

The Influence of family Control on R&D manipulation: An Empirical analysis of listed companies in China

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Abstract. Innovation drives enterprises to carry out Research and development(R&D)activities, which leads to R&D manipulation. Reducing R&D manipulation is beneficial to improve the R&D performance of enterprises. Based on the data from 2008 to 2021, this paper studies the relationship between whether it is a family enterprise and the level of enterprise R&D manipulation, and finds that the level of R&D manipulation of family enterprise is lower. Family enterprises and non-family enterprises play an important role in the national economy. We should strengthen the supervision of the level of R&D manipulation of non-family enterprises and improve the corresponding policies and systems. The research results of this paper also have some enlightening effects on how to adopt strategic strategies and corporate governance in order to improve the competitiveness of family enterprises in the competition.

Keywords: Family Enterprises, R&D Manipulation, Corporate Governance.

1. Introduction

Family businesses are by far the most active component of China's economy. According to data from the State Administration for Market Regulation, by the end of August this year, the number of private enterprises in China had increased from 10.857 million at the end of 2012 to 47.011 million, a more than twofold increase in 10 years. A large proportion of private enterprises are family-owned, making them an important force in driving the country's economic development and deepening reforms. R&D play a pivotal role in the development of enterprises, but as R&D requires a large amount of capital investment and technical support in the early stages, asymmetric information becomes a source of conflict between the company and its stakeholders, and the company's internal management wants to carry out R&D innovation for the sake of its Managerial Power and Management Remuneration, to rationalize and convince investors [1-3]. The main existing research on the management of R&D manipulation has been conducted mainly on internal governance perspectives such as Financing Constraints, Managerial Ownership, Board Fracture Zone, and external environmental regulatory perspectives such as Analyst Concerns, Auditors, however, few articles have analyzed the impact of the companies themselves on R&D manipulation [4-8]. Family firms are both the most dynamic part of the Chinese economy and have a relatively high concentration of stakeholders, which can mitigate asymmetric information between the firm and its stakeholders [9].

Whether family firms have a strong passion for R&D and innovation, what impact family firms have on R&D manipulation, and how to stimulate this passion are all things we need to investigate. In this paper, descriptive statistics on whether or not a family firm is associated with R&D manipulation reveal that listed family firms have relatively poor levels of R&D manipulation, which is consistent with our prediction that consistent family firms inhibit corporate R&D manipulation. Based on some of the issues raised above, this paper draws on some existing results and collects A-

share listed companies in China from 2008 to 2021 as the research object to conduct an empirical analysis of them, and explores the impact of whether they are family firms and R&D manipulation through benchmark regressions, followed by robustness tests using the following three methods respectively. First, replacing the model; second, adding control variables; third, lagging of variables. The results of this study are obtained without changes with the three approaches and the findings are robust. Heterogeneity analysis was then carried out through heterogeneous group regression and moderating effects to obtain the effect of other factors in promoting or inhibiting the experimental results. Finally, the conclusion of this paper is drawn by concluding that the study found that family firms have lower levels of R&D manipulation compared to non-family firms, i.e. whether or not being a family firm has a dampening effect on R&D manipulation.

2. Theoretical analysis and hypothesis

The nature of the family business and its characteristics have an impact on the enterprise's R&D manipulation. After the reform and opening up, in order to promote the recovery and development of the national economy, under the guidance of the central policy, labor flow was accelerated, capital return and other restrictive factors were resolved, and the collective economy and individual economy continued to develop, and the vitality of enterprises continued to improve. The continuous optimization of the market environment has promoted many free entrepreneurs to set up private enterprises, forming a large number of family enterprises, and the scale of family enterprises is constantly expanding. At the same time, due to the fierce market competition and the rigidity of the state-owned enterprise system, the vitality of state-owned enterprises needed to be higher, and most of them could not compete with private enterprises in the market, especially family enterprises. Results The new ideas of reform formulated by the state reorganized state-owned enterprises, auctioned some state-owned enterprises and merged them, and formed a new batch of dynamic family enterprises.

According to the definition of ownership structure, that is, the proportion and structure of shares of different natures. The different ownership structure determines the different nature of the enterprise, thus affecting the business status and performance. According to the partial definition of the family business in the study of Cheng Chen, Li Wanrong, and Yuan Yuan in 2021, the particularity of family business is mainly reflected in family governance and corporate governance [10]. The company has a significant influence on the decision-making of the enterprise. The rise time of Chinese family business and the academic research time of family business has very high overlap. In our country, from the late 1970s to the early 1980s, there was the first wave of family management [11]. Combined with the information on family businesses in the West and China, the characteristics of family businesses in the East and West are that equity is highly concentrated in the family, power is highly concentrated in the family, and most family members hold important positions in the company. As a result of Confucianism and the idea of the family world in traditional Chinese culture, the original intention of family business members' behavior is to serve the interests of the family business. Family business founders and other core family members have a strong relationship with the family business and regard the development of the business as the continuation of their values. On the contrary, the state-owned enterprise, which is controlled by the state capital, is controlled by the state. Compared with the family enterprise, its personnel organization structure comprises most natural persons without blood relationships. Due to the nature of equity ownership and this feature, the management of state-owned enterprises only considers their interests and ignores the collective interests of many people. Therefore, in the process of R&D between state-owned enterprises and family enterprises, state-owned enterprises are more likely to cause R&D manipulation, while family enterprises have more ability to restrain R&D manipulation. Based on the above analysis, the following research hypotheses are proposed:

Hypothesis 1: Compared with non-family firms, family firms have a more inhibitory effect on R&D manipulation. That is, whether they are family firms or not is negatively correlated with R&D manipulation.

3. Research design

3.1. Sample selection and data sources

In this paper, Chinese listed companies from 2008 to 2021 are selected as research objects, and various data are selected from the CSMAR database of Guotai 'an. Based on the previous research methods, the original data are processed as follows: (1) Put forward the listed companies whose industries are finance and insurance; (2) Eliminate data values with ST and *ST in the data; (3) Eliminate missing key variables and outliers. In this paper, 19,963 observed values were obtained, and Stata 17.0 was used to process and analyze the data.

3.2. Variable definition

(1) Explanatory variable: Whether it is a family business

For the definition of the family business, there has been a debate in academia. In China, the family business is regarded by most people as a relatively backward enterprise system, which is contrary to the more modern enterprise system. Nevertheless, because of our family business equity system, the physical mode is deeply influenced by economic development and traditional culture, reflects the characteristics of "family," "rule by man," and so on, and is different from the western definition of the family business. For the definition of the family business in academic circles, the ownership of the family business and the actual controller are considered decisive factors [11]. In this paper, the CSMAR database is adopted to define family enterprises. Namely, in addition to the actual controller, at least one family member with relatives holds/manages/controls the listed company or the controlling shareholder company. In addition, the dummy variable method will be used to process whether it is a family enterprise. The value of the family enterprise is 1, and the value of the non-family enterprise is 0.

(2) Explained variable: R&D manipulation

The explained variable RDM is the enterprise R & D manipulation level, and the following model is used for evaluation based on the research of Yuan Zeming (2020):

$$\frac{RD_{i,t}}{TA_{i,t-1}} = \beta_0 + \beta_1 \times MV_{I,T} + \beta_2 \times MV_{i,t} + \beta_3 \times TBQ_{i,t} + \beta_4 \times \frac{INT_{i,t}}{TA_{i,t-1}} + \beta_5 \times \frac{RD_{i,t-1}}{TA_{i,t-1}} + \varepsilon_{i,t} \quad (1)$$

$$NORMAL_RD_{i,t} = \hat{\beta}_0 + \hat{\beta}_1 \times \frac{1}{TA_{i,t}} + \hat{\beta}_2 \times MV_{i,t} + \hat{\beta}_3 \times TBQ_{i,t} + \hat{\beta}_4 \times \frac{INT_{i,t}}{TA_{i,t-1}} + \hat{\beta}_5 \times \frac{RD_{i,t-1}}{i,t-1} \quad (2)$$

$$ABNORMAL_RD_{i,t} = \frac{RD_{i,t}}{TA_{i,t-1}} - NORMAL_RD_{i,t} \quad (3)$$

In the above model, RD is the R&D expenditure of the current year; MV is the natural logarithm of the enterprise market value; INT is the operating profit; TA is the total assets; NORMAL_RD is the average R&D expenditure obtained according to models (1) and (2). ABNORMALI_RD is the irregular research expenditure. This paper studies the influence of family enterprises on R&D manipulation. According to the above model, there are positive and negative results. The absolute value of abnormal R&D expenditure results is taken for reference to the study of Yuan Zeming et al. (2020) [12]. In order to eliminate the problem of significant magnitude difference, the absolute value is multiplied by 100 in this paper.

(3) Control variable

In order to study the influence of family firms on R&D manipulation, the selection of control variables in this paper is based on the research of Yuan Zeming, Wang Peilin, and Fu Yuyuan (2020) [12], and the following indicators are selected as control variables, as shown in Table 1.

Table 1. Variable definition

Variable type	Variable symbol	Variable name	Variable definition
Explained variable	RDM	R&d control	The act of subjectively manipulating the R&D accounting account by the management ignoring the R&D facts
Explanatory variable	FO	Whether it is a family business	The value of a family enterprise is 1, and that of a non-family enterprise is 0
Control variable	Size	Enterprise scale	Total assets take the natural logarithm
	ROA	Net profit rate on total assets	Net profit/total assets
	Tobinq	Growth of enterprises	Market value of total assets/book value of the enterprise at the end of the period
	Top1	The first big shareholder	The proportion of the first largest shareholder
	FirmAge	Years of establishment of the company	The current year minus the year of establishment of the enterprise
	Mfee	Administrative expense ratio	Management expenses/income from main business
	Balance1	Equity balance degree	Shareholding ratio of the second to fifth largest shareholders/shareholding ratio of the first largest shareholders
	BM	Book-to-market ratio	Shareholders' equity/company market value
	ATO	Turnover of total assets	Net sales revenue/average total assets in a given period
	Growth	Revenue growth rate	Increase in current year's operating revenue/total operating revenue of last year
	Loss	Loss or not	In a certain period of time, the expenditure is greater than the income situation is a loss
	Year	year	Year dummy variable
	Industry	industry	Industry dummy variable

3.3. Model design:

Combined with the selection of variables and the theoretical analysis above, in order to test the relationship between family firms and R&D manipulation, the regression model is built as shown below:

$$RDM = \alpha_0 + \alpha_1 \times FO + \alpha_3 \times \text{Controls} + \text{year} + \text{industry}$$

In the regression model of this paper, RDM is the explained variable to measure the level of enterprise R&D manipulation. FO is the explanatory variable of the model. If the value is 1, it represents the family business; if the value is 0, it represents the non-family business.

4. Results**4.1. Benchmark regression**

Table 2 reports the multiple regression results of R&D manipulation and whether it is a family enterprise. In regression (1), whether it is a family enterprise is used as the explanatory variable, R&D

manipulation is the interpreted variable, controlling year and industry type. The regression coefficient between the explanatory variable and the interpreted variable is -0.590 and is significantly negative at the level of 1%, which indicates that whether it is a family enterprise is negatively related to the interpreted variable R&D manipulation, that is, family enterprises have less R&D manipulation than non-family enterprises, which is consistent with the expectations of this paper.

4.2. Robustness test

Table 2. Regression results

VARIABLES	(1)	(2)	(3)	(4)	(5)
	RDM	RDM	RDM	RDM	RDM
FO	-0.590***	-0.574***	-0.379**	-0.714***	-0.541***
	(-3.52)	(-3.62)	(-2.22)	(-4.18)	(-3.08)
Size	0.194**	0.199***	0.214***	0.271***	0.226***
	(2.46)	(2.65)	(2.72)	(3.24)	(2.67)
ROA	3.922***	3.943***	3.779***	3.735***	3.241**
	(3.22)	(3.28)	(3.11)	(3.05)	(2.46)
TobinQ	0.232***	0.257***	0.235***	0.271***	0.277***
	(4.58)	(5.12)	(4.63)	(5.12)	(5.03)
Top1	1.462**	1.446**	1.489**	1.914***	1.254*
	(2.33)	(2.42)	(2.37)	(2.88)	(1.87)
FirmAge	-0.533**	-0.528**	-0.468*	-0.475*	-0.760***
	(-2.00)	(-2.12)	(-1.76)	(-1.79)	(-2.65)
Mfee	16.991***	17.082***	16.989***	16.777***	16.504***
	(13.84)	(14.30)	(13.84)	(13.67)	(12.37)
Balance1	0.899***	0.860***	0.902***	0.958***	0.925***
	(3.10)	(3.10)	(3.11)	(3.26)	(2.95)
BM	-0.190**	-0.195**	-0.181**	-0.205**	-0.190**
	(-2.32)	(-2.44)	(-2.20)	(-2.49)	(-2.22)
ATO	1.977***	2.069***	1.992***	1.961***	1.812***
	(9.66)	(10.51)	(9.74)	(9.59)	(8.31)
Growth	5.411***	5.406***	5.395***	5.405***	5.239***
	(35.37)	(35.36)	(35.28)	(35.31)	(31.75)
Loss	1.415***	1.456***	1.411***	1.423***	1.197***
	(6.14)	(6.33)	(6.12)	(6.18)	(4.87)
FIXED				-1.952***	
				(-3.42)	
INST				-0.805**	
				(-2.35)	
Dturn				-0.455***	
				(-3.17)	
Occupy				5.804**	
				(1.97)	
Constant	-1.706	-1.880	-2.308	-2.881	-0.673
	(-0.79)	(-0.92)	(-1.08)	(-1.29)	(-0.29)
Observations	19,962	19,962	19,962	19,950	16,484
Year FE	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES

z-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

(1) Replacing the model.

It is observed that the R&D manipulation variable in the data has a truncation phenomenon at 0. Therefore, it is considered to change the model in the robustness test and use Tobit model to re-estimate. The regression results are shown in Table 2. From the results of regression (2), it can be seen that the relationship between whether it is a family enterprise and R&D manipulation is still significantly negative at the level of 1%, and other control variables such as company size are still significant, which shows that the results of this paper are still stable after changing the estimation method.

(2) Hysteresis of variables.

Considering that there may be a lag in the influence of whether it is a family enterprise on R&D manipulation, this paper will take the t-1 period for whether it is a family enterprise to test the relationship between whether it is a family enterprise for t-1 period and R&D manipulation for t period. The results are shown in regression (3) in Table 2. It can be seen that the relationship between whether it is a family enterprise and R&D manipulation is still significantly negative, that is, family enterprises have an inhibitory effect on R&D manipulation, which remains unchanged from the previous results, and the previous results are still stable.

(3) Adding control variables.

Considering that in addition to the control variables originally selected in this paper, there are other variables related to R&D manipulation, four control variables, namely the proportion of fixed assets, the proportion of institutional investors' holdings, the monthly average excess turnover rate and the proportion of major shareholders' funds, are added to the original model for re-estimation. The regression results are shown in Table 2. Regression (4) results show that the regression coefficient between whether it is a family enterprises and R&D manipulation is -0.714, which is still significant at the level of 1%, and other control variables are still significant, indicating that the previous results are still significant after adding new control variables.

(4) Endogenous test.

Since enterprises with different levels of R&D manipulation may have different enterprises capabilities, there may be endogenous problems of sample selection bias. Therefore, this paper uses the propensity score matching method (PSM) to solve the endogenous problems. Take whether it is a family enterprise as a dummy variable, the total asset turnover rate, the shareholding ratio of the largest shareholder and whether it is a loss as the matching variables to regress to get the estimated value, and get the matched sample after the balance test. The regression estimation is carried out again with the matched new sample, and the results are shown in regression (5) in Table 2. Whether the matched family enterprises and R&D manipulation are still significant at the level of 1% and negative, further verifying the robustness of the results.

5. Heterogeneity analysis

5.1. Grouping regression

(1) Discussion based on the ownership nature of SOE

In the development process of family enterprises, the nature of enterprise equity changes due to the constant development and reform of enterprises, such as mergers and reorganizations. This paper considers that enterprises with the above two different natures will have different degrees of influence on R&D control. Therefore, this paper divides enterprises into state-owned enterprises and private enterprises according to property rights. The regression results are shown in columns (1) ~ (2) of Table 3. According to the regression coefficient, when SOE=0 (private enterprise), the data value of FO (whether it is a family enterprise) is -0.555 at the 10% level, which is significant. At the same time, when SOE=1, FO is not statistically significant. It can be seen that the influence of family firms on R&D manipulation is significant in non-state-owned enterprises but has no significant influence in state-owned enterprises.

(2) Discussion on the integration of Dual roles

The combination of two positions is a unique leadership structure. That is, the CEO of the company is also the chairman of the board. In order to verify the different results produced by integrating two positions in the family business, the influence of the results on R&D manipulation is further analyzed. Therefore, according to the above definition, this paper is divided into two types: Dual (Dual= 1) and non-dual (dual =0). The grouped regression results are listed in columns (3) to (4) of Table 3. According to the regression coefficient, in Dual=0, FO (whether it is a family firm) is -0.585, which is significant at the significance level of 1%. In Dual=1, FO is -0.696 at the 10% significance level. The influence of family firms on R&D manipulation is more significant in the case of dual integration than in the case of non-dual integration. This suggests that family firms will significantly inhibit R&D manipulation under the combination of the two roles, which is also consistent with the above theory.

Table 3. Grouping regression

VARIABLES	(1) SOE=0 RDM1	(2) SOE=1 RDM1	(3) Dual=0 RDM1	(4) Dual=1 RDM1
FO	-0.555*	2.394	-0.585***	-0.696*
	(0.305)	(2.187)	(0.182)	(0.369)
Size	0.151	0.172	0.186**	0.159
	(0.102)	(0.121)	(0.090)	(0.151)
ROA	5.995***	0.446	2.794*	6.471***
	(1.394)	(2.595)	(1.457)	(2.216)
TobinQ	0.262***	0.095	0.204***	0.364***
	(0.059)	(0.102)	(0.061)	(0.092)
Top1	0.598	3.274***	2.941***	-1.473
	(0.801)	(0.980)	(0.707)	(1.208)
FirmAge	-0.764**	-0.133	-0.579*	-0.603
	(0.317)	(0.444)	(0.300)	(0.477)
Mfee	17.771***	14.933***	18.045***	15.773***
	(1.434)	(2.304)	(1.425)	(2.308)
Balance1	0.864**	0.688	1.469***	-0.346
	(0.357)	(0.478)	(0.327)	(0.555)
BM	-0.200	-0.231**	-0.273***	0.255
	(0.149)	(0.100)	(0.089)	(0.198)
ATO	2.421***	1.414***	1.896***	2.491***
	(0.269)	(0.293)	(0.227)	(0.417)
Growth	4.720***	6.886***	5.532***	5.138***
	(0.181)	(0.289)	(0.181)	(0.292)
Loss	1.700***	0.854**	1.356***	1.624***
	(0.287)	(0.391)	(0.268)	(0.454)
Constant	2.303	-3.760	-1.833	-1.826
	(2.843)	(3.159)	(2.378)	(4.602)
Observations	13,531	6,431	14,276	5,686
Year Fixed	Yes	Yes	Yes	Yes
Ind Fixed	Yes	Yes	Yes	Yes

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5.2. Regulating effect

The cross-multiplicative term FF and R&D manipulation (RDM) in FO and Firmage are significant at 1% level, and the regression coefficient is 0.001, indicating that the age of establishment of a company can weaken the influence of whether it is a family firm on R&D manipulation, and can weaken and strengthen the negative correlation between them. The cross-multiplicative term FI of FO

and INST of institutional investors has a significant relationship with R&D manipulation (RDM) at 1% level, and the regression coefficient is 0.002, indicating that the shareholding ratio of institutional investors will weaken the influence of FO of family enterprises on R&D manipulation and weaken and strengthen the negative correlation between the two. The specific regression results as shown in Table 4.

Table 4. Regulating effect

VARIABLES	(1) RDM	(2) RDM
FO	-3.351*** (-3.04)	-1.200*** (-4.20)
FF	0.951** (2.56)	
FI		1.428** (2.49)
Size	0.152** (2.05)	0.212*** (2.73)
ROA	4.146*** (3.58)	4.058*** (3.51)
TobinQ	0.191*** (3.99)	0.218*** (4.36)
Top1	2.333*** (4.01)	2.813*** (4.63)
FirmAge	-1.139*** (-3.23)	-0.455* (-1.93)
Mfee	18.478*** (16.19)	18.470*** (16.18)
Balance1	1.164*** (4.29)	1.261*** (4.60)
BM	-0.137* (-1.74)	-0.152* (-1.95)
ATO	1.931*** (10.29)	1.954*** (10.41)
Growth	5.559*** (39.64)	5.539*** (39.50)
INST		-1.555*** (-3.07)
Loss	1.364*** (6.18)	1.359*** (6.15)
Constant	0.675 (0.32)	-2.074 (-1.01)
Observations	24,200	24,200
Number of Share Code	3,575	3,575
Year FE	YES	YES
Industry FE	YES	YES

z-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

6. Conclusion

The manipulation of R&D behavior by listed companies will reduce the quality of accounting information and the performance of R&D, which will have a negative impact on the future operating ability and market value of enterprises. There are many factors affecting the level of R&D manipulation, and whether it is a family enterprise is one of them. Based on the perspective of whether

the research is the relationship between family enterprises and R&D manipulation, this paper uses the sample interval from 2008 to 2021 to examine the inhibition or promotion of family enterprises and non-family enterprises on the level of enterprise R&D manipulation. Through the research, it is found that family enterprises have a lower level of R&D manipulation than non-family enterprises, that is, whether family enterprises have an inhibitory effect on R&D manipulation.

The theoretical value of this paper is to explore whether it is family enterprises that inhibit R&D manipulation, clarify the reasons for the economic phenomenon of low level of R&D manipulation in family enterprises, and also enlighten the enterprise management on how to conduct corporate governance. This paper draws the following inspiration: because the level of R&D manipulation of family enterprises is lower, the state should focus on non-family enterprises, and require non-family enterprises to pay attention to supervising the executives' manipulation of enterprise R&D from the perspective of long-term development. For non-family enterprises, while competing with family enterprises, it is an important step in the competition to understand the disadvantages of their own enterprises and family enterprises in R&D manipulation, to enable enterprises to continue to develop steadily, improve enterprises performance, do a good job in corporate governance, prevent manipulation of R&D behavior, and reduce the level of R&D manipulation.

References

- [1] Yang Zheng, Zhang Di. Directors' and executives' liability Insurance, Information Asymmetry and debt financing Cost [J]. Finance and Accounting Monthly, 2022, No.933 (17): 50 - 59. DOI: 10.19641/j.cnki.42 - 1290/f.2022.17.006.
- [2] Liu Yutong, Zhu Yi. Analysis on the influence of management rights on compensation setting based on regression analysis [J]. Marketing, 2019 (32): 95 - 96.
- [3] Tang Yajun, Li Chengxi, Wang Jingyu, et al. Directors' liability insurance and the stickiness of management compensation [J]. China Accounting Review, 2021, 19 (03): 459 - 480.
- [4] Song Y, Liu Y T. Financing constraints and R&D manipulation: Threshold regression analysis based on equity Incentives [J]. Reform, 2022, No.341 (07): 144 - 154.
- [5] Cheng Li-mei, Liu Kexin. Research on the relationship between management ability, executive shareholding and innovation input of agricultural enterprises [J/OL]. Business and management: 1-10 [2023-02-12].
- [6] Yin Junhui, Gai Yao, Sun Haoran. Board fault zone and enterprise R & D manipulation [J/OL]. Scientific and Technological Progress and Countermeasures: 1 - 12 [2023-02-12].
- [7] Yuan Zeming, Gao Jingnan, Wang Peilin. Analysts focus on research and development control: inhibit or promote [J]. Journal of accounting monthly, 2020, No. 888 (20): 23-29. DOI: 10.19641 / j.carol carroll nki. 42-1290 / f 2020.20.004.
- [8] Willekens Marleen, Dekeyser Simon, Bruynseels Liesbeth, Numan Wieteke. Auditor Market Power and Audit Quality Revisited: Effects of Market Concentration, Market Share Distance, and Leadership [J]. Journal of Accounting, Auditing & Finance, 2013, 38 (1).
- [9] Cornell Bradford, Shapiro Alan C. Corporate stakeholders, corporate valuation and ESG [J]. European Financial Management, 20, 27 (2).
- [10] Cheng Chen, Li Wanrong, Yuan Yuan. The cultural heritage: the origin of the family business to the influence of social responsibility to perform the study [J]. Journal of management review, 2022 (11): 233-245. The DOI: 10.14120 / j.carol carroll nki cn11-5057 / f 20211207.002.
- [11] Li Xinchun, He Xiaogang, Zou Likai. Family business research: theory of progress and future [J]. Management world, 2020, 4 (11): 207 - 229. The DOI: 10.19744 / j.carol carroll nki. 11-1235 / f 2020.0178.
- [12] Yuan Zeming, Wang Peilin, Fu Yuyuan. Does executive academic Experience influence corporate R&D manipulation? [J]. journal of economics and management, and 2020 (8): 109 - 122. The DOI: 10.16538 / j.carol carroll nki fem. 20200409.202.