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Original Paper

Do Relationship-Based Transactions Matter for Corporate Tax Avoidance? Evidence from China

Bin DAI[1*], Jingyuan WANG[1] & Huan CHANG[2]

[1] Research Center for International Business and Economy, Sichuan International Studies University, Chongqing, China

[2] School of Business English, Sichuan International Studies University, Chongqing, China

[*] Bin DAI, Research Center for International Business and Economy, Sichuan International Studies University, Chongqing 400031, China

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Abstract

The existing literatures showing that relationship-based transactions would affect company tax avoidance, but with few empirical evidences. This paper makes an empirical study on the topic of relationship-based transations and corporate tax avoidence, by using the data of manufacturing companies from 2008 to 2016, in Chinese A-share listed market, the empirical study shows that the more relationship-based transactions with suppliers (clients), the more aggressive company tax avoidance, which indicates that the bahavior of company tax avoidance is influenced by business strategies. The study also shows that company's financial decisions may contain selfish motives of powerful executives. Further, the study indicates that relationship-based transactions can boost company's propensity for aggressive tax avoidance during fierce market competition. Yet, there are varying degrees of diversification in the moderating effects and weakening control rights by senior managers.

Keywords

relationship-based transactions, control rights of executives, aggressive tax avoidance, relationship governance

1. Introduction

The quicker development of economy, the more serious of tax problems. By using various kinds of tax-avoidance strategies to reduce tax burdens and increase revenues will affect social welfare (Weisbach et al., 2002). In the US, company tax avoidance is considered one of the greatest challenges for the national tax administration system (Desai & Dharmapala, 2006). In recent years, aggressive tax avoidance strategies in China have become increasingly popular, resulting in heavy loss of revenues for the government (Note 1). Meanwhile, research on factors that influence tax avoidance behaviors shows contradictory conclusions with two tax avoidance viewpoints: traditional and agent (Slemrod, 2004; Desai & Dharmapala, 2006).

The traditional tax avoidance viewpoint holds that tax aggressiveness can increase enterprise's cash flow and net income if there are no other costs and risks, or if the cost is not enough to offset the income, so company value will be improved accordingly. In contrast, the agent tax avoidance

viewpoint takes the benefits of tax avoidance into account. It is also concerned with tax and non-tax costs brought by tax avoidance, such as time consumption, earnings restatement, company reputation loss, legal proceedings as well as the risk of punishment by the tax authorities.

Company tax avoidance decisions are not done in an isolated, closed system, as they are in connection with other stakeholders or governance systems (Hanlon & Heitzman, 2010). The existing literatures show that tax avoidance behavior is also influenced by various characteristics such as equity structure and internal controls (McGuire, Wang, & Wilson, 2014; Bauer, 2016). These findings help to enrich our understanding of firms' tax avoidance motivations in academic circles. However, the existing researches ignore the phenomenon of firms' relationship-based transactions, especially in manufacturing industry. Some studies show that in emerging and transitional economies, companies prefer the relationship-based transactions, in order to achieve the sustainable development, this phenomenon is more prominent in China, whose social structure and cultural tradition are characteristically orientated towards relationships (Allen et al., 2005). Nevertheless, reliance on relationship-based transactions may trigger the "double-edged sword" effect. By using specific investment in the relationship, firms can promote a supply chain integration strategy with important suppliers (clients) and provide support for each party in the transactions to acquire and consolidate long-term competitive advantages (Banerjee et al., 2008). On the other hand, relationship-based transactions may also produce unintended consequence of data manipulation and risk of opportunism expropriation by insiders (Raman & Shahrur, 2008). Although the influence of relationship-based transactions on firms has gained more attention from academic researchers and practitioners, there is limited research on how firms' relationship agreements affect their financial decisions, from the perspective of tax avoidance. In this paper, we explore the impact of relationship-based transactions on the economy.

Meanwhile, firms' tax avoidance behavior affected by relationship-based transactions might be restrained by senior managers and influenced by the firms' internal management. In theory, tax avoidance strategies are driven by the degree to which senior managers are averse to comprehensive trade-off of benefits, costs and risks. The Upper Echelons Theory (Hambrick & Mason, 1984), posited that decisions by senior managers are influenced by their personal experiences. Therefore, discussions on how senior managers' experiences influence tax avoidance decisions become important issues in this research field. Furthermore, the literature is replete with studies (Dyreng et al., 2010; Law & Mills, 2017) on how executive fixed effects, CEO military experience, among others, support this argument. However, scholars have not paid much attention to the characteristics of the firms' control rights allocation from the perspective of senior managers.

In their pioneering work on company governance, Aghion and Bolton (1992) looked at control rights and different kinds of power structures of the firms as the starting points for analyzing executive decision performance and efficiency variance. From the perspective of formation mechanism, tax avoidance strategy is the direct embodiment of executives' motivations and behaviors. Furthermore, executives' exposure to the complex and changeable business environment with different power may have heterogeneous expectations on company's operation state and their own interest. These may lead them to evaluate the costs and benefits of tax avoidance differently, which will inevitably affect the tax avoidance behavior of the firms. Compared with firms in western developed countries, tax avoidance strategy of firms in transitional countries will be influenced more by informal governance mechanism represented by relationship-based transactions and control power allocation, etc. (Hanlon & Heitzman, 2010). Consequently, the function of relationship-based transactions and executives' control rights

allocation should be taken into consideration when studying tax avoidance strategies of listed Chinese companies.

Hence in this paper, we explore how relationship-based transactions influence a Corporate tax avoidance strategy in Chinese manufacturing industry, considering the moderating effect of enhancement of executives' control rights. To the best of our knowledge, research in this area is sparse at best and part of the goal of this paper is to help fill that void. This paper first establishes the logical framework of "relationship-based transactions—control rights allocation and selfish motivation—firms' tax avoidance strategy", and then chooses the manufacturing companies in Chinese A-share market from 2008 to 2016 as the research samples for empirical analysis.

2. Theoretical Analysis and Research Hypothesis

Firstly, accounting system's ability to operate efficiently is influenced by the institutional environment that the company is exposed to. Secondly, a manager's propensity for tax avoidance is influenced by the company's current governance structure. Finally, the relative equilibrium state can be obtained by the joint influence of internal and external incentives (or constraints), which is also the logical theme of theoretical deduction in this paper.

2.1 Relationship-Based Transactions and Corporate Tax Avoidance Behavior

Due to the limitation of market mechanism and factor market, firms face with extremely high market transaction costs in the context of emerging and transitional institution. Consequently, firms prefer relationship-based transactions model with its inherent benefits of cooperation, mutual trust, guarding against ethics risks and adverse selection behavior (MacLeod, 2007). This strategy is conducive to the Chinese culture that is based on relationships, especially in the absence of a strong judicial system that can protects the interest of investors. Therefore, as important non-financial stakeholders, relationships with suppliers or clients play a crucial role in the financial performance and operating policies of the enterprises (Freeman, 2010). In order to encourage supplies to get into long-term contracts, firms need to show excellent financial stability. Hence, this paper posits that firms should have strong motivation to select and implement more aggressive tax avoidance policies. There are several reasons in support of this proposition:

First, companies with higher degree of relationship-based transactions need more cash to hedge against cash flow risk. In practice, businesses are susceptible to unmet contracts and bankruptcies that inevitably impact their cash flows, resulting in financial losses. Bates et al. (2009) note that the role of cash as a risk management tool will be strengthened if firms realize how suppliers or clients influence the safety of their capital chain. Meanwhile, higher cash holding is also a manifestation of the capacity to maintain the relationship-specific investment and helps to stabilize the contractual relationships of both sides, and thereby avoiding the loss of important suppliers/clients (Itzkowitz, 2013). If there are no other costs and risks involved (or costs are not sufficient enough to offset profits), tax avoidance behavior can increase the firms' cash flow and net income by temporary or permanent discrepancy of accounting and tax collection difference (Hanlon & Heitzman, 2010). Therefore, in order to prevent potential cash flow risks, companies with high degree of relationship-based transactions tend to adopt more aggressive tax avoidance strategy.

Second, companies with higher degree of relationship-based transactions need to deal with higher risk of financial dilemma. Dhaliwal et al. (2017) notes that reliance on important suppliers or clients might increase the possibility of involvement in future financial distress and auditors are more likely to issue continuous operation audit comment for such firms. Exposing a company's deteriorating financial

position may make survivability of their products and services vulnerable. Therefore, suppliers or clients may be averse to transacting with them. Yet tax avoidance behavior usually brings economic benefits (Higgins et al., 2015), so corporations may use positive tax planning to relieve the worries of the trading partners about potential financial risk. For instance, Noga and Schnader (2013) find that firms with the propensity to thrive in financial crisis have opportunities to increase their accounting profits through aggressive tax avoidance. Hence, in order to reduce adverse effect of financial risk, firms with higher degree of relationship-based transactions tend to adopt aggressive tax avoidance strategies.

Moreover, corporations with higher degree of relationship-based transactions have internal motivations of presenting excellent performance to suppliers/clients. The closeness of business relationship also indicates improvement of mutual interdependence between trading partners. Owing to the heterogeneity and inseparability of transactions, higher conversion costs are inevitably incurred due to the "binding effect". Therefore, once the relationship-based transactions is canceled or terminated, the asset specificity value of corporations may be greatly affected (Titman, 1984). In order to incentivize more suppliers/clients to sign long-term contracts or increase relationship-specific investment, firms are inclined to whitewash performance and present flourishing prospect with the use of increasing discretionary accruals (Raman & Shahrur, 2008). Further, Wilson et al. (2009) find that corporations conduct positive profit management with the use of tax avoidance behavior. Hence, corporations with higher degree of relationship-based transactions, driven by the motivation of increasing profits, will tend to adopt aggressive avoidance strategy.

In addition, firms' willingness to take risk reflect their tax planning orientation to some extent. The attitude of senior managers to risk-based tax avoidance activities is a decisive factor for the tax avoidance behaviors of the firms. Higgins et al. (2015) holds that company's risk preference can be embodied in operations strategy and tax avoidance strategy and prove with empirical study that firms that take risk-type strategy will adopt more aggressive tax avoidance policy. Compared with so-called discrete transaction model, increase in relationship-based transactions will lead to increase in the risk that the firm will take, and their reliance on suppliers/clients relationship is considered a risk-type business strategy by some recent studies (Dhaliwal et al., 2017). Mihov and Naranjo (2017) find that firms with more concentrated customer base experience higher idiosyncratic volatility due to the transmission of firm-specific shocks in a supply-chain environment. Therefore, it can be concluded that firms that have higher risk tolerance threshold with suppliers/clients, will be more inclined to take aggressive tax avoidance measures.

Based on the above analysis, the first research hypothesis is proposed:

H1: the higher degree of relationship-based transactions between the company and suppliers/clients, the more aggressive the tax avoidance behavior of the firms.

2.2 The Moderating Effect of the Control Rights Allocation

As an important part of business strategy, reduction of tax expenditures continues to gain the attention of senior managers. Given that the conflict between executives and shareholders is becoming increasingly keen, powerful executives have greater influence on the tax avoidance strategy of the firm and should weigh its benefits and costs from their own utility maximization. Then, how do powerful managers influence relationship-based transactions and tax avoidance behavior?

On one hand, by virtue of their position, power and personal ambitions, executives might strengthen relationship-based transactions and aggressive tax avoidance behaviors. This would be especially true in a laissez-faire board environment. By engaging in complex and spurious hidden tax avoidance

strategies executives could harness more company resources to finance private interests, increase the difficulty in supervising stakeholders, reduce the cost and risk of gaining private benefits, and provide stable, effective implementation environment and safety assurance (Hanlon & Heitzman, 2010). By means of the "just cause" of maintaining relationship-based transactions and satisfying the needs of suppliers or clients, executives can reasonably explain their tax avoidance policies to the board of directors. Therefore, tax avoidance behavior is more likely to be used as the "good carrier" for rent-seeking.

Based on the above analysis, some scholars have provided verifiable research findings from the principle-agent perspective. Slemrod (2004) finds that executives in an aggressive tax avoidance environment might hoard an organization's capital to protect their self-interest, under the guise of tax avoidance. Hanlon and Heitzman (2010) believe that senior managers without effective supervision will adopt aggressive tax avoidance policies and that there exists a complementary relationship between aggressive tax avoidance and senior managers' propensity for power, which will further enhance executive's willingness to engage in tax avoidance transactions. Kang and Ko (2014) think that executives will be inclined to engage in aggressive tax avoidance behaviors when motivation strategies fail. According to Laguir and Stagliano (2014), more powerful CEOs would implement more aggressive tax avoidance strategies in order to enhance personal benefits and control.

Therefore, it can be inferred that the business relationship between firms and suppliers/clients may provide the "shield" for seeking private benefits by executives in tax avoidance transactions. Furthermore, the enhancement of executives' control rights will further intensify the facilitation effect of relationship-based transactions on aggressive tax avoidance behavior.

On the other hand, in order to honor contracts with their partners, powerful senior managers may exhibit aggressive tax avoidance tendencies. Agent viewpoint of tax avoidance posits that although tax avoidance activities can bring direct and considerable economical benefit, they also increase the cost of tax collection and non-tax related costs such as for waste of time, reduction in employee morale, loss of reputation, inspection risk of supervising officers and rent-seeking of the executives for the firms and managers (Hanlon & Heitzman, 2010). The stability of business relations reinforces the consistency of the objectives and actions of both transaction parties and improves the degree of mutual checks and balances between the two parties. However, investment in certain assets might entail the following value judgments: to avoid loss of reputational capital caused by low credit ratings, firms have a long-term motivation and need to comply with the terms of their contracts and will not jeopardize their partner's interest by engaging in selfish behaviors. The current study shows that improvement in company governance can effectively alleviate doubts in stakeholders on the rent-seeking of the insiders in tax avoidance transactions (Wilson, 2009), and suppliers/clients will positively evaluate the tax avoidance behavior by such firms (Li et al., 2017).

It is predictable that once the rent-seeking motivation of executives in tax avoidance behavior is exposed, it is equal to transmitting the information that the firm enjoys poor reputation to the other stakeholders. Therefore, the suppliers/clients may view the embedded informal governance mechanism represented by powerful executives as the hindrance of company governance efficiency, and will evaluate negatively on the motivation and value effect of tax avoidance behavior, which will inevitably reduce the investment willingness of relationship-specific assets and increase the relationship governance costs. In order to eliminate hidden dangers, maintain and strengthen relationship-specific investment of the firms, powerful executives might take the giving-up of the aggressive tax avoidance behavior as a "believable promise" given to their business partners. At this time, the control rights of

the executives might play a negative moderating role in the relationship between relationship-based transactions and tax avoidance behavior.

Based on the above analyses, the paper hypothesizes that for firms that rely on relationship-based transactions, it is hard to judge the enhancement of control rights of executives is the presentation of rent-seeking motivations of power or the "signal effect" produced under the governance of relation contract. Although there is no empirical evidence to support this hypothesis, it is expected to have significant influence. Therefore, we will not make directional judgments, but put forward the following hypotheses:

H2a: The enhancement of control rights of executives can facilitate positive relations between relationship-based transactions and aggressive tax avoidance.

H2b: The enhancement of executives' control rights can weaken the positive relations between relationship-based transactions and aggressive tax avoidance.

3. Research Design

3.1 Sample Selection and Data Sources

Since China implemented new Accounting Standards for Business Enterprises in 2007 and new Enterprise Income Tax System in 2008, this paper selected China's A-share listed manufacturing corporations from 2008 to 2016 as the initial samples. We selected manufacturing industry as the research objects because the relationship between their suppliers/clients is more stable, therefore more conducive for observing the impact of relationship-based transactions on a corporate tax avoidance policies. The initial data was then pruned by deleting ST and PT samples; samples whose auditing opinions are "refusal" or "denial"; samples with income tax expense of 0≤ in that year is less than or equal to zero; and samples with incomplete data. The pruning process resulted in a final sample size of 6,174 (for suppliers' relationship transactions) and 7,302 (for clients' relationship transactions), respectively. The research data of company governance and financial information are mainly taken from CSMAR and WIND databases, with random sampling used for cross verification of the firms' annual reports. We winsorize the main continuous variables at the top and bottom 1% in the regression analysis to mitigate the influence of extreme observations.

3.2 Variable Definitions

3.2.1 Relationship-Based Transaction (RBT)

When the purchase and sales of the firms rely much on several trading partners, indicating that the corporations have relatively higher level of assets specificity to these important suppliers/clients. Based on the study of Mihov and Naranjo (2017) and combined with the relevant information revealed in the actual disclosure of the annual reports of China's listed firms, the paper adopts the purchase proportion of the top five suppliers RBT_Supply or the top five clients RBT_Customer as the substitution variables of the degree of relationship-based transactions. Banerjee et al. (2008) believe that this method is more reasonable when measuring the relationship-based transactions between the firms and the suppliers/clients.

3.2.2 Control Rights Allocation of Executives (POWER)

The executives' control rights are the authority or ability that core executives such as CEOs have, which can play a crucial role in the decision-making and implementation of a firms' important events. Although there are several methods used to measure the control rights of executives, there is no direct measurement index. Based on Finkelstein (1992)'s power model and the method proposed by Dai and Peng (2015), this paper describes the characteristics of control rights of senior managers from the

following eight aspects:

① The managerial structure: If CEOs occupy important position on the board of directors, their influence will be greater. So this index is assigned a value of 0 when the CEO does not serve on the board, and a value of 1 or 2 if they serve as director or the chairman of the board.

② The shareholding of CEOs: CEO who holds shares owns an "amphibious identity" of both shareholder and administrator, which is conducive to playing a more crucial role in the decision-making of important events of the firms. This index is assigned a value of 1 if CEO holds shares, and 0 if not.

③ The board size: Some scholars find that the executives' control rights are positively correlated with the size of the board of directors (Morse et al., 2011). The index takes the median of the industry as the standard, and is assigned a value of 1 when the number of directors is larger than the median, otherwise it is 0.

④ Independent directors' capacity of performing duties: It is generally believed that the shorter the distance between the independent director and the place where the firm is registered, the more convenient he is able to perform supervisory duties, weaken and constrain the rights of the executives. This index is assigned a value of 1 if the location of the independent director is different from that of the company's place of registration, otherwise it is 0.

⑤ Higher educational degree and higher professional title (Note 2): Finkelstein (1992) points out that highly educated senior managers or executives with high professional titles can exert personal influence on important firm decisions by using their professional reputation more easily. This index is assigned a value of 1 when the CEO is highly educated or has a high professional title, otherwise it is 0.

⑥ CEO tenure: With the accumulation of work time, executives can more easily establish consolidated "profit sharing" alliance in the organization by means of "appointment and removal of the official positions". This index takes the median of the industry as the standard, and is assigned a value of 1 when the CEO tenure is longer than the median, otherwise it is 0.

⑦ Holding part-time positions in other firms: If the administrator has part-time position in other firms, he/she has wider social relationship network, and this helps to win more discourse rights in making the company's strategic policies. This index is assigned a value of 1 when the CEO has a part-time position in other firms, otherwise it is 0.

⑧ CEO's political connections: Researchers generally believe that executives who have closer relationship with the government will possess "entrenchment effect" inside the firm, and further hinder the well running of the governance mechanism of the firm (Cao et al., 2017). This index is assigned a value of 1 when the CEO has political connection (Note 3), otherwise it is 0.

The above eight aspects describe the attributes and characteristics of the control rights of the executives from different dimensions, yet if we study these eight aspects individually, it will be very difficult to make an accurate and unbiased measurement. Following the method of Dai and Peng (2015), the paper makes a synthetic treatment to these eight aspects of the control rights of the executives by using the following two ways, and finally gets one comprehensive variable: 1) a comprehensive indicator: POWER_avg. is generated from the mean of the eight characteristics dimensions, 2) using Principle Components Analysis, a principle component score is calculated from the eight characteristics dimensions and used to generate a comprehensive indicator POWER_pca. According to the principle of indicator construction, the greater the POWER value, the stronger the executives' control rights.

3.2.3 Degree of Aggressive Tax Avoidance (TA)

One of the three generally used methods for measuring tax avoidance behavior is the effective tax rate. However, because China's tax collection policy is complicated, firms usually enjoy wide tax collection privileges. Therefore, nominal tax rate is different, which makes it difficult to make horizontal comparison between the samples, and to measure the degree of subjective tax avoidance of the firms. Another popular method is the accountant-tax collection difference. However, this indicator is susceptible to the influence of earnings management and is also difficult to make effective division from the indicators (Hanlon & Heitzman, 2010). Lastly, there is the fixed effect residual method proposed by Desai and Dharmapala (2006). This method uses the accountant-tax collection difference, after deduction of accrued profit, to measure the degree of tax avoidance of the firm. It is generally believed that this method can measure and reflect the aggressive tax avoidance behavior of the firms more correctly. In this paper, we adopt with the following calculation formula:

$$BTD_{i,t} = \beta_1 TACC_{i,t} + \mu_i + \varepsilon_{i,t} \quad (1)$$

Where, *BTD*=tax burden difference/total assets, tax burden difference=pre-tax accounting profit—(income tax expense/nominal tax rate); *TACC*=(net profit–net amount of operating cash flow)/total assets; and the term $\mu_i+\varepsilon_{i,t}$ measures the degree of aggressive tax avoidance of the corporations, *TA*. The bigger the *TA*, the more severe is the corporation's aggressive tax avoidance behavior.

3.3 Model Design

The paper uses the following models to examine the relationship among relationship-based transactions, control rights allocation and aggressive tax avoidance.

$$\begin{aligned} TA_t = {} & \beta_0 + \beta_1 RBT_t + \beta_2 ROA_t + \beta_3 LEV_t + \beta_4 SOE_t + \beta_5 PPE_t + \beta_6 INTAN_t \\ & + \beta_7 SIZE_t + \beta_8 GROWTH_t + \beta_9 AGE_t + \Sigma Ind + \Sigma Year + \varepsilon \end{aligned} \quad (2)$$

$$\begin{aligned} TA_t = {} & \beta_0 + \beta_1 RBT_t + \beta_2 POWER_t + \beta_3 RBT \times POWER_t + \beta_4 ROA_t + \beta_5 LEV_t + \beta_6 SOE_t \\ & + \beta_7 PPE_t + \beta_8 INTAN_t + \beta_9 SIZE_t + \beta_{10} GROWTH_t + \beta_{11} AGE_t + \Sigma Ind + \Sigma Year + \varepsilon \end{aligned} \quad (3)$$

In models (2) and (3), the dependent variable, TA, is the aggressive tax collection agent variable, and RBT is the strength of relationship-based transactions, according to Dyreng et al. (2010) and Kang and Ko (2014). This paper also sets the following control variables: ROA (profitability), LEV (financial leverage), SOE (property nature), PPE (fixed assets ratio), INTAN (intangible assets ratio), SIZE (enterprise scale), GROWTH (growth) and AGE (listed years). Additionally, the model includes dummy variables of industry and year.

If H1 is valid, i.e., the relationship-based transactions can facilitate aggressive tax avoidance behavior, and then the regression coefficient of RBT in model (2) should be significantly positive. The cross term RBT×POWER is used to examine H2a (H2b): if the regression coefficient is significantly positive, indicating that control rights of the executives play positive moderating effect in the relationship between relationship-based transactions and the tax avoidance behavior. Otherwise, the enhancement of control rights of the executives weakens the influence that relationship-based transactions have on tax avoidance behavior. The specific definitions and methods used to calculate the variables are listed below:

Table 1. The Definitions and Calculation of Variables

Types of Variables	Names of Variables	Symbols of Variables	Definition or Calculating Method of Variables
Dependent Variables	Tax avoidance degree	*TA*	See the calculating methods in this paper
Explanatory Variables	Relationship-based transaction	*RBT_Supply*	Purchases from top five suppliers/total annual purchases
		RBT_Customer	Sales to top five clients/total annual sales
	Control rights allocation	*POWER_avg*	Comprehensive indicator of equally weighted average of executive's control rights
		POWER_pca	Comprehensive indicator of principal component of control rights; According to the principle that latent root should be greater than 1, the top four principal components are chosen to calculate the comprehensive scores
Control Variables	Profitability	*ROA*	Net profit/Average total assets
	Financial leverage	*LEV*	Total liabilities/average total assets
	Property rights nature	*SOE*	If it is a stated-owned enterprise, it is 1, otherwise it is 0
	Fixed assets ratio	*PPE*	Net fixed assets/average total assets
	Intangible assets ratio	*INTAN*	Net intangible assets/average total assets
	Enterprise scale	*SIZE*	Natural logarithm of average total assets
	Growth	*GROWTH*	Growth rate of operating revenue
	Listed years	*AGE*	Natural logarithm after adding 1 to the listed age
	Industry	*Ind*	Sets industry dummy variables based on the secondary classification of CSRC for manufacturing industry
	Year	*Year*	Dummy variable of years

4. Empirical Results

4.1 Descriptive Statistics

The descriptive statistics of Table 2 shows that the means of the relationship-based transactions RBT_Supply and RBT_Customer variable are 0.354 and 0.299, respectively. This is indication that manufacturing firms in China prefer to make relationship-based transactions with important suppliers (clients) and depend highly on them. The numerical values of the variables control rights of the executives' POWER_avg and POWER_pca are basically consistent in statistical form, and a bit higher than that of the statistical result of Dai and Peng (2015). This indicates that the control rights of the executives of the listed Chinese firms show a steady rise in recent years. In terms of the statistical results of other variables, the mean of ROA is 0.043, a relatively lower numerical value. This is an indication that the profit-gaining capability of the manufacturing firms needs to be improved. The comparison of the numerical values of PPE and INTAN proves that these firms emphasize the fixed assets investment and ignore light invisible assets investment. The mean of GROWTH 0.204 is high, yet the growth rates of about 1/4 of the firms have not reached 1%. Besides, the 25% quantile and 75% quantile of each variable indicate that with respect to relationship-based transactions and characteristics of the control rights and degrees of tax avoidance, there exists relatively strong heterogeneity features

among the firms in our sample.

Table 2. Descriptive Statistics of Main Variables

Variable Names	Symbol	Number of Samples	Mean	Standard Error	25% Quantile	Median	75% Quantile
Degree of tax avoidance	*TA*	7302	0.000	0.051	-0.022	0.007	0.029
Relationship-based transaction	*RBT_Supply*	6174	0.354	0.209	0.220	0.315	0.483
	RBT_Customer	7302	0.299	0.198	0.147	0.244	0.396
Control rights allocation	*POWER_avg*	7302	0.508	0.186	0.375	0.500	0.625
	POWER_pca	7302	0.000	0.479	-0.259	0.024	0.271
Profitability	*ROA*	7302	0.043	0.064	0.017	0.039	0.070
Financial leverage	*LEV*	7302	0.507	0.211	0.367	0.513	0.627
Property rights nature	*SOE*	7302	0.593	0.479	0.000	1.000	1.000
Rate of fixed assets	*PPE*	7302	0.327	0.185	0.177	0.294	0.420
Rate of invisible assets	*INTAN*	7302	0.044	0.053	0.014	0.032	0.056
Scale of firms	*SIZE*	7302	21.502	1.069	20.730	21.481	22.299
Growth	*GROWTH*	7302	0.204	0.407	0.008	0.159	0.334
Listed years	*AGE*	7302	2.478	0.708	2.198	2.641	2.902

Table 3 gives the univariate analysis results of relationship-based transactions, control rights allocation and aggressive tax avoidance behavior. It is found that either using RBT_Supply or using RBT_Customer to measure relationship-based transactions, the means and medians are higher in the high relationship transaction group than those in low relationship transaction group. Meanwhile, this paper further divides high relationship transaction groups according to the strengths and weaknesses of the control rights of executives. The test results show that compared with weak control right group, indicators of tax avoidance degree are higher in strong control rights group. This indicates that the strength of control rights of executives might produce "enhancement" effect between relationship-based transactions and tax avoidance behavior. Thus, firms that depend on relationships have more aggressive tax avoidance policies that are influenced by powerful executives. These findings verify H1 and H2a of this paper.

Table 3. Relationship-Based Transaction, Control Rights Allocation and Tax Avoidance: Univariate Analysis

RBT=RBT_Supply						
		Number of Samples	Mean	Median	T value of T-test	Z value of Wilcoxon-test
High relationship transaction group		3071	0.013	0.014	3.04***	2.67***
Low relationship transaction group		3103	-0.012	-0.011		
High relationship transaction group	Strong control rights group	1274	0.016	0.017	2.29**	2.11**
	Weak control rights group	1797	0.008	0.010		
RBT=RBT_Customer						
		Number of samples	Mean	Median	T value of T-test	Z value of Wilcoxon-test
High relationship transaction group		3632	0.011	0.012	2.70***	2.27**
Low relationship transaction group		3670	-0.010	-0.011		
High relationship transaction group	Strong control rights group	1505	0.013	0.015	2.16**	1.81*
	Weak control rights group	2127	0.008	0.010		

Notes. Taking example of the secondary classification of China Securities Regulatory Commission (CSRC) about the manufacturing industry, this paper regards the samples whose values of RBT and POWER_avg are higher than the medians of the industry as the high relationship transaction group and strong control rights group. Means and medians are both corresponding values of the tax avoidance variable TA, and make T test and Wilcoxon sum test respectively. ***, **, * indicate that the test is significant at 1%, 5% and 10% significance levels, respectively (two-tailed test).

4.2 Regression Analysis

In univariate analysis, we only adopt the method of dividing the groups by using dummy variables to describe the characteristics of relationship-based transactions and control rights allocation. This neither can study the different function mechanism owned by the variables accurately, clarify the coupling effects among the variables, nor can it to control the other factors to have potential impact on tax avoidance policies. Therefore, further regression analysis should be made to have more reliable verification.

The regression results on H1 are presented in Table 4. From the test results of rank 1 and rank 2, the regression coefficients of RBT are significantly positive and significant at the 1% level, regardless of whether RBT_Supply or RBT_Customer was used to measure relationship-based transactions. That is, the higher the degree of relationship-based transactions, the more serious is the aggressive tax avoidance, showing that the specific investment of the firms in establishing relationship with the suppliers (clients) really boosts the aggressive tax avoidance policies of the firms. This finding is consistent with Li et al. (2017), showing that in the context of governance of listed Chinese firms, those that rely on relationship for their transactions are more likely to choose aggressive tax avoidance behavior for mitigating the risks of future cash flow, maintaining or attracting more relationship-specific investments.

However, it should be noted that relationship-based transactions firms and their suppliers (clients) will be restrained by future transaction expectation and present a state of high dependence (Raman & Shahrur, 2008). And, that a company's aggressive tax avoidance behavior brings direct economic benefit, yet it might produce an unwanted "side effect" of loss of prestige or even lawsuit. Hence, a Corporate tax avoidance behavior might affect relationship-specific investment for the suppliers (clients). That is, the regression model might interact with endogenous problems and to a certain degree, lead to estimation error.

Therefore, this paper used Two-Stage Least Squares method (2SLS) to solve the endogeneity problem. It is widely believed that there is a strong correlation between relationship-based transactions, RBT, and industry attributes. However, it is difficult for tax avoidance index, TA, to influence industry median of the RBT variable. Following the above principle, this paper uses the median of RBT_Supply and RBT_Customer as the key variable of RBT for the purpose of alleviating endogeneity concerns. Results of the 2SLS regression are shown in columns (3) and (4) of Table 4. After considering potential endogeneity problems, it is found that the empirical results are consistent with columns (1) and (2) in of the table. This consistency could be explained by the fact that the regression coefficient of relationship-based transaction variable RBT is still significantly positive. Thus, it can be concluded that there are no endogeneity problems because of the stability and reliability of the results of regressions (1) and (2) in Table 4.

Table 4. Regression Results of H1

Independent Variable	*Dependent Variable=TA*			
	Regression (1)	Regression (2)	2SLS	
			Regression (3)	Regression (4)
RBT_Supply	0.012***		0.018***	
	(4.49)		(5.77)	
RBT_Customer		0.008***		0.013***
		(3.46)		(4.75)
ROA	0.107***	0.104***	0.071***	0.081***
	(3.24)	(3.11)	(2.69)	(2.87)
LEV	-0.078***	-0.079***	-0.062***	-0.057**
	(-4.29)	(-4.54)	(-2.60)	(-2.33)
SOE	-0.006**	-0.006**	-0.008***	-0.008***
	(-2.28)	(-2.23)	(-3.36)	(-3.65)
PPE	0.047***	0.050***	0.077***	0.076***
	(3.09)	(3.27)	(4.53)	(4.03)
INTAN	0.032	0.029	0.046	0.047
	(1.42)	(1.37)	(1.30)	(1.34)
SIZE	0.011**	0.013**	0.022***	0.024***
	(2.09)	(2.21)	(2.74)	(2.79)
GROWTH	0.007***	0.007***	0.005**	0.005**
	(2.56)	(2.63)	(2.28)	(2.16)
AGE	0.003*	0.003*	0.005**	0.006**
	(1.79)	(1.67)	(2.06)	(2.08)
Constant	-0.089***	-0.082***	-0.113***	-0.108***

	(-5.04)	(-4.43)	(-6.25)	(-6.07)
Year and Industry	Control	Control	Control	Control
Adj.R^2	0.151	0.148	0.124	0.119
P Value	0.000	0.000	0.000	0.000
Sample Size	6174	7302	6174	7302

Note. The value in the brackets are the T value of regression coefficient, which have controlled the heteroscedasticity and autocorrelation problems after the White (1980) robustness correctness and Cluster adjustment; ***, **, * respectively indicating the significance at 1%, 5% and 10% level (two tailed test).

Furthermore, as shown in Table 5, the regression results of H2 using POWER_avg or POWER_pca to measure executive control rights characteristics, the regression coefficients of RBT×POWER variables are positively significant at the 10% level. This indicates that enhancement of executive control rights can further strengthen positive relation between relationship-based transactions and company aggressive tax avoidance behaviors. Correspondingly, H2a proposed in this paper is also confirmed. On the basis of the above evidence, it is shown that under the realistic background of the increasingly hidden executive rent-seeking methods, powerful executives tend to start from the principle of maximum of its own utility so as to conduct self-interest manipulation on financial decisions. Moreover, they have also implemented more aggressive tax avoidance behaviors under the guise of "right reasons" inclusive of maintaining business relationships and meeting suppliers' (clients') expectations. Meanwhile, it also indicates that the relationship governance mechanism which is formed for adhering to the commercial transactions may not present the expected "reveres transmission effect" under the disturbance of powerful executives. The possible explanations are pointed out in the followings: on the one hand, executives will make a comprehensive trade-off between selfish tax avoidance behavior and company governance signal transmission. With the constant consolidation of control rights, the back feeding effect between tax avoidance and rent-seeking is more and more significant, and the profits derived from tax avoidance are increased correspondingly. On the other hand, relationship-based transactions weaken the company's willingness to disclose for public scrutiny as well as reduce the degree of transparency of the firm (Ball et al., 2000). This would increase the oversight difficulties for stakeholders such as trading partners, investors and taxation authority, etc. on tax avoidance behaviors. In addition, with the accomplishment of share reform, the frequent reduction of non-tradable shares makes the shareholding structure of the listed companies disperse, which will naturally and further increase the degree of insider control. In this case, the possibility that the executives' would betray or sacrifice shareholders' interests for the purpose of pursuing self-interests will increase accordingly. Based on the emerging and transitional realities, this finding suggests that we should take into consideration, the possible impact on management decisions caused by internal power allocation when we study economic consequences of relationship-based transactions of the listed Chinese companies.

Table 5. Regression Results of H_2

Independent Variable	Dependent Variable=*TA*			
	POWER=POWER_avg		*POWER=POWER_pca*	
	Regression (1)	Regression (2)	Regression (3)	Regression (4)
RBT_Supply	0.006**		0.004*	
	(2.32)		(1.77)	
RBT_Customer		0.005**		0.005*
		(2.20)		(1.91)
RBT_Supply×POWER	0.014***		0.019***	
	(3.03)		(2.46)	
RBT_Customer×POWER		0.012***		0.015**
		(2.92)		(2.13)
POWER	0.008*	0.009*	0.009*	0.012**
	(1.77)	(1.83)	(1.66)	(2.08)
ROA	0.091***	0.086***	0.072**	0.101***
	(2.69)	(2.73)	(2.02)	(3.17)
LEV	-0.085***	-0.098***	-0.089***	-0.093***
	(-4.64)	(-5.28)	(-4.07)	(-4.21)
SOE	-0.007**	-0.008***	-0.008**	-0.008**
	(-2.36)	(-2.63)	(-2.31)	(-2.30)
PPE	0.032***	0.036***	0.040***	0.039***
	(2.79)	(3.01)	(3.34)	(3.26)
INTAN	-0.004	-0.002	0.011	0.007
	(-0.76)	(-0.57)	(1.13)	(0.64)
SIZE	0.015**	0.016**	0.010*	0.019***
	(2.04)	(2.12)	(1.78)	(2.51)
GROWTH	0.012**	0.011*	0.013**	0.012*
	(2.14)	(1.89)	(2.18)	(1.73)
AGE	0.003*	0.003	0.004*	0.004*
	(1.68)	(1.52)	(1.70)	(1.67)
Constant	-0.119***	-0.108***	-0.101***	-0.104***
	(-5.92)	(-6.04)	(-5.37)	(-5.29)
Year and Industry	Control	Control	Control	Control
Adj.R^2	0.181	0.164	0.160	0.154
P value	0.000	0.000	0.000	0.000
Sample Size	6174	7302	6174	7302

Note. The value in the brackets are the T value of regression coefficient, which have controlled the heteroscedasticity and autocorrelation problems after the White (1980) robustness correctness and Cluster adjustment; ***, **, * respectively indicating the significance at 1%, 5% and 10% level (two tailed test).

To sum up, H1 and H2a in this paper are supported by empirical evidence. In addition, according to the regression results of control variables in Tables 4 and 5, it can be concluded that if the profitability of the company is stronger, the fixed assets ratio is higher, the enterprise scale is larger, the growth is

better and the listed time of the company is longer, the more aggressive the firms' tax avoidance behavior. However, the excessively high financial leverage and the attributes of state-owned shareholders hinder aggressive tax avoidance, which is consistent with the relevant studies.

4.3 Further Studies

4.3.1 The Impact of Market Competition Pressure and Degree of Diversification

This study has shown that dependence on relationship-based transactions intensifies aggressive tax avoidance behaviors of the firm. Additionally, powerful executives play significant roles in promoting this relationship. Thus, of interest is how internal and external governance characteristics of enterprises affect this relationship? Combined with relevant domestic and global studies, this paper discusses only the possible effects of governance from the perspectives of competitive market pressures and diversified operation.

Adopting the methods described in the existing research (Darius & Korzynski, 2017), this paper uses Lerner Index and Income Entropy Index to portray the market competition and degree of diversification respectively. Specifically, Lerner Index=(revenue-cost-management costs-sale cost)/revenue, which indicates that the smaller the index, the greater is the market competition pressure. Income Entropy Index=$\sum$Pi×ln(1/Pi), among which Pi refers to the proportion of the industry i in the total income of the enterprise. And the greater the index, the higher is the degree of diversification. Based on this, and in order to discuss changes in the research conclusions in different situation and degree of diversification, we choose the industry medians (Note 4) of Lerner Index and Income Entropy Index as the criteria. Following this, the sample enterprises are divided into "strong/weak market competition group" and "high/low diversification group". In addition, the re-regression of models (2) and (3) is carried out on the basis of the above sub samples, and then the significance test was carried out to measure the group differences in the regression coefficients of the tested variables using Chow-test.

According to the regression results in Table 6 (Note 5), when the firm is faced with bigger market competition pressure and is endowed with lower degree of diversification, the RBT_Supply variable has greater regression coefficient and the difference is significant at the 10% level. However, the regression coefficient of cross term RBT_Supply×POWER_avg doesn't pass the significant difference test. The results show that with the strengthening of market competition and improvement of an enterprise's degree of specialized operation, the promoting effect of relationship-based transactions on the aggressive tax avoidance behaviors is more significant while the positive moderating effect of the executives' control rights obviously weakens.

For these results, the paper makes the following analyses. Market competition pressure of the enterprise will reduce the switching cost of suppliers/clients. In this case, the trading model established on the relationship contract, an informal governance mechanism, is more fragile. It is easier for the future cash flow risk of the firm to be increased owing to adjustments by important suppliers/clients. Therefore, firms hope to change their unfavorable situation through aggressive tax avoidance behaviors. However, under pressure from the external environment, powerful executives may "restrain" the power rent-seeking motives when making tax avoidance decisions. Similarly, when the specialization degree of the firm is relatively high, reliance and dependence of the enterprise on key partners are further intensified because of relatively single source of income. Then the bargaining power of important suppliers/clients is increasing accordingly, which makes it more difficult for the firm to correspondingly maintain the relationship contracts. Therefore, firms with specialized operations are motivated to choose aggressive tax avoidance behaviors, and powerful executives may stabilize the willingness of transaction partners to adopt relationship-specific investment by reducing tax

aggressiveness with powerful suppliers (clients).

Table 6. The Impact of Market Competition and Diversification

Independent Variable	Groups divided according to market competition degree				Groups divided according to diversification degree			
	Strong	Weak	Strong	Weak	High	Low	High	Low
	Regression	Regression	Regression	Regression	Regression	Regression	Regression	Regression
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
RBT_Supply	0.013***	0.006*	0.010***	0.003*	0.006**	0.012***	0.005*	0.008**
	(4.82)	(1.79)	(2.58)	(1.67)	(2.03)	(4.01)	(1.73)	(2.33)
RBT_Supply×POWER_avg			0.006	0.009*			0.008*	0.005
			(1.41)	(1.74)			(1.65)	(1.32)
POWER_avg			0.004*	0.006*			0.003*	0.005*
			(1.66)	(1.75)			(1.64)	(1.72)
ROA	0.062**	0.131***	0.066**	0.123***	0.117***	0.092***	0.110***	0.097***
	(2.30)	(4.11)	(2.27)	(3.38)	(3.49)	(2.77)	(3.09)	(2.81)
LEV	-0.082***	-0.059***	-0.087***	-0.064***	-0.066***	-0.074***	-0.077***	-0.083***
	(-4.53)	(-3.18)	(-4.59)	(-3.26)	(-3.53)	(-3.99)	(-4.08)	(-4.59)
SOE	-0.008***	-0.003*	-0.009***	-0.004**	-0.001	-0.007***	-0.004	-0.009***
	(-3.49)	(-1.87)	(-3.72)	(-2.12)	(-0.27)	(-3.08)	(-0.74)	(-3.36)
PPE	0.056***	0.044***	0.053***	0.041***	0.045***	0.051***	0.049***	0.052***
	(3.34)	(2.71)	(3.23)	(2.66)	(2.80)	(3.12)	(2.89)	(3.14)
INTAN	-0.014	0.005	-0.009	0.006	0.004	0.013	0.002	0.007
	(-1.24)	(0.34)	(-1.03)	(0.53)	(0.47)	(1.04)	(0.36)	(0.87)
SIZE	0.016***	0.004*	0.014***	0.004*	0.008**	0.012***	0.007*	0.010**
	(3.19)	(1.69)	(3.01)	(1.70)	(1.99)	(2.57)	(1.78)	(2.26)
GROWTH	0.012***	-0.001	0.013***	-0.003	0.010***	0.002	0.011**	-0.001
	(2.85)	(-0.21)	(3.24)	(-0.57)	(2.71)	(0.64)	(2.78)	(-0.23)
AGE	0.006**	-0.003*	0.004**	-0.003*	0.004*	0.002*	0.005*	0.003*
	(2.04)	(-1.69)	(2.01)	(-1.69)	(1.89)	(1.63)	(1.90)	(1.67)
Constant	-0.154***	-0.093***	-0.149***	-0.102***	-0.105***	-0.134***	-0.124***	-0.141***
	(-7.46)	(-3.17)	(-5.96)	(-4.06)	(-4.18)	(-4.97)	(-4.31)	(-5.09)
Year and Industry	Control	Control	Control	Control	Control	Control	Control	Control
Adj.R^2	0.167	0.144	0.186	0.172	0.143	0.159	0.140	0.151
P Value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sample Size	3068	3106	3064	3110	3057	3117	3057	3117
Chow-test	3.39*		2.21		2.91*		2.04	

Note. The sample group whose POWER_avg value is larger than the industry median is identified as the strong control rights group, otherwise it is identified as the weak control rights group. The value in the brackets are the T value of regression coefficient, which have controlled the heteroscedasticity and autocorrelation problems after the White (1980) robustness correctness and Cluster adjustment; ***, **, * respectively indicating the significance at 1%, 5% and 10% level (two tailed test).

4.3.2 Other Robustness Analyses

In addition to the above tests, this study completed the following robustness analyses: 1) the specific construction method of the control rights variables of the executives might affect the empirical results. So based on the initial data of POWER variable, this paper makes ranking grouping according to the principle of from small to large (ten groups in total), using the serial number after ranking the value of the POWER index; 2) The role that the executives play on the enterprises' business behavior has the characteristics of continuity and accumulation, the CEO who just took the office not long ago usually is in the stage of getting familiar with the business, so the company's financial strategies at that time may not be a good presentation of the characteristics of the manager. So this paper eliminated the samples whose CEOs changed in that year; 3) Hanlon and Heitzman (2010) think that using various indexes to measure the degree of tax avoidance may strengthen the robustness of the research. Borrowing the methods of other scholars and combining the practice of tax collection and administration in China, the paper adopts the effective tax rate method as an alternative method to measure the tax avoidance behavior. After adjustment of the above research variables or samples, we make regression test of the relevant models again. We find that the main empirical findings are basically consistent with the previous ones and no results which are contradictory to the previous empirical evidence are found.

5. Conclusions and Implications

This paper takes manufacturing companies in China's A-share market from 2008 to 2016 as the research samples and carries out the empirical analysis. The research finds that the relationship-based transactions of the enterprises with the suppliers and clients improve company's aggressive tax avoidance level. The enhancement of control rights of executives further strengthens the positive relationship between relationship-based transactions and aggressive tax avoidance behavior. When company faces with fierce market competitive pressures and with lower degree of diversification, relationship-based transactions boosts aggressive tax avoidance. However, the original positive moderating effect of the executives weakness considerably.

Based on the institutional background of transitional economy, our research result has important theoretical and policy implications for clarifying the governance of relationship-based transactions and internal right allocation of the Chinese listed companies. Firstly, firms that depend on relationship-based transactions prefer to choose aggressive tax avoidance policies. This shows that the making of the enterprises' decisions should take the benefit appeals of the non-financial stakeholders into consideration. Secondly, one of the obligations of the board of directors is to construct an effective benefit mechanism among various stakeholders so as to stimulate their willingness to participate in more efficient mutual governance of the firms. Thirdly, the research finds that the maintenance of relationship contract might become a tool for powerful executives to seek personal benefits through the guise of tax avoidance. Then how to use various kinds of supervision methods and stimulation measures by various means to restrain the diverse and secret financial behavior of senior managers will become the focus of the issues in the company governance reform. Finally, this paper also finds that the market competitions and professionalization operation orientation might suppress the power rent-seeking motivations of executives in tax avoidance decisions, which shows that we should further cultivate suitably competitive market environment and correctly estimate the heterogeneous impact of the operation patterns of the firms on the efficiency of relationship governance, and to consolidate the competition advantages of company by the highly effective coupling of internal and external governance mechanisms.

Another contribution of our research to the literature is illustrating the influence that relationship-based transactions has on corporate tax avoidance strategies and the possible roles senior manager's control rights play in this process. The paper enriches Higgins' (2015) empirical study on firms' business strategy and tax avoidance decisions in the context of the transitional Chinese institution, and provides empirical evidence in support of the Managerial Power Theory proposed by Bebchuk et al. (2002), with the example of specific financial decision of tax avoidance. In addition, it is conducive to understanding how internal governance and arrangement of Chinese firms influence economic realities of relationship-based transactions, and provides clearer evidence to optimizing the current co-governance model of stakeholders and strengthening the financial decision supervision of senior managers.

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Notes

Note 1. The statistics of State Administration of Taxation shows that China's Anti-tax avoidance work contributed 52.3 billion Yuan and 58 billion Yuan to the national tax collection in 2014 and in 2015, respectively. Besides, according to Hanlon and Heitzman (2010), "tax avoidance is the contentious variable from the clear and legal transaction to more aggressive tax avoidance form", so the scope of aggressive tax avoidance is wide and belongs to generalized tax avoidance behavior. Since the theme of this paper is to study the tax bearing reduction behavior of firms, and not pay attention to the legality, so if there is no special illustration, the expression of tax collection avoidance and aggressive tax bearing reduction, will be used alternatively and the differentiation of the concepts will not be made.

Note 2. The high professional title refers to senior engineer, senior architect, senior accountant, senior economist, certified public accountant, certified assets estimator, lawyer, professor, researcher; highly educated degree refers to post-graduate and above.

Note 3. Borrowing the relevant study, the paper's identifying the political connection is based on whether the CEO is the current government official.

Note 4. The secondary classification standard of China Securities Regulatory Commission for the manufacturing industry is adopted.

Note 5. In order to make it convenient to make comparison with the previous results, only the *RBT_Supply* result is shown here. The test results indicate that the index difference of executive control right doesn't have substantial influence on the conclusion. Therefore, only the executive control right results of *POWER_avg* are shown here.