

Research on the dissent behavior of independent directors education background

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Abstract: This paper studies the influence of academic reputation of independent directors of listed companies in China on their dissent. Based on the samples of listed companies in China from 2007 to 2021, this paper studies the influence of independent directors' academic reputation on raising objections from the perspective of highly educated and independent directors of economics and management. It is found that after controlling other factors, the higher the educational background of independent directors, the higher the probability and quantity of dissent behavior. The mechanism analysis of potential incentive effect and pressure effect was made. The results of this paper show that independent directors with high academic qualifications can actively play their governance functions and raise objections. This paper provides a new perspective for the research on the reputation of independent directors, that is, the academic reputation of independent directors will prompt them to raise objections, promote the good operation of the company and protect the interests of minority shareholders, which is an effective supplement to the current research on the reputation of independent directors in China.

1. Introduction

A large number of existing studies show that the governance role of independent directors is obvious in the reputation mechanism (Zhou Fan et al., 2008)^[1]. Poor reputation will seriously affect the career of the parties, while the reputation of a good career will increase their market bargaining power; The former reduces the opportunistic behavior of independent directors, while the latter encourages independent directors to actively perform their duties (Fama & Jensen, 1983)^[2]. The high reputation of independent directors indicates strong business ability and diligence, which also means high cost of reputation damage. These two aspects can encourage independent directors to play a governance role and protect the interests of small and medium investors. High educated independent directors are helpful for independent directors to analyze the existing or potential problems of the company, help the company make reasonable decisions, and then raise objections to perform their duties. However, there are few documents on the influence of independent directors on objection behavior. Therefore, this paper intends to study the performance behavior of independent directors from the perspective of their academic qualifications.

Combined with the actual situation in China, this paper found a positive correlation between the degree of independent directors and the probability and number of objection behavior of independent directors, which is significant in both statistical and economic significance. This paper

further analyzes that compared with non-state-owned enterprises, state-owned enterprises have more probability and number of independent directors. This paper uses the reputation variables of independent directors "from" 211 "985" universities or famous financial and economic universities as famous universities, which provides a new perspective for measuring the reputation of independent directors. The following structure is as follows: the second part is the relevant theoretical analysis, the third part is the empirical analysis; the fourth part is the mechanism analysis, the sixth part is the robustness test; the final conclusion of the article.

2. Theoretical analysis and research hypothesis

2.1 Theoretical analysis related to the reputation of the independent directors

According to the existing research, under the realistic background of fixed independent director's salary beforehand, ineffective and imperfect independent director's market mechanism and insufficient protection for investors, it is difficult for the salary mechanism, legal mechanism and market mechanism to effectively stimulate or restrain independent directors' behavior (Huang Haijie et al., 2016)^[3]. The governance role of independent directors depends more on reputation mechanism (Quan Yi & Guo Qing, 2017)^[4]. The incentive function of reputation mechanism is reflected in the following aspects: poor reputation will seriously affect the career of independent directors, while good professional reputation will enhance their market bargaining power; The former restricts opportunistic behavior, while the latter has an incentive effect on actively performing their duties (Fama & Jensen, 1983)^[2]. The high reputation of independent directors indicates strong business ability and diligence, which also means high cost of reputation damage.

Generally speaking, the independent directors employed by companies are mostly people who have made outstanding achievements or demonstrated profound professional skills in some fields (Tan Jinsong et al., 2003)^[5]. Once the company has problems, they will be jointly and severally liable or affected, their personal reputation will be damaged, which will further affect their subsequent career development. Therefore, the reputation of independent directors is an incentive and constraint factor for them to perform their responsibilities and play a supervisory role in the board of directors (Ning Xiangdong et al., 2012)^[6]. Reputation mechanism plays an important role in the behavior of independent directors of listed companies in China. The independent director's objection to the proposal of the board of directors is a direct manifestation of the independent director's performance of supervisory duties, not only to prevent the interests of minority shareholders from being infringed, but also the result of the independent director's rational choice to weigh the income risk (Yermack, 2004)^[7]. In the past, among the research indicators of independent directors' reputation, there were few literatures on the characteristics of independent directors' individual abilities, and even fewer studies on independent directors' academic qualifications as a reputation measurement indicator. But in fact, independent directors' academic qualifications are an important indicator to measure their reputation, and their academic qualifications can usually reflect their cognitive ability, problem-solving skills and professional level in a certain field, which helps independent directors analyze the existing or potential problems of the company, help the company make reasonable decisions, and then raise objections to perform their duties. The academic level of independent directors is an important measure of their personal ability. However, at present, there are few literatures on the influence of independent directors' academic qualifications on dissent behavior.

Independent directors' performance of their duties is an important way to realize their self-worth, and their reputation reflects the public's evaluation of their image, which makes independent directors pay more attention to their reputation. When independent directors effectively perform their supervisory duties, the market will automatically send favorable reputation signals, which will

not only make independent directors feel psychologically satisfied and fulfilled, but also enhance their market position and bargaining power, which is an incentive effect. When independent directors show the absence of supervision, the market will also make independent directors face unfavorable situations such as reputation loss, loss of employment opportunities and litigation crisis through negative signal transmission (Yoshikawa et al., 2014)^[8], which is a pressure effect. This balancing mechanism can encourage rational independent directors to actively weigh the effectiveness of two kinds of performance behaviors, so as to establish reasonable behavior expectations. This paper attempts to study the influence of independent directors' academic qualifications and majors on independent directors' dissent behavior.

2.2 Research hypothesis

We observe that there are a large proportion of college scholars and highly educated independent directors in listed companies in China. These groups are generally considered to have profound professional skills and research experience, and may be able to find out the problems of the company and put forward development suggestions. Generally speaking, independent directors with high academic qualifications have a higher reputation, and if they fail to perform their duties conscientiously, they may bring greater reputation losses. In other words, independent directors with high academic qualifications and reputation have stronger motivation to perform their duties, raise objections and protect the interests of minority shareholders and other small-scale interest groups. Therefore, this paper holds that the reputation mechanism measured by independent directors' academic qualifications can encourage independent directors with high academic qualifications to maintain their independence, give play to their governance functions, actively participate in the resolution of the board of directors and the generation and disclosure of corporate financial reports, and raise objections, thus improving the level and efficiency of corporate governance. Based on the above discussion, there are the following assumptions.

Hypothesis 1a: After controlling other factors, the higher the educational background of independent directors, the more motivated they are to raise objections.

Hypothesis 1b: Independent directors who are not well-known in the school and graduated from famous universities at home and abroad and universities with advantageous disciplines are more likely to raise objections.

3. Research and design

3.1 Source of sample data

This paper selects the samples of private listed enterprises in mainland China from 2007 to 2020. The annual interval of research samples began in 2007, and the total number of objections raised by independent directors was obtained by hand. The data sources were CSMAR database and CNRDS database, and then the samples meeting the following conditions were deleted.

- (1) The observed value belongs to the financial and insurance industry.
- (2) Lack of company samples with calculation conditions such as company financial index information.
- (3) The data of independent directors are missing samples.
- (4) Samples of companies with net assets less than zero, ST and ST*

Finally, 76,248 samples of the company's annual observation were obtained. We truncated all continuous variables by 1% at the beginning and 1% at the end.

3.2 Variable measurement

1) Dissenting behavior of independent directors.

This variable is measured by the dummy variable of whether independent directors raise objections. If an independent director raises an objection in a certain year of a company, the dummy variable is recorded as 1, and if no objection is raised, the dummy variable is recorded as 0.

2) Total number of objections raised by independent directors

This variable adds up to the number of objections of each independent director and each part-time company in each year.

3) The main explanatory variables.

Independent director's reputation variable: firstly, we manually sort out the composition of the company's board members and the resume of each independent director in CSMAR database to screen their academic qualifications and professional independent directors. Then judge the reputation of independent directors according to their academic qualifications and majors, so as to get the academic qualifications of independent directors at the company level. This variable is measured by the educational level of independent directors of the company. The director's education is divided into five levels: doctor's degree, master's degree, bachelor's degree, junior college and technical secondary school and below, and then quantified as 1= technical secondary school and below, 2= junior college, 3= undergraduate course, 4= master's degree and 5= doctoral degree.

4) Control variables.

Other measures regarding the reputation of the independent directors, Referring to Zhao Changwen et al. (2008)^[8], Ye Kangtao et al. (2011)^[10], Xu Jin et al. (2021)^[11], Controlling the remuneration of independent directors: TotalSalary, The number of independent directors serving as independent directors of other companies: Director_TotCO, independent directors gender variable: dum_Gender; Meeting attendance rate: atlackrate; Natural logarithm of the total assets of the company: Size; The asset-liability ratio of the company: alrate; Current ratio: Curate; Tobin Q value: TobinQ; P / E ratio: perate; Whether there are any defects in the internal control: IsDeficiency; The sum of the shareholding ratio of the top 5 major shareholders: Shrcr5; Whether the top ten shareholders are related: TOP10; And other relevant personal information about the independent directors, Finally, the industry virtual variables and the annual virtual variables were controlled.

3.3 Descriptive statistics

From descriptive statistics in Table 1, it can be observed that the mean value of whether independent directors raised objections is 0.93, indicating that most independent directors have raised objections. The mean value of the total number of objections raised by independent directors is 12.19, and the median is 11. The number of objections raised by independent directors during their tenure is not small, and some directors have actively fulfilled their duties. The mean value of the education level of independent directors is 4.06, and the median is 4, indicating that the "average education level" of independent directors can reach a master's degree. The standard deviation of 0.890 indicates that the gap in education level among independent directors is not large. The mean value of the total number of companies where independent directors serve as other directors is 1.150, and the standard deviation is 1.790, indicating that some directors serve as directors in other companies, but the median is 0, indicating that more than half of the directors in the sample do not serve as directors in other companies. The company may also consider that the more companies an independent director serves as a director for, the more likely it is to cause excessive dispersion of energy and cannot effectively fulfill his/her duties.

Table 1: Descriptive statistical results.

variable	N	mean	sd	p50	min	max
dissent_dum	76248	0.930	0.250	1	0	1
dissent	76248	12.19	9.080	11	0	105
Major dum1	76248	0.220	0.410	0	0	1
FAUNIVER	76248	0.120	0.330	0	0	1
Degree	76248	4.060	0.890	4	1	5
Age	76248	53.07	8.960	52	26	96
EquityNature_dum	76248	0.62	0.49	1	0	1
TotalSalary	76248	67681	48182	60000	0	1200000
Director_TotCO	76248	1.150	1.790	0	0	54
Atlackrate	76248	1	0.0200	1	0	1
dum_Gender	76248	0.830	0.380	1	0	1
Size	76248	22.08	1.450	21.84	13.08	28.64
Curate	76248	2.810	4.490	1.690	0	204.7
alrate	76248	0.460	1.560	0.410	0.0100	178.3
ROA	76248	0.0400	2.790	0.0400	-51.30	758.7
perate	76248	105.4	2363	38.94	0.0600	420000
TobinQ	76248	2.060	2.200	1.590	0.670	122.2
IsDeficiency	76248	0.220	0.410	0	0	1
Shrcr5	76248	55.17	15.64	55.42	2.350	99.23
Y0501b	76248	0.0400	0.200	0	0	1

3.4 Model design

This paper mainly examines the influence of the degree of independent directors on the objection behavior of independent directors, and mainly uses multiple linear regression to analyze it. To test Hypothesis 1, take the following models (1), (2):

$$dissent_obj_{it} / dissent_{it} = \alpha_{10} + \alpha_{11}Degree_{it} + \alpha_{12}Controls_{it} + \varepsilon_{it} \quad (1)$$

$$dissent_obj_{it} / dissent_{it} = \alpha_{20} + \alpha_{21}Degree_{it} + \alpha_{22}FAUNIVER_{it} + \alpha_{23}Degree\#FAUNIVER_{it} + \alpha_{24}Controls_{it} + \varepsilon_{it} \quad (2)$$

If the previous coefficient of Degree α_{11} is significantly greater than 0, it means that the higher the degree of the independent director of the company, it is easier to raise objections. If the previous coefficient α_{21} of Degree is significantly greater than 0, it means that the higher the education of the independent director of the company, the more the number of objections raised during the term of office.

4. Empirical results and analysis of the model

4.1 Benchmark regression analysis

Table 2 first tests the impact of independent directors' education on raising objections. As shown in column (1) of Table 2, the regression coefficient of Degree is 0.00707 and significant without controlling for other factors. This indicates that independent directors with higher education are more likely to raise objections than other independent directors without considering other factors. In column (2) of Table 2, the regression coefficient of Degree is 0.310 and significant without

controlling for other factors. This indicates that independent directors with higher education raise more objections than other independent directors without considering other factors. Hypothesis 1a is verified. In column (3) of Table 2, the regression coefficient of FAUNIVER is 0.0427 and significant, but the interaction term regression coefficient of FAUNIVER Degree is -0.00787 and significant. This indicates that independent directors from famous universities are less likely to raise objections than those who are not from famous universities without considering other factors; in column (4) of Table 2, the interaction term regression coefficient of FAUNIVER \times Degree is 0.108 and not significant. Independent directors from famous universities who have already raised objections tend to raise more objections than those who are not from famous universities without considering other factors. This situation may reflect that independent directors at prestigious universities may be even busier and do not have enough time to participate in the supervision and review of corporate behavior, so the number of dissent behavior declines.

Table 2: Hypothesis 1 to test the results.

	(1)	(2)	(3)	(4)
	dissent_dum	dissent	dissent_dum	dissent
Degree	0.00735*** (6.14)	0.317*** (6.51)	0.00797*** (6.17)	0.281*** (5.53)
FAUNIVER			0.0427*** (3.24)	0.346 (0.51)
FAUNIVER \times Degree			-0.00787** (-2.57)	0.108 (0.69)
Controls	Yes	Yes	Yes	Yes
_cons	0.385*** (3.85)	-12.83*** (-7.18)	0.384*** (3.85)	-12.48*** (-7.04)
N	52801	52801	52801	52801
R-squared	0.026	0.108	0.026	0.108

z statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The following text has the same meaning.

4.2 mechanism analysis

The degree of independent directors shows their professional level can promote them to gain more voice in the board, enhance the confidence of independent directors and actively raise objections; increase their market position and bargaining power and make them get higher salary rewards. However, in contrast, highly educated independent directors may worry that their objections are not accepted or raise objections contrary to most people, which will affect their authority and then affect their bargaining level in the independent director market. This paper brings the compensation level to measures the incentive effect into the model to evaluate the specific transmission mechanism.

As shown in Table 5, column (1) (2) is the result of base regression, and column (3) (4) is the result of whether the added salary exceeds the median dumb variable of independent directors. The salary_dum coefficient in column (3) (4) is positive and significant, and the coefficient of salary_dum \times Degree is significant for the coefficient in column (5) (6), indicating that the salary incentive plays a certain role in promoting, and the independent directors who perform their duties will be more motivated to raise objections and raise more objections after receiving the salary incentive. Therefore, the incentive effect causes independent directors to raise objections and more number of objections.

Table 3: Mechanism analysis and test results.

	(1)	(2)	(5)	(6)
	dissent_dum	dissent	dissent_dum	dissent
Degree	0.00735***	0.317***	0.00543***	0.0300
	(6.14)	(6.51)	(3.14)	(0.52)
salary_dum			0.0271***	3.263***
			(2.98)	(8.42)
salary_dum × Degree			0.00284*	0.447***
			(1.72)	(4.84)
control	Yes	Yes	Yes	Yes
_cons	0.385***	-12.83***	0.374***	-12.90***
	(3.85)	(-7.18)	(3.74)	(-7.56)
N	52801	52801	52801	52801
R-squared	0.026	0.108	0.0216	0.0641

5. Robustness test

5.1 Tool variable method

Table 4: Estimated results by the tool variable method.

	(1)	(2)	(3)	(4)
	stage I	stage II	stage I	stage II
	Degree	dissent_dum	Degree	dissent
IV	0.141***		0.141***	
	(18.50)		(18.50)	
Degree		0.069***		5.146***
		(4.51)		(8.57)
_cons		0.651***		-8.784***
		(10.45)		(-3.61)
N	26737	26,737	26737	26,737
R-squared	0.0129		0.0129	
Test of weak instrumental variables F statistics	342.28		342.28	

This article constructs a tool variable to alleviate the endogeneity problem that may exist in omitted variables. The explanatory variable that this article mainly focuses on is the education level of independent directors (Degree). Independent directors of Chinese companies are selected by the board of directors and management. Considering that the personnel who serve as independent directors have certain professionalism, it is also necessary for the board of directors and management with professional level to conduct professional selection. First, the average education level of the board of directors is an effective measure of their professionalism, and the education level and professional level of the management and board of directors themselves have to some extent affected the education level of the group serving as independent directors in the company. Second, non-independent director board members will not have objections exclusively for independent directors. These two points effectively meet the requirements of instrumental variables. Based on this, this article selects the average education level of board members other than independent directors in the company as an instrumental variable for regression testing.

Table 4 reports the results and related tests of the instrumental variable regression. Columns (1) and (3) report the results of the first-stage regression, that is, the core variable Degree is regressed on the instrumental variable. It is found that the coefficient of the instrumental variable is significantly positive. This indicates that the higher the average education level of board members other than independent directors, the more likely they are to appoint independent directors with high education levels, which is consistent with expectations. The F statistic of the first stage is 342.28, which is much higher than the 10% critical value of 16.38 for weak instrumental variable test (the null hypothesis is weak instrumental variable), indicating that the instrumental variable satisfies the correlation assumption. In the second-stage regression, the coefficient of independent director's education level is still significantly positive at the 1% level.

6. Heterogeneity analysis

6.1 Directors working in state-owned enterprises and non-state-owned enterprises

In the past, state-owned enterprises were vulnerable to "red documents", and independent directors were easy to act as "vase". After the adoption of the Decision, many state-owned enterprises allowed other investors to enter the board of directors, the equity gradually diversified, the board system and the checks and balances of the board of directors were redesigned. State-owned enterprises also gradually pay attention to the importance of independent directors, who should not act as the role of "vase", and independent directors will gradually raise objections in state-owned enterprises. In the results of Table 5, 1 in the Equity Nature_dum dummy variable represents non-state-owned enterprises and 0 represents state-owned enterprises. It can be seen that in column (1) of Table 5, without controlling other factors, the regression coefficient of EquityNature_dum×Degree is -0.00971 and significant. This shows that without considering other factors, high-educated independent directors of state-owned enterprises are more likely to raise objections than independent directors of other non-state-owned enterprises. In column (2) of Table 5, without controlling other factors, the regression coefficient of Degree is -0.399 and significant. This shows that without considering other factors, high-educated independent directors of state-owned enterprises raise more objections than independent directors of other non-state-owned enterprises.

Table 5: Heterogeneity analysis results.

	(1)	(2)
	dissent_dum	dissent
Degree	0.0143*** (6.16)	0.656*** (8.98)
EquityNature_dum	0.0840*** (7.51)	6.109*** (16.10)
EquityNature_dum×Degree	-0.00971*** (-3.75)	-0.399*** (-4.41)
Controls	Yes	Yes
_cons	0.232** (2.32)	-26.80*** (-16.13)
N	52801	52801
R-squared	0.0356	0.1577

7. Conclusions and suggestions

The research results show that the higher the education level of independent directors, the more they can promote independent directors to raise objections and their quantity. The regulatory effect mechanism test on independent directors' dissenting behavior shows that independent directors' education helps them increase their market bargaining power, obtain more compensation, motivate them to perform their duties actively, and thus increase the probability and quantity of independent directors' dissenting behavior, supporting the hypothesis of incentive effect of independent directors' performance. This article enriches the relevant research on the relationship between independent director education and independent director dissenting behavior, which helps to deepen the understanding of the mechanism of independent director performance.

Based on the above research findings, this article proposes two policy suggestions. First, enterprises can consider the academic factors when hiring independent directors, so as to give full play to the professional advantages brought by their academic qualifications. Second, the profession of independent directors should be reasonably matched. Independent directors of economic management, technology, law and other majors should have an appropriate proportion, and independent boards of directors of different majors should have different perspectives to view problems, so as to make up for the professional shortcomings of enterprises. China's economy has entered a new stage and new normal, it is more necessary for independent directors who understand the national conditions and characteristics of domestic enterprises to make suggestions.

References

- [1] Zhou Fan, Tan Jinsong, Jian Yuyin. Reputation incentive or economic incentive—an empirical study of "job-hopping" of independent directors [J]. *China Accounting Review*, 2008 (02): 177-192.
- [2] Fama E. and Jensen, M., 1983, "Separation of Ownership and Control", *Journal of Law and Economics*, vol. 26, pp. 301~326.
- [3] Huang Haijie, Lv Changjiang, Ding Hui. Reputation and earnings quality of independent directors—Perspective of independent directors of accounting professional [J]. *Management World*, 2016 (03): 128-143 + 188.
- [4] Quan Yi, Guo Qing. "Name pursuit" or "profit pursuit": an exploration of the motivation of independent directors [J]. *Management Science*, 2017, 30 (04): 3-16.
- [5] Tan Jinsong, Li Minyi, Li Wenjing, Zheng Heng, Wu Jianlin, Liang Yu. Analysis of several characteristics of the independent director system of Listed companies in China [J]. *Manage World*, 2003 (09): 110-121 + 135.
- [6] Ning Xiangdong, Chui Bizhu, Zhang Ying. Reputation-based research on independent directors' behavior [J]. *Journal of Tsinghua University (Philosophy and Social Sciences Edition)*, 2012, 27 (01): 129-136 + 161.
- [7] Yermack, D., 2004. "Remuneration, Retention and Reputation Incentives for Outside Directors", *Journal of Finance*, vol. 59, pp. 2281~2308.
- [8] Yoshikawa T, Zhu H., Wang P. National Governance System, Corporate Ownership, and Roles of Outside Directors: a Corporate Governance Bundle Perspective. *Corporate Governance: An International Review*, 2014.
- [9] Zhao Changwen, Tang Yingkai, Zhou Jing, Zou Hui. Independent director and enterprise value—Test of the rationality of the independent director system of Listed companies in China [J]. *Management World*, 2008 (08): 119-126 + 167.
- [10] Ye Kangtao, Lu Zhengfei, Zhang Zhihua. Can the independent directors restrain the "hollowing out" of the major shareholders? [J]. *Economic Research*, 2007 (04): 101-111.
- [11] Xu Jin, Wang Xin, Zeng Luyao. Analysis of the performance effect of the multi-seat independent director compensation system [J]. *Finance and Economics Science*, 2021 (04): 118-132.