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Research on the Influence of Female Director Ratio on Business Performance

-- Explanation from the Symbolism Theory

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Abstract: Due to the improvement of women's ability and status in the workplace, the role of female directors in corporate boards has also attracted extensive attention from scholars. Compared with Western countries' emphasis on women's rights and interests protection, the proportion of female directors in China is relatively low. The symbolism theory holds that companies appoint female directors only to signal to establish women in society, which is only a nominal appointment rather than based on female directors' characteristics or abilities. It has no relationship with the actual operation of the enterprise. Using the data of Chinese A-share listed companies from 2008 to 2018, this paper empirically proves that the presence of female directors has no significant impact on the business performance of enterprises.

Keywords: female directors, symbolism theory, Chinese A-share listed companies, business performance

1. Introduction

Women are increasingly eager to shine in the workplace as their knowledge and personal skills improve. In recent years, the guarantee of the number of women directors has gradually attracted the attention of many countries, especially some countries in European. For example, Sweden and Norway have launched laws to mandate a specific ratio of females on the board of directors compared to males. The European Commission promoted a case as early as 2012, requiring European countries to reach 40% of female enterprise directors by 2020. The International Index Compilation Company released the latest *Progress Report on the Proportion of Female Directors in 2021*, which explores the workplace ecology of female entrepreneurs by counting the number and proportion of female directors in the world's capital markets. Women comprised 22.6% of board members in the MSCI World benchmark and 14.5% in the emerging markets index in 2021, both from 2020. It can be seen that women are increasingly becoming a vital force in corporate governance. However, is the improvement of women's participation in the board really due to their abilities？ Can it bring about an improvement in business performance? The academic community has come to different conclusions about this discussion.

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There are three different conclusions about the effect of female directors on corporate performance: (1) The ratio of female directors plays a positive role in the performance of corporates. Saleh believes that because of some specific characteristics of women that complement men, such as risk aversion, the proportion of women on boards helps to govern bodies make more prudent decisions, which improves investment efficiency and firm performance [1]. Ren and Zeng examined the influence of the diversity of gender on board on firms' internationalization speed; they pointed out that increasing the number of female directors is an appropriate choice in the international operation of enterprises [2]. (2) The percentage of female directors negatively influences firm performance. The research of Adams and Ferreira shows that when the level of corporate governance is higher, its performance is more likely to be negatively related to the excessive intervention of female directors [3]. Based on a panel data method-dynamic generalized method of moments, Llorens et al. found that the enterprise value of enterprises with female directors declined more largely than those with no female directors [4]. Besides, Wu found the number of female executives has a "U-shape" relationship with the operating performance of foreign direct investment enterprises. That is before the inflection point is reached, the increase in the percentage of female executives has an inhibitory effect on the operating performance of enterprises. The proportion of female directors in Chinese listed enterprises has not reached the inflection point as researchers suggested, which will show an inhibitory effect [5]. (3) Female directors do not influence enterprise performance. Some scholars believe that selecting women for senior management positions are just for "tokenism," and they have no practical effect on improving enterprise performance. Baysinger and Butler also believe that larger enterprises hire more independent directors to highlight their compliance. Therefore, if they need to achieve the goal of a certain proportion of women, they will be willing to appoint symbolic female directors. Adams and Funk found female directors are less inclined than men to take risks in high-risk and high-return investment activities, which may be detrimental to the company's breakthrough development [6]. Biswas analyzed Indian companies and found the percentage of female directors is not related to the risk-return of the firm, and the risk-adjusted return was received by shareholders [7]. Shauki and Oktavini explored the moderating effect of female directors on corporate earnings management in Indonesian listed companies. They found that female directors did not significantly impact corporate operating performance [8]. Based on the above analysis, there has been a lot of research in previous literature on the relationship between the percentage of female directors and corporate performance. However, there is still a lack of research based on the Chinese scenario. Now we want to further study the situation in China.

Kanter put forward the concept of "symbolism," believing that female members' participation in the board of directors is just a form, and it is only for enterprises to make the board of directors conform to the characteristics of diversification in the outside world. As the largest developing country in the world, China has also experienced a hard road for women to strive for equality. Currently, there is no clear regulatory requirement for gender diversity. The proportion of females on the board of directors by the regulatory authorities in mainland China and the percentage of Chinese female directors in the firm is generally low. Statistics also from MSCI show that female directors of Chinese listed companies will account for 13.8% in 2021, 8.8 and 0.7 percentage points lower than the Global Benchmark Index and Emerging Market Index, respectively. In China, a considerable number of female directors are independent directors, but 68.71% of them are unpaid [9]. In the context of the specific property rights system, many state-owned enterprises choose female directors, which may be based on the needs of gender diversity of senior executives, while private enterprises may be due to inheritance. This is a choice to meet a specific condition rather than a result of a market-oriented choice. Wang and Zhu (2010), through empirical research on relevant data of listed companies in China, believe that companies appoint women directors for

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symbolic reasons. Female members have limited influence on the behavior and efficiency of the board. In the context of the gradual decline of China's labor population and the increasing number of women, selecting Chinese listed companies as a research sample is necessary to explore the relationship between the ratio of female directors and corporate performance.

This work uses Chinese A-share listed companies from 2008 to 2018 as our research sample. Based on this research sample, we would like to explore the role of female directors in business performance in China and explain it based on "symbolism." The remaining structure of this paper is set as follows: Section 2 is a theoretical basis and research hypothesis, and section 3 is the research method. Section 4 presents the results of the empirical analysis, followed by a discussion and summary.

2. Theoretical Bases and Research Assumptions

Symbolism theory holds that when a company appoints female directors, it only sends a signal to society. Kanter said that the reason why enterprises choose women to participate in the board of directors is only that they need to meet the purpose of the diversity of board members. They may exist on the board of directors because enterprises need to cope with public pressure or because of family inheritance [10]. Some scholars interviewed specific objects and found that many companies may employ female directors only for particular needs (such as gender diversity or maintaining public image) rather than based on female directors' characteristics or abilities. Such an appointment is essentially just a form, and their appointment may be just a nominal position [11].

According to the theory of gender roles, gender role is a behavior pattern recognized or accepted by society and reflected by men and women based on a particular culture. In the feudal society of China, Chinese women believed in the doctrine that "a woman without talent is a virtue," strictly observed the ancestral motto of "looking after her husband and educating her children," and followed the family rule of "staying at home." In the traditional concept, women did not need to bear too many social and economic responsibilities but were only required to take on family responsibilities. Therefore, "women need to care more about their families" has become the consensus of everyone. Due to the lack of social support, women are inevitably trapped in the dilemma of intertwined family burdens and professional responsibility and lack of separation skills. Finally, they are likely to be forced to give up career development and choose to return to the family. Under this stereotype, even if women are promoted to senior management through their efforts, they may still be mistreated. Unless the number of women in the old management group is widespread, the lone female managers are just a symbol.

Based on the above analysis, this paper presents the following assumptions H1:

H1: The percentage of female directors has no impact on business performance.

3. Methodology

3.1. Data Sources

We selected all listed companies in China from A-share from 2008 to 2018. The reason for starting the study in 2008 is that the new Accounting Standards for Business Enterprises in China were implemented in 2007, and the relevant financial data specifications are comparable after 2007.

When determining the scope of samples, some samples were removed according to the following criteria: Firstly, the listed companies involved in finance and insurance in the model were eliminated. This is because finance-related listed companies have different accounting standards and methods from other listed companies. The structure and financial indicators of accounting statements in the financial industry differ from those of listed companies in the non-financial sector, so it is impossible to carry out the immediate unified treatment. Secondly, ST, * ST, and other

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consecutive loss companies are excluded. The financial indicators of these companies that experienced straight losses were significantly different from those of typical companies, which would affect the reliability of the results if they were included in our sample. Third, some companies with missing financial data were dropped.

Finally, 28,788 observations were obtained, and the data we used was from the CSMAR database developed by Guotai Junan (A leading securities company in China).

3.2. Model Setting and Variable Selection

Our regression model is as follows:

$$BP_{it} = \beta_0 + \beta_1 * Female_{it} + \beta_2 * Controls_{it} + \gamma_t + \theta_i + \varepsilon_{it} \tag{1}$$

In the benchmark regression model (1), subscript i represents different enterprises, and subscript t represent different periods. BP_{it} is the dependent variable, representing the business performance of enterprise i in the period t, measured by the growth rate of operating income of listed companies, $Female_{it}$ is an independent variable, representing the female directors of enterprise i in the period of t, which is measured by the proportion of female directors of listed companies. In addition, we also introduce a series of indicators that affect business performance as control variables $Controls_{it}$. Referring to the index selection of Liu and Li (2010), and Zhang and Wang (2017), we selected the average age of board members (Average), educational background of board members (Bac), enterprise size (Size), and asset liability ratio (Debt) [12,13]. In addition, θ_i represents the personal effect, γ_t represents the time effect, ε_{it} is the random interference term obeying the standard normal distribution. The specific definitions of the above variables are shown in Table 1.

Table 1: Definition and measurement method of variables.

Variables		Abbreviation	Definition
Dependent variable	Business performance	BP	The growth rate of operating income of listed companies
Independent variable	percentage of female directors	Female	Female number/total number on board
Control variable	the mean age of the board members	Average	the mean age of board members
	Education background of board members	Bac	We make members of the Board of Directors have a bachelor's degree or above = 1, not = 0, then take the average academic score of the members of the Board.
	Enterprise size	Size	Ln(total book assets)
	Asset liability ratio	Debt	debt/assets at the end of the year

Combined with the original sample data, we conducted a preliminary descriptive statistical analysis of the main variables to be investigated. The detailed results are shown in Table 2.

Table 2: Descriptive statistics.

Variables	obs	Mean	Std. Dev.	Min	Max
BP	26,539	0.2112	0.5879	-0.6517	4.3095

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Table2: (continued)

Female	25,173	0.1318	0.1152	0.0000	0.4615
Average	25,173	50.6862	3.6283	42.1111	59.6667
Bac	25,173	0.3600	0.2576	0.0000	0.9230
Size (logarithmic value)	28,788	22.0109	1.4373	19.0567	26.9987
Debt	28,668	0.4469	0.2267	0.0479	1.0373

4. Empirical Results and Analyses

4.1. Main Regression Results

Table 3 represents the estimated results of the benchmark regression corresponding to regression equation (1). We expect that the proportion of female directors has no impact on business performance. Showed as table 3, model (1) and model (2) do not add any control variables; however, model (2) adds two-way fixed effects, named firm-fixed effect and time-fixed effect based on model (1). Model (3) adds controls variables of Average and Bac, while model (4) adds controls variables of Size and Debt. And model (5) shows the results of adding all the control variables and fixed effect.

The regression results shown in Table 3 suggest that using the OLS regression method, when adding fixed effects from model (1) to model (2), the regression coefficient of females on BP changes from positive to negative. With control variables introduced gradually from model (3) to model (5), the regression results are still harmful and are always not significant, which proves that the percentage of female directors has no impact on business performance, which is consistent with preset assumptions. The results show that based on the low rate of female directors in China, female directors suffer from non-competitive discrimination and other reasons and do not play a corresponding governance role in the company; female directors can be seen as a "symbolic" existence.

Table 3: Benchmark regression results.

Variables	**Y: Business performance (BP)**				
	(1)	**(2)**	**(3)**	**(4)**	**(5)**
Female	0.0464	-0.0754	-0.0052	-0.0610	-0.0799
	(0.9231)	(-0.8539)	(-0.0554)	(-0.6615)	(-0.8704)
Average			-0.0079***		-0.0291***
			(-2.8482)		(-10.0782)
Bac			-0.0137		-0.2305***
			(-0.2887)		(-4.8596)
Size				0.1826***	0.2253***
				(18.9449)	(21.7312)
Debt				0.0548	0.0250
				(1.0640)	(0.4870)
Firm fixed effect	No	Yes	Yes	Yes	Yes
Time fixed effect	No	Yes	Yes	Yes	Yes
Observations	16,707	16,707	14,156	14,156	14,156
R square	0.0026	0.0039	0.0116	0.0325	0.0424

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Table3: (continued)

Note. Standard deviations are parentheses. ***p < 0.01, ** p < 0.05, * p < 0.1.

4.2. Sensitivity Test

To verify whether the percentage of female directors strongly influences business performance, we use the method of replacing dependent variables to make a further robustness test.

In addition to the BP we used above, return on assets (ROA) is also an appropriate indicator to measure the business performance of an enterprise. It is a way to calculate net profit per asset and is an important indicator to measure the relative profitability of a company. Therefore, we take ROA as a substitute variable for BP. Robust test results are shown in Table 4.

The robust test results in Table 3 show that using the OLS regression method, with a firm fixed effect and time fixed effect, as well as control variables, are introduced gradually from the model (1) to model (5), the regression results of Female on ROA are always not significant, although the regression coefficients are positive.

In a word, the robust test shows that, on the premise of replacing the dependent variables, the proportion of female directors still has no impact on business performance.

Table 4: Robust test results.

Variables	**Y: Business performance (ROA)**				
	(1)	**(2)**	**(3)**	**(4)**	**(5)**
Female	0.0227	0.0400	0.0742	0.0308	0.0726
	(0.6391)	(0.6310)	(0.9919)	(0.4865)	(0.9738)
Average			-0.0053**		-0.0061***
			(-2.4179)		(-2.6200)
Bac			0.0219		0.0016
			(0.5759)		(0.0419)
Size				0.0080	0.0210**
				(1.2756)	(2.5071)
Debt				-0.3430***	-0.3784***
				(-10.1662)	(-9.1475)
Firm fixed effect	No	Yes	Yes	Yes	Yes
Time fixed effect	No	Yes	Yes	Yes	Yes
Observations	18,282	18,282	15,604	18,282	15,604
R-squared	0.0037	0.0044	0.0066	0.0069	0.0072
Note. Standard deviations are parentheses. ***p < 0.01, ** p < 0.05, * p < 0.1.					

5. Conclusion

Based on the symbolism theory, this paper uses the relevant data of Chinese listed companies in A-share market from 2008 to 2018. The study finds that female directors have no influence on business performance, and the results are still stable after replacing the dependent variables. This shows that the current appointment of female directors in China's listed companies may be only to meet the requirements of shareholders and maintain their external public image needs rather than the extraordinary working ability of female directors and their contributions to corporate decision-

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making [14]. The appointment of female members to participate in the board of directors of enterprises is only a symbolic consideration, and they may only be a nominal position.

This study can theoretically enrich the relevant literature on female directors and business performance and empirically obtain empirical evidence from Chinese listed companies, providing empirical evidence from developing countries for symbolism theory. This paper's research conclusion might have theoretical and practical significance for developing women's causes and utilizing human resources in China.

References

[1] *Saleh, N. M. & Sun, X.W. (2021) The influence of female directors' proportion on investment efficiency: the mediating role of caution. Gender in Management: An International Journal, 37(3): 289-304.*

[2] *Ren, G. & Zeng, P. (2021) Board gender diversity and firms' internationalization speed: the role of female directors' characteristics. Baltic Journal of Management, 17(1): 72-88.*

[3] *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.*

[4] *Llorens, M. C. R., Meca, E. G. & Martínez, M. C. P. (2020) Female directors on boards. The impact of faultlines on CSR reporting. Sustainability Accounting Management and Policy Journal (ahead-of-print). https://doi:10.1108/sampj-07-2019-0273.*

[5] *Wu, C. C. (2021) The influence of female executives on foreign direct investment and business performance. Tianjin University of Finance and Economics, Tianjin.*

[6] *Adams, R. B., & Funk, P. (2017) Beyond the glass ceiling: does gender matter? Management Science, 58(2): 219–235.*

[7] *Biswas, S. (2021) Female directors and risk-taking behavior of Indian firms. Managerial Finance, 47(7): 1016-1037.*

[8] *Shauki, E. R. & Oktavini, E. (2022) Earnings management and annual report readability: the moderating effect of female directors. International Journal of Financial Studies, 10(3): 73-73.*

[9] *Lu, Y., Wei, Z.B. & Xie, F.X. (2013) Do female directors improve corporate performance?, China Career Daily, (4): 3-3.*

[10] *Kanter, R.M. (1977) Men and Women of the Corporation. Publishers of New York, New York.*

[11] *Brady, D., Isaacs, K., Reeves, M., ea.al. (2011) Reynolds, M..Sector, size, stability, and scandal:Explaining the presence of female executives in Fortune 500 firms[J].Gender in Management:An International Journal, 26(1) :84-105.*

[12] *Liu, X. G. & Li, W. A. (2010) A summary of the research on female directors and corporate governance from the perspective of board diversification. Foreign Economy and Management, (4):47-53.*

[13] *Gong, J. X. & Wang, C. B. (2017) Equity concentration, board characteristics and the structure of equity incentive contracts of listed companies. Modern commerce, (35): 101-104.*

[14] *Feng, X. (2021) Research on the relationship between female executives and corporate performance -- based on the mediation effect of internal control. Modern Commerce, (3):68-70.*