Transaction Costs and Corporate Performance: Empirical Evidence Based on China's Listed Companies

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Abstract The theory of transaction costs is the basic analytical tool of the new institutional economics. However, there is a lot of argument over whether transaction costs can be measured, as well as how to measure transaction costs. This paper aims to build accounting methods for the direct measurement of transaction costs, and to provide empirical evidence for how transaction costs have effect on corporate performance. The results of statistical analysis show that the operating transaction costs have a significantly negative impact on corporate performance, while the allocating transaction costs have a significantly positive correlation with corporate performance. So the modern enterprise management should be more emphasis on transaction activities, and should change from simply pursuing the interests of shareholders towards the maintenance of suppliers, customers, shareholders, creditors, employees, the state and all other stakeholders.

Key words Transaction costs; Corporate performance; Accounting measurement

1 Introduction

The new institutional economics, which is initiated by Ronald H.Coase, Douglass C. North, Oliver E. Williamson, Armen A.Alchian, Harold Demsetz and the others stresses that institutions are very important, and institutions have a decisive effect on economic performance. Only under a well-arranged institution, land, labor, capital, and other factors of production may give full play to the function. Douglass C. North pointed out that the development of institutional arrangements is the main historical reasons of improving productivity and factors market.

Transaction costs is the core concept of the new institutional economics, the theory of transaction costs is the basic analytical tool of the new institutional economics. However, there are a lot of arguments over whether transaction costs can be measured, as well as how to measure transaction costs, which have made transaction costs become an analytical tool rather than an endogenous variable. At the same time, the new institutional economics is mainly restricted to a qualitative analysis or empirical researches, which hinder the development of new institutional economics. In response, Simon said that the new institutional economics and its related methods would be a selection based on a kind of beliefs unless a positive research for exogenous parameter estimation and theoretical testing was deployed.

Since 1960's, a lot of positive researches for exogenous parameter estimation and theoretical testing have appeared, for example, (Demsetz 1968), (Monteverde & Teece 1982), (Masten 1984), (Palay 1984), (Joskow 1987), and so on. But most of these studies avoided the direct measurement of transaction costs , and focused on the empirical examination and statistical testing of the relationship between the specificity and transaction costs ,in order to provide a theoretical proof for the choice between vertical integration and market transactions.

Therefore, I try to probe into the following two aspects: First, to build accounting methods for the direct measurement of transaction cost; and then, to do a positive research for the relationship between transaction costs and corporate performance, in order to provide empirical evidence for how transaction costs have effect on corporate performance.

2 Enterprise's Transaction Costs and Its Accounting Measurement

2.1 Enterprise's transaction contracts

The modern theory of the firm views that the enterprise is a nexus of transaction contracts, corporate participants consist of shareholders, creditors, managers, employees, suppliers, customers, governments, auditors and the others, the overall contractual structure of the corporation is shown as Figure 1 .

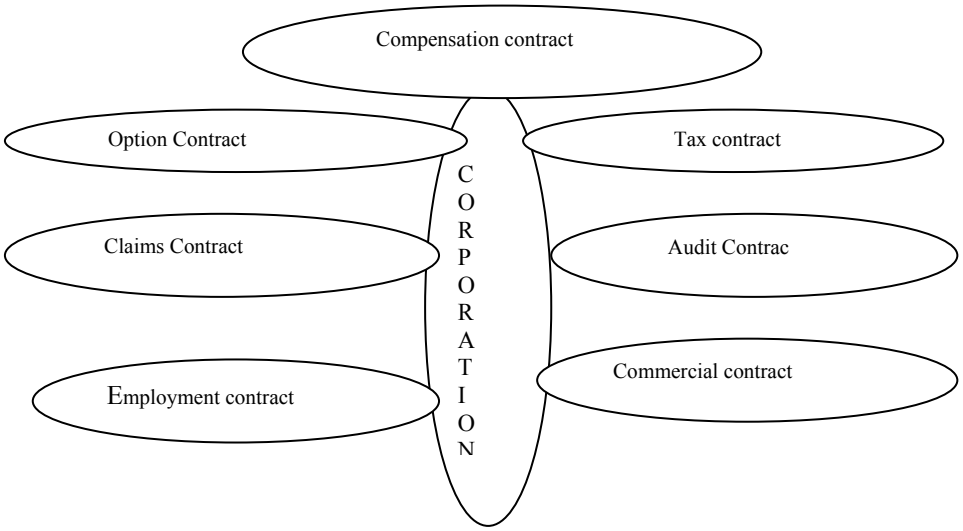

Figure 1 Overall Contractual Structure of the Corporation

The transaction is divided into three types by John R. Commons: Bargaining transaction, Managerial transaction, Rationing transaction. Accordingly, business transactions can be divided into the following three types: first, market transaction contracts, which mean the voluntary exchange between equal market subjects, including commodity market contracts, capital market contracts and labor market contracts. Commodity market contracts reflect the relationships of the purchases and sales of goods and money clearing between an enterprise and its suppliers and customers; Capital market contracts reflect the relationships of the investment, financing and income distribution between an enterprise and its shareholders and creditors; labor market contracts are signed while an enterprises hires managers and general staffs, and reflect the employment relationship between the enterprise and its employees. Second, the transaction contracts within an enterprise, which reflect the relationships among the enterprise's various departments. Third, contracts between an enterprise and the Government, mainly tax contracts, which are performed as a variety of tax regulations. The above transaction contracts are shown in table 1.

Table 1 Enterprise's Transaction Contracts

transactions	contracts	
Market transactions	Market transaction contracts	commodity market contracts
		Capital market contracts
		labor market contracts
Transactions within an enterprise	transaction contracts within an enterprise	vertical transaction contracts
		horizontal transaction contracts
Governmental transactions	Governmental transaction contracts	Tax contracts

2.2 Transaction costs of enterprises

Regardless of market transactions, transactions within an enterprise or the Governmental transactions, there are costs, which collectively refer to as transaction costs. Transaction costs can be divided into the market transaction costs, managemental transaction costs and political transaction costs.

Market transaction costs are the costs of using the market, and can be divided into the commodity market transaction costs, capital market transaction costs and the labor market transaction costs. The commodity market transaction costs take place for the purchases and sales of goods ,and are the whole costs with suppliers and customers, for example, costs for collecting information, costs for signing a purchase and sale agreement, procurement costs , settlement costs, marketing costs. The capital market transaction costs refer to enterprises' costs for financing and investment, such as expenditure incurred by issuance of stocks, bonds, and fees for the signing of loan agreement. The labor market transaction costs incurred by the recruitment and training of labor.

Managemental transaction costs incurred within an enterprise for the exercise of command, and for the organization and management of an enterprise. managemental transaction costs can be divided into vertical and horizontal transaction costs. Vertical transaction costs take place between higher and lower

levels, horizontal transaction costs occur at the same level.

Political transaction costs relate to the operation and adjustment of a political entity, including the taxes and fees paid to the government.

2.3 The accounting measurement of transaction costs

In accounting, the enterprise's economic activities can be divided into two categories: First, production activities, namely, person-to-object activities; Second, transaction activities, namely, person-to-person activities. The costs, which occur in production activities and have a direct link with production, are known as the production costs, including direct material costs, direct labor costs, manufacturing costs; The costs, which don't occur in the production activities and haven't a direct link with production, can be collectively referred to as transaction costs, including market transaction costs, managemental transaction costs and political transaction costs.

In the enterprise's day-to-day accounting, the account of "transaction costs" can be set. According to the types of transaction costs, the accounts such as "commodity market transaction costs", "capital market transaction costs", "labor market transaction costs"," managemental transaction costs "and" political transaction costs" can be set under the account of "transaction costs" . In order to reflect specific expenses, such as the procurement costs, settlement costs, marketing costs, borrowing costs, shares costs, training costs, etc. some accounts in detail can be set. When incurred, the costs are directly debited to the corresponding accounts; and in the end of each year, we can get the current total transaction costs as well as the specific amount of various transaction costs by summarizing the accounts.

3 The Effect of Transaction Costs on Corporate Performance:A Positive Study

3.1 Study designing

3.1.1 Econometric model

$$CP_{it} = \beta_0 + \beta_1 GC_{it} + \beta_2 CC_{it} + \beta_3 LC_{it} + \beta_4 IC_{it} + \beta_5 PC_{it} + \mu_{it}$$

In the current corporate accounting, there is no accounting data about transaction costs,which is referred to in the second part of this paper. Therefore, the data of transaction costs required by the above econometric model can only be replaced by the data existing in the current accounting system. Of which:

CPit —the performance of company i in the year t, represented by the rate of return on equity(ROE).

GCit—the commodity market transaction costs of company i in the year t, replaced by sales expenses;

CCit —the capital market transaction costs of company i in the year t, replaced by financial expenses;

LCit—the labor market transaction costs of company i in the year t, replaced by cash paid to employees;

ICit—the managemental transaction costs of company i in the year t, replaced by management expenses;

PCit —the political transaction costs of company i in the year t, replaced by the taxes and fees paid to the government;

μit —residuals of company i in the year t.

3.1.2 Theoretical assumptions

In accordance with the impact on corporate performance, transaction costs can be divided into two categories: First, the operating transaction costs, including sales fees, managemental fees, financial costs; Second, the distribution transaction costs, including payments made to employees as well as the taxes and fees paid to the government. On this basis, the following theoretical assumptions:

H_1: the operating transaction costs have a significantly negative impact on corporate performance, including: the commodity market transaction costs have a significantly negative impact on corporate performance (H_{11}), the capital market transaction costs have a significantly negative impact on corporate performance (H_{12}), the managemental transaction costs have a significantly negative impact on corporate performance (H_{13}).

H_2: the distribution transaction costs have a significantly positive correlation with Corporate Performance, including: payments made to employees have a significantly positive correlation with corporate performance (H_{21}), the taxes and fees paid to the government have a significantly positive correlation with Corporate Performance (H_{22}).

3.1.3 Study objects and samples

A strong competitive electronics industry is selected as the study object, in order to eliminate the effect of industry and market competition.

CSMAR database is used to select samples: first, selecting Shanghai A shares and Shenzhen A shares; then, in the industry, selecting the electronics industry in the manufacturing sector, the result is a total of 72 listed companies. After 6 ST are removed from the list, the 66 listed companies remain

finally.

3.1.4 Generation and processing of sample data

First, to query and export the "rate of return on equity (ROE) B" form the "profitability document" in CSMAR "financial indicators database of China's listed companies ".

Second, to query and export the "total assets" form the balance sheet in CSMAR " financial statements database of listed companies "; to query and export the "managemental expenses", " sales expenses", "financial expenses " in the income statement; to query and export the "payments made to employees" and the "taxes and fees paid to the government" in the cash flow statement (direct method).

Third, to screen the above-mentioned data by EXCEL, retaining year-end data from December 31, 1998 to December 31, 2007, and removing incomplete data. Finally, 328 set of data, a total of 1968 observations remain.

Fourth, standardized processing

In order to eliminate the impact of the scale of corporations , Respectively, "management expenses", " sales expenses", "financial expenses ","payments made to employees" and the "taxes and fees paid to the government" divided by "total assets", to be " management expenses/ total assets "," sales expenses/total assets ","financial expenses/total assets "," workers' salary / total assets "," taxes and fees / total assets "(four decimals are to retain the results), respectively, as the alternative variables of " managemental transaction costs "," commodity market transaction costs "," capital market transaction costs "," labor market transaction costs "and" political transaction costs ".

Table 2 Descriptive Statistics

	Min.	Max.	Mean	Std.Dev.
ROE	-0.9889	0.3809	0.0568	0.1420
SE/TA	0.0002	0.2840	0.0343	0.0452
ME/TA	-0.0280	0.2570	0.0474	0.02960
FE/TA	-0.0116	0.0386	0.0088	0.0094
WA/TA	0.0024	0.1854	0.0505	0.0278
TF/TA	0.0021	0.1723	0.0312	0.0223

Table 3 Pearson Correlations and Its Significance

		ROE	SE/TA	ME/TA	FE/TA	WA/TA	TF/TA
ROE	Cor.	1					
	Sig.						
SE/TA	Cor.	-0.184**	1				
	Sig.	0.001					
ME/TA	Cor.	-0.353**	0.237**	1			
	Sig.	0.000	0.000				
FE/TA	Cor.	-0.151**	-0.205**	-0.065	1		
	Sig.	0.006	0.000	0.242			
WA/TA	Cor.	0.062	0.266**	0.462**	-0.056	1	
	Sig.	0.265	0.000	0.000	0.316		
TF/TA	Cor.	0.242**	0.416**	0.032	-0.229**	0.175**	1
	Sig.	0.000	0.000	0.565	0.000	0.001	

**:Correlation is significant at 0.01 level(2-tailed).

Table 4 Results of Regression Analysis

	coefficient	Std.Error	t	Sig.
B_0	0.077	0.019	4.108	0.000
B_1	-0.991	0.166	-5.982	0.000
B_2	-2.398	0.717	-3.345	0.001
B_3	1.439	0.270	5.325	0.000
B_4	-2.054	0.252	-8.147	0.000
B_5	1.915	0.328	5.836	0.000
R^2	0.323			
Adj. R^2	0.313			
F	30.786			
Sig. of F	0.000			

3.2 Statistical analysis

SPSS16.0 is used to carry out descriptive statistical analysis, correlation analysis and regression analysis, the results are shown in Table 2, Table 3, Table 4.of Which: rate of return on equity—ROE; sales expenses/total assets—SE/TA; management expenses/ total assets—ME/TA; financial expenses/total assets—FE/TA; workers' salary / total assets—WA/TA; taxes and fees / total assets—TF/TA.

4 Conclusion

The results of statistical analysis show that the correlation coefficients of commodity transaction costs, capital transaction costs, managemental transaction costs with corporate performance are respectively -0.184, -0.151, -0.353, and all are significant at the 0.01 level ; Regression coefficients are respectively -0.991, -2.398, -2.054, and all are significant in the 0.01 level. Therefore, the operating transaction costs have a significantly negative impact on corporate performance, which means that H_{11}, H_{12}, H_{13} have been set up.

The results of statistical analysis show that the correlation coefficient of the political transaction costs with corporate performance is 0.242, and is significant at the 0.01 level; its regression coefficient is 1.915, and is significant at the 0.01 level. Therefore, the assumption, H_{22} has been set up. The correlation coefficient of Labor transaction costs with Corporate Performance is 0.062, but it is not significant; its regression coefficient is 1.439, and is significant at the 0.01 level. Therefore, the assumption, H_{21} may be set up. Which means that the allocating transaction costs have a significantly positive correlation with corporate performance?

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