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# The Research of the Relation Between Capital Structure Decision and Core Competitiveness

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**Abstract:** The capital structure of a company reflects the proportional relation of a company's debts and equity, which decides the ability of debt paying, refinance refunding and the profit in the future to a great extent. It is an important index of company's financial condition. The decision-making power of a company is its core competitiveness, although competitiveness is secluded, we can express this abstract ability with concrete content and index when it comes to practice. Common core factors or ability indexes include innovative technology, employees, excellent company culture and brand impact. The paper studies and analyses the connection impact between the capital structure and the decision-making power referring to domestic and foreign data, it also combines the situation of the companies in our country.

**Keywords:** Capital Structure, Core Competitiveness, System Environment, Innovation

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## 1. Introduction

Core competitiveness has become the key factor to win and keep long-term edge in competitions for organizations in the 21<sup>st</sup> century, and it is a common sense among strategists. How to develop and set up core competitiveness surely becomes one of the key factors for companies to occupy the market and seize opportunities. Ability results from the long-term, unique interaction between intangible assets and tangible assets of a company. Therefore, to some degree, the capital structure decides the core competitiveness of a company.

Core competitiveness decides the investment orientation of a company, at the same time, choosing correct capital structure can create better competitiveness for the company.

The main contents of the paper includes: concept of capital structure, theoretical development of capital structure, current situation of China's companies' capital structures and influencing factor of it; concept of core competitiveness, current situation of Chinese companies' core competitiveness and some problems; connections between capital structure and core competitiveness and empirical analysis of it.

## 2. Relevant Overview of Capital Structure

### 2.1. The Concept of Capital Structure

Capital structure refers to value composition and proportional relation of different kinds of capital in a company, and it is the result of financing and combination during a given period. In a broad sense, capital structure refers to the composition and proportional relation of one company's total capitals. Capital in a given period can be divided into debt capital and equity capital; it can also be divided into short-term capital and long-term capital. In a narrow sense, capital structure refers to value composition and proportional relation of different kinds of long-term capital in a company, especially refers to composition and proportional relation of long-term debt capital and long-term equity capital. The best capital structure is a structure which can maximize shareholders' fortune or share price, which means, this capital structure can minimize capital cost of a company. Capital structure of a company also called 'the structure of financing', it reflects the proportional relation of company's debts and equity, which decides the ability of debt paying, refinance refunding and the profit in the future to a great extent. It is an

important index of company's financial condition. Reasonable financing structure can reduce financing cost, produce the regulating effect of financial leverage, help the company get higher yield rate of equity fund. The theoretical cycle has some dispute on the category of capital structure, there are three viewpoints in all: The first viewpoint is equity fund structure theory, this viewpoint define capital merely as the source of equity fund, but this viewpoint is not very common; The second viewpoint is long-term capital structure theory, this theory believes that capital refers to long-term capital, which means equity capital and long-term debt capital. (Short-term debts are managed as operating capital here and they are out of the category of capital structure). The third viewpoint is full capital structure theory which studies the composition and proportional relation of all capital structure of a company. Compared with the second viewpoint, the third viewpoint doesn't include long-term capital (equity capital and long-term debt capital), short-term debt capital is included. We can see from the application of concept in the research of capital structure that the definition of capital structure is not restricted strictly, normally, the scholars use relevant concepts on the basis of the aim of researching. In practical research, the third viewpoint is adopted which means that full capital structure theory is the majority. The capital structure in this definition refers to the proportional relation of all of the sources of capital, in other words, the proportional relation of equity capital and debt capital.

## **2.2. Theoretical Development of Capital Structure**

### **2.2.1. Traditional Capital Structure Theory**

Early capital structure theory includes: net income theory, net operating income theory, traditional eclectic theory. Traditional eclectic theory is more perfect.

Net income theory insists that total capital cost can be reduced by enhancing the financial leverage of the company using debt financing so that the market value of the company can be enhanced. The investment returning ratio of debts is stable, so the creditor has prior claim, the risk of debt financing is lower than equity, and the cost of debt is lower than the cost of equity generally. Therefore, the more money a company borrows, the higher the value is, when the debt of a company reach 100%, the value is at its maximum.

Early capital structure theory thinks that the capital structure of a company has nothing to do with the value of it, however capital structure changes, weighted capital cost is fixed, and it cannot affect the market value of the company, what really decides the value of a company is the net operating income.

Traditional theory is an eclectic theory which is between the two theories above: increasing the cost of debt is beneficial to enhance the value of a company. Total capital cost ratio changes with the structure of equity and debts, when the marginal cost of debt financing and equity financing is equal, total capital cost is at its minimum, the market value of a company is at its maximum, in other words, this structure is the best capital structure at this time.

However, early traditional theory was put forward under a

certain condition that the income tax is zero. This theory has certain limitation and lacks practical application value, but later research on capital structure theory lays the foundation for it.

### **2.2.2. Modern Capital Structure Theory**

The capital structure model that Modigliani and Miller put forward opened a new chapter on the research on modern capital structure. These two persons studied the relation between the capital and market value of the company deeply and put forward nine ideal assumed conditions which includes that the securities market is perfect, they draw a conclusion that the market value of a company has nothing to do with capital structure, it is related to real assets<sup>[1]</sup>. Although the theory that MM put forward open a new page on capital structure theory's research, the research result was put forward under full ideal conditions, it didn't have practical guiding value.

Modigliani and Miller (1963) published papers in which the original theory was revised. It brought income tax into original analyses and worked out that the market value of a company enhances as the financial leverage increases because of the effect of taxation mechanism. Then, the balance theory brought in bankruptcy cost, it made the capital structure theory more completed, this theory considered that the more money a company borrows, the higher financial risk it takes, the bankruptcy cost it brings will lower the market value of the company<sup>[2]</sup>. Therefore, the best capital structure is decided by both taxation mechanism and bankruptcy cost brought by debts.

### **2.2.3. New Capital Structure Theory**

Ross (1977) overturned the last assumed condition of MM theory—'full information' assumption. This theory thinks that information is not symmetrical completely. People in external environment can guess the development situation of the company only by financial reports and the data published by exchange; they don't know the true situation within the company. So the level of debts is considered as the signal of company quality, when a company's debts increase the cost of debt only under the circumstance that the company has good prospects for future development. That way, issuing bonds can lower capital cost of a company and enhance market value of it.

Myers and Majluf put forward pecking order theory when they study how to finance for new investment. This theory is a financing order theory which considers that when information is not symmetrical, different ways of financing transfer different information to the external environment so that it has different effect on the market value of the company, therefore, the company usually uses internal equity capital first and the use debt financing, finally the company uses stock issue when financing.

## **2.3. Current Situation of Companies' Capital Structures in China**

With the continuously deepening of market economic

system, the development of capital market system is speeding up, different kinds of financing tools are being perfected and gets the recognition of administrators, there are more and more ways for companies to finance, and diversified financing system makes it more convenient for administrators of companies to choose the most suitable capital structure for the company. However, because of the effect of national policies, legal system, information transmission efficiency, management preference, and market pattern, etc. When choosing the way of financing, although it has become more mature, there are still some disadvantages during this process.

Following are the problems appeared in companies' structures in China:

(1) The structure of equity is not reasonable

The structure of equity in our country is highly centralized, the dominance of state-owned shares still exists, and the problem of proxy of state ownership has not been solved effectively. On one hand, the highly centralized equity will make minority shareholders have no right to attend shareholders' meeting because of the restriction of minimum number of holding shares, they cannot exercise their right to vote so that their rights are injured, at the same time, it encourages opportunistic practice of majority shareholders to control stock market. On the other hand, majority shareholding and relative shareholding of majority shareholders' companies make shareholders' meeting exist in name only, this violates the request that equity right of modern companies should be diversified and decentralized, and effective structure of corporate governance cannot be formed.

(2) Financing preference of state-owned listed companies

Because of the market negative signal effect of equity financing, listed companies in China select equity financing as the first choice generally, but foreign listed companies usually take it as the last financing option. When Chinese companies are making decisions about capital structure, key problem is how to get capital, other optimizing problems are not taken into consideration sufficiently.

(3) The structure of debt is complicated

Current situation of the structure of debt: current liabilities are heavy, long-term debts are light. Current liabilities show that companies have poor management of cash flow and the ability to accumulate equity fund is weak at this stage. Current liabilities have short time limit and bring high financial risk to the company. From the angel of formation, debt capital can be divided into bank loan, debt among companies, debt inner companies, etc. As companies change from planned economic system to market economic system, debt capital becomes more and more complicated. There are three conditions now: Firstly, because of the debt caused by operational losses, the less the equity capital becomes, the heavier the debt capital is, the more unreasonable the capital structure is, and this is a vicious circle. Secondly are financial liabilities. Financial liabilities are debts caused by act of government, the liabilities are passive debts, and government should be the undertaker rather than the

company. Thirdly, debts with universality in society, it is known to all that chain debt has become a heavy burden for company development.

(4) Unsuitable proportion of companies' equity fund

Equity fund of a company, which is also called as share capital or paid-up capital, the proportion of raising capital in total assets of a company reflects the ability to resist risk and the degree of dependency on endogenous financing when operating a company. Equity fund in Chinese companies has a low proportion generally, although even high capital fund in fixed investment is only at the level of 70s of Japan.

## 2.4. Influencing Factor of a Company's Capital Structure

### 2.4.1. Marco Factors

(1) Differences among industries

Prosperity and depression of macro-economy has different effects on different industries, the capital structures of the companies are not the same completely. Generally, companies of high-risk industries have low debt ratio. The combination of high operating risk and high financial risk is certain to increase total risk of the company, companies won't seek high profit blindly but ignore the risk, so it will decrease debts properly so that the risk will be lower. Companies of high capital liquidity industries always have high debt ration than other industries. Because of the high capital liquidity and short turnover time, when the debt falls in, the liquid capital can be managed and the financial risk can be decreased, and now the company can operate at a high debt proportion. Companies should consider particular situations of the industry which itself belongs to. When deciding capital structure, capital structures of excellent companies can be used for reference, but companies shouldn't copy other structures completely. The best capital structure for the company needs 'circumstances alter cases'.

(2) Market mechanism

With the appearing and development of market timing capital structure theory, research of some specialists and scholars show that market mechanism has significant effect on capital structure. Whether capital structure needs adjustment is decided by market mechanism. In good market mechanism, the operating of companies won't fluctuate strongly, so the company can increase debt ratio properly and we debt capital to improve production ability; In bad market mechanism, the development of companies will be limited, profit will be unstable relatively, companies should decrease debt capital properly so the production and operating activities will be stable.

(3) Business cycle

Under the circumstance of market economy, development and operating of economy will have certain fluctuation. Generally the cycle called economic cycle can be divided into resurgence, prosperity, recession, depression. That is to say, any country's economy won't increase or decrease for a long time, and development of economy usually takes place in fluctuation. Generally speaking, during the process of recession and depression, because the whole market macro-economy is stagnant, most companies have

difficulties in operating, financial situations are usually in a tight corner and even be worse, the economic benefit will be poor naturally. In this period, companies should try their best to decrease debts. During the process of resurgence and prosperity, because the economy rises from the valley bottom, market requirement keeps increasing, and sale quantity and profit of most companies keep increasing too. In this period, companies should increase debts properly and seize the opportunity to enlarge scale of production and make companies develop rapidly.

#### 2.4.2. Micro Factors

##### (1) Scale of companies

Generally, the larger the company's scale is, the more ways the company has to finance and the more capital one company can raise in a certain time, and the stronger the company's ability to pay a debt. Large-scale companies mostly use diversified operating model which can disperse financial risk and make liability financing proceeding at the same time. Usually, companies have many internal fund to choose from, when facing investment decisions, companies will conduct internal financing first according to pecking order theory. If external financing is needed, companies prefer liability financing, small-scale companies mostly finance by borrowing money from a bank, the way to finance is single relatively. Compared with large-scale companies, small and medium-sized companies usually have high debt proportion.

##### (2) Assets structure of companies

Assets can be divided into liquid assets and non-liquid assets according to liquidity. Liquid assets include monetary capital, receivables and inventory, etc. Non-liquid assets include held-to-maturity investment, fixed assets and intangible assets. Differences among industries and reasons of company itself make assets structure of different companies different. When companies' assets structures change, companies adjust capital structures at the same time. For example, if a commercial company wants commodity circulation, it needs a few liquid assets and it finances mostly by current liabilities. On the contrary, an industrial company needs factories, equipment and many other non-liquid assets because of production, it's more suitable to finance by using long-term debts and stock issue.

##### (3) Financial condition of companies

When a company is in a good financial condition, it shows that it is in a good capital operation environment, it has stronger ability to take financial risks and its debt financing is more attractive. Cash flow statement reflects capital structure of a company as it is an important report form to reflect financial conditions. When the cash flow condition of a company is good, the situation that the company cannot pay a debt won't occur, at this time, fund problems can be solved by debts. However, if a company is in bad cash flow condition, it is not suitable to borrow a lot of money so the risk that the company cannot pay a debt at maturity can be avoided. Meanwhile, cash flow not only reflects in the cash flow we can see, but also reflects in those businesses that

have taken place but are not involved in cash flow, they may have significant effect on following cash flow.

## 3. Overview on Core Competitiveness of Companies

### 3.1. Concept of Core Competitiveness

#### 3.1.1. The Meaning of Core Competitiveness

What is core competitiveness? The concept of core competitiveness was firstly put forward in *The Core Competence of the Corporation* which was written by C. K. Prahalad, the professor of Business School, the University of Michigan, and Professor Gary Hamel of London Business School in 1990. They defined core competitiveness as: Knowledge and skills that are integrated within an organization, especially about how to coordinate many links of production skills and integrate different technologies<sup>[3]</sup>.

They considered that core competitiveness of companies should be helpful to expand the market and create finished product and customers, its value should be giant. Its contribution is to realize core, fundamental and the customers' most concerned profits but not some dispensable and short-term profits. It should be difficult to copy and imitate by competitors.

#### 3.1.2. Constitution of Core Competitiveness

Core competitiveness of a company is its decision-making power, its ability to develop unique productions, skills and marketing tools, it's the result of company's carrying on internal administrative strategy and external trading strategy. It is usually based on a company's core skills and it helps a company get the ability to maintain persistent competitive edge by using the interaction among the theory of business, strategic decision-making, manufacturing, market management, internal organization, coordinated management and culture of the company. It is a complementary system between assets and knowledge which builds and develops during the process of company's development.

Although competitiveness is converting, this abstract ability can be described by concrete contents and indexes when it comes to practice. Normal core factors or ability indexes include management abilities like receivables turnover period, liquidity ratio, stock turnover ratio and profitability like net assets income ratio.

#### 3.1.3. Characteristics of Core Competitiveness

Core competitiveness of a company has five characteristics: A. Value. For companies, core competence must be those that create value by seizing an opportunity or decrease threatens and can be used by the companies for a long time, the higher value they create, the better. For clients, core competence can offer clients fundamental benefits or utilities, namely fine, cheap, or both. B. Rarity. Core competence can only be owned by one or several current and potential competitors. The judge on the degree of rarity relies on competitors. C. Ductility. Core competence should make a company be capable to enter

different markets and have an acceleration of a series of productions or the competitiveness of service, at the same time, core competence can decrease the cost of companies' productions. Owing strong core competence means a company has the option. However, if a company doesn't get a leading position on core competence, it will not only lose production market, but also may lose a series of markets and business opportunities. D. Inimitability. Core competence is combined by several complicated technologies but not single technology. Meanwhile, core competence internalizes the whole organization system of the company, it is based on systematic learning experience, and it can help a lot with producing unique and persistent competitiveness for the company. E. Irreplaceability. As the core competence of a company, it shouldn't have strategic equivalent. Because of the irreplaceability of core competence, it is difficult to find strategic equivalent or substitution.

Characteristics of core competence presented above decide that it has extraordinary meaning of the long-term development of a company. Firstly, it surpasses concrete production, service and all business units inner a company, it sublimates competition among companies to competition among overall strength of companies. Secondly, core competence can promote a company's compete status in concerning markets, which has long-term meaning for the development of a company. Thirdly, the building of core competence mostly relies on experience and accumulation of knowledge and needs several years or longer time of accumulation.

### **3.2. Current Situation of Chinese Companies' Core Competitiveness**

Since China's reform and opening up, generation and development of Chinese companies has got amazing achievements, a batch of company groups that have domestic or even international effect has sprung up. But China is still in the transitional period from planned economy to market economy, formation and play of core competitiveness system of Chinese companies is still waiting for the time. However, formation of core competitiveness of a company has multiple obstructive factors.

(1) Micro system basis of the formation of core competitiveness of a company— modern company system is still evolving

Formation of core competitiveness of a company is based on modern company system, without this micro system basis, companies won't have clear and strong motivation to chase and maintain core competence. Although most state-owned companies have realized joint-stock system reformation but they are still very nonstandard and it is urgent for them to do strict second modification about property right of legal person, limited liability system and company governance structure.

(2) Micro system basis of the formation of core competitiveness of a company— market economy system is still evolving

Actually, market economy system is an arena for the macro economic agent—company. If the government just plays the

role of a referee, making and carrying out market game rules strictly, offering good and fair environment of competition, trying its best to build unified, open, free and ordered national market, avoiding administrative intervention to companies, letting the market rule of survival of the fittest come into play, even if companies without motivation to pursue core competitiveness will be compelled by the situation.

(3) Improper understanding

Many companies have not realized the importance of core competitiveness, and they usually just aim to one single market and take the company as the mixture of some productions, businesses and factories but ignore the decisive factors behind them. Many companies' researches are restricted to peripheral technology and rely on technology abroad to a large degree. They have not yet formed their own core competition technology. It not only makes it difficult for Chinese companies to contend against foreign companies, but also leads to the long developing cycle of Chinese companies' productions and not adapting to continuous changing market demands.

(4) Companies have short-term acts generally

Most Chinese companies are shortsighted when operating and pursuing short-term profits. When some profitable businesses occur in the market, they come in a continuous stream. In a short run, this behavior really brings certain benefit to the company, but in a long term, a large amount of companies can only be successful for a short time but cannot stand wind and waves because of lacking cultivating of core competitiveness.

(5) Lacking core technology and production

At present, China is still in the period of importing technology. Chinese companies have few technologies that can affect the world, core productions with international competence is also few. It is difficult to contend against those foreign core productions with international competence when it comes to key technology.

### **3.3. Problems about Chinese Companies' Core Competitiveness**

In general, current situation of Chinese companies' core competitiveness is not optimistic, many aspects have different problems. The problems can be generally divided into following parts:

(1) Pressure from transnational capital

Since China's reform and opening up, Chinese companies have faced many valuable chances and the entering of foreign capital at the same time, especially the entering of transnational capital exerts pressure on Chinese companies' core competitiveness.

Problems that foreign companies' holding, buying, combining and buying out to Chinese companies become prominent, many companies especially excellent companies was hold by foreign companies, the proportion of holding by foreign companies is on the rise in many projects that have big advantages originally, productions of foreign companies opens China's market and destroys domestic new blood at the same time. Their market share becomes increasingly higher. For example, car, computer, chromo scope and SPC nearly account

for 90% of the whole market. Foreign companies monopolize and lead Chinese national market by strong comprehensive strength, which makes many excellent new domestic companies have to be united or accept merger by foreign companies or even close down.

(2) Core producing resources' loss and transfer

The main problem is the serious loss of key human resources. It is reported by Sina that The Global Political and Security in 2007 showed that China is the world's biggest migrant-exporting country and the biggest brain drain country. Immigrant from China to America reached the number of 65,000 only in 2006. During the last decade, the proportion of skilled migration and business migration is 20 to 1. The skilled migration mostly includes excellent talents who get the degree of master or higher in China and have working experience for 3 to 5 years. Core competitiveness of a company depends on science and technology to a large degree, the carrier of science power is the reflection of talent after all, the serious brain drain is a critical strike to Chinese companies' core competitiveness.

(3) Core technology is limited by others

The advantage of Chinese companies' core competitiveness is the abundant and cheap labor force internationally. Six bicycles in ten in the world are made in China, productions exported from China have an edge over other countries in price because of the cheap labor in China. On the other hand, most Chinese countries have low technological innovation level and core technology is limited by others. It is reported by Lenovo BBS that, nowadays, mobile phone of foreign brands occupy a large part of China's market, many people don't know that Chinese characters input method of nearly 50 million mobile phones in China, 90% of market share is occupied by foreign companies, homemade mobile phone companies pay nearly 10 billion yuan patent fee for it each year. We can see from the statistics given by MOST that Chinese companies have to pay 20% of each mobile phone's price, 30% of each computer's price and 20% of each numerically-controlled machine tool to foreign patent owners because of lacking core technology.

## 4. Overview of the Relation Between Capital Structure and Core Competitiveness of Companies

Core competitiveness has important effect on the capital structure of a company. With the increasingly fierce market competition, companies try to keep their competitive edges by cultivating core competitiveness.

Core competitiveness can decrease capital cost of a company, thus increasing the value of the company. Recruiting high-quality financial staff is the reflection of core competence, therefore, they can raise fund which is needed by the company at a low unit financing cost, and meanwhile, they can get the advantage of occupying good investment project. Companies carry on asset restructuring by effective rearrangement of fund, decreasing capital cost and operating risk can be realized by optimizing capital structures. Reduce of capital cost will finally lead to increasing of the value of companies.

Core competitiveness can insure going concern of a company. It is the source of getting permanent net capital floating for a company, it can also help the company keep lasting competition edge.

Potential profit opportunity value of a company is realized by core competitiveness. In fact, core competitiveness itself is a kind of potential profit opportunity. Therefore, the stronger core competitiveness a company owns, the more potential opportunities it has, the higher value it gets.

If a company wants reasonable capital structure, it has to enhance its core competitiveness. Capital structure is always the barrier of listed companies' survival and development, and this problem is caused by companies' lacking core competitiveness, it makes companies in a bottleneck stage all the time. If the company wants to own appreciable quantity of market share, it must enhance its core competitiveness and competition edge. Otherwise, under the circumstance of increasingly fierce competition, it will be hard for companies to survive, finally, companies will be combined, bought or even close down.

## 5. Empirical Study of the Relation Between Capital Structure and Core Competitiveness of a Company

### 5.1. Empirical Assumption

The emphasis of this paper is the relation between capital structure and core competitiveness, asset-liability ratio can balance the percentage of capital which relies on external fund in total capital to capital structure of a company. To core competitiveness, balance sheet and profit sheet in financial statements reflects the core competitiveness of a company from two aspects that include management ability and profitability.

There fore, this paper puts forward the following assumption:

Asset-liability ratio is affected by receivable turnover ratio, liquidity ratio, stock turnover ratio, net assets income ratio.

### 5.2. The Selection of Samples

All of the data used in this paper came from Great Wisdom Database.

In order to make sure the timeliness of the demonstration, this paper chose listed companies from 2013 to 2014 as samples because receivable turnover ratio, liquidity ratio, stock turnover ratio and net assets income ratio were chosen as indexes when balancing the management ability and profitability. Meanwhile, in order to study the effect that asset exclusion of different industries has on competitiveness, sample selection needs more samples so that the research conclusion will be more universal. 200 listed companies were selected by analyzing the samples.

### 5.3. Variable Selection

According to the assumption presented above, this paper selected independent variable X and dependent variable Y.

Y represents capital structure, X represents core competitiveness.

### 5.3.1. Independent Variable Selection

X represents independent variable which refers to core competitiveness.

X1—receivable turnover ratio, it is one of the indexes to balance the management ability of a company. it reflects the ratio of the turnover speed of receivables. It shows the average times that receivable of a company turn to cash during a certain period. The higher the receivable turnover ratio is, the quicker it withdraws. On the contrary, it shows that working capital is dead in receivables and affects the ability to turnover capital normally and pays a debt.

X2—stock turnover ratio, it is also an index to balance the management ability. Seeing from stock turn ratio and receivable turnover ratio, if low-liquidity assets has guarantee on high-liquidity liabilities and exists for a long time, it shows that the company has competitiveness edge.

X3—liquidity ratio, it is used to balance the ability that the liquid assets of a company turns to cash to pay a debt before short-term liabilities are at maturity. The higher the liquidity ratio, the higher the liquidity of the company's assets, it reflects the company's competitive edge to some degree.

### 5.4.2. Empirical Study

#### 1. Study on correlation

X4—net assets income ratio, it's the index to balance profitability. According to DuPont financial analysis system, net assets income ratio is the most comprehensive index to reflect financial income and the best index to reflect profit degree [4].

### 5.3.2. Dependent Variable Selection

Y represents dependent variable which refers to capital structure of a company.

Y—asset-liability ratio, it reflects the percentage of capital which relies on borrowing money in total capital, and it also balances the degree of protecting creditor's interest when clearing. It is an important index which can reflect the capital structure of the company best.

### 5.4. Empirical Analyses

#### 5.4.1. Modeling

According to the assumption above, the model is:

$$Y = a_1X_1 + a_2X_2 + a_3X_3 + a_4X_4$$

Y represents capital structure

X represents core competitiveness

Tab. 1. Correlation.

Correlation		Asset-liability ratio (%)	Accounts receivable turnover (%)	Liquidity ratio (%)	Inventory turnover (%)	Return on equity (%)
Asset-liability ratio (%)	Pearson correlation	1	-0.037	-0.271**	0.009	-0.034
	Significance (2-tailed)		0.610	0.000	0.904	0.633
	N	200	195	197	194	195
Accounts receivable turnover (%)	Pearson correlation	-0.037	1	0.032	-0.015	0.037
	Significance (2-tailed)	0.610		0.661	0.837	0.607
	N	195	195	195	193	191
Liquidity ratio (%)	Pearson correlation	-0.271**	0.032	1	-0.029	-0.041
	Significance (2-tailed)	0.000	0.661		0.685	0.572
	N	197	195	197	194	193
Inventory turnover (%)	Pearson correlation	0.009	-0.015	-0.029	1	-0.087
	Significance (2-tailed)	0.904	0.837	0.685		0.232
	N	194	193	194	194	190
Return on equity (%)	Pearson correlation	-0.034	0.037	-0.041	-0.087	1
	Significance (2-tailed)	0.633	0.607	0.572	0.232	
	N	195	191	193	190	195

We can draw conclusions from the chart: ① Correlation between asset-liability ratio and accounts receivable turnover is -3.7%, which reflects that they are in negative correlation, in other words, asset-liability ratio decreases with the increasing of accounts receivable turnover. ② Correlation between asset-liability ratio and liquidity ratio is -27.1% and apparently they are in negative correlation, in other words, asset-liability ratio decreases with the increasing of liquidity ratio. ③ Correlation between asset-liability ratio and inventory turnover is 0.9%, which reflects positive correlation, in other words, asset-liability ratio increases with the increasing of inventory turnover. ④ Correlation between return on equity and asset-liability ratio is -3.4%, which reflects negative correlation, in other words, asset-liability ratio decreases with the increasing of return on equity. ⑤

Correlation between accounts receivable turnover and liquidity ratio is 3.2%, which reflects positive correlation, that is to say, receivable turnover raises with the increasing of liquidity ratio. ⑥ Correlation between inventory turnover and accounts receivable turnover is -1.5%, which reflects negative correlation, that is to say, receivable turnover decreases with the increasing of inventory turnover. ⑦ Correlation between return on equity and receivable turnover is 3.7%, which reflects positive correlation, in other words, receivable turnover raises with the increasing of inventory turnover. ⑧ Correlation between liquidity ratio and inventory turnover is -2.9%, which reflects negative correlation, that is to say, liquidity ratio decreases with the increasing of inventory turnover. ⑨ Correlation between liquidity ratio and return on equity is -2.9%, which reflects that liquidity ratio decreases

with the increasing of return on equity. ⑩ Correlation between inventory turnover and return on equity is 8.7%, which reflects positive correlation, that is to say, return on equity raises with the increasing of inventory turnover. In addition, correlation between liquidity ratio and asset-liability ratio is -27.1%, they are in significant correlation.

2. Analyses on linear regression.

Tab. 2. Summary of Models.

Summary of Models <sup>b</sup>				
Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Estimated standard error
1	0.577 <sup>a</sup>	0.332	0.318	16.5100314

According to this chart, relevance factor of adjusted R<sup>2</sup> is 31.8%, which reflects that tests can be passed generally.

Tab. 3. Coefficient.

Coefficient <sup>a</sup>					
Model	Nonstandard coefficient		Standard coefficient	t	Sig.
	B	Standard error	Trial version		
(Constant)	66.801	2.044		32.684	0.000
1					
Receivable turnover ratio (%)	-0.001	0.002	-0.057	-0.938	0.349
Liquidity ratio (%)	-80.170	0.865	-0.570	-90.450	0.000
Stock turnover ratio (%)	0.000	0.000	0.023	0.387	0.699
Net assets income ratio (%)	-0.049	0.057	-0.053	-0.872	0.384

According to the chart, ① Standard coefficient of affect degree that receivable turnover ratio has on asset-liability ratio is -5.7%, which reflects that receivable turnover ratio has reverse effect on asset-liability ratio. ② Standard coefficient of affect degree that liquidity ratio has on asset-liability is -5.7%, which reflects that liquidity ratio has reverse effect on asset-liability. ③ Standard coefficient of affect degree that stock turnover ratio has on asset-liability is 2.3%, which reflects that stock turnover ratio has forward effect on asset-liability. ④ Standard coefficient of affect degree that net assets income ratio has on asset-liability is -5.3%, which reflects that net assets income ratio has reverse effect on asset-liability. In general, receivable turnover ratio and liquidity ratio have the highest affect degree on asset-liability ratio, while stock turnover ratio has the lowest affect degree on asset-liability ratio.

3. Standard P-P graph of regressed standardized residual.

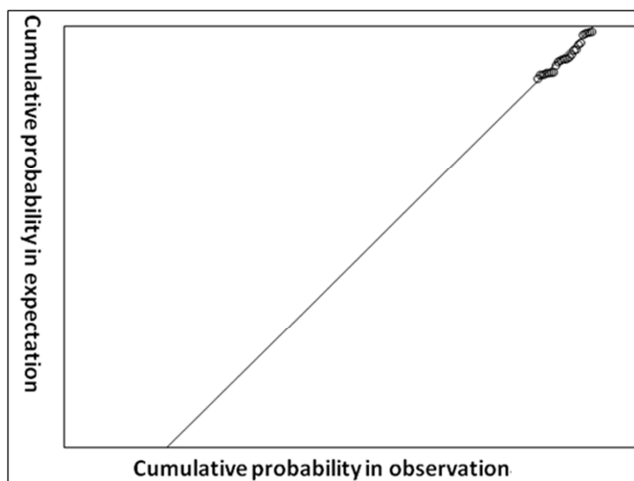


Fig. 1. Standard P-P graph of regressed standardized residual. Dependent variable: asset-liability ratio (%).

We can see directly from the graph above that samples are

all in two sides of the tropic, which reflects that the fitting degree of the samples is high. Under some circumstances, the relation is tenable.

#### 5.4.3. Analyses on the Results

According to the empirical analyses presented above, we can draw some conclusions:

Asset-liability ratio and receivable turnover ratio, liquidity ratio, net assets income ratio are in negative correlation, receivable turnover ratio and stock turnover ratio are in negative correlation, liquidity ratio and stock ratio, net assets income ratio are in negative correlation, stock turnover ratio and net assets income ratio are in negative correlation; Asset-liability ratio and stock turnover ratio are positive correlation, receivable turnover ratio and liquidity ratio, net assets income ratio are in positive correlation.

This model can pass the tests normally.

Receivable turnover ratio and liquidity ratio have the highest affect degree on asset-liability ratio, following is net asset income ratio, and stock turnover ratio has the lowest affect degree on asset-liability ratio.

Generally, this relation is tenable.

## 6. Conclusion

According to the analyses above, we can draw a final conclusion. This paper chose four indexes to represent the relation between core competitiveness and capital structure.

Conclusion 1:

Asset-liability ratio and receivable turnover ratio, liquidity ratio, net assets income ratio are in negative correlation, receivable turnover ratio and stock turnover ratio are in negative correlation, liquidity ratio and stock ratio, net assets income ratio are in negative correlation, stock turnover ratio and net assets income ratio are in negative correlation; Asset-liability ratio and stock turnover ratio are positive correlation, receivable turnover ratio and liquidity ratio, net



assets income ratio are in positive correlation.

Conclusion 2:

Receivable turnover ratio and liquidity ratio have the highest affect degree on asset-liability ratio, while stock turnover ratio has the lowest affect degree on asset-liability ratio.

Conclusion 3:

Generally, this model can pass tests and this relation is tenable.

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