

## The Impact of Board Characteristics of Agricultural Listed Companies on the Profit Level

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### Abstract

**A sound governance mechanism of the board of directors is the basic premise and guarantee for the steady development of agricultural enterprises. In this paper, the financial data of domestic agricultural listed companies from 2015 to 2017 are used to test the influence of the characteristics of the board of listed agricultural listed companies on the profitability index using the multiple regression model. The empirical results show that: first, the number of board meetings is negatively correlated with profitability; second, the size of the board of directors and the size of independent directors have significant positive correlation with profitability. It shows that the efficiency of the board of listed agriculture listed companies in our country is not high, and its supervisory function is not fully exerted. However, the size of the board of directors and the size of independent directors can promote the profitability of the listed companies.**

### Keywords

**Agricultural listed company, Board Features, Profitability.**

### 1. Introduction

As the core of corporate governance, the board of directors is an important supervision and decision-making organ of the company. Its governance model is of great significance to profitability. As a bridge connecting shareholders and operators, the efficiency of the board of directors directly affects the profitability of enterprises and the interests of related parties. Establishing a reasonable and scientific board of directors has become a necessary requirement of modern corporate governance. At present, the rapid development of China's agricultural industry has become a new growth point in the national economy. However, due to the variability and complexity of the agricultural industry and the need to respond promptly and accurately to ensure the stability of profitability, it is imperative to establish a sound governance structure for the board of directors. Based on this background, this paper selects agricultural listed companies as the research object and explores the impact of board characteristics on profitability.

### 2. Research hypothesis

The characteristics of the board of directors can be summarized as the size of the board of directors, the relationship between internal directors and external directors, the leadership structure of the board of directors and the remuneration system of directors. According to the current domestic and foreign research results on the characteristics of the company's board of directors, combined with the specific circumstances of this study, taking the listed companies of agriculture in our country as a sample, taking the size of the board of directors, the number of meetings and the size of the independent directors as the independent variables and the ROE of the company as the dependent variable, this paper analyzes the relationship between the characteristics of the board of directors and the profitability of the company, and put forward a number of hypothetical propositions that can be tested.

### 2.1 Number of Board Meetings

The board meeting is one of the factors that determine whether the board of directors can play a role. In a sense, the frequency of the board meeting can reflect the level of board performance. Therefore, we need to examine the efficiency of the board meeting.

Under normal circumstances, the activities of the board of directors of listed companies in our country will increase after the corporate profitability declines, and in the years when the frequency of board meetings is obviously high and its subsequent years, the profitability of the company will be slightly improved. The convening of a meeting is not a proactive activity, but more of a role as a "fire extinguisher". Therefore, this study argues that the higher the number of board meetings, the less stable the operating profitability of enterprises.

Therefore proposed hypothesis 1: The number of board meetings of agricultural listed companies is negatively correlated with profitability.

### 2.2 Board Size

The important responsibility of the board of directors is to enable the company to obtain quality resources from the environment and to supervise the use of these resources in order to create the greatest value.

Due to the seasonal and uncertain agricultural industry, these enterprises are often faced with changes in the external environment. How to timely respond to changes in external conditions and make rapid decisions is a key issue in the operation of agricultural enterprises. The larger board can provide a more adequate information resources and human resources in the face of business emergencies, will help enterprises to respond in a timely manner.

Therefore proposed hypothesis 2: The size of the board of listed agricultural companies is positively related to their profitability.

### 2.3 The Scale of Independent Directors

Independent directors are often experts in various fields. They have rich experience in both theoretical and practical terms, which can enhance the scientific and objectivity of corporate decision-making and promote the performance improvement.

To increase the proportion of independent directors in the board of directors is conducive to strengthening the supervision function of the board of directors, especially to strengthen the supervision of the management, so as to reduce the possibility of mistakes made by the management in decision-making and ultimately improve the profitability of the enterprise.

Therefore proposed hypothesis 3: The scale of independent directors of agricultural listed companies is negatively related to the profitability.

## 3. Establishment of index system

### 3.1 Sample Selection and Data Sources

This sample selected from the Shanghai and Shenzhen stock markets issued by A shares of agricultural listed companies, screening criteria are as follows:

The research area is from 2015 to 2017. To ensure the sample companies have continuous listing data during this period, the companies listed before 2015 are selected;

Excluding information disclosure and numerical abnormalities of the company.

Finally, we got 41 research samples. Select the sample data from 2015 to 2017, finally collected 121 samples. Finally, we got 41 research samples. Select the sample data from 2015 to 2017, finally collected 121 samples.

### 3.2 Variable Design

Explained variable. The explanatory variable in this study is the company's profitability. This article refers to the existing research (Li Weian and Sun Wen, etc.), the comprehensive strong ROA as a measure of the company's profitability index, and Y said.

Explanatory variables. The explanatory variables in this study are the characteristics of the board of directors. Three proxy variables, including the size of the board of directors, the proportion of independent directors, and the number of board meetings, are chosen as X1, X2 and X3 respectively.

Control variables. This paper refers to the existing research (Lai Jianqing and Li Changqing, etc.), the size of the company and the level of debt as a control variable, respectively, SIZE, DEBT said.

The definition of variables is shown in Table 1.

Table 1 Study Variables and Definitions Table

Variable latitude	Variable name	Code	definition
Dependent variable	Profitability fluctuates	Y	Total assets net interest rate ROA
Argument	The number of board meetings	X1	Number of board meetings during the year
	Board size	X2	The total number of directors
	Independent director size	X3	The total number of independent directors
Control variables	Liabilities level	SIZE	Total assets / total liabilities
	Company Size	DEBT	The natural logarithm of total assets

### 3.3 Research Methods

After the variables involved in the equation are defined, the correlation between the two is tested by constructing a linear equation of board characteristics and firm performance volatility. The main preclude the use of statistical software SPSS and EXCEL to deal with the data.

The multiple linear regression equation between the characteristics of the board of directors and the profitability of the company constructed in this paper is as follows:

$$P=\alpha_0+\alpha_1X_1+\alpha_2X_2+\dots+\alpha_5X_5+\beta \quad (1)$$

Where P is the dependent variable, Y is the total net asset return (ROA),  $X_m$  is the independent variable, X1 to X3 represent the board characteristic variables, SIZE and DEBT are the control variables,  $\alpha_0$  is the constant coefficient, and  $\beta$  is the random error term.

## 4. Empirical Analysis and Results

### 4.1 Descriptive statistics

Table2 shows the descriptive statistics of agricultural listed companies from 2015 to 2017. As can be seen from Table 2, among the listed agricultural companies from 2015 to 2017, the average return on equity is 0.153, the minimum is -0.43 and the maximum is 0.33, with little difference in profitability. The average number of board meetings is 10 times a year, at least 4 times, up to 19 times, with large differences among companies. The average size of the board of directors is 8, with a minimum of 5 and a maximum of 15. The average size of independent directors is 3, a minimum of 2 people, a maximum of 5 people. The average size of the board of directors is 8, with a minimum of 5 and a maximum of 15. The average size of independent directors is 3, a minimum of 2 people, a maximum of 5 people.

Table 2 Sample Description Statistics Table

Descriptive statistics							
	Number of cases	Minimum	Maximum	average value		Standard deviation	variance
	statistics	statistics	statistics	statistics	Standard error	statistics	statistics
ROA	123	-.43	.33	.0153	.00816	.09045	.008
X1	127	4.00	19.00	9.9528	.30471	3.43386	11.791
X2	126	5.00	15.00	8.1667	.17701	1.98696	3.948

X3	126	2.00	5.00	3.0952	.05337	.59905	.359
SIZE	127	2.82	81.68	40.4665	1.60513	18.08886	327.207
DEBT	127	1.04	4.40	3.5661	.05216	.58781	.346
Number of effective cases (into columns)	121						

#### 4.2 Regression analysis

Table3 shows the results of multiple linear regression analysis on the relationship between board characteristics and profitability of the company.

Table 3 Regression Equation Coefficient Table

model		Coefficient a				
		Unstandardized coefficient		Standardization factor	t	Sig
		B	Standard error	Beta		
1	(constant)	-.259	.231		-1.124	.263
	X1	-.001	.002	-.040	-.452	.652
	X3	.007	.004	.548	2.286	.025
	X4	.097	.020	2.002	2.012	.041
	SIZE	-.004	.001	-.882	-3.923	.000
	DEBT	.083	.034	.545	2.439	.016

a. Dependent variable: ROA

As can be seen from Table 3, the coefficient corresponding to the number of board meetings is -0.040, which is significant at the level of 5%, it shows that the number of board meetings is negatively correlated with company performance. Hypothesis 1 is validated. The reason may be that although the annual number of board meetings is frequent, the efficiency is not high and the outcome of the meeting can not be implemented. This is a formal problem of the board of directors that is ubiquitous in our country and can not really form an effective solution. Another possibility is that the majority shareholder controls the decision-making power of the board of directors and can not guarantee that the final resolution of the board of directors represents the overall opinion of the board of directors.

The board size corresponds to a factor of 0.548 and is significant at the 5% level, indicating that the size of the board of directors is positively related to company performance and that Hypothesis 2 is validated. The reason may be that the large-scale board of directors can bring more information resources and human resources to the enterprise management; Provide more, broader and multi-angle advice when making decisions by the board of directors; at the same time, it can also reduce the possibility of the control of the board of directors of the enterprise managers; in addition, large-scale boards generally need more external directors to join in order to avoid the emergence of cronyism when selecting directors, this will help enterprises to employ more capable, professional and technical outside directors to participate in the company's management.

The coefficient corresponding to the size of independent directors is 2.002, which is significant at the level of 5%, indicating that the size of independent directors is positively correlated with the performance of the company. Hypothesis 3 is verified. Most of the independent directors of agricultural listed companies come from relevant experts in the field of agriculture, and the proportion is gradually increasing. They stand on a professional and rational perspective to perform their duties, and can provide positive countermeasures and suggestions for the development of agricultural listed companies, which helps to effectively supervise the independent directors.

## 5. Conclusion

Through the analysis of the research results, we can see that the efficiency of the board of China's agricultural listed companies is not high, and their supervisory role is not fully demonstrated. The size of the board of directors and the size of independent directors have a positive effect on the profitability of enterprises. The ecology of corporate governance and its control provide support for the internal governance mechanism of agricultural listed companies, which is the guarantee for the realization of the operating performance of agricultural listed companies. It plays a basic and necessary role for corporate governance to promote the profitability of agricultural listed companies. We must build a good corporate governance ecology and provide the foundation for the operation of the governance mechanism of agricultural listed companies so as to promote the effective development of agricultural listed companies and the improvement of business performance.

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