The Present Situation, Problems and Countermeasures of Corporate Governance in Tianjin State-owned Enterprises Mixed Reform—Learn from the experience of Guangdong Province

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Abstract: This paper analyzes and summarizes the present situation of mixed ownership reform of state-owned enterprises in Tianjin, and makes a horizontal comparative analysis with Guangdong Province at the macro level. By discussing the three key dimensions of corporate governance of mixed reform enterprises, this paper concretely analyzes the present situation and main problems of corporate governance of mixed reform enterprises in Tianjin: (1) lack of employee equity incentives; (2) The ownership structure is too concentrated; (3) The diversity of board composition is low. Furthermore, through expert discussion, the excellent cases of mixed reform of state-owned enterprises in Guangdong Province are locked in, and multi-case studies are made on Zhuhai Gree Electric Co., Ltd., Guangzhou Baiyunshan Pharmaceutical Group Co., Ltd. and Shenzhen Tefa Information Co., Ltd. So as to sum up the successful experience of the case enterprises in the abovementioned corporate governance issues, and further combine with Tianjin's own economic and market characteristics, put forward the countermeasures and suggestions on corporate governance for the mixed reform of Tianjin state-owned enterprises.

1. Introduction

In recent years, China's economic system reform has released huge dividends, and combined with the current digital transformation process, it has made outstanding contributions to the formation of domestic and international double-cycle mutually promoting development pattern. The Third Plenary Session of the 18th CPC Central Committee proposed to promote the development of mixed ownership economy. Both the report of the 19th National Congress and the Fourth Plenary Session of the 19th Central Committee pointed out that it is necessary to deepen the reform of state-owned enterprises and mixed ownership and build first-class enterprises with strong competitiveness in the world. On May 8th, 2020, the Opinions of the Central Committee on Accelerating the Improvement of the Socialist Market Economic System in the New Era pointed out that on the basis of perfect governance structure, effective operation of incentive system, clear development focus and improvement of operational efficiency, we should actively and steadily promote the reform of mixed ownership of state-owned enterprises, and set up mixed reform pilots in key areas. On November 3rd of the same year, the 14th Five-Year Plan clearly pointed out that significant progress should be made in the reform of property rights system, and the layout optimization and structural adjustment of state-owned economy should be accelerated.

As one of the municipalities directly under the Central Government, Tianjin is located in the Bohai Economic Circle, with a strong industrial base, developed shipping industry and foreign trade, and a high economic status in China's modern history. However, in recent years, under the combined effects of the slowdown of macroeconomic growth, strengthening of environmental protection control, trade friction and COVID-19 epidemic, Tianjin's economic development speed has gradually declined. Among them, the GDP growth rate in 2019 ranked the last in China, with zero growth in the first three quarters of 2020. Mainly reflected in the decline of the performance of some local enterprises year by year, and the lack of motivation for operation and innovation. For example, Tianjin Bohai Iron and

Steel Group announced bankruptcy reorganization in 2016, Tianjin Property Group fell into debt crisis in 2018, and Tianjin Real Estate Group signed a debt restructuring agreement in 2019. In view of the above problems, Tianjin Municipal Government and relevant administrative departments actively promoted the mixed reform of state-owned enterprises. By October 2020, the proportion of mixed reform of listed state-owned enterprises had reached 95.65%. Although the mixed reform is advancing rapidly, it is still in the stage of exploration and learning on the whole. The operating conditions of some mixed reform enterprises have not obviously improved, and more practical management methods and policy support are needed.

The research on the reform of state-owned enterprises shows that the level of corporate governance has a positive correlation with the risk-taking ability of enterprises and the effectiveness of executive compensation contracts, and then significantly affects the performance of enterprises [1]. Therefore, under the background of mixed reform to promote the marketization and digital transformation of enterprises, the importance of corporate governance becomes more prominent [2]. At the same time, the essence of mixed ownership reform is the diversification of property rights, and the process of mixed ownership reform is the process of complementarity and integration of all kinds of capital and participation in management decision-making [3]. It has the dual connotations of diversified ownership structure and management reform, and involves the social responsibility and stakeholders of enterprises. In addition, the important issues in the process of mixed reform also include the interest relationship between state-owned shareholders and non-state-owned shareholders and the same shares and rights. Based on this, most scholars have studied and discussed the important role of corporate governance in the process of mixed reform, and pointed out that it can effectively alleviate or eliminate the above-mentioned potential problems of stakeholders and equity balance. However, in the existing theories, few scholars have discussed the mixed reform of state-owned enterprises from the multidimensional perspective of corporate governance. At the same time, the research results of mixed reform of state-owned enterprises in Tianjin are still scarce, and the relevant management departments still lack scientific and effective methodology.

Therefore, this paper first analyzes the general development trend of mixed reform of state-owned enterprises in Tianjin, and locks the key corporate governance factors of mixed reform of state-owned enterprises through theoretical analysis. Based on these factors, it discusses the present situation and shortcomings of mixed reform of state-owned enterprises in Tianjin, and further mixes with the successful regions (Guangdong Province) and enterprise cases in China [Guangzhou Baiyunshan Pharmaceutical Group Co., Ltd. (hereinafter referred to as Baiyun Mountain), Zhuhai Gree Electric Co., Ltd. (hereinafter referred to as Gree Electric) and Shenzhen Tefa Information Co., Ltd. (hereinafter referred to as Tefa). So as to summarize the relationship between the financial data and governance characteristics of excellent case enterprises in 2013-2019, and combine Tianjin's own characteristics and existing shortcomings to provide countermeasures and suggestions on corporate governance for relevant management departments of mixed reform of state-owned enterprises.

2. Current situation and comparative analysis of mixed ownership reform in Tianjin and Guangdong Province

Up to now, there are 40 municipal state-owned enterprises in Tianjin, among which 17 companies including Zhonghuan Group have been successfully reformed, accounting for 42.5%. In the first three quarters of 2020, four companies have successfully mixed reform. Under the influence of major public emergencies, Tianjin is still steadily promoting mixed reform, promoting economic development and high-quality digital transformation through market-oriented reform. Tianjin mixed reform mainly includes two paths: listing and transferring of property rights trading center and capital increase and share expansion in stock market. Among them, the speed of mixed reform through property rights transfer is relatively fast, but the scale of state-owned enterprises is large and pricing is difficult. At the same time, some shareholders have resistance to the transfer of subsidiaries' equity with better benefits. However, it takes a long time to carry out mixed reform through capital increase and share expansion, which is difficult to examine. However, the pricing is transparent and reasonable, and it doesn't touch the interests of the original shareholders. Therefore, the research selects the enterprises

that carry out mixed reform through the stock market for analysis.

As of October 2020, excluding financial industry, ST and *ST enterprises, there are 23 state-owned enterprises listed on the main board in Tianjin, of which 22 are in the process of or have completed mixed reform, accounting for 95.65%. In terms of industry distribution, Tianjin mixed reform enterprises are concentrated in real estate, transportation and public utilities, accounting for 63.63% of the total. In the same period, there were 74 state-owned enterprises listed on the main board of Guangdong Province that were mixed and reformed after screening, and 63 of them were mixed and reformed through the stock market, accounting for 85.14%. They are mainly distributed in real estate, transportation, public utilities, electronic and information equipment industries, etc., accounting for 68.25% of the total. Compared with Guangdong Province, Tianjin has a relatively high number of mixed-reform enterprises, but its base is low, and the distribution of industries is relatively centralized and single, which leads to potential difficulties in diversified economic development and transformation and upgrading of the primary industry. At the same time, most of the mixed reforms of Tianjin state-owned enterprises are "passive mixed reforms" to save enterprises under the condition of poor management. Guangdong mixed reform enterprises, such as Gree Electric, are "active mixed reform" in order to obtain higher profits and stronger competitiveness under the condition of good operating conditions.

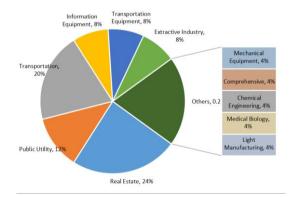
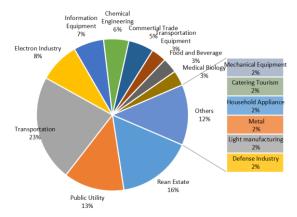
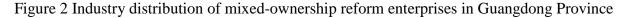


Figure 1 Industry distribution of mixed-ownership reform enterprises in Tianjin





3. Problems, deficiencies and causes of mixed ownership reform of state-owned enterprises in Tianjin

According to the existing research results, the key to the success of mixed ownership reform lies in introducing non-state-owned capital, establishing diversified ownership structure, ensuring the same shares and rights, and forming a mutually balanced ownership and governance structure. The mutual checks and balances among major shareholders are conducive to good corporate governance effect, and at the same time, it will promote enterprises to carry out exploratory and developmental innovation activities, so that the short-term operation ability and long-term competitive advantage can be

improved simultaneously [4]. At the same time, the organization and construction of the board of directors is always the core of corporate governance [5]. The degree of diversification has a significant impact on corporate governance and corporate performance. After theoretical combing and expert discussion, we choose employee stock ownership, equity checks and balances, and diversification of board of directors to focus on the mixed reform enterprises, and analyze the possible problems of Tianjin mixed reform enterprises in the above three aspects [6]. Furthermore, the successful experience of the mixed reform enterprises with excellent performance in Guangdong Province is analyzed, and the governance countermeasures and suggestions at the corporate and government levels are formed in combination with the specific characteristics of Tianjin economic market.

3.1 Current situation and existing problems of equity checks and balances among different ownership systems

Equity check and balance means that the control right is shared by several major shareholders, and the corporate governance failure or loss of enterprise interests caused by too concentrated discourse power can be restrained by mutual confrontation among major shareholders. In mixed reform enterprises, it is the check and balance between state-owned and non-state-owned capital. Equity checks and balances can not only promote the equality of rights among shareholders, but also form a high degree of integration and coordinated development between private enterprises and state-owned enterprises, and also avoid the competition for control of the board of directors due to unequal rights and interests. Therefore, how to scientifically set their respective equity ratio and ensure the same shares and the same rights has become a key problem in the process of enterprise mixed reform.

On the one hand, some state-owned enterprises with better operation will not easily give up the state-owned controlling right in order to obtain a better operation state by "active mixed reform", and the voice is still in the hands of state-owned shareholders. In order to save the enterprises, the previously mismanaged state-owned enterprises carried out "passive mixed reform". At this time, the willingness of enterprise reform is stronger, the initiative is more on the side of non-state-owned capital, and it is easier to meet the unreasonable conditions and requirements put forward by non-state-owned capital.

On the other hand, among the existing mixed reform enterprises in Tianjin, Yishang group, Zhonghuan group, aquatic products group and Baili group have made 100% equity transfer, and most enterprises such as Haitai group and Tanggu TONGHANG, which are in the process of mixed reform and investment promotion, have also chosen to transfer their controlling right or 100% equity. Due to the excessive shareholding of state-owned controlling shareholders, the lack of professional knowledge of most directors representing state-owned capital and difficult supervision, enterprises will face the problems of high cost and low efficiency caused by agency problems. At the same time, due to the excessive attention of state-owned capital to political performance, enterprises will face higher potential moral hazard and social responsibility restrictions. In contrast, if non-state-owned shareholders hold too many shares, for example, TIANYAO group, the largest shareholder of Zhongxin pharmaceutical, maintains the holding ratio of 42.847%, and TEDA shares are held by TEDA Investment with the holding ratio of 32.98%, the decision of the board of directors is more likely to make the enterprise take profits as the ultimate goal and ignore its social responsibility.

To sum up, most mixed reform enterprises in Tianjin have high concentration of equity and unbalanced distribution of power. This kind of ownership structure makes the risk of collusion among major shareholders of enterprises greater, which is not conducive to the output of fair and objective optimal decisions, and has a potential negative impact on the improvement of long-term performance and strategic optimization of enterprises.

3.2 Current situation and existing problems of employee equity incentive in mixed reform enterprises

In 2015, the State Council issued the "Guiding Opinions on Deepening the Reform of State-owned Enterprises" to encourage state-owned enterprises to establish a long-term incentive mechanism by promoting employee stock ownership and promote the mixed reform process. The implementation of employee stock ownership is conducive to the diversification of enterprise property rights structure

and the improvement of governance structure, and at the same time, it encourages employees by establishing a community of interests between employees and enterprises. In addition, employee stock ownership can also retain the original outstanding talents of enterprises and reduce the turnover rate and moral hazard of core talents. Through data collection, the employee stock ownership status of 22 state-owned enterprises in Tianjin that are undergoing or have completed mixed reform is as follows (Table 1)¹.

Table 1 Status of employee stock ownership plans of Tianjin "mixed-ownership reform" enterprises in 2019²

Hybrid enterprises	Employee stock ownership or Other Employee Incentives	Hybrid enterprises	Employee stock ownership or Other Employee Incentives
Guang Yu Development	None	TianPharma Corporation	2018:0.9561%
TEDA shares	None	Offshore Oil Engineering	None
Binhai Development	None	Tianjin Port	None
Ju Bin Development	None	China Storage Co.	None
Tianbao Infrastructure	None	Tianjin Magnetic Card	None
China Merchants Highway	China Merchants Highway 2019:0.689% Ven		None
Haiqi Development	None	China National Offshore Oil Service	None
China Sports Industry	None	COSCO Sea Control	2019:1.55%
Tianfan Development	None	Zhongke Shuguang	Termination of Incentive Plan in 2019
SINOMACH	2018:0.658% 2019:0.415%	Sinoma Energy Conservation	None
Baili Electric	None	Tianjin 712	None

As shown in Table 1, by the end of 2019, among the 21 Tianjin state-owned enterprises that have undergone mixed reform through the stock market, only 5 have formulated and implemented employee stock ownership plans and related incentive measures, accounting for 23.8%, namely China Merchants Highway, SINOMACH, Tianyao, Shuguang Industry and COSCO Shipping. Moreover, Dawning Industry did not implement the relevant employee incentive policies after it introduced them in 2016. Due to the early formulation of the plan, the company structure has changed to a high degree in recent years, the original incentive indicators are no longer applicable, and the management judges that the incentive plan is difficult to achieve the expected results, so the plan is terminated at the end of 2019. In the process of mixed reform, due to the high internal uncertainty of enterprises, employees are more sensitive to the uncertainty of the future development of enterprises and individuals, which leads to the decline of their work efficiency and the increase of turnover rate. At this time, if the management does not motivate employees properly in time, it may lead to the damage of the internal culture and long-term interests of the enterprise [7].

At present, there are problems in formalization and poor implementation of employee stock ownership policy in Tianjin mixed reform enterprises. Enterprises only deal with the equity incentive and the process of mixed reform in response to the call of mixed reform, lacking the penetration and popularization of equity management knowledge and the design of long-term incentive plan. In addition, the management and stakeholders resist the equity reform, which leads to the failure to implement relevant plans smoothly or unscientific employee shareholding ratio, and it is difficult to achieve the optimal incentive effect.

¹ As the full name of the listed company is too long, it will not be repeated here. For details, you can query through the stock name

² Data source: disclosure of the company's annual report³ Source: company annual report disclosure

3.3 Current situation and existing problems of diversification of board structure

Diversification of the board of directors helps to improve the quality of enterprise decision-making. While maintaining the balance of the board's decision-making ability and objective and fair decision-making information, it also reduces the influence of a few powerful directors on strategic decision-making and operation management. Among them, non-executive directors can provide more objective and scientific knowledge and intellectual support for corporate strategy, improve corporate governance and reduce agency problems. Gender heterogeneity of the board of directors has significantly promoted corporate social responsibility [8], helping enterprises to accumulate higher reputation and enhance potential value. The higher the occupational heterogeneity of the board of directors, the more it can promote the increase of R&D expenditure, create long-term competitive advantage through innovation and accelerate the digital transformation. Therefore, referring to the existing research, this paper selects three dimensions of executive director's identity, director's gender and director's occupation to measure the diversity of the board of directors in Tianjin state-owned enterprise mixed reform.

Hybrid enterprises	Executive Director	Non- Executive Director	Percentage of Executive Directors	Hybrid enterprises	Executive Director	Non- Executive Director	Percentage of Executive Directors
Guang Yu Development	2	7	22.22%	TianPharma Corporation	3	6	33.33%
TEDA shares	3	5	37.50%	Offshore Oil Engineering	2	5	28.57%
Binhai Development	0	7	0.00%	Tianjin Port	6	3	66.67%
Ju Bin Development	1	10	9.09%	China Storage Co.	China Storage Co. 2		20.00%
Tianbao Infrastructure	3	6	33.33%	Tianjin Magnetic Card	1	8	11.11%
China Merchants Highway	1	11	8.33%	Venture Environmental Protection	mental 3		33.33%
Haiqi Development	3	6	33.33%	China National Offshore Oil Service	2	5	28.57%
China Sports Industry	2	6	25.00%	COSCO Sea Control 3		7	30.00%
Tianfan Development	4	7	36.36%	Zhongke Shuguang 2		6	25.00%
SINOMACH	1	7	12.50%	Sinoma Energy Conservation 0 8		8	0.00%
Baili Electric	2	5	28.57%	Tianjin 712	1	10	9.09%

Table 2 Statistics on the number of executive and non-executive directors of Tianjin "mixed ownership reform" enterprises in 2019³

Table 2 makes statistics on the number of executive directors and non-executive directors of Tianjin mixed ownership reform enterprises in 2019. Statistics show that, except Tianjin Port, the number of executive directors of other mixed reform enterprises is far less than that of non-executive directors, and the most balanced proportion between them is Tianfang Development (4:7). Studies have shown that executive directors have the dual roles of directors and managers, while non-executive directors mainly play the role of supervision and review, and know relatively little about the company's specific operating methods and operating status. As a result, the excessive number of non-executive directors, due to the asymmetry of information, will lead to the difficulty of supervision, and the artificial risks such as corruption and fraud faced by enterprises will increase [9]. In addition, when the board of directors makes a decision, it may not be able to make the best decision due to insufficient understanding of the enterprise, or the executive director may use the advantage of information asymmetry and power repression to guide the board of directors to make decisions in favor of the interests of the executive director. At this time, by decentralizing and reasonably distributing the

³ Source: company annual report disclosure

powers of executive and non-executive directors, they can form a pattern of mutual checks and balances, ensure the independence of the board of directors, reduce the performance pressure of executive directors, and promote the speed of mixed reform and the optimization of strategic choice. Therefore, based on the actual situation of the enterprise, the reasonable and balanced allocation of the number of executive and non-executive directors of the board of directors is the key node in the process of mixed ownership reform.

Existing research believes that the structure and construction of the board of directors is the key to corporate governance [5]. The degree of board diversity has a significant impact on corporate performance and corporate governance. This paper selects two dimensions, gender and occupation, and measures the degree of board diversity through the heterogeneity of the two. Therefore, the occupational heterogeneity index was calculated using the Herfindel index. The technical method is as follows:

$$\mathbf{H} = 1 - \sum_{i \in E} P^2 i \tag{1}$$

E the types of occupations for directors, such as auditor, lawyer, international business engineer, etc. Pi is the proportion of the number of directors engaged in this occupation to the total number of directors. The closer the value of h is to 1, the higher the occupational heterogeneity.

Table 3 Proportion of female directors and occupational heterogeneity of directors of mixedownership reform enterprises in Tianjin⁴

Hybrid	Percentage of	Occupational		Percentage of	Occupational
,	0		Lindenial and a maniana	0	•
enterprises	temale directors	Heterogeneity	Hybrid enterprises	female directors	Heterogeneity
Guang Yu			TianPharma		
Development	0.00%	0.7901	Corporation	22.22%	0.4938
			Offshore Oil		
TEDA shares	50.00%	0.5938	Engineering	0.00%	0.8163
Binhai					
Development	42.86%	0.5714	Tianjin Port	0.00%	0.5625
Ju Bin					
Development	18.18%	0.6116	China Storage Co.	0.00%	0.48
Tianbao			Tianjin Magnetic		
Infrastructure	22.22%	0.7755	Card	33.33%	0.7160
China			Venture		
Merchants			Environmental		
Highway	16.67%	0.7778	Protection	11.11%	0.6667
			China National		
Haiqi			Offshore Oil		
Development	33.33%	0.5185	Service	0.00%	0.7347
China Sports			COSCO Sea		
Industry	37.50%	0.6563	Control	0.00%	0.75
Tianfan					
Development	9.09%	0.6777	Zhongke Shuguang	12.50%	0.6563
			Sinoma Energy		
SINOMACH	0.00%	0.2188	Conservation	50.00%	0.6875
Baili Electric	14.29%	0.6111	Tianjin 712	9.09%	0.6942

Table 3 shows that the average occupational heterogeneity of directors in Tianjin mixed reform enterprises is 0.6391, which is relatively high overall. Among them, SINOMACH and China National Storage Co., Ltd., which have the lowest level of occupational heterogeneity, have significantly reduced their performance compared with 2018. Of the five companies with occupational heterogeneity higher than 0.7, there are three boards without female directors (guangyu development, CNOOC Engineering and COSCO Haikong). Although there is a high consistency in professional background, the gender composition is single, and the positive effect of board diversity on corporate governance and enterprise performance has not been fully exerted.

⁴ Source: company annual report disclosure

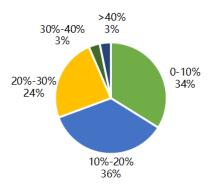
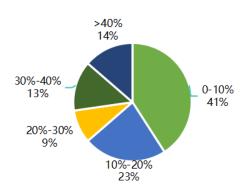


Figure 3 Distribution of the proportion of female directors in Tianjin mixed-ownership reform enterprises



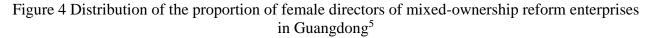


Figure 3 counts the proportion of female directors of mixed reform enterprises in Tianjin in 2019, and finds that the number of male directors in the remaining 20 enterprises is much larger than that of female directors except Tianjin TEDA and Central Energy Saving. The number of female directors in 22 mixed-reform enterprises in Tianjin is generally low, and the average proportion of female directors is 17.38%. Studies have shown that the increase of the proportion of female directors can effectively promote enterprise performance, and there is a positive correlation between them. Too many male directors in the board of directors will solidify the angle of enterprise decision-making and dealing with internal affairs of enterprises, while the participation of female directors is conducive to comprehensive and inclusive enterprise decision-making. At the same time, because Tianjin mixed reform company is generally dominated by men, women generally need to overcome more resistance to become directors, so they have higher comprehensive quality or professional ability [10]. The low proportion of female directors in Tianjin mixed reform state-owned enterprises is not conducive to improving the level of corporate governance and reducing the potential opportunities for the board of directors to obtain diversified social networks and material resources.

4. Multi case analysis on the mixed reform of Baiyunshan, Gree Electric Appliance and tefa information

4.1 Employee stock ownership - Guangzhou Baiyunshan Pharmaceutical Group Co., Ltd

On June 20th, 2014, China Securities Regulatory Commission promulgated "Guiding Opinions on Pilot Implementation of Employee Stock Ownership Plan in Listed Companies", which indicates that the employee stock ownership plan has entered the stage of full implementation. After the promulgation of the Guiding Opinions, Baiyun Mountain promised to complete the medium-and long-

⁵ Source: company annual report disclosure

term employee incentives within three years, and officially completed the employee stock ownership plan on July 26th, 2016, in which nearly 5,000 employees participated, involving nearly 500 million yuan of funds⁶. Therefore, in order to explore the impact of employee stock ownership plan on the performance of Baiyun Mountain enterprises, the data from 2014 to 2018 are selected for horizontal comparative analysis.

	2014	2015	2016	2017	2018
Net profit margin	6.346	6.799	7.527	9.839	8.147
Quick ratio	1.042	1.980	9.786	5.592	2.795
Receivable turnover ratio	0.053	0.054	0.243	0.203	0.210
Dilute earnings per share	0.925	1.007	1.075	1.268	2.116
Net assets per share	5.968	6.546	10.669	11.607	13.338

Table 4 Financial Indicators of Baiyun Mountain from 2014 to 2017⁷

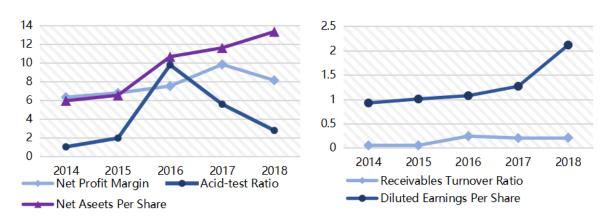


Figure 5A, 5B Baiyunshan financial indicators line chart⁸

Observing the above-mentioned financial indicators (Table 1), it is found that in 2014, when employee stock ownership incentives were not implemented, all the indicators of the company were at a low level. In 2015, Baiyun Mountain announced the employee stock ownership plan (draft), but it was only in the advance notice stage, and it was not really implemented, and all the indicators increased slightly. By 2016, when employee stock ownership is officially implemented and completed, all indicators have increased substantially. The increments are 10.7%, 394.2%, 350%, 6.75% and 62.99% respectively. In the next two years, although some indicators have declined, they are still much higher than those in 2014-2015 when employee stock ownership was not carried out. To sum up, the study thinks that the employee stock ownership plan does play a role in motivating employees to be consistent with corporate goals, and then improving performance indicators such as profitability, solvency, operational capability and earnings per share [11]. In addition, it is also helpful for enterprises to reduce the turnover rate of employees and the loss of core technical backbone under the background of mixed reform.

⁶ Source: Baiyun Mountain Company Annual Report

⁷ Source: Baiyun Mountain 2016 Semi-annual Report Disclosure

⁸ Source: Baiyun Mountain 2016 Semi-annual Report Disclosure⁹ Source: Baiyun Mountain 2016 Semi-annual Report

	Shareholdings at the end of the reporting period Number of shares (shares)	Approximate percentage of total share capital (%)
GPC	583,966,636	45.23
HKSCC (Nominees) Limited	219,599,479	17.01
China Securities Finance Corporation	33,378,285	2.59
China Merchants Bank Corporation Limited I ETF Medical Services Flexible Investment Fund	19,587,867	1.52
Central Huijin Asset Management Co.	15,260,700	1.18
Industrial and Commercial Bank of China Limited - Southern Consumer Vitality Flexible Allocation Hybrid Initiating Securities Investment Fund	9,945,228	0.77
New China Life Insurance Co.	6,380,585	0.49
Agricultural Bank of China Limited - Fortune CSI State-owned Enterprise Reform Index Graded Securities Investment Fund	6,273,521	0.49
National Social Security Fund - One-Two Portfolio	5,000,000	0.39
Bank of China Limited - Huaxia New Economy Flexible Allocation Hybrid Initiating Securities Investment Fund	4,940,150	0.38

Table 5 List of the top ten shareholders before the mixed-ownership reform in Baiyunshan9

Table 6 List of top ten shareholders after Baiyunshan mixed ownership reform10

	Number of shares held at the end of this reporting period (shares)	Approximate percentage of total share capital (%)
GPC	732,305,103	45.04
HKSCC (Nominees) Limited	219,599,479	13.51
Guangzhou State Capital Holding Development Co.	87,976,539	5.41
Guangzhou Guoshou Urban Development Industry Investment Enterprise (Limited Partner)	73,313,783	4.51
China Securities Finance Corporation	35,631,704	2.19
Shanghai Yunfeng Xinchuang Equity Investment Center (Limited Partner)	21,222,410	1.31
Central Huijin Asset Management Co.	15,260,700	0.94
Industrial and Commercial Bank of China Limited - Southern Consumer Vitality Flexible Allocation Hybrid Initiating Securities Investment Fund	9,945,228	0.61
Agricultural Bank of China Limited - Fortune CSI State-owned Enterprise Reform Index Graded Securities Investment Fund	7,011,821	0.43
New China Life Insurance Co.	6,380,585	0.39

According to the shareholding situation of the top ten shareholders of Baiyun Mountain before and after the implementation of the employee stock ownership plan (Table 5 and Table 6), the shareholding ratio of Guangzhou Pharmaceutical Group, the largest shareholder of Baiyun Mountain, decreased slightly, but remained in a controlling position. Employee stock ownership did not affect the interests of major shareholders and actual control rights, but it greatly enriched the shareholding structure of Baiyun Mountain on this basis. On the other hand, the employee stock ownership plan effectively

⁹ Source: Baiyun Mountain 2016 Semi-annual Report

¹⁰ Source: Baiyun Mountain Third Quarter Report of 2016¹¹ Source: Gree Electric 2018 Annual Report

stimulates employees' work enthusiasm, and connects employees' personal benefits with the overall interests of the enterprise. The improvement of employees' sense of ownership urges them to think more about the long-term performance of enterprises and effectively avoid negative behaviors such as "muddling along". In addition, in terms of technological innovation, the number of authorized patents in Baiyun Mountain in 2014-2016 was 33, 38 and 45 respectively, and the technological innovation capability and performance of enterprises were significantly improved [11].

4.2 Equity check and balance -- Zhuhai Gree Electric Appliance Co., Ltd

On April 9, 2019, Gree Group issued the "Prompt Announcement on Controlling Shareholders' Intention to Transfer Part of the Company's Equity and Resumption of Trading by Public Soliciting Transferees", announcing that Gree Electric officially started mixed reform. Previously, the controlling shareholder of Gree Electric was Gree Group, holding 18.22% of the shares, and the actual controller was Zhuhai SASAC (Figure 6). Thereafter, on December 3rd, 2019, Gree announced that the mixed reform was completed, and Zhuhai Mingjun Investment Partnership was the transferee of shares, holding 15% of the shares, the largest shareholder, and entitled to nominate three directors (after the mixed reform, the total number of nine directors does not constitute an absolute majority).

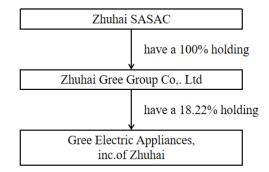


Figure 6 The relationship between property rights and control before the mixed-ownership reform¹¹

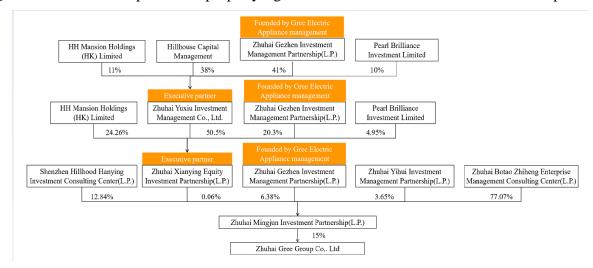


Figure 7 Shareholding structure of Zhuhai Mingjun, Zhuhai Xianying and Zhuhai Yuxiu¹²

At the same time, according to the data collation (Figure 7), the management of Gree Electric represented by Ms. Dong Mingzhu (holding 95.48% of shares) established Zhuhai Gezhen Investment Management Partnership. After the reform, the executive partner of Zhuhai Mingjun, the largest shareholder, is Zhuhai Xianying, and the executive partner of Zhuhai Xianying is Zhuhai Yuxiu, which is also the actual controller of Zhuhai Mingjun. Zhuhai Gezhen holds 6.38%, 20.3% and 41% shares in these three companies respectively, and is the largest shareholder of Zhuhai Yuxiu, and also holds

¹¹ Source: Gree Electric 2018 Annual Report

¹² Source: Tianyancha¹³ Source: Flush

one of the three seats on the board of directors of Zhuhai Yuxiu. It can be seen that the management of Gree Electric has greater right to speak and make decisions at the actual controller of Gree's largest shareholder. When making decisions, the structure of no actual controller and no controlling shareholder formed after the mixed reform in Gree Electric is conducive to the formation of mutual restraint and checks and balances among major shareholders, and further promotes the optimization of board decision-making and the improvement of enterprise performance. At the same time, Zhuhai Gezhen's high voice in Yuxiu, Zhuhai, enables the management to safeguard its own interests to a certain extent, and also makes it highly consistent with the interests of the board of directors, which is conducive to making the management pay more attention to the sustainable development of enterprises and effectively alleviating the agency problem of the company [12]. With the gradual convergence of objectives between the management and the board of directors, they will be more willing to invest in R&D with moderate risks, which will help to improve the R&D investment and output of enterprises and maintain the leading position and competitive advantage in the industry.

4.3 Diversified board of directors - Shenzhen tefa Information Co., Ltd

In 2013, under the background of intensified competition among peers and obvious decline in performance, in order to increase profitability, Tefa Information carried out mixed ownership reform by merging Shenzhen Dongzhi Technology Co., Ltd. and Chengdu Fourier Electronic Technology Co., Ltd., and ceased trading on September 12th, 2014. Select the data of four years from 2013 to 2016 before and after the mixed reform for horizontal comparison (Table 7), and find that after the mixed reform, the four core financial indicators of special information have been greatly improved.

	2013	2014	2015	2016
Operating income (100 million yuan)	15.72	19.13	24.5	46.12
Deduct non-net profit (100 million yuan)	0.420	0.484	0.853	1.810
Earnings per share (yuan)	0.23	0.21	0.33	0.31
Return on net assets (%)	6.24	5.32	8.03	11.9

Table 7 Financial indicators of SDG from 2013 to 201613

Table 8 Information of board members	after mixed reform of special information14
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Name	Post	Gender	Age	Occupation
Wang Bao	Chairman of the board	Male	51	Economist
Li Mingjun	Director	Female	50	Senior accountant
Zhang Ruili	Director	Male	52	economist
Chen Hua	Director and general manager	Female	50	Economist
Chang Qi	Director	Male	e 41	International business
	Director			engineer
Jiang Qinjian	Director and chief financial officer	Male	52	Auditor
Pan	Independent director	Male	53	Certified Public Accountant
Tongwen	independent director	whate	55	Certified I ublic Accountant
Xu Ling	Independent director	Female	44	Lawyer
Ji Dejun	Independent director	Male	70	Senior engineer

Observing the characteristics of board members after the mixed reform of special information (see Table 8), the Hershey-Fendall index of heterogeneity is 0.7901, and the proportion of female directors is 33.3%, which obviously exceeds the average of 0.4020 and 10.52% of the occupational heterogeneity of data of A-share listed companies such as Feng Ruixue. The existing theory holds that

¹³ Source: Flush

¹⁴ Source: Special Information 2014 Annual Report

the higher the occupational heterogeneity and gender heterogeneity in the composition of the board of directors, the higher the level of corporate governance [5] [10]. Therefore, it can be seen that the heterogeneity of board members in the process of mixed reform of special information has a positive effect on the improvement of corporate governance and enterprise performance. Furthermore, compared with the low level of occupational and gender heterogeneity of mixed reform enterprises in Tianjin and the fact that individual prominent enterprises failed to take into account the dual heterogeneity, the heterogeneity of board composition of special information has a high reference significance.

5. Countermeasures and suggestions on corporate governance in the process of mixed reform of state-owned enterprises in Tianjin

Based on the above analysis, drawing lessons from the successful experiences of Guangdong mixed reform enterprises Baiyun Mountain, Gree Electric and Tefa Information, and aiming at the shortcomings of Tianjin mixed reform enterprises in corporate governance, the following suggestions are put forward:

5.1 Formulate, implement and optimize the employee stock ownership incentive system, enrich the forms and types of incentives, and promote the diversification of ownership structure

Drawing lessons from the successful experience of Baiyun Mountain mixed reform, Tianjin mixed reform state-owned enterprises can formulate, implement and optimize the employee stock ownership incentive system, and enhance the richness and acceptance through various ways such as equity incentive, option incentive and derivative instruments. In addition, the overall term of relevant incentive tools can be extended to 3-4 years, because medium-and long-term incentives can effectively prevent employees from short-sighted behavior due to short term, and extending the term can promote the transparency and fairness of enterprise decision-making. At the same time, by supplementing the market-based salary system and improving the training system, we can enhance the non-material incentives of employees, reduce the turnover rate of core employees and increase the attractiveness of enterprises in the talent market. Finally, relevant management departments can play a bridge role of coordination and overall planning, help Tianjin mixed reform enterprises in other provinces and cities from the government level, and optimize the penetration and dissemination of corporate governance experience.

5.2 Improve the ownership structure, form equity checks and balances, clarify the relationship between government and enterprises, and optimize the performance evaluation system

At present, most mixed reform enterprises in Tianjin still have obvious monopoly situation after the equity transfer, so in the process of finding the transferee or transferring property rights, mixed reform enterprises should consciously control the proportion of equity distribution, choose non-stateowned capital with leading industry and good operation, form a situation that the proportion of stateowned assets and non-state-owned assets is equal and balanced, and reduce potential agency problems in the process of mixed reform. In addition, all participants should be guaranteed the same shares and rights, so as to improve the enthusiasm of non-state-owned assets with the reform dividend and enterprise future performance expectation. It is suggested that in the process of promoting the mixed reform, the management department should restrict the state-owned capital, speed up the process of de administration, and prevent the state-owned capital from reducing the efficiency and effect of strategic decision-making in order to complete the political task. Finally, the government and relevant management departments need to clarify their relationship with mixed reform enterprises, pay more attention to the business performance and development of enterprises, reduce the attention to political performance, and prevent executives from blindly pursuing political performance and damaging the long-term interests of enterprises [13].

5.3 Realize and promote the diversification of the board of directors, improve the enterprise's intellectual capital and social capital, and optimize the governance ability of the board of directors

In the process of mixed reform, while maintaining the independence of the board of directors, we should improve the balance of board setting, rationally design the ratio of executive directors to non-executive directors, reduce the agency problems of enterprises and improve the governance capacity. In addition, when hiring board members, we should pay attention to occupational heterogeneity and gender heterogeneity, and promote the diversification, heterogeneity and comprehensiveness of decision trees and resource capabilities of the board of directors. In conclusion, it is suggested that enterprises and relevant management departments should fully consider the consistency of the number and voice of executive and non-executive directors in the preparation process of mixed reform, enrich the types of directors' functional background, balance the proportion of directors' gender, and promote the improvement of corporate governance and corporate performance by improving the diversification of the board of directors [5].

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