

# Study on the Effect of Equity Incentive Plans for Private Enterprises in Zhuhai City----A Case Study of Ninestar

Junda Yang<sup>1</sup>, Yun Xia<sup>1</sup>, Liu Yang<sup>1</sup>, Xiaomei Chen<sup>1</sup>

<sup>1</sup>Finance Department of International Business School, Jinan University, China

Correspondence: Yun Xia, Finance Department of International Business School, Jinan University, Qianshan Road 206#, Zhuhai City, Guangdong Province, Post NO. 519070, China. E-mail: 13676097885@163.com

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## Abstract

In recent years, in order to study the actual effect of equity incentives of the listed companies, Chinese scholars have mainly studied it from three aspects, including enterprise performance, manager behavior and market response. This paper analyzed the equity incentive plan scheme of Ninestar company, a private listed company in Zhuhai city, in detail, and made an analysis on the specific effects of Ninestar's equity incentive measures from the following three aspects: enterprise performance, manager behavior and market response. Finally, we put forward relevant suggestions from the perspective of corporate governance structure, providing beneficial reference for private enterprises in China to improve equity incentive measures.

**Keywords:** equity incentives, restricted stock, Ninestar

## 1. Introduction

In recent years, the ranks of private listed companies have grown steadily, especially in the SME board and the GEM board. More than 80% of listed companies are private enterprises, and less than 20% are state-owned enterprises. At the present stage, private listed companies play the most important role in the implementation of equity incentive plan in China, because there are differences in the regulatory policies of equity incentive implemented by CSRC for state-owned listed companies and private listed companies. Private listed companies have become the most powerful executors of equity incentive implementation. Equity incentives can effectively promote the stable and sustainable development of private listed companies. However, the regulations on equity incentives in China are not perfect enough. There are some problems in the process of floating the non-tradable shares. It is difficult for some listed companies in China to give full play to the equity incentive effect, or even interrupted it midway. This paper aims to make a case analysis of the effectiveness of equity incentives in listed companies of private enterprises in Zhuhai. Taking the equity incentive measures of Ninestar, a private listed company in Zhuhai, as the case study object, it investigates the specific measures of equity incentive of Ninestar and the results obtained, and puts forward some suggestions from the perspective of corporate governance structure, so as to provide beneficial reference for private enterprises in China to improve equity incentive measures.

## 2. The Theoretical Basis and Literature Review

In the 1950s, the separation of management rights and ownership led to the principal-agent problem of American enterprises, and equity incentives came into being because it can align the interests of enterprise operators and managers. Equity incentives are the way in which the company's operators own the company's stock or equity in different ways, making it one of the company's shareholders, enabling the company's operators to actively participate in the company's decision-making from the perspective of the company owner. The research on the effectiveness of equity incentives has been controversial in the academic circle since the emergence of equity incentives. On the whole, Chinese scholars' evaluation of the implementation effect of equity incentives is mainly from the perspective of corporate performance, governance structure and market response.

Here are some related researches on equity incentives and company performance. Zhou Jianbo and Sun Jusheng (2003) studied 34 listed companies that tried equity incentives from 1999 to 2001 and found that the performance of listed companies that implemented equity incentive plan was generally higher before the implementation of equity incentive plan. They believed that such samples had some selectivity bias. Their research also shows that the

improvement of corporate performance is positively correlated with the increase in the number of shares owned by the managers due to the equity incentives in the company with a great potential of growth. While Dong Bin and Chen Jie (2015) took all listed companies from 2006 to 2013 as the initial sample, selected the listed companies implementing equity incentives from 2006 to 2011 as the sample of the treatment group, and used the PSM model to conduct empirical analysis. The results also show that the implementation of equity incentives can effectively improve the performance of non-state-owned listed companies. Compared with the listed companies with low growth potential, the effect of equity incentives in listed companies with higher growth potential is more obvious. However, some scholars have come to a different conclusion. Wei Gang (2000) took 791 listed companies in 1998 as research samples and found no significant correlation between the number of executive stock ownership and the company's business performance. According to the two scholars Yao Weifeng and Yao Tong (2009), there is no significant correlation between management shareholding ratio and enterprise efficiency before company share-holding reform and there was a significant negative correlation between the two even after the company share-holding reform. It can be seen that the relevant research conclusions of equity incentives and company performance are not consistent in the academic circle.

Here are some related researches on equity incentives and corporate governance structure. Pan Ying and Liu Guangsheng (2009) studied the listed companies that implemented the equity incentive from 2004 to 2007 as samples, and showed that the stronger the ability of medium and small shareholders to check and balance the larger shareholders, the more obvious the effect of the implementation of equity incentive was. Wu Yuhui and Wu Shinong (2010) collected the draft equity incentive plans of 82 listed companies for research, and found that the shareholding ratio of major shareholders has certain constraint effect on the high-pipe self-interest behavior of the company to implement equity incentives from the perspective of corporate governance structure. However, other corporate governance variables have no significant influence on the self-interested behavior of senior executives. It indicates that the current corporate governance structure has limited constraint effect on the self-supporting behavior of senior executives. Some scholars also believe that the equity incentives mode under the control of shareholders can effectively alleviate the short-sighted behavior of management.

Here are some researches on equity incentives and market response. With regard to the research on equity incentives and market reaction, it mainly adopts the event research method and mostly uses case analysis. Taking Kunming pharmaceutical as an example, Wang Xiaohua (2018) investigated the market announcement response of the equity incentive plan by using the event research method, and the result showed that the market reacted positively to the action. Qiao Shuomin (2018) took the listed company of Aier Ophthalmology as an example, studied the market announcement response of Aier ophthalmology's equity incentive plan by adopting the event study method, which also won a good market reaction. He Jiang et al. (2010) conducted an empirical study on the stock prices of 53 listed companies in China's A-share market from January 2006 to December 2007 by adopting the event research method, and the results showed that there were significant positive stock price effects before and after the announcement. Zhou Xiaodong and Zhao Xin (2015) conducted empirical research on 75 a-share listed companies by adopting the event study method and the results also showed that A-share market made significant positive responses to the announcement of equity incentive plan. It can be seen from the relevant research of market reaction that the market is generally optimistic about the equity incentive plan of listed companies.

Whether the equity incentives are beneficial to enterprise development or not? This paper takes the equity incentive measures of Ninestar, a private enterprise in Zhuhai city, as the case study object. It investigates the specific equity incentive measures of Ninestar and their effects obtained after the implementation of equity incentives from the following three aspects: the specific scheme of Ninestar's implementation of equity incentives and the enterprise performance, manager behavior and market response, and puts forward some suggestions from the perspective of corporate governance structure, so as to provide beneficial reference for private enterprises in China to improve equity incentive measures.

### **3. The Analysis on Implementation of Equity Incentive in Zhuhai Ninestar Co., Ltd.**

#### *3.1 Background of the Company*

Zhuhai Ninestar Co., Ltd. (hereinafter referred to as "Ninestar share." or "the company") was established in 2000, and its business scope covers the printing imaging industry, imaging and output technology solutions and printing management services. It possesses the laser printer brand "Limeng", and has 20,000 employees worldwide approximately. The company's annual sales volume is about CNY 30 billion, and its products cover more than 150 countries. It develops and sells industrial-grade 3D printers. Zhuhai Senna Co., Ltd., one of its portfolio companies, develops and sells industrial-grade 3D printers. Its product is applicable to medical education training model and surgical planning model, jewelry casting model and color multi-material

customized product. In 2007, legend holdings acquired a stake in Senna through its Junlian capital.

### 3.2 Motivation Analysis of Implementing Equity Incentive

In order to further improve the corporate governance structure of Ninestar, promote its establishment and improvement of the incentive and restraint mechanism, fully mobilize the enthusiasm, responsibility and sense of mission of the company's top management and core employees, effectively combine the interests of shareholders, the interests of the company and the personal interests of operators, pay attention to the long-term development of the company and strive for it together, it formulates a restricted stock incentive plan in accordance with the company law of the People's Republic of China, the securities law of the People's Republic of China and other relevant provisions, and in combination with the management systems such as the compensation system and performance appraisal system currently implemented by the company.

This restricted stock assessment index is divided into two levels, which are performance assessment at the company level and performance assessment at the individual level. The performance index system at the company level is the growth rate of operating revenue. The growth rate of operating revenue reflects the company's market size, future profitability and enterprise growth, which can establish a good capital market image. Through the reasonable prediction and taking the incentive effect of this incentive plan into account, the company has set the performance assessment target of taking the company's operating income in 2014 as the base, and the operating income in 2016-2019 is not less than 20%, 40% and 60% respectively, and the growth rate of net profit is not less than 20%, 30% and 40% respectively. In addition to the performance assessment at the company level, the company also sets a performance assessment system for individuals, which can make a relatively accurate and comprehensive evaluation of the work performance of the incentive object. The company will determine whether the individual of the incentive object has met the conditions for the lifting of restrictions according to the performance evaluation results of the incentive object in the previous year.

According to the draft restricted stock incentive plan of Zhuhai Ninestar Co., Ltd., the details are as follows:

Table 1. The specific implementation of equity incentive in Zhuhai Ninestar Co., Ltd.

Incentive staff	A total of 531 people, including company directors, senior management, middle management.		
Incentive quota	206.66 million shares, accounting for 2.075% of the company's total share capital of 9.960116 billion shares when the draft incentive plan was announced.		
Incentive price	16.48 yuan per share		
Lock-up period	The shares transferred each year during the term of office shall not exceed 25% of the total number of shares held by the directors and senior managers of the company. The shares of the company held by him shall not be transferred within half a year after his resignation. The number of shares of the company listed on the stock exchange shall not exceed 50% of the total number of shares held by the company within December six months after the declaration of leaving the company.		
	When the last batch of restricted stocks in the plan is unlocked, the incentive object of the company's senior management positions is awarded 20% of the total restricted stocks (and the stock dividends allocated for the stocks), and is locked into the term of office (or term). After the expiration, determine whether to unlock according to the term of the senior management position or the economic responsibility audit.		
Restricted stock trade period	The first period	From the first trading day 12 months after the date of first grant to the last trading day within 24 months after the date of first grant	30%
	The second period	The first trading day after 24 months from the date of the first grant to the last trading day within 36 months from the date of the first grant	30%
	The third period	The first trading day after 36 months from the first grant date to the last trading day within 48 months from the first grant date	40%
Release of restricted conditions	The first period	Taking 2014 as the base year, the growth rate of operating income is not less than 20% in 2016. The growth rate of net profit shall not be less than 20%;	
	The second period	Taking 2014 as the base year, the growth rate of operating revenue in 2017 is no less than 40%; The growth rate of net profit is no less than 30%;	
	The third period	Taking 2014 as the base year, the growth rate of operating revenue in 2018 shall not be lower than 60%; The growth rate of net profit is no less than 40%.	
Personal performance appraisal	Evaluation results	Excellent	100%
		good	
		Basically qualified	80%
		Failed	0%

3.3 The Analysis on Effectiveness of Equity Incentive in Zhuhai Ninestar Co., Ltd.

It analyzes the effectiveness of equity incentive plan of the company based on the annual audit report of Zhuhai Ninestar Co., Ltd from 2012 to 2016. In debt paying ability, the current ratio is used as the index to reflect its short-term debt paying ability, and the asset-liability ratio is used as the index to reflect its long-term debt paying ability. It takes receivables turnover, current assets turnover, working capital turnover and total assets turnover as indicators to reflect their operating capacity. The net operating interest rate and net total asset interest rate are used as indicators to reflect its profitability. The sales price and operating income ratio are used as indicators to analyze the manager's behavior. It analyzes the market performance by taking the return on investment as the index.

3.3.1 Financial Performance Evaluation

(1) Debt-payment capability analysis

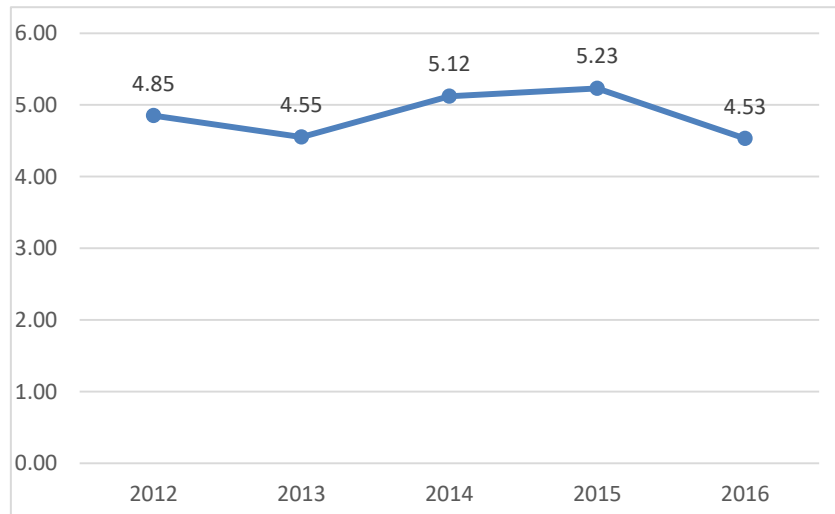


Figure 1. Current ratio chart of Zhuhai Ninestar Co., Ltd. from 2012 to 2016

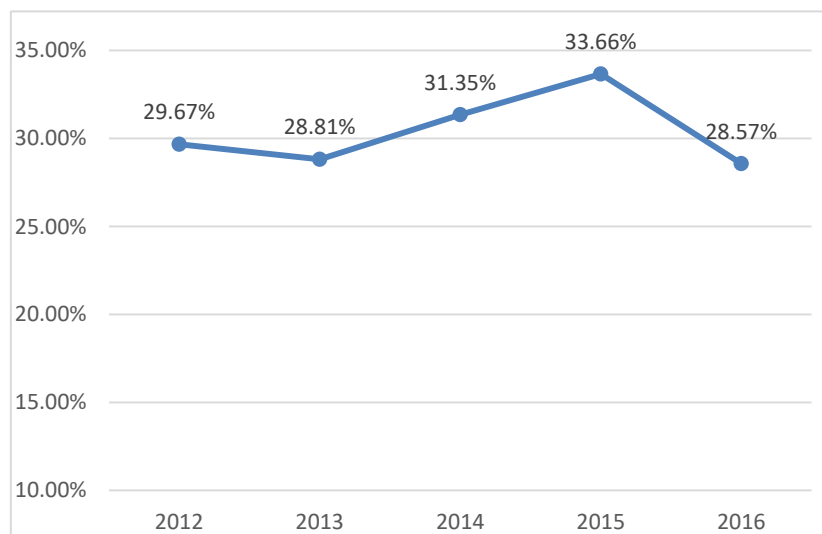


Figure 2. The trend of asset-liability ratio of Zhuhai Ninestar Co., Ltd. in 2012-2016

It can be seen from Figure1 and Figure2 that the current ratio of Zhuhai Ninestar. Co., Ltd shows the same trend as its asset-liability ratio. Compared with 2012, it decreased in 2013, but it continued to rise from 2014 to 2015, and fell again in 2016. This indicates that the profitability of Zhuhai Ninestar. Co., Ltd has declined since 2013, while its profitability has increased again in 2016. This means that the company has the same trend of short-term and long-term debt-paying ability. As it can be seen from the debt-paying ability, the company's profitability has been declined and its financial risks has increased since 2013. After the introduction of restricted stock incentives in 2015, the company's profitability has increased and its financial risk has decreased.

(2) The analysis of capabilities in operations

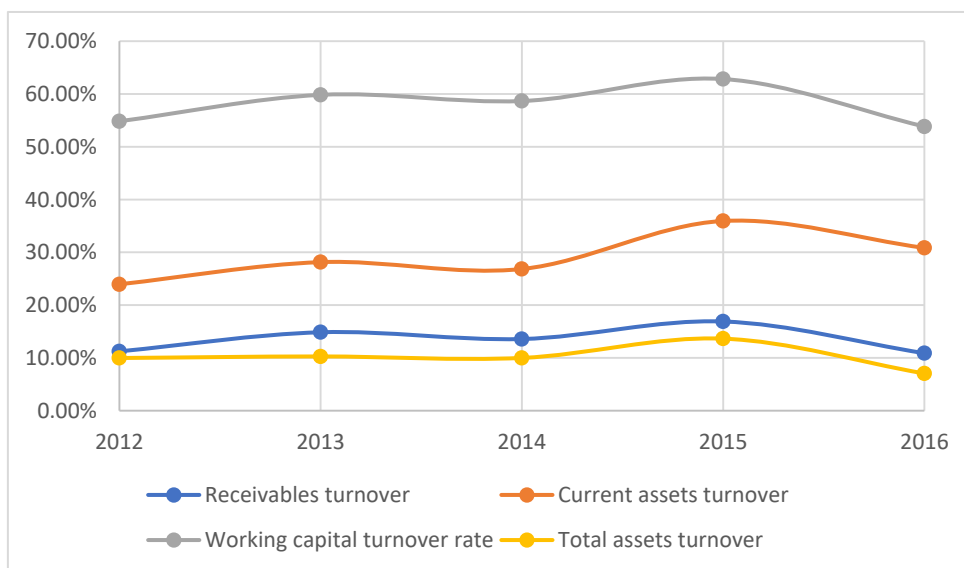


Figure 3. The operational capacity chart of Zhuhai Ninestar Co., Ltd. from 2012 to 2016

As shown in Figure 3, the receivables turnover rate, current asset turnover rate, working capital turnover rate and total capital turnover rate of the company show the same movement trend. The turnover rate of shipboard receivables of the company from 2012 to 2014 and the turnover rate of total assets of the company were stable with small changes, which reflects that the company’s operation capability is relatively stable. After 2013, all the data of the company, such as the receivables, current assets and working capital required for each unit sales are all on the rise. After the restricted stock incentive was implemented in 2015, the company’s receivables, current assets and working capital required for each unit of sales declined.

(3) Profitability analysis

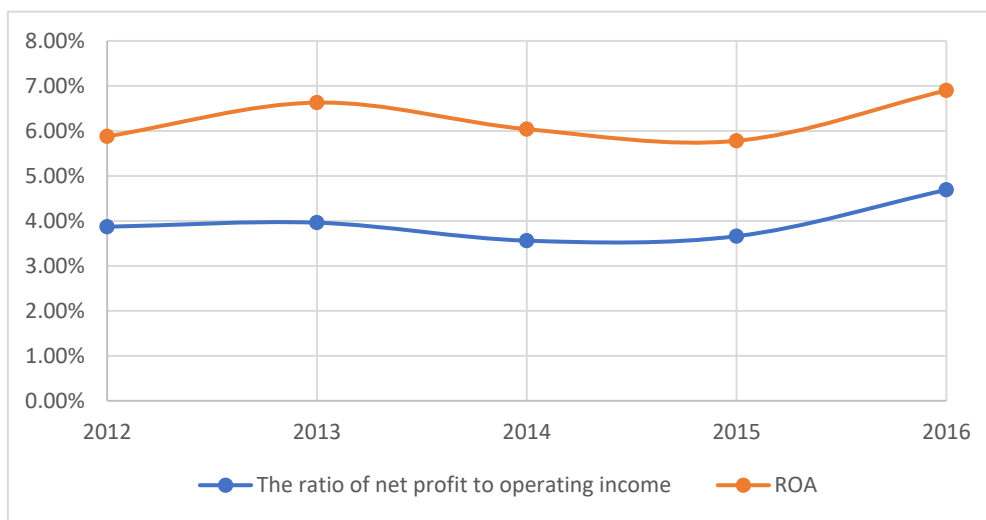


Figure 4. The profitability of Zhuhai Ninestar Co., Ltd. in 2012-2016

The net operating interest rate reflects the change of the growth rate of net profit compared to the growth rate of operating income. When the growth rate of net profit is faster than the growth rate of operating income, the net operating interest rate goes up, and it goes down conversely. The net interest rate of total assets reflects the growth rate of net interest rate compared to the growth rate of operating income. Therefore, it can be seen from Figure 4 that the profitability of the company decreased first and then increased again from 2012 to 2015. From 2012 to 2015, the operating net interest rate of the company was relatively stable, while the net interest rate of total assets rose significantly in 2013, and fell again in 2014 and 2015, which reflected that the profitability of the company was declining. In 2016, the net operating interest rate and the net total asset interest rate of the

company showed the same upward trend, which indicated that the profitability of the company was rising.

### 3.3.2 The Analysis of Managerial Behaviors

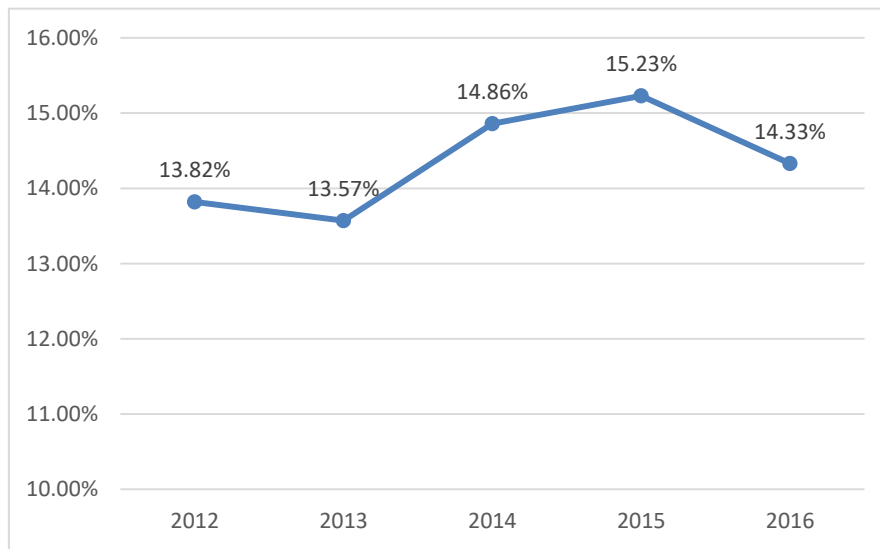


Figure 5. The ratio of sales price to operating income of Zhuhai Ninestar Co., Ltd. in 2012-2016

Since the company just used the equity incentive policy of restricted stock incentive, the restricted stocks connect the enterprise stock price with the manager's income. If managers want to get more compensation, they must improve enterprise performance, and they should adopt policies to reduce the ratio of sales price to operating income. Figure 5 shows the trend of the ratio between 2012 and 2016. It can be seen from the figure that the ratio decreased in 2013 compared with the same period last year. However, the ratio continued to rise from 2013 to 2015, and declined significantly after the implementation of restricted stock incentive in 2015. It considers that its restrictive stock incentive policy has shown some promise in this paper.

### 3.3.3 Market Performance Analysis

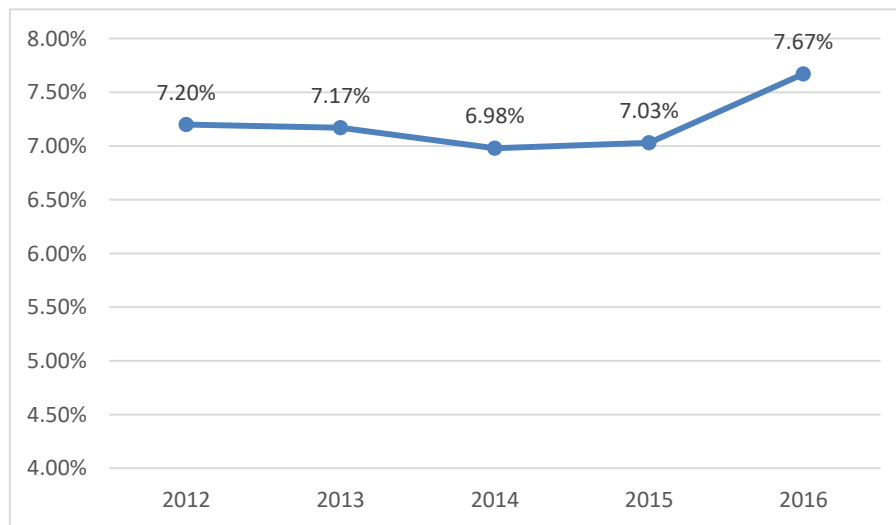


Figure 6. The ROI of Zhuhai Ninestar Co., Ltd. 2012-2016 ROI

In this paper, the market performance of the company is analyzed with the return on investment. Return on investment (ROI) = annual return or average annual profits annual return/total investment x 100%, and it can reflect the comprehensive profitability and market performance of the investment center. Enterprises can improve their profit margin by reducing the cost of sales and improve the ROI(return on investment) through improving the asset utilization efficiency. Figure6 shows the company's investment return trend in 2012-2015. The company's ROI (return on investment) kept a stable and slightly fluctuating trend from 2012 to 2015, and the company's ROI index in 2016 showed a slight upward trend. It reflected the effectiveness of the

restrictive stock incentive policy of the company to some extent.

#### 4. Case Revelations

The reasons for the success of Ninestar equity incentive plan include good external environment, government policy support and reasonable design of equity incentive plan. This paper focuses on the analysis of corporate governance structure specification. The formulation and implementation of many decisions made by Zhuhai Ninestar's board of directors since 2015 has laid a foundation for the success of the restricted stock incentive plan thereafter. Since Zhuhai Ninestar completed backdoor listing in 2014, on the one hand, it continues to consolidate its leading technology in the field of general printing consumables chips; On the other hand, the company actively carries out follow-up capital operation with the help of the capital market, and perfects its industrial chain layout through merger and reorganization such as cash purchase, stock issue and asset purchase. In 2015, the company's board of directors actively drafted the company's major asset acquisition plan, decided to invest in foreign investment projects, and set up an industrial fund. On the one hand, the main businesses of the company can be enhanced through business integration, M&A and other ways; on the other hand, the expected value added goals can be achieved through M&A, restructuring, IPO and other ways, bringing high value added returns to the shareholders of the company. The board of directors of the company adjusts and hires senior executives with professional management level and rich international management experience to decide their remuneration, in order to bring support and help to the company's operation management and international business integration.

Therefore, the board of directors should play its due role. Once the board of directors plays its due role, it is easier to find out the "tunneling" behavior of major shareholders and the welfare equity incentive formed by insider control. It can help the board to evaluate the manager's market value rationally, which will enhance the management incentive effect. When the behavior designed by the board of directors is effective, it will give play to the due supervision and execution function in the process of the implementation of the equity incentive scheme with significant effect.

In addition, in order for the equity incentives to be effectively implemented, it is necessary to establish and improve the board of directors with rules and regulations, so that the board of directors has rules and regulations. The corporate governance structure is an important part of the enterprise management theory. The incentive mechanism and the restraint mechanism are inseparable. The two cannot be operated separately. Otherwise, the short-sighted behavior and "Internal person control" of the enterprise managers are prone to occur. Therefore, the supervision and restraint mechanism for enterprise managers should be strengthened to resist possible adverse selection and moral risks and undermine the orderly progress of economic order.

Chinese private enterprises should actively improve their corporate governance structure and protect the interests of small and medium-sized investors, especially those with low ownership concentration. In addition, private enterprises should give full play to the democratic nature of enterprise management, increase the number and proportion of medium and small shareholders in the general meeting of shareholders, so that the major decisions made by the company can be voted on by all shareholders. They should strengthen the "supervision in advance, supervision in work and supervision afterwards" of enterprise operation, strengthen the execution of internal control, establish and improve the internal control system, and reduce the possible internal risks of enterprises. With the improvement of external environment and internal governance structure, the implementation effect of equity incentives can be fully displayed.

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