



Female Executives and Corporate Social Responsibility Disclosure—Empirical Evidence from A-Share Listed Companies

Siyuan Hong and Hao Li^(✉)

SILC Business School, Shanghai University, 20 ChengZhong Road, Shanghai, China
964997873@qq.com

Abstract. Fulfilling and disclosing social responsibilities has become part of a company's day-to-day business activities. According to big data, the gender composition of corporate management personnel will make the degree and effect of corporate social responsibility disclosure. This paper uses relevant information technology to study the relationship between corporate social responsibility and the gender of corporate executives. The specific methods are as follows: This paper use Perl web page capture algorithm programming, we downloaded the annual reports of all listed companies from Cninfo.com. We utilized “jieba” programming embedded in Python and compiled all personal traits of female executives. Meanwhile, we utilized Python crawler to download all corporate social responsibilities from Hexun.com By constructing a correlation model of the relationship between female senior executives and corporate social responsibility performance and disclosure, and based on an empirical study of Chinese A-share listed companies, this paper finds that the number and shareholding ratio of female executives can both contribute to the performance of corporate social responsibility. And disclosure has a positive impact, and over-investment is inhibited by women's participation in top management, and ultimately on CSR behavior. The purpose of this paper is to encourage companies to stimulate innovation and create a better engineer culture to inspire and motivate more female engineers to break through themselves, so that their talents can be brought into full play.

Keywords: Female Executives · Corporate Social Responsibility · Listed Companies

1 Introduction

Since the reform and opening up, my country's economy has developed rapidly, which is inseparable from the role of enterprises. However, the improvement of people's material life and economic level also exposes the long-term impact of enterprises' blind pursuit of profit maximization on society. The enlightenment of social responsibility awareness of Chinese enterprises did not begin until the beginning of the 21st century. Statistics from the Cathay Pacific database show that by the end of 2018, 1,302 listed companies had released social responsibility reports, and A-share listed companies accounted for about

36.76%, an increase of nearly 10% compared to 27.6% in 2014. %. According to relevant statistics, although the disclosure of social responsibility information by Chinese listed companies has slowly improved, there is still a big gap compared with the disclosure ratio of more than 95% in developed countries.

According to the provisions of the company law, corporate social responsibility is also a part of the business activities of the company, and the daily business activities of the company are inseparable from the company's executives. The executives of an enterprise determine the strategic decision-making and business behavior of the company. One of the hallmarks of contemporary corporate governance structures is gender diversity in management. In recent years, studies by scholars at home and abroad have shown that the presence of women in the structure of corporate senior managers is becoming more and more obvious. Some scholars said that due to gender differences, some characteristics of female executives will have different effects on companies. Whether this will affect the conscious behavior of corporate social responsibility needs to be further explored.

The percentage of young women in the field of information technology is much higher than that of men. The weak position of young women in the field of information technology not only has a great negative impact on the development of female groups, but also is extremely unfavorable to the development of information technology. Today's IT industry is going through an unprecedented change. How to stimulate innovation, create a better engineer culture, inspire and motivate more female engineers to break through themselves, and give full play to their talents, is a question that every technology company that values diversified development needs to think about [1].

Therefore, it is necessary to study the relationship between female executives and corporate social responsibility performance and disclosure. This article intends to obtain the information of all female executives of listed companies through text analysis through python technology, and then use the crawler function in Python to collect all corporate social responsibility information from Hexun.com. Finally, an empirical analysis is conducted to try to study the relationship between corporate social responsibility and corporate female executives.

Most academic results show that gender differences make female directors positively oriented towards CSR behaviors [4]. The gender traits and "empathetic care" of women make women pay more attention to social responsibility, and female directors can effectively promote the fulfillment of corporate social responsibility (Boulouta 2013). Scholar researched the ranking of 341 Fortune 500 companies from 2006 to 2012 and found that companies with a higher proportion of female directors were more ethical and respected (Landy & Frynne 2015).

For a certain element of corporate social responsibility, the position, human and material capital of female executives determine the degree of their positive impact on corporate performance. Women pay more attention to the external environment than men and tend to take action to reduce the risks that exist.

However, there are also voices to the contrary, and there are many studies showing that gender is not significantly related to corporate social responsibility awareness and behavior. Scholar conducted an empirical analysis of data from data centers in Iran and found that no matter which type of gender dominance was dominant, there was no significant difference in corporate social responsibility behavior.

To sum up, although scholars at home and abroad have continued to explore the relationship between high-level gender diversity and corporate social responsibility disclosure, most of these studies are limited to female directors. These studies have certain limitations in terms of research objects, data use, variable settings, research methods and findings. This paper argues that the scope of corporate female executives is wider, and that the relationship between female executives and corporate social responsibility behavior is more worthy of exploration.

2 Theoretical Analysis and Research Hypothesis

The ethics of care points out that women's unique gender traits such as empathy, a tendency to balance life and work, etc. Many scholars have found that female executives have a stronger sense of responsibility and are more willing to assume social responsibilities [3]. Therefore, the following hypothesis is proposed 1.

Hypothesis 1: The greater the number of female executives, the better the CSR behavior.

Some scholars have studied the A-share market and found that the higher the management's shareholding ratio, the more publicized its social responsibility information [5]. Combined with advanced theory and female caring, it can be speculated that when female executives of a company hold shares, and the higher the shares they hold, their awareness and behavior of corporate social responsibility will be enhanced, so Hypothesis 3 is proposed.

Hypothesis 2: The higher the shareholding ratio of female executives, the better the corporate social responsibility behavior.

In the process of participating in corporate governance, women tend to be more risk-averse and prudent in decision-making. Companies with women participating in the governance of high positions can avoid the problem of over-investment to a certain extent [2]. Female executives are more stable in grasping corporate cash flow, so they have a certain amount of capital to invest in corporate social responsibility performance and disclosure. Therefore, Hypothesis 3 is proposed.

Hypothesis 3: Female executives can inhibit excessive investment and achieve the purpose of promoting corporate social responsibility behavior.

3 Sample Selection and Data Sources

The sample companies studied in this paper are A-share listed companies in China from 2007 to 2018. By integrating the sample data, the final data of the female executive group and the non-female executive group are obtained. The corporate social responsibility quantified in this paper is calculated based on the relevant data of Hexun.com. The remaining executive-related data, financial ratio data, etc. are all from the Guotai'an database or calculated according to the relevant data in the database.

For the acquisition of the corporate social reports of listed companies and the data of corporate executives required by this paper, this paper adopts the following methods: First, this paper uses Perl web crawling algorithm programming, and downloads the annual reports of all listed companies from cinfo. Which is a listed company information

Table 1. VARIABLE DEFINITION.

Variable	Definition
CSR	Corporate Social Responsibility Performance Index
FNUM	Number of executives whose gender is female
FHOL	Shares held by female executives at the end of the year
OVERINV	overinvestment index

disclosure website designated by the China Securities Regulatory Commission, and the data disclosed by it is authoritative and reliable. Next, the paper aggregates all personal characteristics of female executives using “jieba” programming embedded in Python. Finally, we downloaded all CSR reports from Hexun.com using Python crawler (Table 1).

4 Empirical Analysis

Table 2 shows the multiple regression results of the impact of female executives on corporate social responsibility performance, where columns (1) are fixed-effects model estimates, and column (2) is random-effects estimates. As shown in column (1), the number of female executives is positively correlated with the CSR index at a significant level of 5%. The better. Column (1) of Table 2 also shows that the shareholding ratio of female executives is positively correlated with corporate social responsibility at the 10% significant level. Finally, by comparing the random effect estimate in column (2) with the The Hausman test for the fixed effects in the (2) column shows that the fixed effects are better than the random effects.

Table 3 shows the regression results of female executives' overinvestment in firms. It can be obtained from column (1) that there is a significant negative correlation between the number of female executives and the shareholding ratio of female executives and excessive investment, which verifies Hypothesis 3. Finally, fixed effects were found to be better than random effects using the Hausman test.

Table 4 shows the test results of the influence mechanism of female executives on corporate social responsibility. The data in column (1) shows that over-investment and corporate social responsibility are significantly negatively correlated at the 1% level, and over-investment has a strong inhibitory effect on corporate social responsibility performance. The inhibitory effect of female executives on over-investment can promote the performance and disclosure of corporate social responsibility, which verifies Hypothesis 3. In contrast, column (2) indicates that when there are no women in executives, over-investment will have a more obvious inhibitory effect on corporate social responsibility, which again verifies Hypothesis 3.

Table 2. The impact of female executives on corporate social responsibility

	(1) csr	(2) csr
fnum	1.046** (2.26)	0.635 (1.55)
fhol	2.16* (1.93)	3.04** (2.08)
Control	YES	YES
<i>N</i>	6627	6627
<i>R</i> ²	0.225	

Note: The t value in brackets, *, **, *** indicate significant at the 10%, 5%, and 1% significance levels, respectively

Table 3. The impact of female executives on overinvestment.

	(1) Over_INV	(2) Over_INV	(3) Over_INV	(4) Over_INV
fnum	-0.000548** (2.23)	-0.00135** (2.20)		-0.000982** (2.40)
fhol	-0.00606** (-2.17)		-0.0201*** (-2.61)	-0.00429** (2.12)
Control	YES	YES	YES	YES
<i>N</i>	6627	6627	6627	6627
<i>R</i> ²	0.294	0.293	0.293	

Note: The t value in brackets, *, **, *** indicate significant at the 10%, 5%, and 1% significance levels, respectively

Table 5 presents the results of the impact of female executives on each component of corporate social responsibility. In this paper, the calculation of corporate social responsibility is carried out from five dimensions, namely shareholder responsibility, employee responsibility, supplier customer and consumer rights responsibility, environmental responsibility and social responsibility. Table 5 shows that both the number of female executives and the shareholding ratio of female executives are significantly positively correlated with supplier customer and consumer rights responsibilities at different levels, which verifies Hypotheses 1 and 2. Among them, the correlation coefficient of the shareholding ratio of female executives is 4.567, which is the highest, indicating that this variable has the most obvious impact on the rights and interests of suppliers, customers and consumers.

Table 4. Influence mechanism of female executives on corporate social responsibility.

	(1) csr	(2) csr
fnum	1.223 (1.49)	
fhol	2.53 (0.97)	
Over_INV	-7.595*** (-3.15)	-11.27** (-2.24)
Control	YES	YES
<i>N</i>	4308	2319
<i>R</i> ²	0.227	0.242

Note: The t value in brackets, *, **, *** indicate significant at the 10%, 5%, and 1% significance levels, respectively

Table 5. Impact of female executives on CSR components.

	(1) shareholder	(2) Staff	(3) Suppliers and Customers	(4) Environment	(5) Society
fnum	0.218 (1.48)	0.127 (1.25)	0.277* (1.79)	0.194 (1.34)	0.230* (1.94)
fhol	1.992 (0.80)	3.234** (2.44)	4.567*** (2.67)	3.603** (2.38)	1.240 (0.73)
<i>N</i>	6627	6627	6627	6627	6627
<i>R</i> ²	0.473	0.145	0.154	0.149	0.109

Note: The t value in brackets, *, **, *** indicate significant at the 10%, 5%, and 1% significance levels, respectively

In the robustness test, this paper replaces the score of corporate social responsibility with a grading system, setting companies with a score greater than or equal to 80 as level A, companies with scores greater than or equal to 70 but less than 80 points as level B, and greater than or equal to 60 points but less than 70 is graded C, and less than 60 is graded D. The regression results are highly consistent with the previous results. To sum up, since the conclusions of the robustness test are consistent with the previous ones, the empirical results of this paper have certain reliability and stability (Table 6).

Table 6. Robustness test results

	(1) ranking	(6) Over_INV	(7) ranking
fnum	0.0962** (2.33)	0.000548** (2.23)	0.0276 (1.36)
fhol	1.123* (1.66)	0.00606* (-1.77)	0.305 (1.50)
Over_INV			-0.548** (-2.34)
<i>N</i>	6627	6627	6627
<i>R</i> ²	0.294	0.294	

5 Conclusions

This paper integrates the 12-year data of China's A-share market from 2007 to 2018 to explore the relationship between women's participation in senior management and corporate social responsibility behavior. First, this paper uses Perl web crawling algorithm programming, and downloads the annual reports of all listed companies from Cninfo which is a listed company information disclosure website designated by the China Securities Regulatory Commission, and the data disclosed by it is authoritative and reliable. Next, the paper aggregates all personal characteristics of female executives using "jieba" programming embedded in Python. Finally, we downloaded all CSR reports from Hexun.com using Python crawler. This paper found that there is a positive relationship between the number of executives, the proportion of female executives and the shareholding ratio of female executives and corporate social responsibility behavior, and this relationship is significant. The higher the shareholding ratio, the better the performance of corporate social responsibility; (2) the establishment of female roles in independent directors shows a positive correlation with corporate social responsibility behavior, but the results show no significant, part of the reason may be due to the fact that independent directors The sample number of companies that set up female roles is relatively small; (3) Over-investment is significantly negatively correlated with CSR behavior, while other variables related to female executives, such as the number of female executives, the proportion of female executives, the situation of concurrent positions, etc. The relationship between corporate social responsibility is not obvious, so one of the mechanisms between female executives and corporate social responsibility behavior is over-investment.

Through further understanding of the research results, this paper puts forward the following enlightenments: (1) With the appeal of national policies and the gradual awakening of public awareness, it has become more and more important for enterprises to perform and disclose social responsibilities. To increase investment in the green economy, at the same time abide by the law, make information open and transparent, and pay attention to social hot issues and philanthropy; (2) Enterprises are building their

own management structure and even recruiting employees. At this time, more women with professional backgrounds and moral literacy should be included in the process of corporate governance, a suitable management structure should be selected, the number, proportion and shareholding ratio of women in senior management should be increased, and the number of independent directors should be increased. The role of women, while separating the relationship between different important positions; (3) Enterprises should give more care and opportunities to female employees, and provide women with a strong backing, so that they have the power and ability to compete on an equal footing with men in the workplace; (4) Female employees should also improve their knowledge and skills reserves and moral cultivation, and sharpen their strategic vision according to their own job needs and future development, so that corporate management can choose women as managers without hesitation when considering gender balance. (5) The government and society should promote the value of women, provide women with more education and training opportunities by formulating a series of policies, laws and regulations, and lead the whole society to promote equal rights between men and women by example.

References

1. Anastasios St. Ntanos, Konstantina Boulouta. The management by objectives in modern organisations and enterprises[J]. *Int. J. of Strategic Change Management*,2012,4(1):
2. Chen Jinlong, Xiao Ling. Research on the relationship between female executives, over-investment and corporate value [J]. *Journal of Nanjing Audit University*, 2015, 12(05): 77–85.
3. Mohammad Safari Kahreh,Asghar Babania,Mohammad Tive,Seyed Mehdi Mirmehdi. An Examination to Effects of Gender Differences on the Corporate Social Responsibility (CSR)[J]. *Procedia - Social and Behavioral Sciences*,2014,109(C):
4. Renny Harrigan,Elka Schloendorn. Die Sexualität der Frau in der deutschen Unterhaltungsliteratur 1918–1933[J]. *Geschichte und Gesellschaft*,1981,7(3/4):
5. Yin Kaiguo, Wang Yingying, Liu Xiaoqin. The Nature of Property Rights, Management Shareholding and Social Responsibility Information Disclosure: Empirical Evidence from Chinese Listed Companies [J]. *Economics and Management Research*, 2014(09):114

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

