm's percentage of foreign capital. Finally, the variables NM and NS represent, respectively, the logs of the total number of the firm's directors/managers and shareholders.

Data

This section describes the data collection process for the sample characterization over which our empirical study is performed.

During the second semester of 2019, in the context of a wider research project, a broad questionnaire was elaborated - titled "Factors that contribute to the effectiveness of corporate internationalization" - and sent by e-mail to the responsible for the internationalization of Portuguese exporting firms and firms that intend to export, taken from the AICEP database. It were obtained 238 complete answers, for firms distributed by all sectors of activity. Combining the questionnaire information with quantitative data obtained from SABI, a financial database provided by Bureau van Dijk, and eliminating firms with serious lack of information, we obtained an unbalanced panel data of 141 SMEs from all industrial sectors for the period 2010-18. In 2018, these firms had an average age of 26 years, total sales of 687 M€ and total assets of 768 M€. The firms' capital was mainly domestic, with an average weight of only 7,3% of foreign capital, and mainly owned by a single family (103 firms, that is, 73% considered themselves as a "family firm"), with almost 76% of the capital in the hands of the members of the same family. In terms of size, most of the firms in the sample had less than 50 employees (73,8%). The average firm had four managers/directors and 2,8 shareholders, with the main manager being also a shareholder in 76,6% of the firms. Finally, regarding gender, the main leader of the firm was a woman in 34 firms (24,1%) and the main shareholder was a woman in only 14 firms (9,9%).

Methodology

The relation between gender and performance is addressed with two methodologies, a Tobit regression and a Random Effects Model (REM).

First, we run the variables GL and GS on profitability and the other control variables. Since the dependent variable is dichotomous, it is applied a Tobit methodology (Gujarati and Porter, 2008). Tobit regressions are non-linear therefore the coefficients should be interpreted with care and do not measure the real causal effect on the dependent variable. This effect is correctly measured only by the marginal effect, however, the coefficients maintain the significance and sign of the marginal effects, allowing the test of our hypotheses. The second model examines through a random-effects specification, the influence of gender, plus the set of control variables, on firm performance. In order to choose the most appropriate regression technique, the Breusch-Pagan test leads to the rejection of the null hypothesis, indicating that REM is more appropriate than POLS whereas the Hausman test leads to the acceptance of the null hypothesis that REM is preferable to FEM. According to King and Santor (2008), a random-effects model explains inter-firm performance variation over time, being the adequate specification since a number of our variables are either time-invariant or exhibit few changes over time (e.g., gender, age or size).

Analysis and results

Prior to the estimation of the different models, Table 1 presents the variables' average values and the corresponding correlation matrix. Gujarati and Porter (2008) argue that correlation coefficients above 50% could signify collinearity problems. Table 1 shows that only in one circumstance the correlation coefficient between independent variables is above 50%. Therefore, the problem of collinearity between explanatory variables should not be particularly significant.

Table 1. Average values and correlation matrix between variables

	aver.	GL	GS	REN	AGE	DIM	STD	LTD	INT	FA	FOR	NM	NS
GL	0,24	1	0,20	0,04	-0,05	-0,12 (***	0,14 (***	-0,05 (***	-0,00	0,23 (***	0,04	-0,13 (***	-0,08 (***
GS	0,10		1	-0,08 (***)	0,21 (***)	-0,04	0,001	-0,05 (*)	0,02	0,15 (***	-0,10 (***	0,06 (**)	0,06 (**)
RENT	5,33%			1	-0,02	0,09 (***	-0,07 (**)	-0,17 (***	0,12 (***	0,03	0,07 (**)	0,06 (*)	-0,03
AGE	2,89				1	0,46 (***	-0,23 (***	-0,02	-0,02 (**)	0,17 (***	-0,08 (***	0,37	0,32 (***
SIZ	7,40					1	-0,16 (***	0,04	0,02	0,12 (***	0,12 (***	0,62 (***	0,25 (***
STD	42,5%						1	-0,37 (***	0,10 (***	0,04	-0,04	-0,12 (***	-0,08 (***
LTD	16,1%							1	-0,03	-0,02	0,113	-0,04	0,12 (***
INT	37,8%								1	0,02	0,09 (***	0,01	-0,13 (***
FAM	0,73									1	-0,01	0,04	0,15 (***
FOR	7,28%										1	0,07 (**)	0,02
NM	4,19											1	0,40 (***
NS	2,78												1

Note: s.d. is the standard deviation. * p< 0,10; ** p < 0,05; *** p < 0,01;

Table 2 presents the results for the Tobit regression of the variable GL and GS on profitability and the other control variables. The results indicate that profitability is a determinant of a woman leading the firm. Regarding the control variables, short term debt and family presence seem to positively determine a female leadership, whereas the number of directors/managers and shareholders exert a significant negative effect. Regarding the variable GS, profitability, firm dimension and foreign capital are negatively associated with a female main shareholder, whereas age and family presence display a significant positive relationship.

Table 2. Tobit model

	GL	GL	GS	GS
C	-0,977 (***)	-1,086 (***)	-2,937 (***)	-2,984 (***)
RENT	1,244 (**)	1,018 (**)	-2,677 (***)	-2,761 (***)
Controls				
AGE	0,104		1,080 (***)	1,034 (***)
SIZ	-0,063		-0,327 (***)	-0,395 (***)
TD	0,323		-0,348	
STD		0,463 (*)		0,246
LTD		-0,329		-0,675
INT	-0,131		0,105	
FAM	1,203	1,179	1,076	1,253

	(***)	(***)	(***)	(***)
FOR	0,003		-0,422 (***)	-0,447 (***)
NM	-0,416 (***)	-0,456 (***)	-0,225	
NS	-0,300 (***)	-0,248 (**)	-0,027	
LR χ^2 (df = 2)	146,07 (***)	148,83 (***)	2270,20 (***)	2266,59 (***)
LLR	-798,04	-797,25	-422,76	-427,61

Notes: Standard-deviations presented in brackets. * p< 0,10; ** p< 0,05; *** p< 0,01.

Table 3 presents the results for the second model where, through a random-effects specification, it is analyzed the influence of gender, plus the set of control variables, on firm performance (columns I to IV). Being one of the objectives of this paper to test the presence of non-linear effects, columns V to VIII in Table 3 present the results with the squares of some variables.

Table 3. Random-effects model. RENT as dependent variable

	I	**II**	**III**	**IV**	**V**	**VI**	**VII**	**VIII**
C	0,099 (***)	0,103 (***)	0,102 (***)	0,110 (***)	0,114 (***)	0,059	0,075 (**)	0,105 (***)
GL	0,013		0,021					
GS		-0,024		-0,019				
Controls								
AGE	-0,018 (**)	-0,016 (**)	-0,022 (***)	-0,020 (***)	-0,027	-0,022 (***)	-0,025 (***)	-0,019 (**)
SIZ	0,015 (***)	0,014 (***)	0,012 (***)	0,011 (***)	0,012 (***)	0,027	0,012 (***)	0,013 (***)
STD	-0,160 (***)	-0,158 (***)						
LTD	-0,172 (***)	-0,172 (***)						
TD			-0,157 (***)	-0,156 (***)	-0,155 (***)	-0,157 (***)	0,038	-0,159 (***)
INT	0,025 (**)	0,024 (**)	0,029 (***)	0,029 (***)	0,029 (***)	0,029 (***)	0,028 (***)	-0,117 (***)
FAM	0,012	0,017						
FOR	0,000	0,000						
NM	-0,014	-0,016						
NS	-0,010	-0,010						
AGE^2					0,001			

SIZ^2						-0,001		
TD^2							-0,179 (***)	
INT^2								0,161 (***)
Overall R^2	0,08	0,09	0,07	0,07	0,07	0,07	0,07	0,07

Notes: Standard-deviations presented in brackets. * p< 0,10; ** p< 0,05; *** p< 0,01.

The results in columns I to IV evidence the absence of a relation between gender and profitability, with several control variables presenting significant results (age, size, debt and internationalization). In terms of non-linear effects, column VIII evidences an interesting U-shaped relation between internationalization and profitability.

Table 4 presents the results for the interaction variables in order to test whether the effects of age, size, debt or internationalization are additive or not to the gender-performance relationship.

Table 4. Random-effects model (moderating effects). RENT as dependent variable

	I	II	III	IV	V	VI	VII	VIII	IX
C	0,085 (***)	0,089 (***)	0,091 (***)	0,101 (***)	0,134 (***)	0,126 (***)	0,129 (***)	0,114 (***)	0,072 (**)
GL	0,099 (**)	0,087	0,060 (**)	0,023					
GS					-0,226 (***)	-0,168 (*)	-0,138 (***)	-0,042 (*)	
Controls									
AGE	-0,016 (**)	-0,022 (***)	-0,021 (***)	-0,022 (***)	-0,026 (***)	-0,021 (***)	-0,022 (***)	-0,020 (***)	-0,022 (***)
SIZ	0,012 (***)	0,014 (***)	0,012 (***)	0,012 (***)	0,011 (**)	0,010 (**)	0,012 (***)	0,012 (***)	0,012 (***)
TD	-0,155 (***)	-0,157 (***)	-0,143 (***)	-0,158 (***)	-0,158 (***)	-0,156 (***)	-0,184 (***)	-0,157 (***)	-0,093 (***)
INT	0,028 (**)	0,029 (***)	0,029 (***)	0,030 (**)	0,029 (***)	0,030 (***)	0,027 (**)	0,021 (*)	0,133 (***)
GLxAGE	-0,028 (*)								
GLxSIZ		-0,009							
GLxTD			-0,062						
GLxINT				-0,005					
GSxAGE					0,063 (***)				
GSxSIZ						0,021 (*)			

GSxTD							0,211 (***)		
GSxINT								0,066 (*)	
TDxINT									-0,169 (***)
Overall R^2	0,08	0,07	0,08	0,07	0,08	0,07	0,09	0,08	0,08

Notes: Standard-deviations presentedin brackets. * p< 0,10; ** p< 0,05; *** p< 0,01.

The first four columns of Table 4 seem to evidence that, apart from age, there are no other moderating effects on the gender-performance relationship. Regarding firm age, the variable GL is significantly positive but the interaction variable is significantly negative, evidencing that the age of the firm has a moderating role on the positive relationship between gender (female firm leader) and profitability. The results for columns V to VIII, with GS (the firm main shareholder is a woman) are rather interesting, evidencing the presence of moderating effects in all variables. Finally, column IX evidences the presence of a negative moderating effect of debt on the positive influence of internationalization over profitability.

Discussion and implications

This section presents a discussion of the results, comparing them with previous papers and gauging their coherence with the objectives and hypotheses stated above.

Results from Table 2 evidence that firms with higher profitability have, on average, more female leaders. That is, women are choosing to lead firms with higher profitability levels. This result supports H1 and is in line with some other previous authors (e.g., Martín-Ugedo and Minguez-Vera, 2014). Additionally, Table 2 also evidences that women are not choosing to be the main shareholder of less profitable firms. The age and size of the firm have, respectively, positive and negative impacts on women shareholding but are significant regarding woman leadership, thus only supporting H2 and H3. Perhaps in small firms the shareholders' female sucessors have easier access to equity stakes in firm succession. The results for the variables proxying financial risk (TD, or STD/LTD), internationalization and foreign capital do not support hypotheses H4, H5 and H7. Additionally, the fact of being a family firm seems to be a significant determinant for a firm to have a woman as leader or main shareholder. That is, confirming H6, family firms seem to promote female roles. Finally, in accordance with H8, the number of directors/managers and the number of shareholders seem to have a negative impact on women leadership. These results, seen together with the results for age and size, indicate fewer possibilities for women in larger and older organizational structures, which do not seem pressured towards gender equality.

Observing Table 3, gender does not seem to have a significant impact on performance, so that we can not accept hypothesis H9 and do not confirm previous results from Martín-Ugedo and Minguez-Vera (2014) and other authors. So, our results do not evidence that women leading the firm or being the main shareholder has a significant impact on profitability. Regarding the other variables, the results confirm the majority of our hypotheses. Older firms are more likely to be in a mature phase, confronted with less growth opportunities, higher inertia and bureaucratic processes and, consequently, lower profitability levels. Larger firms present higher profitability, possibly a consequence of the positive impact of resources in performance. Highly indebted firms are less profitable, independently of the debt's maturity. That result is in line with the predictions of the agency and pecking order theories and is typically found in the literature, since debt imposes a fixed financial commitment on the firm, reducing the free cash flows available to management (Yazdanfar and Öhman, 2015). Finally, highly exporting firms are more profitable, a result also evidenced by Pacheco (2019) for Portuguese SMEs. The remaining variables (FAM, FOR, NM and NS) do not present significant results. Broadly, these results for the different control variables confirm previous research, for instance, López-Garcia and Aybar-Arias (2000) or Pacheco (2020).

Regarding non-linear effects, Table 3 evidences a U-shaped relation between internationalization and profitability. That is, earlier stages of internationalization are associated with lower profitability and firms having a larger proportion of sales abroad present higher profitability levels. Potentially, this "liability of foreigness" is a consequence of internationalization's sunk costs and economies of scale, since heavily exporting firms that surpassed a certain thresehold are capable of obtaining higher profits.

The results in Table 4, column I, indicate that firm age moderates the positive relationship between female leadership and profitability. The variable GL is significantly positive but when multiplied by AGE changes its sign, thus evidencing that the positive impact of a firm having a woman as leader is greater for younger firms. That is, younger firms seem to benefit more from being led by a woman. The results in columns V to VIII also evidence the presence of moderating effects in the female shareholder-profitability relationship. Firms where the main shareholder is a woman seem to present lower levels of profitability, albeit that relation is positively moderated in younger, larger, less indebted and export-driven firms. Finally, column IX evidences that the negative influence of debt on profitability is reduced in the case of more export-oriented firms.

Conclusion

The objective of the present paper is to study the effects of gender on financial performance and examine the variables that may influence the presence of women leading the firm or being its main shareholder. It is used an unbalanced panel data of 141 Portuguese firms for the period from 2010 to 2018, obtained with primary and secondary data sources. Our results evidence that firms with higher profitability have an higher probability of being led by a woman. That is, women seem to choose to lead firms with higher profitability levels. Our results also evidence fewer possibilities for women to lead larger and older firms, which do not seem pressured towards gender equality. Regarding the possibility of non-linear effects on profitability, the U-shaped relationship between internationalization and profitability implies that exporting firms that surpassed a certain threshold display higher profitability. This non-linear relation between internationalization and profitability calls for major attention to these effects by managers who must acknowledge that internationalization brings dysfunctional consequences to performance, particularly at intermediate levels of internationalization. Finally, firm age seems to moderate the positive relationship between female leadership and profitability, that is, the positive impact of a firm having a woman leader is greater for younger firms.

Possibly, some of the the different results found in this paper can be explained by the fact that a large number of previous papers focused on large and listed firms and used different proxies for performance and gender. The hypotheses tested in this paper have been tested in other countries being this paper, to our knowledge, the first one to test them in Portuguese SMEs.

We can now mention some limitations of the present paper: i) the performance level attained by firms is affected by other variables that were not considered (e.g., managerial labour and product markets, political and economic factors or the personality or education level of shareholders and managers), implying that our results should be carefully read; ii) our study enables to control for the characteristics of the home market since it uses a small sample of Portuguese firms. Yet, to generalize our findings, future studies should test our hypotheses in other countries and consider inter-industry heterogeneity of gender effects; iii) the variables used in the literature to measure performance and gender differ widely, leaving us with the question whether our results depend on the kind of variables used. Firm performance can be studied in different perspectives: financial indicators, employee satisfaction, innovation levels, etc. but, given the availability of data, the present paper turned its focus to profitability measures.

Finally, regarding future developments, it would be relevant to develop case studies about the effects of gender related variables on firm profitability and other performance related variables. An interesting research could be to cross firm level data with the legislation on gender equality, in order to observe the magnitude of the response given by firms. Also, instead of using a single country sample it would be interesting to perform cross-country analysis of the gender-performance relationship (an example is Rivas, 2012).

The main contribution of this exploratory paper is to disentangle the gender-performance relationship, distinguishing between female leadership determinants, where profitability is one of them, and gender effects on performance. In summary, the results allow us to conclude that firms led by a woman or where the main shareholder is a woman do not possess any profitability advantage over other firms. Thus, women presence is irrelevant for profitability, not providing significant economic benefits, albeit continuing to be an ethical imperative. Given the SMEs importance in the majority of countries, the results and implications of this paper can be generalized to other economies and we hope this research stimulates future work on this less studied sub-topic of performance determinants.

Acknowledgements and Financial Disclosure

This work is supported by FEDER funds from COMPETE 2020 and Portuguese funds -PORTUGAL 2020. Project IEcPBI - Interactive Ecosystem for Portuguese Business Internationalization - POCI-01-0145-FEDER-032139.

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WPŁYW PŁCI NA WYNIKI FINANSOWE: DOWODY NA PRÓBIE PORTUGALSKICH MŚP

Streszczenie: Celem tego artykułu jest empiryczne zbadanie wpływu płci na wyniki finansowe. Ponadto w artykule przeanalizowano zmienne, które mogą wpływać na obecność kobiet kierujących firmą lub będących jej głównym akcjonariuszem. Literatura dotycząca determinantów wyników jest bogata, jednak związek między płcią a dochodowością w kontekście małych i średnich przedsiębiorstw (MŚP) jest znacznie mniej zbadany. Przyczyniając się do wypełnienia tej luki badawczej, wykorzystano niezrównoważone dane panelowe 141 portugalskich MŚP za okres od 2010 do 2018, uzyskane z pierwotnych i wtórnych źródeł danych. Zależność między płcią a wynikami finansowymi jest określana za pomocą dwóch metod, regresji Tobita i modelu efektów losowych. Nasze wyniki pokazują, że kobiety mają mniejsze możliwości bycia zdecydowanymi liderkami w większych i starszych strukturach organizacyjnych, które nie wydają się być naciskane na równość. Dodatkowo, zdecydowany wiek łagodzi pozytywny związek między przywództwem kobiet a rentownością. Ze względu na znaczenie MŚP w większości gospodarek nasze wyniki i ich konsekwencje można uogólnić na inne kraje.

Słowa kluczowe: wyniki finansowe; Płeć; MŚP; Umiędzynarodowienie; Charakterystyka firmy

性别对财务绩效的影响:葡萄牙小企业样本的证据

摘要:本文的目的是实证研究性别对财务绩效的影响。此外,本文还研究了可能影响领导公司或成为公司主要股东的女性人数的变量。关于绩效决定因素的文献很多,但是在中小企业(SME)的背景下,性别与盈利能力之间的关系却很少研究。为了填补这一研究空白,我们使用了 141 个葡萄牙中小企业 2010 年至 2018 年期间的不平衡面板数据,这些数据是通过一级和二级数据来源获得的。性别与财务绩效之间的关系通过两种方法解决:Tobit 回归和随机效应模型。我们的研究结果表明,在更大,更老的组织结构中,妇女担任坚定领导者的可能性较小,而这些组织似乎并没有向平等施加压力。此外,公司年龄可以缓和女性领导力与获利能力之间的积极关系。由于中小企业在大多数经济体中具有重要意义,因此我们的结果及其影响可以推广到其他国家。

关键字:财务业绩;性别;中小企业;国际化;企业特征