Correlation Research of the Directors Capability and the Corporate Governance Performance of Chinese Listed Companies

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Abstract: At present，the transformation of corporate governance is a basic problem that china is facing. Board is the heart of the corporate in a modern enterprise's organization，so a probe into the capability of directors has practical significance to the governance of listed corporation. In this article we give a relevance analyze between the performance of corporate governance and the capability of directors by the means of data statistic，with the aim that it can show the demonstrability that the domination assignment in our country should be based on the ability of the directors，so that we'll have a rational board structure which can give us a better corporate Performance. [Nature and Science. 2007;5(4):34-42].

Keywords: Listed corporate, The capability of directors, Corporate governance, Performance

1. Introduction

Nowadays with the economic globalization, the development of China Capital Market is depended on the quality of the listed companies to a great extent. We are facing the topic for discussion about how to enhance the governance quality and international competency. Although a lot of attention is focused on the maturity of governance structure and principle in academic area, the most significant factor of corporate governance, the executive, is neglected. Therefore, it is not the right way to the problem. After building the system of basic modern enterprise, the board will become the key factor of corporate governance. Under the background of economic system switcher, there are still some problems in the board of listed company in China, which concentrates in the following aspects: 'Along One' state-owned stock, unreasonable structure board of directors, the bureaucratic mechanism of the board and the disqualified capability of board directors. Among these, the capability of board directors, the inner factor, plays as the decision function to the performance without any doubt. Therefore, the key points of corporate administrations are the follows: taking the board of directors as the reform objective point, obtaining from director's capability and adjusting board of directors' capability to match the governing structure to improve the governance and enhances the company benefit.

2. The capability of directors in the listed company and the performance of corporate governance

The capability of directors means the whole capability and knowledge of directors to effectively implement leadership and achieve the targets of enterprise. We can say that the capability of directors is directly and specifically related to the future of company. Hence, the directors must be equipped with all kinds of capabilities which are applicable in extensive kinds of jobs. In other words, they should be combined with noble moral and excellent talent. The directors compose the board, and therefore, the board is the key of corporate governance in the listed companies. Different academies will divide the board into different structure according to their researches. The one that is more authoritative is the definition under entrusting and agency theory. It concludes that the portion and quality of exterior directors and independent directors, the non-duality of chairman and chief executive officer, audit office subordinated to board of directors and so on. According to the characters of China and China state-owned companies, the author holds that the components of board including the state-owned stock agent (state-owned director), the enterprise agent (enterprise director), the operator and the independent director constitutes. Directors' capability of Board and reasonable match of each constituent part have significant and decisive influence on company performance without doubt.

Performance means the approved working behavior, procession and result of employees. Speaking of the organization, the performances are the competition situations of mission in aspects quantity, quality and efficiency. The analysis of performance of corporate governance is according to some indexes to valuate and assess the structure and benefit of corporate governance, which is based on the Idea, principle and system of corporate governance, the system of justice and the notion about culture and value in each

country[1]. In this article, the author assesses the two main factors which can valuate the performance, stock value and directors capabilities, based on the need of research. And the author tries to demonstrate the promotion utility of reasonable match of capabilities to the corporate performances, which is based on the correlation between stock and directors' capabilities[①].

Table 1. The standard of appraisal of directors' capabilities

Index	Standard and number
Magnificent	Very Important—1, Normal Important—2
Rank	Excellent—10，Good—8，Medium—6，Bad—4，Worsen—2

3. The correlation between directors' capabilities of listed companies and corporate performances

The author picks out 39 companied from the Shanghai Stock Exchange as the sample[②] and analyze the relationship between directors' capabilities[2]. The specific procedures are as follows:

3.1 The qualification and quantification of the evaluation of directors' capabilities

(1) The qualification of evaluation of directors' capabilities

The author qualitative appraisal the capability of directors in the following ways: the first one is the moral capability; the second one is the decision capability. The specific contents include the follows

Directors' capabilities

Moral capability: Legal consciousness, wealth view, team cooperation, political quality, self-idea, risk consciousness, benefit view, value and

Decision capabilities: Financial decision-making, strategic decision, market decision-making, physical distribution decision-making, human affairs decision-making, purchase decision-making, industrial decision-making, information decision-making, investment decision-making, production decision-making and so on

(2) The quantitative appraisals of directors' capability

The author utilizes the method of expertise's valuation to appraise the capabilities after deciding the index. Through proof reading, questionnaire and personal conversation, the expertise group appraises the personal capabilities of each directors based on the appraisal standard, and then utilizes the following formula to get the moral capabilities f_1, decision capability f_2, personal capabilities of each director f. The formula to compute director's capability is as follows

$$f_1 = \frac{\sum_{i1=1}^{n_1} d_{i_1} b_{i_1}}{n_1} \tag{1}$$

$$f_2 = \frac{\sum_{i2=1}^{n_2} d_{i_2} b_{i_2}}{n_2} \tag{2}$$

$$f = f_1 + f_2 \tag{3}$$

The b means the significance of each qualification index of capability; d is the rank to it and n is the number of index.

3.2 The correlative analysis between the components of board and corporate performances

During the corporate governance, it is the board rather than the respective directors who is the key of corporate governance. Therefore, the author further analyzes the impact of components of the board on the corporate performances. Based on the above analysis, we can see the value F of each component of the board.

$$F = \frac{The\ sum\ value\ of\ various\ directors\ (f)}{Number\ of\ Directors} \times 10 \qquad (4)$$

After computing, the specific data are the following in table 2[③]:

Table 2. The value of each component of the board

Name of Company	Stock value	State trustee(F_1)	enterprise trustee (F_2)	operation (F_3)	Independent trustee(F_4)
YYRJ	84.1	10.5	16.8	20	14.7
LXQX	83.2	10.4	16.6	20	12.4
TTYY	82.3	12.4	14.5	20	14.7
XZTL	82.1	9.8	14.3	18.9	16.2
TTGF	81.7	8.9	12.5	20	14.6
SGJX	81.4	8.7	16.1	20	14.4
ZXTX	80.9	8.6	14.1	20	13.3
JDAL	80.9	8.4	13.8	19.6	14.2
GYGS	80.9	7.9	13.7	20	15.4
QJZY	80.6	7.9	13.8	20	15.8
GZKG	80.5	8.9	14.1	18.8	12.9
SZGX	80.1	9.0	13.1	19.2	14.1
HCGF	80.1	8.4	13.6	20	13.8
MSYH	80.1	11.5	12.7	20	11.4
NHGS	80	12	12	19	10.9
NHFZ	79.9	7.9	11.3	18.9	13.4
SHYY	79.9	8.0	10.6	17.8	13.8
QJSL	79.9	8.4	11.8	18.4	12.6
GLLY	79.9	11.2	12.4	17.1	10.9
MTKJ	79.9	11.3	12.5	16.8	10.7
YHKJ	79.8	11.3	12.5	16.9	10.7
HRZY	79.8	11.2	12.3	17.2	10.3
SCGF	79.7	11.1	12.1	17.8	10.6
KMZY	79.7	11.2	12.4	16.9	10.4
DSGF	79.6	9.8	11.6	18.1	10.1
GHYX	79.6	9.8	10.1	18.1	11.6
LRGF	79.6	9.4	10.9	18	11.1
HJGF	79.6	9.3	10.5	18.3	11.5
SDLH	63.4	8	11.2	15	11
DAAJ	63	7.4	11	15	11.2
STLJ	62.9	7.3	10.7	15.1	11.1
BMGF	58.8	7.1	10.2	14.8	10.8
DLCS	58.8	7.0	10.0	14	12.1
DRGF	58.8	7.0	10.0	14	12.1
JFTZ	56	6.8	8.7	16	15.2
ZJGS	55.8	6.7	8.8	15.9	15.1
MNRY	55	6.5	8.3	16	15.0
KLDQ	53	6.2	8.1	15.4	14.9
YNDL	52.3	6.0	8.8	14.7	14.3

The author utilizes these data to compute the Pears' Correlation r_s [3] and gets the results in Table 3. Then he inspects these data by the Z exam in statistics. The r_s is:

$$r_s = 1 - \frac{6\sum d^2}{n(n^2-1)}$$ (5)

Z is the following：

$$z = \frac{r_s - 0}{\frac{1}{\sqrt{n-1}}}$$ (6)

Table 3. Pears correlation result

	Stock value	State director	Enterprise director	Operators	Independent director
correlation	1.000	. 566**	. 941**	. 894**	. 243
Significance	.	. 000	. 000	. 000	. 136
N	39	39	39	39	39

PS: The significance is 0.05

Based on the table above, we can see that all of state directors, enterprise directors, operators and independent directors have absolutely positive correlation with stock value ($0 < r_s = 0.556, 0.941, 0.894, 0.243 < 1$). Moreover, the state directors, enterprise directors and operators have a higher correlation with the stock values ($0.5 < r_s = 0.556, 0.941, 0.894 < 1$), especially the enterprise trustees. Therefore, we can say that the directors are excellent and qualified in the listed companies with good achievements, vice verse.

3.3 The correlative analysis between capability of board and corporate performance
The performances of listed companies have the positive relationship with the components of board. Then, we can analyze the relationship between capability of the whole board and the corporate performances.
Y stands for the stock value, Dependent variable, and X stands for the capability of the board, variable. And $X=F1+F2+F3+F4$, so we get table 4:

Table 4. The relationship between capability of whole board and corporate performances

Name of Company	Stock value （Y）	（X）	X*X	X*Y	Y*Y
YYRJ	84.1	62	3844	5214.2	7072.81
LXQX	83.2	59.4	3528.36	4942.08	6922.24
TTYY	82.3	61.6	3794.56	5069.68	6773.29
XZTL	82.1	59.2	3504.64	4860.32	6740.41
TTGF	81.7	56	3136	4575.2	6674.89
SGJX	81.4	59.2	3504.64	4818.88	6625.96
ZXTX	80.9	56	3136	4530.4	6544.81
JDAL	80.9	56	3136	4530.4	6544.81
GYGS	80.9	57	3249	4611.3	6544.81
QJZY	80.6	57.5	3306.25	4634.5	6496.36
GZKG	80.5	54.7	2992.09	4403.35	6480.25
SZGX	80.1	55.4	3069.16	4437.54	6416.01
HCGF	80.1	55.8	3113.64	4469.58	6416.01
MSYH	80.1	55.6	3091.36	4453.56	6416.01

NHGS	80	53.9	2905.21	4312	6400
NHFZ	79.9	51.5	2652.25	4114.85	6384.01
SHYY	79.9	50.2	2520.04	4010.98	6384.01
QJSL	79.9	51.2	2621.44	4090.88	6384.01
GLLY	79.9	51.6	2662.56	4122.84	6384.01
MTKJ	79.9	51.3	2631.69	4098.87	6384.01
YHKJ	79.8	51.4	2641.96	4101.72	6368.04
HRZY	79.8	51	2601	4069.8	6368.04
SCGF	79.7	51.6	2662.56	4112.52	6352.09
KMZY	79.7	50.9	2590.81	4056.73	6352.09
DSGF	79.6	49.6	2460.16	3948.16	6336.16
GHYX	79.6	49.6	2460.16	3948.16	6336.16
LRGF	79.6	49.4	2440.36	3932.24	6336.16
HJGF	79.6	49.6	2460.16	3948.16	6336.16
SDLH	63.4	45.2	2043.04	2865.68	4019.56
DAAJ	63	44.6	1989.16	2809.8	3969
STLJ	62.9	44.2	1953.64	2780.18	3956.41
BMGF	58.8	42.9	1840.41	2522.52	3457.44
DLCS	58.8	43.1	1857.61	2534.28	3457.44
DRGF	58.8	43.1	1857.61	2534.28	3457.44
JFTZ	56	46.7	2180.89	2615.2	3136
ZJGS	55.8	46.5	2162.25	2594.7	3113.64
MNRY	55	45.8	2097.64	2519	3025
KLDQ	53	44.6	1989.16	2363.8	2809
YNDL	52.3	43.8	1918.44	2290.74	2735.29
TOTAL	2893.6	2008.7	104605.9	150849.1	218909.8

Based on the data above, we can get the following

$$S（XY） = \sum_{i=1}^{39} X_i Y_i - 39\overline{XY} = 1813.841$$

$$S（XX） = \sum_{i=1}^{39} (X_i - \overline{X})^2 = 1147.559$$

and
$$\hat{b} = S（XY）/ S（XX） = 1.580608$$

$$\hat{a} = \overline{Y} - \hat{b}\overline{X} = -7.21455$$

Get the linear formula

$$Y = \hat{a} + \hat{b}X = -7.21455 + 1.580608X \qquad (7)$$

Table 5 is the statistic result of SPSS.

Based on the above analysis, we can get to know that the higher the capability of board, the higher the stock value. There is the positive correlation between capability of whole board and corporate achievements.

Table 5. Coefficient Table

Model	Non-standard coefficient		Standard coefficient	T	Standard error
	coefficient	Standard error	Coefficient		
constant	-7.215	9.244		-0.78	0.44
X	1.581	0.178	0.824	8.856	0

4. The adjustment and match of directors' capabilities in corporate governance

The corporate governance is one kind of ownership right which is based on the contractual relationship as the implementation foundation, the resources disposition as the implementation content and the board of directors as the governance structure center. Its basic function lies in the surveillance control and the strategic instruction, and essential target lies in between the coordinated correlation main body the benefit to solute the proxy question. Under this situation, the board of directors is in the strategic core of corporate governance of listed companies.

$$F_1 = \frac{\text{The sum of various trustees' value}(f_1)}{\text{Number of Trustees}} \times 10 \tag{8}$$

$$F_2 = \frac{\text{The sum of value of the same kind trustees}(f_2)}{\text{Number of trustees}} \times 10 \tag{9}$$

Based on the former analysis, we can get the conclusion that the difference of capabilities exists in the corporate governance among the listed companies in China: the weak decision capability and moral capability of state directors, the strong decision capability and moral capability of operators, the relative weak decision capability and relative strong moral capability of enterprise directors and the relative strong decision capability and relative weak moral capability of independent directors.

In order to enhance the performances and avoid the above problems, the listed companies should set up the following model

$$P = f[G(r_g, l_g), Q(r_q, l_q), S(r_s, l_s), K(r_k, l_k)] \tag{10}$$

P is the performance of directors, G is the state directors, Q is the enterprise directors, S is the operators, K is the independent directors, r is the moral capability, l is the decision capability.

When P is the max,

$$G(r_g, l_g) = Q(r_q, l_q) = S(r_s, l_s) = K(r_k, l_k) \tag{11}$$

During the governance, it can be done as: keep the balanced relationship among state directors, enterprise directors, operators and independent directors. This means focusing on the interior of board directors. To be specific, it operates as the following: enhancing the moral capability of independent directors, moral capability and decision capability of state directors and decision capability of enterprise directors. Although the capability can be extended infinitely, we should realize that it is a long time to promote the individual capability, which makes the companies draw up a long-term training program. However, there is still a limitation of this model that the moral capability and decision capability, such as the proportion of stocks, are considered in it.
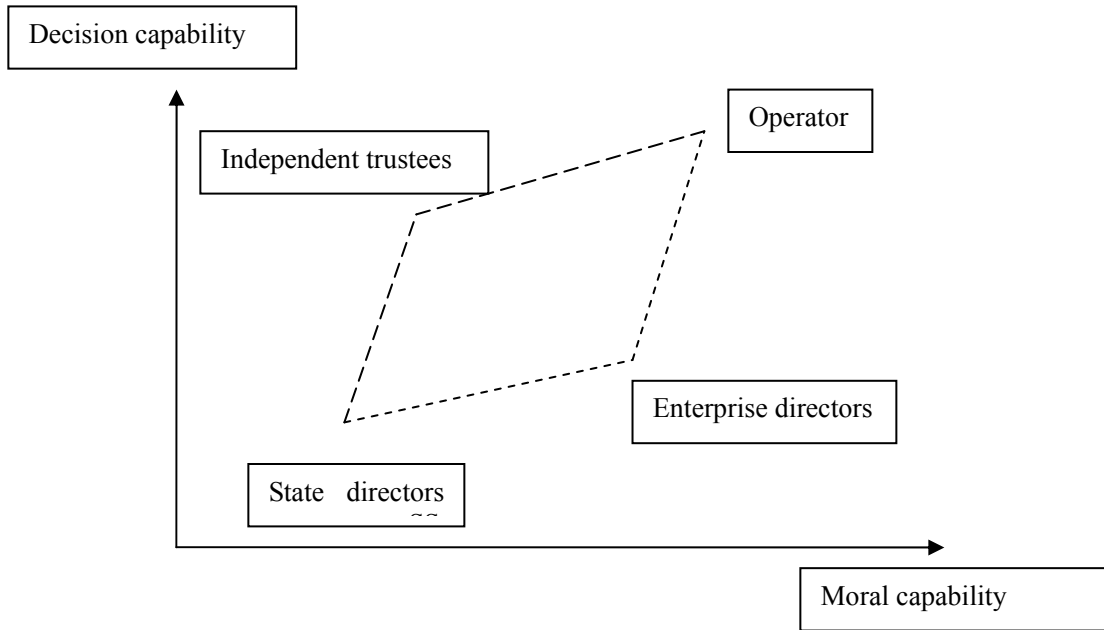
Figure 1. The difference of capability among components of the board

Hence, we need to extend the application of this model. c is the proportion of the stocks and e is the proportion of seats in the board. Assumed that all of the weak are minus r and l is constant. Then we can get the following conclusions:

$$P \begin{cases} P_g = (c_g + e_g)(-r_g - l_g) & (12) \\ P_q = (c_q + e_q)(r_q - l_q) & (13) \\ P_s = (c_s + e_s)(r_s + l_s) & (14) \\ P_k = (c_k + e_k)(-r_k + l_k) & (15) \end{cases}$$

From formula (12), we can see because $-r_g - l_g < 0$, so $c_g + e_g$ and P_g .If we want to increase the value of P_g, we need to reduce the value of $c_g + e_g$. In China, the stocks are highly centralized and state department and state-owned enterprises take up majority of the board. Hence, we can increase the number of other components of the board to reduce the proportion of state directors in the board l_g to solve the problem about the 'Along one' phenomenon and inside controlling, when c_g is unchangeable. When it is inside controlling, the independence of decision is weak. It only stands for the benefit of major stockholder and lacks of diversification[4]. Therefore, the decision capability of the board can be enhanced by the increased number of directors.

From formula (14) and (15), the value of l will increase with the increasing value of $c + e$. We can not doubt about the impact of high moral capability and decision capability of operators on the performances. Hence, we should improve the aspect of operators. That is enhancing the system of limitation and incentives to operators and making the income of operators depend on not only the value of

options but also the price of stocks. This both is advantageous in the reassignment manages superintendent's enthusiasm, and may avoid the short-term plundering behavior which the operator possibly appears, causes them to focus on enterprise's long-term development and the long-term benefit[5]. From the formula (15), we know that $c_k + e_k$ increase with the increasing of $l_k (c_k + e_k)$. Therefore, the number of independent directors should be increased in order to enhance independence of the board and refine the governance performances. This can be supported by the case of Guangzhou Baiyunshan Medicine Production Company which hired two independent directors to appraise the adjustment of production structure and increase its 80% of its profit in 1999. In US, the proportion of independent directors in the listed companies accounts for 62%. Considering about China's situation, the proportion of that should be 30%[6]. However, the formula also provides the information that with the increasing value of $c_k + e_k$ the value of $-r_k (c_k + e_k)$ will decrease. It means that we will face the moral risk with the increasing of independent directors. But there is still no statement about the punishment to the dereliction of duty of independent directors. Hence, the independent director definitely may be bought by other directors or the holding shareholder and violate benefit of the company and other shareholders.

From the formula (13), we know that r_q, P_q and e_q, r_q therefore, we should increase r_q to increase P_q; and if we want to increase r_q, we can increase e_q. In other words, we should employ the advantage of good moral capability when we match the capability of the board. And this provides the ways to avoid the moral risk of increasing the number of independent directors and makes more enterprise directors to go to Board of supervisors. It is said in China's Enterprise Law that the board of supervisors is composed by the shareholder and staff representative with suitable proportion company. The concrete proportion is stipulated by the articles of incorporation. The staff represent in board of supervisors is elected by the company staff democratic election.

5. Conclusion

In fact, the governance of the listed company is a system project which is related to the interior and exterior factors. About the interior factors, the expanding capability, leader capability and creative capability of each directors should be trained by the methods of study and practice, and the director member's theoretical level, the capability of processing complex business and controls the overall situation should be strengthened unceasingly. And then the overall capability of board should be enhanced and the components of board should be matured. Talking about the interior of the board, the following should be done based on the enhanced capability of the directors' capabilities: ① In order to progress the efficiency of the board, all the responsibilities and rights should be stated on the contract; ② Appointment mechanism of directors should be optimized and the professionals who are proficient in law, operation and governance should be collected to be the directors. ③ The local trustee system should be consummated to make listed directors normal and independent regardless of all achieves from the management decision-making to the moral personality in order to maximize gambling function among members of board. Speaking of exterior, we should govern the pattern international hastens with the reality based on the company, further consummates the produce market, the capital market, the manager market and so on exterior market system, creates the condition for the company exterior government mechanism display function.

In a word, the corporate governance urges the board of directors to make, the science, the high grade decision-making comprehensively, thus solves company's government problem in the essence, and take the time to be listed as our country national economy growth the further impetus function.

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Notes:

① In fact, stock value can usually be the symbol of a company's benefit. So the author thinks that we can analysis the correlation between directors' capabilities and stock value instead of director's capabilities and corporate performance.

② Data resources: Yongyou is listed first in the Chinese Public company board governance. Newspaper of Economic View. 2002.12.23.

③ Data in the case is based on the Newspaper of Economic View and statistic formula (1) and (2).

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