

Research on Governance Structure and Operational Efficiency of Manufacturing Listed Companies

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Introduction

China's manufacturing industry has developed rapidly and has become an important pillar of the national economy. However, with the slowdown of economic growth, the aggravation of energy shortage and the increase of labor cost, how to effectively allocate resources and improve production efficiency has become the key factor for manufacturing listed companies to enhance their core competitiveness and obtain long-term development. Therefore, it is necessary to evaluate the efficiency of China's manufacturing listed companies, through the analysis of the influencing factors to continuously improve the operating efficiency.

Research Questions

This paper divides the operation process of manufacturing listed companies into profit efficiency and market efficiency, and evaluates the efficiency from different perspectives.

Methodologies

1) DEA model

DEA model determines the production frontier through mathematical programming model and evaluates the relative efficiency of each decision making unit (DMU). The optimization model is as follows:

$$\max h_{k} = \sum_{r=1}^{s} U_{r} Y_{rk} / \sum_{i=1}^{s} V_{i} X_{ik}$$

s.t. $\sum_{r=1}^{s} U_{r} Y_{ij} / \sum_{r=1}^{m} V_{i} X_{ij} \le 1$

2) Tobit model

The efficiency calculated by DEA model is in the range of (0, 1], and there is censored data. If the least squares regression model (OLS) is used, the premise that the data is continuous value will be violated, and the results obtained will be biased and inconsistent. Therefore, this paper chooses Tobit model to study the relationship between corporate governance and operational efficiency.

Tables

Table 1. Regression results of Tobit model

	Model one		Model two	
	coefficient	Z	coefficient	Z
Constant	0.238***	2.0944	2.099***	10.8938
CONC	0.001***	3.4902	-0.001	-0.9600
DS	0.004	0.2073	0.036 [*]	1.4099
IND_R	0.061	0.6957	0.145	0.9745
DUA	-0.009	-0.6991	-0.013	-0.5757
М	0.073	0.7584	0.261	1.5770
MA	0.028***	4.7736	-0.006*	-0.6203
SIZE	-0.181***	-18.4359	0.123***	7.4573
DAR	-0.070***	-2.4803	0.029	0.604
TE-1	0.189 ^{***}	23.3924	-0.209***	-15.5103
R ²	0.702		0.627	
Adjusted R ²	0.685		0.605	
Log likelihood	410.45		210.78	

Conclusion

The basic conclusions are as follows. 1) The efficiency of listed manufacturing companies in different stages is quite different. The average efficiency of the profit stage is 0.691, while that of the market stage is only 0.265, which is far lower than that of the first stage. This shows that most companies still set the goal of profit maximization rather than value maximization. 2) The role of corporate governance is different in different stages. The compensation of controlling shareholders has a positive impact on the company's profitability. The size of the board of directors and the shareholding promote management's can the market-oriented ability of the company. Therefore, managers should formulate clear corporate strategy, gradually improve various governance means including equity governance, board governance and management incentive, so as to maximize the effectiveness of corporate governance and promote the overall efficiency of the company.