



A Comprehensive Evaluation Analysis of Financial Core Competitiveness of Listed Companies

Xiaolin Chen

School of Business Administration, Northeastern University, Shenyang 110004, China

E-mail: xlchen@mail.neu.edu.cn

Abstract

Financial management is an important component of companies' economic activities. Companies' core competitiveness is based on the financial core competitiveness in a sense. To measure a company's financial core competitiveness is meaningful for understanding the company's financial management performance and building the company's core competitiveness. This essay constitutes a set of indexes system for evaluating listed companies' financial core competitiveness. According to data from 15 steel companies listed in Shenzhen Stock Exchange, this essay analyzes and evaluates listed companies' financial core competitiveness, and finally advances several suggestions for cultivating and improving listed companies' financial core competitiveness.

Keywords: Financial core competitiveness, Comprehensive evaluation, Listed companies, Steel industry

In China, some scholars have already put forward relevant theories concerning the accounting core competitiveness, corporate financial core competence, and the core competitiveness finance. Considering scholars' different understandings toward the essence of core competitiveness due to different views of integration, knowledge, culture, and organization, the financial core competitiveness refers to a series of special, excellent, dynamic corporate financial competitive competences rooted in corporate financial management system, taking knowledge and innovation as the basic core. It is the upgrade and the optimization of corporate financial management competence. And it is a company's core competitiveness or part of core competitiveness.

The formation of financial core competitiveness is a continuous innovative process in which financial resources are organized and coordinated reasonably and effectively, and the financial competitiveness will match the company more. In this process, the relevant issues about financial core competitiveness can be regarded as a system in which different elements and rings influence one another. This system consists of four kinds of elements, namely ability resource, basic resource, ability institution, and ability state. However, as a company tries to apply the idea of core competitiveness in perspective of financial core ability, the greatest difficulty is that it does not know whether there is financial core competitiveness in the company or not. Where is financial core competitiveness? And how powerful is it? Although to build an objective common evaluation standard for financial core competitiveness is very difficult, a company has to build a standard since it wants to use it. The company must organically integrate financial core competitiveness' separate evaluation and general evaluation together. Therefore, we should design the evaluation indexes system from the formation of financial core competitiveness instead of the result. Then, it can help to evaluate a company's financial abilities properly. Specific designed indexes are shown in Table 1 as follow.

Based on the evaluation indexes system, we adopt the linear weight comprehensive evaluation method to evaluate the financial core competitiveness. Mark the evaluation indexes group as: $X = \{X_1, X_2, \dots, X_{10}\}$.

Here, X_1 ----- Percentage of high and higher financial employees; X_2 ----- Information level of financial management information system; X_3 ----- Industrial rank of total assets; X_4 ----- Industrial rank of financing scale in recent three years; X_5 ----- Corporate governance index; X_6 ----- Internal control; X_7 ----- Z value; X_8 ----- Investment growth ratio; X_9 ----- Industrial rank of cash flow; X_{10} ----- Cash dividend payout ratio.

As for the corporate governance level, we adopt the latest study fruit ----- China listed company's governance index, by Donghui Shi from the Research Center of Shanghai Stock Exchange. Corporate governance index = 35% * Score of controlling shareholders' behavior + 25% * Score of key man's restraint and incentive + 25% * Score of The Board's structure and operation + 15% * Score of information transparency. In detail, it is shown in Table 2 as follow.

A company's financial pre-warning ability is based on the application of financial pre-warning system. Here we select American Altman's Z model which can reflect whether a company's finance is stable or not in general. This model

adopts five financial ratios. It generates the final evaluation value (Z value) by weights and integration. The function is:
 $Z=1.2Y_1+1.4Y_2+3.3Y_3+0.6Y_4+0.999Y_5$

Here: Y_1 = Operational funds / Total assets, Y_2 = Retained profits (undistributed profits) / Total assets, Y_3 = Profits before taxes and interests / Total assets, Y_4 = Market value of common shares and priority shares / Accounting value of debts, Y_5 = Total sales / Total assets. In general, the smaller the Z value is, the more possible the company may come to bankruptcy, the more imperfect the company's financial pre-warning system, and the poorer the company's financial pre-warning ability is.

We can get data of industrial rank of total assets, financing scale in recent three years, investment growth ratio, total cash flow, and cash dividend payout ratio from companies' annual reports or easy calculations. But for data of higher financial professional percentage, we have to perform investigations in companies. As for the information level of companies' financial management information system, we should ask helps from experts considering whether it is the manual accounting system or the electric accounting system, it is MRP, MRPII, or ERP.

Due to certain objective restraints (in a narrow scope), this essay selects eight indexes in the designed indexes system and takes them as the comprehensive evaluation indexes for valuing listed companies' financial abilities. The eight indexes are information level of financial management information system, industrial rank of total assets, industrial rank of financing scale, corporate governance index, Z value, investment growth ratio, industrial rank of cash flow, and cash dividend payout ratio.

This essay adopts the sorting leveled design in building an evaluation indexes system for financial core competitiveness, and uses a new evaluation indexes weight method ----- G_1 , which is advanced by Professor Yajun Guo, in establishing the weights. It is not necessary to build a judgment matrix or consistency check for the G_1 method. Calculations are easier comparing with the leveled analysis method. Besides, the G_1 method can maintain the sequence of indexes' weights.

For the sake of comparisons and statistics, this essay chooses 15 steel companies (Presently, China has 42 listed steel companies) that listed in Shenzhen Stock Exchange ("0" in the company code as the first number means it is a steel company that listed in Shenzhen Stock Exchange). Relevant materials concerning listed companies are all from legal information disclosure websites appointed by China Securities Regulatory Commission: <http://www.bj.cninfo.com.cn> and <http://www.stockstar.com>.

In processing the data, the general principle is to turn quality indexes into quantity indexes, and turn quantity indexes into non-dimensional maximum indexes with same tendency. And the total score of each index is 10. In detail, procedures are listed as follow.

(1) As for the industrial rank of total assets, use $N/42$ to represent the rank of one company. Turn it into the maximum by $1-N/42$, and then multiply with 10. Get the final score of the index.

(2) As for the industrial rank of cash flow and the industrial rank of financing in recent years, the process is similar to above.

(3) As for the listed companies' governance index: Firstly, calculate the score of each question. In the evaluation system, each question of 12 questions has two choices: positive or negative, respectively with the value "0" or "1". Secondly, calculate the score of each item. For the four items, namely the controlling shareholders' behavior, key man's selection, incentive, and restraint, Board's structure and operation, and transparency of information disclosure, get the total score of each item respectively and then divide the number of questions, and multiply with 10. Get the final score of one item. Therefore, the total score of each item is 10. Finally, according to the weight of each item, calculate the total score of corporate governance index.

(4) As for the investment growth ratio and the cash dividend payout ratio, make the score in calculation multiply with 10 and get the final score of each index.

(5) As for the information level of financial management information system, get the score according to the nature of system, ERP, MRPII, MRP, common electric accounting system, or traditional manual accounting system.

(6) As for the value of Z , if it is larger than 2.675, the score is in the scope between 8.0 and 10.0. If it is in the scope 1.81 and 2.675, the score is in the scope between 4.0 and 8.0. If it is smaller than 1.81, the core is in the scope between 1.0 and 4.0. For example, if one listed company has a Z value 2.42, then, $Z=[(2.42-1.81)/(2.675-1.81)]\times(8-4)+4$

As for the relative importance of index in the indexes system, this essay designs a questionnaire and selects some theoretical scholars, financial workers, and postgraduates specialized in relevant subjects for the questionnaire. This research issues 12 questionnaires and collects 10. Calculate the weights of each index according to the methods mentioned above. Results are shown in Table 3 as follow.

Based on the financial core competitiveness indexes system after a pre-process and the weights by the G_1 method, we

get the comprehensive rank of 15 listed steel companies' financial core competitiveness, which is shown in Table 4 as follow.

By comparing scores of financial core competitiveness' comprehensive evaluation indexes of 15 steel companies listed in Shenzhen Stock Exchange, we find that Beijing Shougang (000959) firstly adopts the latest ERP system and improves its information level of financial management information system as other 14 companies still use common electric accounting system. By this way, it becomes the information provider and sharer from a saver. Only for the one index, Beijing Shougang wins advantages over others in financial core competitiveness. Meanwhile, Beijing Shougang ranks No.1 concerning the ability of financing among the 15 companies. But it does not expand fast but apply the collected funds to production management by its excellent financial organization and coordination ability (ranks No.2) and funds utility ability (ranks No.1), forming the financial core competitiveness better than others in the industry.

In addition, we find that the top five companies in the comprehensive evaluation rank of financial core competitiveness get higher scores than the last five companies in the rank concerning the five indexes, namely total assets, financing scale in recent three years, corporate governance index, investment growth ratio, and cash flow.

Apparently, China's listed steel companies should pay more attentions to basic resources, financing ability, investment ability, capital use ability, and financial organization and coordination ability, and continue to dig out the potentials, in order to maintain the financial competitive advantages in severe market competition and maintain the leading advantage.

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Table 1. The evaluation indexes for financial core competitiveness

	Basic element	Evaluation element	Evaluation index	Meanings of index
Financial core competitiveness	Ability resource	Financial human resource	Percentage of high financial professionals	High and higher professional financial employees / Total financial employees
		Ability of information process	Information level of financial management information system	Adopt information process system: popular accounting software, MRP, MRPII, OR ERP system
		Scale of asset	Industrial rank of total asset	
		Ability of financial relationship	Industrial rank of financing in recent three years	
	Ability institution and mechanism	Ability of financial organization and coordination	Index of corporate governance	Corporate governance index = 35% * Score of controlling shareholders' behavior + 25% * Score of key man's restraint and incentive + 25% * Score of The Board's structure and operation + 15% * Score of information transparency
		Ability of financial control	Internal control	Internal system report suggestions
		Ability of financial pre-warning	Z value	$Z = 1.2 * \text{Working capitals} / \text{Total assets} + 1.4 * \text{Retained profits} / \text{Total assets} + 3.3 * \text{Profits before taxes and interests} / \text{Total assets} + 0.6 * \text{Market value of stock} / \text{Total debts} + 0.999 * \text{Total sales} / \text{Total assets}$
	Ability state	Ability of investment	Investment growth	Growth ratio of projects in construction, fixed assets, and long-term investments
		Ability of funds application	Industrial rank of cash flow	
		Ability of distribution	Cash dividend payout ratio	Cash dividends in recent three years / Cash stock dividends in recent three years

Table 2. Components of corporate governance index.

Governance aspect	Sub-index
Controlling shareholders' behavior (35%)	Whether there is related transactions between controlling shareholders and the listed company; Whether controlling shareholders or related parties occupy listed company's funds; Whether listed company offers guaranties for controlling shareholders and related parties.
Key man's selection, incentive, and restraint (25%)	Whether the general manager is from controlling shareholders; Whether the board president or the general manager gets salaries from the listed company; Whether the board president or the general manager holds the listed company's stocks; Whether the listed company distributes cash dividends in one evaluation year.
Structure and operation of board (25%)	Whether the listed company's board has an independent director; Whether the listed company's board president and the general manager is the same person; Whether the listed company's board president or the general manager is employed by controlling shareholders.
Transparency of information disclosure (15%)	Whether the registered accountant presents the non-standard and unreserved opinions for the accounting reports in one evaluation year; Whether the listed company is criticized openly by Shanghai Stock Exchange and Shenzhen Stock Exchange because of information disclosure in one evaluation year.

Table 3. Weights of evaluation indexes.

Evaluation element	Weight	Evaluation element	Weight
Financial human resource	0.15	Ability of financial control	0.13
Ability of information process	0.13	Ability of financial pre-warning	0.12
Asset scale	0.09	Ability of investment	0.04
Ability of financial relationship	0.10	Efficiency of funds utility	0.07
Ability of financial organization and coordination	0.14	Ability of distribution	0.03

Table 4. Comprehensive evaluation rank of financial core competitiveness.

Rank	Stock code	Stock name	Comprehensive evaluation value	Rank	Stock code	Stock name	Comprehensive evaluation value
1	000959	Beijing Shougang	5.2811	9	000778	Xinxing Pipes	3.5785
2	000898	Angang New Steel Co.	4.6482	10	000708	Daye Steel	3.4325
3	000932	Valin Line	4.5827	11	000890	China Fasten	3.4033
4	000825	Taiyuan Steel Stainless	4.5406	12	000761	Benxi Steel Plate Co	3.2730
5	000717	Shaoguan Iron & Steel	4.5198	13	000961	Dalian Jinniu	2.8626
6	001696	Zongshen Motor	4.4635	14	000569	Greatwall Corp.	2.7271
7	000709	Tangshan Steel	4.3096	15	000656	ST Dongyuan	2.4216
8	000629	Panzhuhua New Steel & Vanadium Co	4.0934				