Research on Performance Evaluation of Listed Companies Based on Value Creation

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Abstract. The goal of business operation is to create value and maximize shareholders' wealth. However, the current financial performance system still has certain defects, which cannot yet reflect the results of value creation comprehensively and make it difficult to examine the value creation ability of managers. Therefore, how to efficiently examine the value created by executives and reflect the true performance of executives will be the focus of future performance reform of enterprises. Based on the needs of value management of listed companies, this paper analyzes the key drivers affecting value creation and optimizes the financial performance evaluation system with appropriate correlation pointing indicators, hoping to guide corporate governance and improve the capital market investment and financing environment.

Keywords: Value creation; Performance evaluation; Driving factors; Value management

1. Introduction

Value creation is management's investment and financing activities based on the strategic objectives set by the board of directors, thereby increasing shareholder value and achieving a win-win situation for both management and leadership.

However, the performance evaluation type indicators at this stage have many problems and defects. The traditional financial performance evaluation puts the focus on the internal of the enterprise but ignores other stakeholders, which is easy to cause conflicts of interest; in addition, the traditional financial performance evaluation system cannot reveal the performance motives, and can only evaluate the activities or economic decisions that happened in the past and control them afterwards. The management of an enterprise needs to obtain more information related to the company's development prospect, operation status, potential risks, etc., so as to make detailed planning for future development and implement effective decisions. Then, it is especially important to select the shareholder value creation assessment indexes suitable for China's listed companies and establish a set of universally applicable performance evaluation system.

2. Theoretical Foundation

2.1 Key Drivers of Value Creation

To create value, managers must have a deep understanding of the performance variables that drive enterprise value, the key value drivers. Based on the perspective of corporate finance and operation, Alfred Rappaport (1986) proposed that corporate value includes weighted capital cost, cash flow time distribution, operating capital growth rate, fixed capital growth rate, income tax rate, There are seven driving factors such as sales growth rate and sales profit margin; Martin & Petty (2000) decomposed the total operating income of a company to have the following three elements: free cash flow from existing investments, investment returns and growth of new investments; Loud (2009) argues that the cost of capital, trading activities, price-earnings ratio and growth expectations of stocks and bonds can be used as typical value drivers. Other scholars have also obtained the driving factors through model decomposition and empirical research, but there is no clear systematic analysis of the motivation of shareholder value creation.

2.2 Financial Performance Evaluation System

The performance evaluation system of value management, from the earliest DuPont analysis method, has provided a very simple method to understand the return on net assets, and then the United States Stensite Company developed EVA as a performance evaluation index to restore accounting profits. The economic profit has made the EVA evaluation system widely used and has become an international standard for corporate performance measurement. Robert Kaplan and David Norton designed the Balanced Scorecard, which allows companies to focus on financial information while creating capital for long-term development capabilities, as well as Tobin's Q value, performance multi-faceted system, and radar chart analysis. However, there are few performance evaluation systems based on values, and no scholars have systematically explained the value creation performance evaluation system.

3. The Selection of Value Management Performance Evaluation Index

Taking into account the relevant principles of index selection, and referring to the "Enterprise Performance Evaluation Standard Value 2019" published by the Financial Supervision and Evaluation Bureau of the State-owned Assets Supervision and Administration Commission of the State Council, appropriate indicators are selected and a scientific performance evaluation system is generated. The performance system is composed of core indicators and auxiliary indicators. The core system is the main body of evaluation, and its content covers four parts: value creation capability, value creation efficiency, value creation potential, and value creation market performance. These two dimensions describe the results of value creation. In addition, traditional financial indicators are selected to explain the current situation of the company's internal operations, including solvency, asset operation, profitability and development, which are precisely linked to the motivation of shareholder value creation. Finally, combine some structural indicators to reflect the company's strategic layout and decision-making from the side.

The following table shows the shareholder value creation performance system.

Table 1.   Shareholder value creation performance evaluation system

Evaluation Dimension	Indicator Name	Calculation Formula
Value Creation Capability	EVA	EVA=NOPAT-（WACC*TC）
	SES	SES=(RSE-CSEC)*SEC
	TSR	TSR= (Stock Price t+1+Dividend t+1- Stock Price t)/Stock Price t
	EPS	EPS=(EBIT-I)(1-T)/N
Value Creation Efficiency	EVA Rate	EVA Rate=EVA/WACC
	Turnover Tax Rate	TTR= Business Taxes and Surcharges / Total Business Income
	ROM	ROM= Prime operating Income/Prime Operating Revenue
	ROE	ROE=Net Income/Average Shaicholders Equity
value creation potential	EVA growth rate	Rt=[Xt-X(t-1)]/ X(t-1) ×100%
	MVA growth rate	
	EPS growth rate	
	ROE growth rate	

Market performance	Market Value Added	MVA=MV-BV
	P/B Ratio	P/B Ratio=Market Price Per Share/Diuted EPS
solvency	Current Ratio	Current Ratio=Current Assets/Current Liabilities
Operational capability	Shareholders' Equity Turnover	Shareholders' Equity Turnover = Operating Income / Average Shareholders' Equity
Profitability	Net Profit Margin on Total Assets	Net Profit Ratio of Total Assets = Net Profit / Average Total Assets
	Return on Invested Capital	ROI=Net Income/Average Owners Equity
development ability	Capital Accumulation Rate	Capital Accumulation Rate = (Owner's Equity t- Owner's Equity t-1) / Owner's Equity t-1
Other indicators	Fixed Asset Ratio	Fixed Assets Ratio = Net Fixed Assets/Total Assets
	Shareholders' Equity to Fixed Assets Ratio	Shareholders' Equity to Fixed Assets Ratio = Shareholders' Equity/Net Fixed Assets
	Manager's Shareholding Ratio	MSR= Number of Shares held by Management / Total Share Capital

4. Empirical Analysis of the Evaluation of Shareholders' Value Creation in Listed Companies

4.1 Sample Selection and Data Sources

This paper selects 45 listed companies in 2019 as research samples. In order to ensure the comparability of all data, all A-share listed stocks are selected, and the stocks listed by ST and PT have been excluded. The experimental data are all taken from Guotai'an database And Ruisi database, and do the relevant preprocessing. Using SPSS analysis software, principal component analysis was used to objectively assign the index weights.

4.2 Analysis of Results

First, KMO and Bartlett tests are performed, as shown in Table 2 below, the KMO metric value is 0.688, the Bartlett sphericity test value is 1052.263, and Sig=0.000. The value of the KMO statistic is 0.6-0.7, which is reasonable. The Bartlett sphericity test value is also greater than 100, and the Sig value is less than 0.05. It can be considered that there is a significant difference between the correlation coefficient matrix and the identity matrix, so these variables selected in this paper are suitable for factor analysis was performed. Then start to extract factors and calculate the variance contribution rate. The total variance decomposition table obtained by factor analysis this time is shown in Figure 3. From this table and the scatter plot of explanatory factors, it can be seen that a total of 6 principal components are retained. At this time, the cumulative variance contribution rate is 81.807%. These 6 components Information sufficient to express the indicators of the original data 22 can be used to evaluate the performance of the listed company's shareholder value creation.

Table 2. KMO Test Results

KMO Sampling Suitability Quantity.		0.688
Bartlett's Sphericity Test	Approximate chi-square	1052.263
	Degrees of Freedom	231
	Salience	0.000

Table 3. Total explained variance

Element	Rotational load sum of squares		
	Variance %	Cumulative %	Total
1	5.369	24.404	24.404
2	4.582	20.828	45.231
3	2.657	12.078	57.309
4	2.085	9.478	66.787
5	1.942	8.743	75.531
6	1.381	6.277	81.807

In this paper, the principal component analysis method is used to reduce the dimension of 22 feature variables into 6 principal components, explain each principal component, and calculate their respective scores. The interpretation of the principal components is as follows shown in Table 4.

Table 4.   Principal Component Interpretation

Main Load	Principal Component Interpretation
ROI、ROE、EVA Rate、Net Profit Margin on Total Assets、EPS	F1: Value Creation Capability
Shareholders' Equity to Fixed Assets Ratio、ROM、EPS growth rate、ROE growth rate、Current Ratio	F2: Value-added capability
Capital Accumulation Rate、TSR	F3: value accumulation
MVA	F4: Value Creation Market Performance
Turnover Tax Rate	F5: Value Creation Efficiency
Manager's Shareholding Ratio	F6: Corporate governance structure

4.3 Comprehensive Score Calculation Formula

The factor analysis method can express these 6 common factors as the linear form of 22 original variables, and obtain a component score coefficient matrix to calculate the score data of each common factor. Finally, the final comprehensive score can be obtained according to the score of each common factor and the variance contribution rate and cumulative variance contribution rate of

the common factor. Here, only the top five and bottom five companies are intercepted for analysis, as shown in Table 5.

$$F=(24.404\%*F1+20.828\%*F2+12.078\%*F3+9.478\%*F4+8.743\%*F5+6.277\%*F6）/81.807\%$$

Table 5.　　Shareholder Value Creation Performance Evaluation Company Comprehensive Ranking

Securities ID	F1	F2	F3	F4	F5	F6	Score
000709	16	1	9	40	45	37	0.936
000708	5	43	1	30	13	13	0.96
600507	1	20	43	21	9	14	0.722
000655	20	2	29	35	1	44	0.647
603878	9	5	38	25	11	8	0.627
600569	34	41	36	31	40	16	-0.651
600022	40	40	30	39	28	27	-0.685
600129	31	33	17	44	29	23	-0.698
600010	44	36	40	43	7	10	-0.728
600581	39	45	16	1	39	35	-0.729

5.　Conclusion

Through the research of this paper, the following conclusions can be drawn:

First, from an overall perspective, only 7 listed companies have a comprehensive score of more than 0.5, which can be defined as companies with excellent management. A total of 25 companies scored between 0 and 0.5, showing good performance. The remaining 20 companies scored less than 0, indicating that the effect of shareholder value creation was poor. Therefore, the overall operation of the steel industry in 2019 is still good, with half All of the above companies are creating value for shareholders. However, the market value of a large number of enterprises is constantly decreasing, which is a bad signal. The senior management of the enterprise must pay enough attention, and the internal reform of the enterprise must be deepened to improve its competitiveness in the industry. Judging from the scores and rankings of various public factors, no company's public factors are all high scores, and they have advantages and disadvantages, indicating that the overall development of the company is still unbalanced, the shareholder value and strategy have not been well coordinated, and the future governance is still unbalanced. To be improved and improved.

Second,from a local point of view, the top five companies are relatively strong in the ability or potential of value creation, and they all have their own advantages. It is very broad, and the senior management also attaches great importance to the sustainable development of the enterprise, and actively expands other businesses and continuously improves business processes. The second-ranked CITIC Special Steel（000709） has a very small gap with the first. It is committed to the accumulation of the company's value. my country's special steel production accounts for a relatively low proportion. In the future, the demand for special steel will obviously increase greatly. The market potential and development space are huge. Therefore, CITIC Special Steel began to expand rapidly and built a strategic layout of the "coastal and riverside" industrial chain, which truly integrated the enterprise's strategy and operation and management, and enabled the continuation of shareholder value creation. Therefore, iron and steel enterprises that operate special steel or high-tech will be potential stocks for future development. Traditional iron and steel enterprises need to carry out reform and innovation, and cannot blindly follow the old path, otherwise it will be difficult to continue to create value for shareholders.

6. Suggest

First, management must deeply understand the key drivers of value creation and combine them with the company's strategic framework to increase operating cash flow for the company and attract foreign investment. The formulation of the strategic framework also needs to be combined with the macroeconomic environment and policies. After all, the industry changes with the society, rather than passively arranging production according to production plans and order plans. Supply-side structural reform has become the general trend, and enterprises should optimize The production capacity structure, capacity reduction and inventory removal, and the main business also need to be actively transformed to meet the new development needs, rather than stick to the rules.

Second, strengthen the level of financial management. The creation of shareholder value is inseparable from the scientific capital structure and financial management. On the one hand, the company needs to reduce the cost of capital, optimize the capital structure, and reduce the main production cost by improving its operating system. Sales profit rate, so that every link of the enterprise can create revenue for it. On the other hand, it is necessary to integrate resource allocation, improve the turnover rate and use efficiency of funds, rationally use financial leverage to reduce financial risks, and reduce income tax and expenses through effective tax planning.

Third, improve the company's equity governance structure, attract institutional investors through sound operations, stabilize the equity structure and funding channels, and carry out certain incentives to give appreciation and rewards to executives who actively create shareholder value, linked to their performance appraisals , by using EVA or shareholders' equity difference and other indicators to pay a certain dividend, or give it a reasonable equity, so that it can serve the enterprise better.

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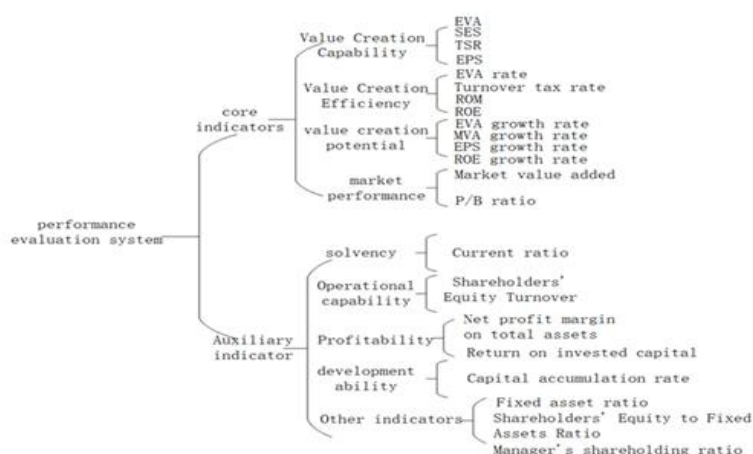
Fig. 1 Value management performance evaluation system of listed companies