FEDERAL UNIVERSITY OF CEARÁ

CONTEXTUS
REVISTA CONTEMPORÂNEA DE ECONOMIA E GESTÃO
Contextus – Contemporary Journal of Economics and Management

ISSN 1678-2089
ISSNe 2178-9258

www.periodicos.ufc.br/contextus

Women in charge: Do gender diversity and the participation of female heirs affect the performance of listed companies?

Mulheres no comando: A diversidade de gênero e a atuação de mulheres herdeiras afetam o desempenho de companhias listadas?

Mujeres a cargo: ¿La diversidad de género y la actuación de las herederas afectan el desempeño de empresas cotizadas?

https://doi.org/10.19094/contextus.2021.71385

Vanessa Martins Valcanover
https://orcid.org/0000-0001-7576-0205
PhD student in Administration at the Federal University of Santa Catarina (UFSC)
Master in Administration from the Federal University of Santa Maria (UFSM)
vanessamvalcanover@gmail.com

Igor Bernardi Sonza
https://orcid.org/0000-0001-5403-3279
Adjunct professor at the Federal University of Santa Maria (UFSM)
PhD in Administration from the Federal University of Rio Grande do Sul (UFRGS)
igorsonza@gmail.com

ABSTRACT
This research verified the influence of gender diversity on the performance of listed companies in Brazil. Additionally, it was analyzed whether the existence of family connections between female directors and executives and their colleagues affected the firms' performance. Data from 2010 to 2017 were used, analyzed with the generalized method of moments. Results showed that less than 8% of seats on boards of directors and executive positions were held by women. It was confirmed that greater female participation on boards of directors and on executive positions leads to an increase on the performance of firms. However, the effect of the participation of female directors and executives who had family connections with their colleagues was negative, opening space for discussion.
Keywords: gender diversity; family connections; performance; corporate governance; listed companies.

RESUMO
Esta pesquisa verificou a influência da diversidade de gênero no desempenho de empresas listadas no Brasil. Adicionalmente, foi analisado se a existência de laços familiares entre conselheiras e executivas e seus colegas afetava o desempenho das firmas. Utilizou-se dados de 2010 a 2017, analisados pelo método de momentos generalizados. Os resultados mostraram que menos de 8% dos assentos nos conselhos de administração e em cargos executivos eram ocupados por mulheres. Confirmou-se que uma maior participação feminina nos conselhos de administração e em cargos executivos leva ao aumento no desempenho das firmas. Entretanto, o efeito da participação de conselheiras e executivas que apresentaram laços familiares com seus colegas foi negativo, abrindo espaço para discussão.
Palavras-chave: diversidade de gênero; laços familiares; desempenho; governança corporativa; empresas listadas.

RESUMEN
Esta investigación verificó la influencia de la diversidad de género en el desempeño de empresas cotizadas en Brasil. Adicionalmente, se analizó si la existencia de vínculos familiares entre directoras y ejecutivas y sus colegas afectaba el desempeño de las empresas. Se utilizaron datos de 2010 a 2017, analizados por el método de momentos generalizados. Resultados mostraron que menos del 8% de los puestos en juntas directivas y puestos ejecutivos estaban ocupados por mujeres. Se constató que mayor participación femenina en consejos de administración y en cargos ejecutivos conlleva un incremento en el desempeño de las empresas. Sin embargo, el efecto de la participación de consejeras y ejecutivas que tenían vínculos familiares con sus colegas fue negativo, abriendo espacios de discusión.
Palabras clave: diversidad de género; vínculos familiares; desempeño; gobierno corporativo; empresas cotizadas.

Article Information
Uploaded on 07 July 2021
Final version on 15 September 2021
Accepted on 17 September 2021
Published online on 15 November 2021

Interinstitutional Scientific Committee
Editor-in-chief: Diego de Queiroz Machado
Associated Editor: Thiago Henrique Moreira Goes
Evaluation by the double blind review system (SEER / OJS - version 3)

How to cite this article:
Valcanover, V. M., & Sonza, I. B. (2021). Women in charge: Do gender diversity and the participation of female heirs affect the performance of listed companies? *Contextus – Contemporary Journal of Economics and Management*, 19(23), 345-358. https://doi.org/10.19094/contextus.2021.71385

1 INTRODUCTION

Corporate governance proposes practices to reduce agency problems, conflicting interests between managers and entrepreneurs (Shleifer & Vishny, 2012). Margem (2013) suggested that gender diversity on boards and executive positions, due to the greater participation of women in a predominantly male environment, has become a relevant topic in discussions on corporate governance, as many countries have adopted rules favorable to the equality of opportunities between genders, while many studies suggested that diversity is beneficial for companies because it can increase their performance and value. According to Papangkorn et al. (2019), in times of crisis, firms may need more monitoring and different advice than they normally do, highlighting the role of female directors, who bring new ideas and different perspectives to the table.

According to Margem (2013), gender diversity on boards of directors ensures diverse behaviors, experiences, and qualifications of its members, improving the companies' governance and transparency. In this sense, Zhang (2020) proposes that the relationship between gender diversity and firm performance varies across countries due to differences in the institutional context: the more gender diversity is accepted in a country, the more gender-diverse firms experience positive market valuation and increased revenue.

By observing the situation in Brazilian companies between 2010 and 2013, Silva and Martins (2017) noted that 63% of the companies surveyed did not have women on their board, and, in the ones that have, the average women representation was of only 5.6%; while Costa, Sampaio and Flores (2019) indicated a female participation close to 9% from 2010 to 2016, suggesting that, in Brazil, gender diversity is still not widespread and accepted in the companies. Globally speaking, Bianco, Ciavarella and Signoretti (2014) point out that women still hold few corporate seats, even though these numbers are increasing almost everywhere in the recent years.

Gender diversity issues also affect a specific set of women: those who have family connections to the companies where they work. According to Campopiano et al. (2017), women that participate in the family business struggle with some limitations imposed by stereotypes, which may affect their career advancements due to the lack of a careful evaluation of their potential and performance. Also, the Corporate Women Directors International group (CWDI, 2015) presented that, in 2015, 40% of women serving on boards of directors in Brazil had some kind of family connections to the companies where they worked.

Based on these issues, this study aimed to analyze the influence of gender diversity on the performance of publicly listed companies on the Brazilian stock exchange from 2010 to 2017. As specific goals, it was identified the level of female participation in corporate boards and top management; the existence of family connections between female directors and executives with other executives and board members in the companies; and whether such issues affect the performance of the companies.

This topic is relevant in a context where there is much discussion about inequality of opportunities between genders. CWDI (2015) indicated that only 47 of the 100 largest companies in Latin America had at least one woman on their board of directors. Despite the limited participation, greater female participation in strategic positions related to management or the board can increase the potential and performance of companies, as well as the transparency and equality among stakeholders (Vaccari & Beuren, 2017), having a direct and positive influence on overall managerial capabilities both in times of stability and of crisis (Fernando, Jain & Tripathy, 2020). In this scenario, the Brazilan's Senate Bill 112/2010 aims to establish a minimum of 40% of female occupation in boards of directors in public and mixed-capital companies, which can take place with gradual implementation if approved (Brazil, 2010).

This research differs from others by using variables less used in studies of gender diversity and its effects on companies' performance. For example, Silva and Martins (2017) and Costa, Sampaio and Flores (2019) analyzed publicly listed companies in Brazil regarding the participation of women on boards of directors only. Meanwhile, Silva and Margem (2015) included variables related to female participation on boards of directors and management, however, they have not analyzed the presence of female CEOs or the existence of family connections between top management colleagues. This article addresses gender diversity on different aspects: on boards of directors, on independent boards, on executive/director positions, such as CEO, and includes the existence of family connections between women working in companies and their peers.

The study is divided into five parts, which the first one is this introduction. The second part addresses the theoretical framework on the topic of gender diversity and family connections of women working in companies, while the third one exposes the research method. In the fourth part, there is the analysis and discussion of the results, and, finally, the fifth part presents the final considerations.

2 THEORETICAL FRAMEWORK

In this section, there is the theoretical framework that bases the researched topics. Studies that have analyzed women's participation in companies are presented. Then, the focus turns specifically on women who are heirs or have family connections to the company where they work.

2.1 Gender diversity and its effect on performance

The lack of women participation in corporations was first highlighted in the 70s by Kanter (1977), which called the few women in top management positions as tokens (symbols), a person that is the only representative of a demographic group, such as gender or race, demonstrating that, usually, female executives have their image distorted because corporations emphasize their female characteristics rather than leadership characteristics. Madalozzo (2011) pointed out that women may face a glass ceiling effect, a term related to the fact that internal promotion in companies is the responsibility of their managers, but the criteria for promotion are unclear, representing an insurmountable and invisible barrier, noticeable in the career progression analysis. Thus, it results in imperceptible obstacles that impact women's growth to top positions in corporations.

However, studies have demonstrated the benefits of gender diversity in companies. Carter et al. (2010) argued that gender diversity brings greater plurality of opinions to boards and new strategic contributions, affects decision-making and leadership styles, and improves board behavior. Furthermore, Dezso and Ross (2012) affirmed that female participation and its behavioral traits are positive to corporations and boards, as they improve communication and encourages empathy, seeking consensus and more democratic decisions. Chen, Leung and Evans (2018) demonstrated that female board representation is associated with greater innovative success in companies, with more investment in innovation. Adams and Ferreira (2009), Liu, Wei and Xie (2014), and Papangkorn et al. (2019) highlight that female directors tend to monitor the work of executives more actively, enhancing the company's corporate governance.

In this context, Kubo and Nguyen (2021) present an interesting survey on why female CEOs positively affect the performance of firms in Japan and internationally. According to the authors, female CEOs of publicly listed companies may possess extraordinary abilities as leaders and differ from the general population, as they have successfully broken through the glass ceiling, as defined by Kanter (1977) and Madalozzo (2011). Those who can overcome so many obstacles and such adversity in the male-dominated corporate world to become CEO of a listed firm, at least in the public eye, must be game changers (Kubo & Nguyen, 2021). The authors also affirm that the public and the investors may appreciate a female CEO as it demonstrates that the firm will select the right person for the job regardless of gender.

Regarding the effects on firm performance of female participation on board of directors and senior management positions, literature is still inconclusive. On the one hand, researches have shown that this effect is positive, as in Dezso and Ross (2008), which analyzed North American companies which had a woman in the position of CEO or women in top management. The authors concluded that female participation in senior management is strongly related to better performance, as measured by Tobin's Q, return on assets (ROA) and return on equity (ROE). Meanwhile, the effect of a female CEO was non-significant for Tobin's Q and ROA, and negative and significant for ROE.

Campbell and Mínguez-Vera (2008) analyzed Spanish firms and found a positive relationship between gender diversity and firm performance. Similarly, Liu, Wei and Xie (2014) analyzed Chinese firms from 1999 to 2011. In their study, boards with three or more female directors have a higher impact on firm performance than boards with two or fewer female directors. This relates to the argument that higher female participation allows women to be heard and valued in the decision-making process and not seen as tokens (Kristie, 2011). Brahma, Nwafor and Boateng (2020) found similar results in listed firms in the United Kingdom, reinforcing that the effects become highly significant and unequivocal when three or more females are appointed to the board.

Research, such as Silva and Martins (2017), with Brazilian listed firms between 2010 and 2013; Ahmadi, Nakaa and Bouri (2018) and Bennouri et al. (2018), that analyzed firms in France; Duppati et al. (2019), which verified firms in India and Singapore; Moreno-Gómez and Calleja-Branco (2018), which studied firms in Colombia; and Pucheta-Martínez and Gallego-Álvarez (2020), that studied data of firms in Africa, Asia, Europe, and Latin America, also found a positive effect of gender diversity, measured on boards or senior management positions, on the firms' performance.

In the study by Fernando, Jain and Tripathy (2020), the authors perceived that a higher female representation in senior management positions has a substantial and direct influence on overall managerial capabilities and elicits positive performance effects both in times of stability, and more so, in times of crisis. In this sense, Papangkorn et al. (2019) contribute by addressing the effects of gender diversity during times of economic crisis, specifically during the crisis of 2008. Analyzing listed firms of the United States, the authors noticed that the presence of female directors on the board significantly improved firm performance, measured by ROA, during the Great Recession of 2008, but such benefits from board gender diversity were not found outside the crisis period.

On the other hand, there are studies that found results different from those previously presented. Adams and Ferreira (2009) analyzed firms in the United States and found that female directors are more likely to join monitoring

committees. In general, gender diversity had a positive impact on performance of firms with weak governance, measured by their abilities to resist takeovers. In firms with strong governance, however, enforcing gender quotas in the boardroom could ultimately decrease shareholder value because it could lead to over monitoring.

From another perspective, Kolev (2012) compared the performance of firms with female and male CEOs. The author argues that, usually, female executives had better performance than their male counterparts on various measures, but usually firms led by women presented a lower performance. This result is justified by the fact that firms with female CEOs are seen by investors as less risky, due to the women´s risk aversion, therefore, they may require lower returns to persuade investors to keep their investments.

Finally, Chauhan and Dey (2017) examined listed firms in India from 2002 to 2014 and concluded that the participation of female directors does not matter to the firms. The authors explained that female directors were less likely to be appointed in monitoring-related committees than male directors, and highlighted the tokenism status of female directors, stating that Indian companies, which are predominantly familial and of concentrated ownership, ended up not valuing the work of those women. Considering data from 2006 to 2015 in Spanish firms, Fernández-Temprano and Tejerina-Gaite (2020) could not find a possible relationship between gender diversity and performance, measured by ROA and Market-to-book. The authors affirmed that the persistent lack of women on the boards of Spanish firms reduces the possibility of finding potential effects.

As it can be seen, the literature is inconclusive regarding the relationship between gender diversity and firm performance. Most studies examined women's participation on boards of directors and senior management positions, such as executives or CEOs. Based on that, the first and second hypotheses of this research were defined:

H1: The greater the participation of female directors, the greater the listed firms' performance.

H2. The greater the participation of female executives, the greater the listed firms' performance.

2.2 Family connections between women and colleagues

It is important to emphasize that a good portion of the few women in top positions have family connections to the companies where they work. Although these women are possibly heirs of the family business, they still struggle to lead or to participate in the management of these companies. Macêdo et al. (2004) and Constantinidis and Nelson (2009) demonstrated that the preference for choosing the successor to take over the business was still focused on male heirs. As a result, women had very limited or no space in the firms.

Kubo and Nguyen (2021) contribute to the topic by addressing the participation of female CEOs who are founders and heirs in Japanese companies, which may apply in other countries. According to the authors, female heirs may present some talent that makes firm founders go against the tradition of male inheritance, by choosing and training female heirs to be the next CEO within a carefully considered long-term plan. In the analyzed Japanese companies, the authors verified that the number of female CEOs was low and around 67% of them had a family connection to the business.

It was found very little research on family connections of women on boards of directors and executive positions. Bianco, Ciavarella and Signoretti (2014) analyzed listed firms in Italy from 2008 to 2010 and approached the participation of female directors with family connections and their negative effect on governance, but without addressing directly the effects on performance. Giraldez-Puig and Berenguer (2018) analyzed data from Spain and indicated a positive effect of female executives with family connections on firm performance. In Japan, Kubo and Nguyen (2021) reinforce that female CEOs with family connections to the companies, specifically those who are founders of the company, present a positive and significant effect on the firm performance, as measured by Tobin's Q.

Although many studies have examined the impact of female participation, it can be expected different results when the female director or executive has family connections with the company or colleagues. There is a possibility that these women may have received different orientations or education. Some may have known the business environment since a young age, while others may have been introduced to it professionally, as adults, after breaking the glass ceiling. Considering this, the third and fourth research hypotheses were constructed.

H3: The existence of family connections between female directors and other directors increases the performance of listed firms.

H4: The existence of family connections between female executives and other executives increases the performance of listed firms.

The hypotheses consider the level of family connection of women and their directors and executive colleagues, respectively. This definition facilitates the identification of family connections, which can be verified in item 12.9 (Family connections) in the firms' reference forms released by the Securities and Exchange Commission of

Brazil (CVM), in the analysis of surnames and in the companies' history that, in some cases, disclose the full name of founders and heirs.

3 METHODOLOGY

In this research, annual data of public companies listed on the Brazilian stock exchange, B3, were used. Data on directors and executives (amount, gender, whether they were internal or external, family connections) were collected on the reference forms displayed by CVM, specifically the items 12.5/6, which presents the structure and professional experience of top management, and 12.9, which demonstrates family connections up to the second degree among managers. In addition, financial performance data, that is, balance sheet and financial statement, were collected from Economatica. The collected data are annual and comprehends the period from 2010 to 2017.

The period was delimited from 2010 to 2017 as the corporate information disclosed by the CVM starts in 2010. Also, data selection excluded nonindustrial firms, as in Fama and French (1992). Observations presenting Tobin's Q lower than zero or higher than 10 were also excluded, as in Almeida and Campello (2007). The final sample included 1,565 firms-year observations, distributed among 228 firms, considering those that are not public anymore or went public during the period, according to the survivorship bias of companies. Regarding the variables used in the analysis, two financial performance variables were considered, return on assets (ROA) and return on equity (ROE), and two market performance variables, Tobin's Q and Market-to-book, presented in Table 1. Then, in Table 2, there are the variables related to gender diversity and family connections, while in Table 3, there are the control variables.

Table 1
Dependent variables description

Variable		Measure
Financial Performance	ROA	$\frac{EBIT * (1 - 0{,}34)}{Total\ assets}$
	ROE	$\frac{Net\ income}{Net\ equity}$
Market Performance	Tobin's Q	$\frac{Market\ value}{Total\ assets}$
	Market-to-book	$\frac{Market\ value}{Net\ equity}$

Source: Developed by the authors.

Regarding data analysis, the Stata 14® software was used. Descriptive statistics were performed for all variables, and in the main analysis the panel data model was used, which considers the sample of firms in a period and allows a series of observations for each case (Hsiao, 2003). The panel data model is unbalanced as information may be lacking for some companies in certain periods, and it was analyzed using the Generalized Method Moments (GMM), seeking to verify the effect of gender diversity on firms' performance. According to Arellano & Bond (1991), GMM can be used when the assumption of no serial correlation in the errors is not met. Specifically, it was used the system GMM (GMM-Sys), which has a much smaller bias of finite samples and shows greater accuracy when it is necessary to measure autoregressive parameters using series with high persistence, making it the proper estimator for the analysis (Bond, 2002).

In the analysis, were applied the following tests: correlation tests, the Arellano & Bond (1991) test, which verifies the existence of serial correlation; the Sargan (1958, 1975) test of over-identifying; and the chi-square test (Chi^2).

The following Equations (1) and (2) present the models developed to verify the impact of gender diversity on firms' performance.

$$P_{it} = \alpha_i + GD_{it}.\beta + FC_{it}.\gamma + C_{it}.\omega + \sum_i^n \quad EFin_i + \sum_t^n \quad EFtemp_t + \varepsilon_{it} \quad (1)$$

$$P_{it} = \alpha_i + GD_{it}.\beta + FC_{it}.\gamma + C_{it}.\omega + \sum_t^n \quad EFtemp_t + \varepsilon_{it} \quad (2)$$

In the equations, P_{it} is the performance dependent variable; α is the intercept; β,γ and ω are the coefficients of the variables; GD_{it} are the gender diversity variables, and FC_{it} are the *dummy* variables indicating family connections.

C_{it} demonstrates the control variables, EFin represents industry fixed effects, EFTemp represents time fixed effects, and ε_{it} corresponds to the error term. Two regressions were performed for each dependent variable, with the difference that one includes industry fixed effects to diversify the models. Mauri and Michaels (1998) pointed out the use of industry fixed effects and explained that firms in the same industry may have similar performance, indicating competitive patterns over the long term, where less successful firms imitate the strategies of more successful ones.

Table 2
Gender diversity and family connections variables

Variable	Measurement	Main Authors	Expected relationship	
			FP*	MP**
Female directors (FD)	$\frac{(0{,}01 + Number\ of\ women\ on\ the\ board)}{Total\ number\ of\ members\ on\ the\ board}$	Campbell and Mínguez-Vera (2008), Adams and Ferreira (2009), Liu, Wei and Xie (2014), Ahmadi, Nakaa and Bouri (2018), Bennouri et al. (2018).	+	+/-
Female Independent Directors (FI)	$\frac{(0{,}01 + Number\ of\ female\ independent\ directo}{Total\ number\ of\ independent\ directors}$	Liu, Wei and Xie (2014), Bennouri et al. (2018).	+/-	+
Female executives (FE)	$\frac{(0{,}01 + Number\ of\ female\ executives)}{Total\ number\ of\ executives}$	Dezso and Ross (2008), Liu, Wei and Xie (2014), Moreno-Gómez and Calleja-Blanco (2018).	+	+
Female CEO (FCEO)	1 if the CEO is a female 0 otherwise	Dezso and Ross (2008), Kolev (2012), Liu, Wei and Xie (2014), Bennouri et al. (2018), Moreno-Gómez and Calleja-Blanco (2018), Kubo and Nguyen (2021)	+/=/-	+/=/-
Female directors' family connections in the firm (FDFC)	1 if female director has family connections to other directors, 0 otherwise	Bianco, Ciavarella and Signoretti (2014).	N.A.***	N.A.
Female executives' family connections in the firm (FEFC)	1 if female executive has family connections to other executives, 0 otherwise (FEFC)	Giraldez-puig and Berenguer (2018).	+	N.A.

Source: Developed by the authors.
Note: *FP= financial performance; **MP=market performance; ***N.A.= Not applicable because studies about this relation were not found.

Table 3
Control variables

Variable	Measure	Main Authors	Expected relationship	
			FP*	MP**
Board size (Nboard)	Number of members on the board of directors	Jensen (1993), Silveira, Barros and Famá (2003), Cheng (2008), Liu, Wei and Xie (2014), Ahmadi, Nakka and Bouri (2018).	+/=/-	+/=/-
Independent Directors (ID)	$\frac{(0{,}01 + Number\ of\ independent\ directors)}{Total\ number\ of\ directors\ on\ the\ board}$	Pombo and Gutiérrez (2011), Liu, Wei and Xie (2014), Ahmadi, Nakaa and Bouri (2018).	+	+/-
CEO duality/ *Chairperson* (Dual)	1 if CEO is also Chairman 0 otherwise	Liu, Wei and Xie (2014), Ahmadi, Nakaa and Bouri (2018), Pucheta-Martínez and Gallego-Álvarez (2020)	+/=/-	+/-
Number of Executives (Nex)	Total number of executives in the firm	Eisenhardt (2013).	+	+
Leverage (Lev)	$\frac{Current\ liabilities + Long\ term\ liabilities}{Net\ equity}$	Abubakar (2017), Ahmadi, Nakaa and Bouri (2018).	-/+	-/+
Size	Logarithm of total assets	Evans (1987), Pombo and Gutiérrez (2011), Babalola (2013).	+/-	+/-
Industry Fixed Effects (EFIn)	1 indicates that the firm is part of an industry/sector in Economatica, 0 otherwise	N.A.	N.A.	N.A.
Time Fixed Effects (EFTemp)	1 indicates the year the data is generated, 0 otherwise	N.A.	N.A.	N.A.

Source: Developed by the authors.
Note: * FM= financial performance; **MP=market performance; ***N.A.= Not applicable.

4 ANALYSIS AND DISCUSSION OF RESULTS

Initially, there are the descriptive statistics of dependent variables, financial and market performance variables, and independent variables related to gender diversity and control variables, shown in Table 4.

Table 4
Descriptive statistics of variables

Variables	Mean	Median	Variance	Std.deviation
ROA	0.025	0.036	0.023	0.151
ROE	0.565	0.093	302.155	17.383
Q	0.727	0.412	0.972	0.986
MB	1.659	1.138	99.893	9.995
(FD)	0.079	0.002	0.022	0.149
(FE)	0.073	0.003	0.022	0.149
(FI)	0.043	0.005	0.021	0.146
Nboard	6.516	6	7.713	2.777
ID	0.201	0.168	0.051	0.225
Nex	4.472	4	7.296	2.701
Lev	1.341	0.616	46.27	6.802
TA*	3063009	978075	3,51E+13	5922365

Source: Developed by the authors.
Note: ROA=return on assets; ROE=return on equity; Q=Tobin's Q; MB=Market-to-book; FD=female directors; FE=female executives; FI=female independent directors; Nboard=number of members on board of directors; Nex=number of executives; ID=independent directors; Lev=leverage; TA=total assets. *Data in billions, inflated by the General Price Index and in dollars.

Concerning the results presented in Table 4, on the first financial performance variable, return on assets (ROA), it was found that 2.5% of total assets became operating income, a value close to the median, in which 3.6% of total assets became operating income. Regarding net equity (ROE), it was verified that, on average, 56.5% of net equity became net profit. The median was lower, indicating that 9.3% of net equity became net profit in firms on the central tendency point of the observations.

Regarding the market performance variables, the average value for Tobin's Q indicated that the market value for firms corresponded to 72.7% of total assets, a little far from the median, in which the market value was equivalent to 41.2% of total assets in the central tendency point of observations. In the Market-to-book variable, the mean indicated that the market value of firms overcame the equity in 65.9%, a value much higher than the median, in which the market value overcame the equity in 13.8%.

It was perceived that the average female participation on boards (FD) was low, indicating that only 7.9% of the total directors working in the companies were women, while for the median of the sample, only 0.2% of directors were women. The average result of female participation on boards, contrary to expectations, decreased, considering that Margem (2013) analyzed data from Brazilian companies from 2002 to 2009 and perceived 9.13% of female participation.

This result goes against the proposition on the 5th objective in the Sustainable Development Goals (SDG) suggested by the United Nations to Brazil, regarding gender equality and empowerment of women and girls. According to the United Nations Brazil (2021), one of the issues raised involves ensuring full and effective female participation and equal opportunities in all levels of the decision-making process in political, economic, and public life, which applies to broader female participation in top management positions in companies. It can be perceived that, in fact, there was a decrease in female participation in this position during the studied period.

Regarding the percentage of women in executive positions (FE), the mean indicated that 7.3% of executive/directors in the companies were female, while the median result was of 0.3%. In this variable, it was noticed an increase in the average participation of female executives, considering that Margem (2013) indicated that from 2002 to 2009, the average number of female executives was of only 4.93%. This indicates that, at least in executive positions, there was an increase in female participation, following the suggestions on the 5th item of SDG (United Nations Brazil, 2021). Regarding the female participation in independent boards (ID), the mean indicated that only 4.3% of independent directors are women, while the median indicated a percentage of 0.5%.

The average number of members on boards of directors (Nboard) in the studied firms was 6.516, a value similar to the median which pointed out six members on the boards. Considering the independent directors (ID), the mean value indicated that 20.1% of all directors were independent members. At the central point, a median of 16.8% was obtained. In the number of executives (Nex), the average was 4.472 executives per firm, a number close to the median of 4 individuals. For leverage (Lev), it was observed that, on average, for every $ 1.00 of net equity, the companies had a total borrowing of $ 1.34 in the long and short term. The median value was considerably lower, indicating that in the central tendency of observations, for every $ 1.00 of net equity, the companies had a total borrowing of $ 0.61. The firms' total assets (TA) had a mean value of $ 3.063 billion and a median value of $ 978 million.

In order to clarify the research hypotheses, H1 and H2, regarding gender diversity, and H3 and H4, regarding family connections of female directors and executives with their colleagues, the results of regressions using GMM-Sys are presented. Initially, the correlation tests did not indicate coefficients higher than 0.7, demonstrating that there was no collinearity between the variables. Table 5 shows the analysis using GMM-Sys, evidencing the eight models created, two for each dependent variable, differing them by the presence or absence of industry fixed effects. In the chi-square test (Chi^2), the null hypothesis is rejected, with a p-value lower than 1% in all cases, showing that the observed frequencies are not different from the expected frequencies, demonstrating the existence of the association between the groups of variables in the models.

On the Sargan test of over-identifying, it was verified that four models reached a p-value higher than 5%, which

did not reject the null hypothesis that the instruments are independent of the error term. On the Arellano and Bond (1991) test (Ar1 and Ar2), in six regressions the null hypothesis of no serial correlation in the first-differenced residuals was rejected, because it presented p-value lower than 10%, and the null hypothesis for the second-order was not rejected, for achieving a p-value higher than 10%. Therefore, it cannot be affirmed that all analyses presented serial correlation of first order. Although there are such restrictions, as GMM-Sys is being used in all analyses, it was decided to maintain the pattern.

Table 5

Analysis of the influence of gender diversity and family connections on companies' performance

DV	**ROA**		**ROE**		**Tobin's Q**		**Market-to-book**	
IV	**A[1]**	**B**	**C**	**D**	**E**	**F**	**G**	**H**
L1	−0.360***	0.100	−0.084	−0.071	0.601***	0,770***	−0.090	0.069
Z	−3.930	1.540	−0.800	−1.260	6.570	11.960	−1.190	0.890
FD	0.610*	0.425	−0.129	0.054	1.384	0.905	−0.126	0.132
Z	1.670	1.460	−0.780	0.630	1.240	1.000	1.090	1.170
FE	0.865***	0.363**	−0.084	0.039	−0.484	−0.447	0.078	−0.048
Z	3.890	2.130	−0.670	0.750	−0.710	−0.900	0.960	−0.710
FI	−0.231	0.163	0.045	−0.015	−0.521	−0.822	0.1135	−0.116*
Z	−0.830	−0.860	0.390	−0.310	−0.660	−1.450	1.410	−1.730
FCEO	−0.386	−1.120	−0.048	0.068	0.459	0.365	−0.260	−0.358
Z	−0.480	−1.620	−0.120	0.480	0.190	0.180	−1.310	−1.320
FDFC	−0.011	−0.310***	0.079	0.008	−0.151	0.350	0.063	−0.033
Z	−0.070	−2.480	0.780	0.270	−0.330	0.980	0.860	−0.750
FEFC	−0.067	−0.199	−0.087	−0.078*	−1.016**	−0.955**	0.141**	0.065
Z	−0.430	−1.490	−0.980	−1.740	−2.020	−2.400	2.190	1.060
Dual	0.189**	0.091	0.030	0.002	0.329	0.236	−0.024	0.025
Z	2.410	1.560	0.930	0.150	1.460	1.250	−0.980	1.180
Nboard	−0.009	−0.015**	0.005	0.004*	−0.032	−0.005	−0.003	−0.005*
Z	−0.860	−2.360	0.920	1.750	−1.060	−0.310	−0.600	−1.640
Nex	−0.006	0.002	−0.000	−0.001	0.062***	0.021**	0.001	0.002*
Z	−0.750	0.720	−0.090	−1.340	2.730	1.960	0.210	1.700
ID	−0.553***	−0.315***	−0.122	0.018	1.125**	0.541*	−0.003	−0.016
Z	−3.350	−3.250	−1.490	0.700	2.180	1.850	−0.070	−0.430
Lev	0.023***	0.009***	0.004**	−0.029	0.006	0.003	0.034	0.000
Z	7.890	5.990	2.340	−1.470	0.770	0.740	0.630	−0.800
Size	0.145***	0.081***	0.007	0.009***	−0.007	0.010	−0.008	0.001
Z	6.980	6.760	0.780	2.860	−0.170	0.430	−0.940	0.260
Const	0.000	0.000	0.000	−0.145***	0.000	0.000	0.135	0.031
Z	-	-	-	-3.370	-	-	0.930	0.540
EFIn	YES	NO	YES	NO	YES	NO	YES	NO
EFTemp	YES	YES	YES	YES	YES	YES	YES	YES
Chi²	290.389	185.436	83.125	63.766	3642.236	3418.431	84.065	42.368
p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
Sargan	115.220	188.609	37.647	54.757	61.396	74.670	37.926	58.245
p-value	0.000	0.000	0.532	0.446	0.013	0.033	0.519	3.222
Ar1	−1.055	−2.127	0.000	−6.404	−2.097	−2.027	−6.999	−4.577
p-value	0.291	0.033	0.000	0.000	0.036	0.043	0.000	0.000
Ar2	−3.064	−2.247	−0.478	−0.583	−0.686	−0.719	−1.281	−0.440
p-value	0.002	0.025	0.633	0.560	0.493	0.472	0.200	0.660

Source: Developed by the authors.

Note. DV=dependent variables; IV=independent variables; L1=dynamic variable (dependent variable lag); FD=female directors; FE=female executives; FI=female independent directors; FCEO=female CEO; FDFC=female directors' family connections in the firm; FEFC=female executives' family connections in the firm; Dual=CEO duality/ Chairperson; Nboard= number of members on board of directors; Nex=number of executives; ID=independent directors; Lev=leverage; Const=constant; EFIn=sector fixed effects; EFTemp=time fixed effects; *Significant at 10%; **Significant at 5%; ***Significant at 1%. [1]Regression pairs differ according to the presence or absense of sector effects.

According to Table 5, the variable female directors (FD) was statistically significant in only one regression affecting the financial performance. The increase of 1 percentage point in the percentage of female directors leads to the increase of 0.610 percentage points in ROA, with a significance of 10% with industry effects. This result agrees with the literature that presented positive effects of having more women on boards of directors. For example, Carter et al. (2010) affirmed that gender diversity generates more diverse opinions in boards and improves the decision-making process. Liu, Wei and Xie (2014) demonstrated the positive effects of gender diversity, as female board directors tend to be more active and participative monitors than male directors.

It was verified that the variable female executives (FE) was significant in two regressions of financial

performance. With a significance of 1% and industry effects, the increase of 1 percentage point in the number of females in executive roles leads to an increase of 0.865 percentage points in the firms' ROA. In the absence of industry effects, the increase is of 0.363 percentage points in ROA, to the level of 5%. Dezso and Ross (2008) and Khan and Vieito (2013) share this result, indicating the importance of female participation in leadership roles, such as top management teams. Dezso and Ross (2008) affirmed that the positive effects of female participation on boards of directors are related to the female managerial style, which tends to facilitate teamwork and increase creativity and innovation.

While finding positive results for both female directors and executives, it is possible to return to Kubo and Nguyen's (2021) argument. Although their study is directed to female CEOs, they presented a context that is also faced by female directors and executives, who had to stand out in a male-dominant environment to earn their position. Besides the female managerial style, as pointed out by Dezso and Ross (2008), the tendency to engage in monitoring activities and to bring new opinions, as indicated by Liu, Wei and Xie (2014) and Carter et al. (2010), it can be suggested that these women have overcome the glass ceiling (Madalozzo, 2011) and the tokenism status (Kanter, 1977) and presented a professional potential so high that it takes them to the spotlight, leading to a performance improvement (Kubo & Nguyen, 2021).

The variable female independent directors (FI) harmed the firms' market performance. The increase of 1 percentage point in the number of female independent directors leads to a decrease of 0.116 percentage points on Market-to-book, with a significance level of 10% without industry effects. These results are aligned with Adams and Ferreira (2009), which demonstrated that female independent directors may reduce the performance due to excessive monitoring. Also, Bennouri et al. (2018) concluded that female independent directors are negatively related to the performance of the analyzed firms. The variable female CEO (FCEO) did not present significance in any of the analyses and did not affect the firms' performance. Dezso and Ross (2008) obtained the same result and pointed out that the female management style does not necessarily apply to the CEO position, which is usually occupied by men and usually requires a more dominant and aggressive personality.

The following variable, female directors' family connections to their board colleagues (FDFC) affected significantly the firms' financial performance. The presence of female directors with family connections with their peers leads to the decrease of 0.310 percentage points in ROA, with no industry effects and a significance of 1%. There is little literature to base this result. Bianco, Ciavarella and Signoretti (2014) pointed out that in many cases, women with family connections appointed to the boards have lower education and experience and are less engaged than men with family connections with the company, who are usually introduced to the family business earlier. This is a possible aspect that can harm the companies' results and explain the negative effects.

In the variable concerning female executives with family connections to executive colleagues (FEFC), it was noticed a significant effect on both financial and market performance. The existence of female executives with family connections leads to a decrease of 0.078 percentage points in ROE, with a significance level of 10% and no industry effects. In Tobin's Q, the decrease effect was of 1.016 and 0.955 percentage points, with a significance of 5%, with and without industry effects, respectively. Finally, there was a positive effect on Market-to-book, increasing 0.141 percentage points, with a significance level of 5% and industry effects. The negative effect can be related to the situation presented by Macêdo et al. (2004), in which female executives with family connections, in this case heirs, were not seen as an authority by their subordinates.

Also, this result can be related to the case pointed out by Constantinidis and Nelson (2009), in which women with family connections, also heirs, struggle to participate in the companies' management, which were mostly controlled by men, complicating female participation. In contrast, Giraldez-Puig and Berenguer (2018) presented the positive result of female executives on performance. They affirmed that female executives with family connections are more committed and, possibly, have been able to develop their careers as managers, and then enjoy their professional accomplishments.

Considering the other variables, duality (Dual) presented a positive impact on financial performance. Duality increases ROA by 0.189 percentage points, with a significance of 5% and industry effects. This result corroborates with Godard (1998), which affirmed that the accumulation of CEO and Chairperson positions creates a good leader for the company, leading to improved performance. Also, Pucheta-Martínez and Gallego-Álvarez (2020) affirmed that duality does not always represent a negative effect on business decisions, suggesting that policymakers may consider the possibility of not rejecting duality on firms.

In the board size variable (Nboard), a significant effect on financial and market performances was observed. The increase of one person on the board of directors leads to a ROA decrease of 0.015 percentage points, with a significance level of 5%, without industry effects. ROE increases by 0.004 percentage points, with a significance level of 10%, without industry effects. In Market-to-book, the effect was the reduction of 0.005 percentage points, with a significance of 10% and no industry effects. The positive effect of board size on the performance can be justified according to Cheng (2008), who argues that larger boards take more time to make decisions, which can result in better

decisions. Regarding the negative effect, the result corroborates with Jensen (1993) and Silveira, Barros and Famá (2003), which presented a negative relation between the board of directors' size and market performance.

In the number of executives (Nex), there was a positive impact on the firms' market performance. Adding one person to the number of executives leads to an increase of 0.062 and 0.021 percentage points on Tobin's Q, with significance levels of 1% and 5%, with and without industry effects, respectively. On Market-to-book, the effect was the increase of 0.002 percentage points, with a significance level of 10% and no industry effects. This result demonstrates that a larger number of executives is beneficial to companies, which increases their values, agreeing with Eisenhardt (2013).

The independent directors variable (ID) had a negative impact on ROA, reducing it by 0.553 and 0.315 percentage points, with a significance of 1%, with and without industry effects, respectively. The effect on Tobin's Q was positive, increasing it by 1.125 and 0.541 percentage points, with significance levels of 5% and 10%, with and without industry effects. Such results suggest that the participation of independent directors is harmful to the financial performance, but it benefits the view the market has on the company, improving the market performance.

As it follows, leverage (Lev) affected the market performance positively. It led to a ROA increase of 0.023 and 0.009 percentage points, both with a significance of 1%, with and without industry effects, respectively. The impact on ROE led to the increase of 0.004 percentage points, with a significance level of 5% and industry effects. The results corroborate with Abubakar's (2017) findings, which affirmed that the performance can be affected positively by leverage depending on the type of the variable used for measure.

Finally, the size of firms variable impacted ROA positively and led to the increase of 0.145 and 0.081 percentage points, both with a significance level of 1%, with and without industry effects. ROE increased by 0.009 percentage points, with a significance level of 1%, without industry effects. These results corroborate the idea that bigger firms tend to present better financial performance.

5 CONCLUSIONS

This research aimed to verify the influence of gender diversity on the performance of companies listed on the Brazilian stock exchange. For this, female participation on boards of directors and on top management positions was identified, including in the analysis the existence of family connections between female directors and executives and other directors and executives in the company.

It was verified that women's participation as directors and executives led to a better performance on the companies of the sample The female directors variable was significant for only one regression, but its positive effect agrees with most studies, such as Liu, Wei and Xie (2014) and Ahmadi, Nakaa and Bouri (2018), highlighting that greater gender diversity diversifies opinions and experiences, which can lead to better performance. In this sense, it is clear that the first research hypothesis, H1, was not rejected. However, there was a small number of female directors in the companies, which may end up attributing to them a tokenism status and hindering their performance, reinforcing Kanter's (1977) idea, in which women are inserted in companies only to represent the female sex.

Regarding female executives, although few women are occupying executive positions in companies, their positive influence on performance is a favorable result, considering that most literature that addresses female executives also had positive results. It is the case of Dezso and Ross (2008), Kolev (2012), and Khan and Vieito (2013). In addition, Dezso and Ross (2012) demonstrated that female participation, associated with their behavioral characteristics, are positive to organizations as a whole, because they improve communication and encourage empathy in the business environment. Thus, the hypothesis H2 was not rejected.

Finally, it was identified that both female directors and executives with family connections to colleagues decreased performance. However, the variable female executives with family connections presented, also, a positive effect on the firms' performance. Therefore, hypothesis H3 was rejected, while hypothesis H4 was not rejected. The negative effects may be justified by the great resistance faced by women with family connections to the organizations, which often fail to be seen as an authority within companies (Macêdo et al., 2004). In this sense, Constantinidis and Nelson (2009) demonstrated that many female heirs prefer to open their own business than to work in companies almost entirely managed by men.

On the other hand, Bianco, Ciavarella and Signoretti (2014) pointed out that women with family connections may have been appointed only because of their family ties, without considering their experience and engagement in business, in order to fill gender quotas, which can have negative impacts for the company. Regarding the positive effects of female executives with family connections, Giraldez-puig and Berenguer (2018) highlighted the greater commitment of female executives who had family ties with the company, in addition to their better education, which would lead to better performance.

The main contribution of this study is the analysis regarding gender diversity variables, which showed that less than 8% of board directors and executives in the sample are women. With this result, the study highlights the importance of adopting measures to ensure equality of opportunities between genders in important positions, as sought by the 5th item of the SDG (United Nations Brazil, 2021). The little female participation presented could be an incentive to the Brazilian government to pass the Senate Bill 112/2010 that

aims to establish a minimum number of women on boards of directors, which was introduced many years ago, but it was not conclusive (Brazil, 2010). The main relevance of this study lies in the use of variables not commonly used in Brazilian or international research, such as family connections of female directors and executives with colleagues.

As a limitation of this research, there is the data collection that demanded much time. Due to the large number of listed companies on the Brazilian stock exchange during the analyzed period, it was necessary to apply a series of restrictions to choose which companies would be part of the sample. Other limitations were the values for the Sargan test, which did not reach the necessary levels for some analysis, as well as the Ar1 and Ar2 tests of Arellano and Bond. Even with the use of the GMM-Sys method, which smooths a series of regression assumptions, unsatisfactory values were found for some models.

Thus, suggestions for future research involve the investigation of a methodology that better adapts to the data, besides the inclusion of new variables in the study, such as the academic and professional experience of female workers in the companies, characteristics that could affect the companies' performance in the long term. This could clarify, for example, whether women, who have family ties with the companies, really have a different education from those who do not have this ties.

ACKNOWLEDGMENT

The authors thank the Coordination for the Improvement of Higher Education Personnel (CAPES) for the financial support for the research.

REFERENCES

Abubakar, A. (2017). Financial leverage and financial performance: Evidence from the health care sector of the Nigerian stock exchange from 2005-2014. *ADSU Journal of Economic and Interrelated Disciplines*, 1(2), 45-64. https://www.researchgate.net/publication/321797869_Financial_Leverage_and_Financial_Performance_Evidence_from_the_Health_Care_Sector_of_the_Nigerian_Stock_Exchange_from_2005-2014

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. https://doi.org/10.1016/j.jfineco.2008.10.007

Ahmadi, A., Nakaa, N., & Bouri, A. (2018). Chief Executive Officer attributes, board structures, gender diversity and firm performance among French CAC 40 listed firms. *Research in International Business and Finance*, 44, 218-226. https://doi.org/10.1016/j.ribaf.2017.07.083

Almeida, H., & Campello, M. (2007). Financial constraints, asset tangibility, and corporate investment. *The Review of Financial Studies*, 20(5), 1429-1460. https://www.jstor.org/stable/4494809

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, 58(2), 277-297. https://doi.org/10.2307/2297968

Babalola, Y. A. (2013). The effect of firm size on firms profitability in Nigeria. *Journal of Economics and Sustainable Development*, 4(5), 90-95. https://core.ac.uk/reader/234645888

Bennouri, M., Chtioui, T., Nagati, H., & Nekhili, M. (2018). Female board directorship and firm performance: What really matters?. *Journal of Banking & Finance*, 88, 267-291. https://doi.org/10.1016/j.jbankfin.2017.12.010

Bianco, M., Ciavarella, A., & Signoretti, R. (2014). Women on corporate boards in Italy: The role of family connections. *Corporate Governance: An International Review*, 23(2), 129-144. https://doi.org/10.1111/corg.12097

Bond, S. R. (2002). Dynamic panel data models: A guide to micro data methods and practice. *Portuguese Economic Journal*, 1, 141-162. https://doi.org/10.1007/s10258-002-0009-9

Brahma, S., Nwafor, C., & Boateng, A. (2020). Board gender diversity and firm performance: The UK evidence. *International Journal of Finance & Economics*, 26(4), 5704-5719. https://doi.org/10.1002/ijfe.2089

Brasil. (2010). *Projeto de Lei do Senado nº 112, de 2010*. https://www25.senado.leg.br/web/atividade/materias/-/materia/96597

Campbell, K., & Mínguez-Vera, A. (2008). Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics,* 83, 435-451. https://doi.org/10.1007/s10551-007-9630-y

Campopiano, G., De Massis, A., Rinaldi, F. R., & Sciascia, S. (2017). Women's involvement in family firms: Progress and challenges for future research. *Journal of Family Business Strategy*, 8(4), 200-212. https://doi.org/10.1016/j.jfbs.2017.09.001

Carter, D. A., D'Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The gender and ethnic diversity of US boards and board committees and firm financial performance. *Corporate Governance: An International Review*, 18(5), 396-414. https://doi.org/10.1111/j.1467-8683.2010.00809.x

Chauhan, Y., & Dey, D. K. (2017). Do female directors really add value in Indian firms? *Journal of Multinational Financial Management*, 42-43, 24-36. https://doi.org/10.1016/j.mulfin.2017.10.005

Chen, J., Leung, W. S., & Evans, K. P. (2018). Female board representation, corporate innovation and firm performance. *Journal of Empirical Finance*, 48, 236-254. https://doi.org/10.1016/j.jempfin.2018.07.003

Cheng, S. (2008). Board size and the variability of corporate performance. *Journal of Financial Economics*, 87(1), 157-176. https://doi.org/10.1016/j.jfineco.2006.10.006

Constantinidis, C., & Nelson, T. (2009). Integrating succession and gender issues from the perspective of the daughter of family enterprise: A cross-national investigation. *Management International*, 14(1), 43-54. https://doi.org/10.7202/039138ar

Corporate Women Directors International. (2015). *Latin America trails North America, Europe, and Asia in placing women on corporate boards*. http://www.globewomen.org/CWDI/CWDI%202015%20Latin%20America%20Press%20Release.pdf

Costa, L., Sampaio, J. O., & Flores, E. S. (2019). Diversidade de gênero nos conselhos administrativos e sua relação com desempenho e risco financeiro nas empresas familiares. *Revista de Administração Contemporânea*, 23(6), 721-738. https://doi.org/10.1590/1982-7849rac2019180327

Dezso, C. L., & Ross, D. G. (2008). *"Girl Power": Female participation in top management and firm performance*. Working paper No. RHS06104, Robert H. Smith School of Business, University of Maryland. College Park, Maryland, United States. https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.141.5974&rep=rep1&type=pdf

Dezso, 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. https://doi.org/10.1002/smj.1955

Duppati, G., Rao, N. V., Matlani, N., Scrimgeour, F., & Patnaik, D. (2019). Gender diversity and firm performance: Evidence from India and Singapore. *Applied Economics*, 52(14), 1553-1565. https://doi.org/10.1080/00036846.2019.1676872

Eisenhardt, K. M. (2013). Top management teams and the performance of entrepreneurial firms. *Small Business Economics*, 40, 805-816. https://doi.org/10.1007/s11187-013-9473-0

Evans, D. S. (1987). The relationship between firm growth, size, and age: Estimates for 100 manufacturing industries. *The Journal of Industrial Economics*, 35(4), 567-581. https://doi.org/10.2307/2098588

Fama, E. F., & French, K. R. (1992). The cross-section of expected stock returns. *The Journal of Finance*, 47(2), 427-465. https://doi.org/10.2307/2329112

Fernández-Temprano, M. A., & Tejerina-Gaite, F. (2020). Types of director, board diversity and firm performance. *Corporate Governance*, 20(2), 324-342. https://doi.org/10.1108/CG-03-2019-0096

Fernando, G. D., Jain, S. S., & Tripathy, A. (2020). This cloud has a silver lining: Gender diversity, managerial ability, and firm performance. *Journal of Business Research*, 117, 484-496. https://doi.org/10.1016/j.jbusres.2020.05.042

Giraldez-Puig, P., & Berenguer, E. (2018). Family female executives and firm financial performance. *Sustainability*, 10(11), 1-15. https://doi.org/10.3390/su10114163

Godard, L. (1998). Les déterminants du choix entre un conseil d'administration et un conseil de surveillance. *Finance Contrôle Stratégie*, 1(4), 39-61. https://www.researchgate.net/publication/4874783_Les_determinants_du_choix_entre_un_conseil_d'administration_et_un_conseil_de_surveillance

Hsiao, C. (2003). *Analysis of panel data*. Cambridge: Cambridge University Press.

Ibhagui, O. W., & Olokoyo, F. O. (2018). Leverage and firm performance: New evidence on the role of firm size. *The North American Journal of Economics and Finance*, 45, 57-82. https://doi.org/10.1016/j.najef.2018.02.002

Jensen, M. C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. *The Journal of Finance*, 48(3), 831-880. https://doi.org/10.1111/j.1540-6261.1993.tb04022.x

Kanter, R. M. (1977). *Men and Women of the Corporation*. New York: Basic Books.

Khan, W. A., & Vieito, J. P. (2013). Ceo gender and firm performance. *Journal of Economics and Business*, 67, 55-66. https://doi.org/10.1016/j.jeconbus.2013.01.003

Kolev, G. I. (2012). Underperformance by female CEOs: A more powerful test. *Economics Letters*, 117(2), 436-440. https://doi.org/10.1016/j.econlet.2012.06.028

Kristie, J. (2011). The power of three. *Dir. Boards, 35*(5), 22-32.

Kubo, K., & Nguyen, T. T. P. (2021). Female CEOs on Japanese corporate boards and firm performance. *Journal of the Japanese and International Economies*, 62, 101163. https://doi.org/10.1016/j.jjie.2021.101163

Liu, Y., Wei, Z., & Xie, F. (2014). Do women directors improve firm performance in China? *Journal of Corporate Finance*, 28, 169-184. https://doi.org/10.1016/j.jcorpfin.2013.11.016

Macêdo, K. B., Caixeta, C. M. M., Guimarães, D. C., Macêdo, G. N. S., Hernandez, J. C. (2004). O processo sucessório em organizações familiares e a exclusão da mulher. *Psicologia & Sociedade*, 16(3), 69-81. https://doi.org/10.1590/S0102-71822004000300009

Madalozzo, R. (2011). CEOs e composição do conselho de administração: A falta de identificação pode ser motivo para existência de teto de vidro para mulheres no Brasil? *Revista de Administração Contemporânea*, 15(1), 126-137. https://doi.org/10.1590/S1415-65552011000100008

Margem, H. R. (2013). Participação das mulheres no conselho de administração e diretoria, valor e desempenho das companhias brasileiras de capital aberto (Dissertação de Mestrado em Economia). Fundação Getúlio Vargas, Rio de Janeiro, RJ, Brasil. https://bibliotecadigital.fgv.br/dspace/handle/10438/11078

Mauri, A. J., & Michaels, M. P. (1998). Firm and industry effects within strategic management: An empirical examination. *Strategic Management Journal*, 19(3), 211-219. https://doi.org/10.1002/(SICI)1097-0266(199803)19:3<211::AID-SMJ947>3.0.CO;2-T

Moreno-Gómez, J., & Calleja-Branco, J. (2018). The relationship between women's presence in corporate positions and firm performance: The case of Colombia. *International Journal of Gender and Entrepreneurship*, 10(1), 83-100. https://doi.org/10.1108/IJGE-10-2017-0071

Nações Unidas Brasil. (2021). *Objetivos de desenvolvimento sustentável – 5: igualdade de gênero*. https://brasil.un.org/pt-br/sdgs/5

Papangkorn, S., Chatjuthamard, P., Jiraporn, P., & Chueykamhang, S. (2019). Female directors and firm performance: Evidence from the Great Recession. *International Review of Finance*, 21, 598-610. https://doi.org/10.1111/irfi.12275

Pombo, C., & Gutiérrez, L. H. (2011). Outside directors, board interlocks and firm performance: Empirical evidence from Colombian business groups. *Journal of Economics and Business*, 63(4), 251-277. https://doi.org/10.1016/j.jeconbus.2011.01.002

Pucheta-Martínez, M. C., & Gallego-Álvarez, I. (2020). Do board characteristics drive firm performance? An international perspective. *Review of Managerial Science*, 14, 1251–1297. https://doi.org/10.1007/s11846-019-00330-x

Sargan, J. D. (1958). The estimation of economic relationships using instrumental variables. *Econometrica*, 26(3), 393-415. https://doi.org/10.2307/1907619

Sargan, J. D. (1975). Testing for misspecification after estimating using instrumental variables. In Sargan, J.D., (Ed. 1), *Contributions to Econometrics* (pp. 213-235) Cambridge: Cambridge University Press.

Shleifer, A., & Vishny, R. (2012). A survey of corporate governance. *The Journal of Finance*, 52(2), 737-783. https://doi.org/10.1111/j.1540-6261.1997.tb04820.x

Silva, A. L. C., & Margem, H. (2015). Mulheres em cargos de alta administração afetam o valor e desempenho das empresas brasileiras? *Revista Brasileira de Finanças*, 13(1), 102-133. https://doi.org/10.12660/rbfin.v13n1.2015.35116

Silva, C. P. J., & Martins, O. S. (2017). Mulheres no conselho afetam o desempenho financeiro? Uma análise da representação feminina nas empresas listadas na BM&FBOVESPA. *Sociedade, Contabilidade e Gestão*, 12(1), 62-76. https://doi.org/10.21446/scg_ufrj.v12i1.13398

Silveira, A. D. M., Barros, L. A. B. C., & Famá, R. (2003). Estrutura de governança e de desempenho financeiro nas companhias abertas brasileiras: Um estudo empírico. *Caderno de Pesquisas em Administração*, 10(1), 57-71. https://doi.org/10.1590/S0034-75902003000300005

Vaccari, N. A. D., & Beuren, I. M. (2017). Participação feminina na governança corporativa de empresas familiares listadas na BM&FBovespa. *Revista Evidenciação Contábil & Finanças*, 5(1), 113-131. https://doi.org/10.18405/recfin20170107

Zhang, L. (2020). An institutional approach to gender diversity and firm performance. *Organization Science*, 31(2), 439-457. https://doi.org/10.1287/orsc.2019.1297

CONTEXTUS
REVISTA CONTEMPORÂNEA DE ECONOMIA E GESTÃO

UNIVERSIDADE FEDERAL DO CEARÁ
FACULDADE DE ECONOMIA, ADMINISTRAÇÃO ATUÁRIA E CONTABILIDADE

CONTEXTUS
CONTEMPORARY JOURNAL OF ECONOMICS AND MANAGEMENT.
ISSN 1678-2089
ISSNe 2178-9258
1. Economics, Administration and Accounting - Journal
2. Federal University of Ceará. Faculty of Economics, Administration, Actuaries and Accounting

FACULTY OF ECONOMICS, ADMINISTRATION, ACTUARIES AND ACCOUNTING
University Av. – 2486, Benfica
60020-180, Fortaleza-CE
BOARD: Paulo Rogério Faustino Matos
Danielle Augusto Peres

Website: www.periodicos.ufc.br/contextus
E-mail: revistacontextus@ufc.br

Contextus is classified in the Qualis - Capes system as a B1 journal, in the area of Public and Business Administration, Accounting and Tourism (2013-2016).

Contextus agrees and signs the San Francisco Declaration on Research Assessment (DORA).

Contextus is associated with the Brazilian Association of Scientific Editors.