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**THE IMPACT OF CORPORATE GOVERNANCE ON THE  
CHOICE OF TRANSFER PRICING METHODS IN CHINA**

**HAN XUE**

**MPHIL**

**LINGNAN UNIVERSITY**

**2008**

**THE IMPACT OF CORPORATE GOVERNANCE ON THE  
CHOICE OF TRANSFER PRICING METHODS IN CHINA**

by  
**HAN Xue**

**A thesis  
submitted in partial fulfillment  
of the requirements for the Degree of  
Master of Philosophy in Business Management**

**Lingnan University**

**2008**

## **ABSTRACT**

### **The Impact of Corporate Governance on the Choice of Transfer Pricing Methods in China**

by

**HAN Xue**

**Master of Philosophy**

Recent scandals involving related party transactions (RPTs) have attracted researchers' and governments' attention. Because imperfections exist in the legislation of RPTs, business groups might abuse transfer pricing of such transactions for certain purposes. These purposes include earnings management of listed companies that seek to attract investors and profit shifting from subsidiaries to parent companies. This study investigates the impact of corporate governance on the choice of transfer pricing methods in China.

I classify transfer pricing methods into two major groups (i.e., market-based and cost-based methods). I hypothesize that companies with weak corporate governance are more likely to use cost-based pricing methods, which are regarded as subjective and more easily manipulated. According to previous studies on corporate governance, a smaller board size, CEO-Chairman duality (i.e. the CEO and the Chairman of the company are the same person), and a lower percentage of independent directors on the board are indicators of weak corporate governance. Using data collected from annual reports of Chinese listed firms in the Shanghai and Shenzhen Stock Markets from 2003 to 2005, I find that government-controlled companies are more likely to use market-based methods than others. It is consistent with the hypothesis that ownership has an impact on the choice of transfer pricing methods. The results also show that when the chairman of the board and the CEO of the company is the same person, companies are more likely to use cost-based methods. However, inconsistent with my hypothesis, the results indicate that firms with small boards are more likely to choose cost-based methods than firms with large boards. This study extends prior research on transfer pricing by focusing on the impact of corporate governance. Furthermore, this study suggests that regulators might limit transfer pricing manipulations by stipulating a firm's corporate governance structure. This research also draws both regulators' and investors' attention to the impact of corporate governance on transfer pricing methods.

*Key words:* Transfer Pricing Methods; Corporate Governance; Related Party Transactions

## **DECLARATION**

I declare that this is an original work based primarily on my own research, and I warrant that all citations of previous research, published or unpublished, have been duly acknowledged.

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HAN Xue  
June 29, 2008

**CERTIFICATE OF APPROVAL OF THESIS**

**THE IMPACT OF CORPORATE GOVERNANCE ON THE  
CHOICE OF TRANSFER PRICING METHODS IN CHINA**

**by**

**HAN Xue**

**Master of Philosophy**

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# **The Impact of Corporate Governance on the Choice of Transfer Pricing Methods in China**

## **1. Introduction**

Related party transactions (RPTs) are one of the recurring areas of concern raised by recent corporate scandals. Prior studies show that controlling shareholders misappropriate profits of firms in emerging markets (Lo et al., 2007; Jian and Wong, 2003). Through RPTs, cash and profits are diverted away from firms in a group either to controlling shareholders' pockets directly or to their loss-making associates. It has been shown that firms in developed markets also use RPTs to transfer assets and profits out of firms for the benefit of those who control them (Johnson et al., 2000).

Such income shifting of RPTs can be reduced by proper corporate governance mechanisms (Gordon et al., 2004). Corporate governance helps to reduce the information asymmetry between external investors and internal management. If external capital markets could perfectly observe managers' investment actions and effort, there would be no need for corporate governance mechanisms to help monitor managers, and the investor can assure themselves of getting a maximized return of their investments. The existing literature has found certain board characteristics and chief executive officer (CEO) pay-performance sensitivity to be useful governance mechanisms in ameliorating managerial agency problems (Fama and Jensen, 1983; Fama 1980; Kelin, 2002a; Bushman et al., 2004a). For example, the percentage of independent director on the board has been found to be positively correlated with firm value and interpreted as indicative of good corporate governance

(Bushman et al., 2004b; Fama and Jensen, 1983)

Early research on pricing of RPTs (i.e. transfer pricing) in multinational companies focused primarily on issues relating to international taxation allocation (e.g., Chan and Chow, 1997a; Jacob, 1996). However, with the growth of the economy, especially the growth of business groups, transfer pricing has acquired a broader significance. Some companies take advantage of transfer pricing to manipulate their financial statements (i.e. inflate earnings) and shift income among affiliated listed companies. For example, in order to inflate the earnings of a listed company, a parent company or affiliated company may sell goods at very low price to the listed company and then the listed company sells it to the market at a higher price. This has become a prominent phenomenon in the stock market (Hua, 2002). The China Securities Regulatory Commission (CSRC) is also aware of earnings manipulation through transfer pricing. Consequently, the CSRC revised the “Guideline on the Management of Listed Companies” on 7 January 2002 which explicitly mandates the conditions for conducting a related party transaction, and the disclosure requirements. Relevant section of the guideline (i.e., Section 3) is summarized in Appendix 1.

This paper addresses possible abuses of transfer pricing methods in China where such dealings are prevalent because of prevalent corporate structures, economic institutions and the legal system. Jian and Wong (2003) show some evidence that controlling shareholders use RPTs to manage earnings. They find that 90 percent of Chinese listed firms are involved in different degrees of RPTs and use recurring related party sales to manage earnings in order to meet government ROE requirements for rights issues or to avoid being delisted. Anecdotal evidence indicates that the current corporate governance system in China fails to constrain

controlling shareholders from manipulating earnings and expropriating minority shareholders through RPTs<sup>1</sup>.

In this study, I would like to focus on whether companies with different corporate governance mechanisms have different preferences for transfer pricing methods in RPTs. There are two common types of transfer pricing methods, market-based methods and cost-based methods. Market-based methods are based on fair market prices, which are less susceptible to manipulation. Cost-based methods are basically determined by internally generated data, and this is easier to manipulate (MaAulay and Tomkins, 1992; Merville and Petty, 1978; Thomas, 1971; Anthony and Dearden, 1980; Cook, 1995; Granick, 1975). Therefore, companies tend to use cost-based methods to manage their earnings through RPTs. As such, this study focuses on answering the following question: How is the choice of transfer pricing methods (i.e., cost-based or market-based) in related party transactions affected by characteristics of the company, such as ownership of the company (e.g., government-controlled or others) or board characteristics (e.g., the percentage of inside directors, dual CEO/chair position)?

In this paper, I test the hypotheses by analyzing 4,515 RPTs conducted by Chinese listed firms over the period from 2003 to 2005. The results indicate that (i) non-government-controlled companies and (ii) the companies with the same person acting as the CEO and chairman of the board are more likely to choose cost-based transfer pricing methods, which are consistent with the hypothesis. However, inconsistent with my hypothesis, I find that companies with small board size are more likely to use cost-based transfer pricing methods and percentage of independent

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<sup>1</sup> A well-known example in China is Sanjiu Medicine (0999). The controlling shareholder (Sanjiu Group) and other related parties owed 2.5 billion RMB (96% of the company's total assets) to the listed company. They seriously expropriated minority shareholders' interest. CSRC circulated a notice of criticism towards Sanjiu Medicine. (CSRC website: <http://www.csrc.gov.cn/n575458/n575742/n2529771/2608081.html>).

directors on the board do not have a significant impact on the choice of pricing methods. The results are robust after controlling for industry, firm size, preferential income tax rate, and amounts of RPT.

As far as I understand, there is no prior research that examines how corporate governance affects management decisions on transfer pricing methods. Thus, this study enriches the extent literature on moral hazard behavior<sup>2</sup> as a consequence of dysfunctional corporate governance. My research shows that firm that has weak corporate governance are more likely to employ cost-based pricing methods for earnings manipulation. Thereby, this study provides further evidence for disguised moral hazard behavior resulting from dysfunctional corporate governance.

Furthermore, this study provides policy implications that facilitate regulators' efforts to control the abuse of RPTs through corporate governance mechanisms and regulation of pricing methods. By specifying the corporate organizational structure and corporate governance practice, the regulators can efficiently reduce transfer pricing manipulation without further incurring additional monitoring and disclosure cost. For example, the results provide empirical evidence that non-government-controlled and Chairman-CEO duality firms are more likely to choose cost-based pricing methods and these firms are considered to have poor corporate governance. Regulators can draw up some rules specifically towards firms who have those characteristics.

The rest of the paper proceeds as follows. The next section reviews relevant literature on transfer pricing methods and corporate governance. Section 3 presents the institutional background of transfer pricing in Chinese listed companies. Section 4 lays out the research hypotheses. Section 5 describes the research methodology.

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<sup>2</sup> Practically, the moral hazard behavior can be broadly classified into four categories: insufficient effort, extravagant investments, entrenchment strategies and self-dealing (Tirole, 2006). RPTs can be used for self-dealings.

Finally, Section 6 discusses the empirical findings and Section 7 concludes the paper.

## **2. Institutional Background**

Before we develop our hypothesis, it is necessary to briefly recount the institutional background of China's listed company and China's stock market since the development of China's stock markets is distinct from most of the capital markets around the world.

### *2.1 Ownership structure*

Under China's economic reform, state-owned enterprises were restructured. The reform decentralized management decision rights from the government to its state-owned firms, while allowing the government to remain as the controlling owner.

One of the purposes of creating a capital market in China was to improve state-owned enterprise's corporate governance. Under the previous planned economic system, state-owned enterprises acted simply as manufacturing plants executing government orders. The state expected that going public would facilitate the restructuring of state-owned enterprises and that a well-functioning corporate governance system would be established. In reality, although a huge volume of funds was raised through the stock market, corporate governance remained an unsolved problem. There are two key aspects of corporate governance issues affecting the Chinese stock market, namely relationships between listed subsidiaries and parent companies and ownership concentration.

#### i) Listed subsidiaries and parent companies

Born out of a central command economy that is now in a transition period, the

Chinese stock market and Chinese listed companies reflect some of the serious weaknesses of their macro-environment. The low-quality corporate governance in listed companies can be traced back to these weaknesses.

One of the main characteristics of Chinese listed companies' ownership structure is usually the existence of parent companies. It is a common practice in developed stock markets for large groups to be entirely publicly held, but in China, a listed company will often be a subsidiary of an unlisted business group. After witnessing the success of the Japanese Keiretsus and the Korean Chaebols in the 1970s and 1980s, the Chinese government has encouraged the establishment of corporate groups (Keister, 2000). The government has formed bureaus to assemble firms in similar industries or closely related industries, facilitate them to develop trades and other relations, and build their administrative structures. Therefore, driven by government directions and economic forces, some large corporate groups were developed in the 1980s and 1990s from primarily state-owned enterprises affiliated with the central government or local governments.

State-owned business groups often carve out their most profitable business units for a public offering, in order to meet IPO requirements and achieve a higher IPO price (Aharney et al., 2000). The original enterprise, consisting of the remaining unprofitable units, then becomes the parent company of the newly listed company. Usually, the same team controls the board and management of both the listed company and its parent company, and the listed company is under the absolute control of its parent, since only a small proportion of shares are traded in the market. The listed company is viewed by its parent as a platform for financing in the stock market and a cash vehicle for the whole group's internal capital market (Srinidhi et al., 2004). Since the parent company is not listed, there is little or no information on



the parent publicly available to investors.

Chen et al. (2003) find that rather than using the popular Western technique of accruals, most listed Chinese firms manage their earnings through real transactions, for instance by providing credit to a risky client or by RPTs such as a sale of fixed assets to their parent companies.

ii) Ownership concentration

Another characteristic of the ownership structure of Chinese listed firms is the restrictions on share transfer. There are various classes of shares in China and most of them are non-tradable.

- a. State-owned shares: shares obtained by a state institution in exchange for a capital contribution made by that institution to a corporation.
- b. Domestic legal-person shares: sponsor's<sup>3</sup> shares held by domestic legal persons.
- c. Foreign legal-person shares: sponsor's shares held by foreign legal persons.
- d. Private placement of legal-person shares: shares issued by private placement and subscribed by legal persons other than sponsors.
- e. Employee shares: shares held by company staff, issued by private placement of companies and yet not listed at the current time.

State-owned shares are held by central and local governments, which are represented by local financial bureaus, state asset management companies, or investment companies. State-owned shares can also be held by the parent of the listed company, typically a state-owned enterprise. They are not tradable. Domestic institutions such as industrial enterprises, securities companies, trust and investment companies, foundations and funds, banks, construction and real estate development companies, transportation and power companies, and technology and research

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<sup>3</sup> The term of 'sponsor' is used to refer to an initial investor/subscriber.

institutes hold legal person shares. These institutions are further classified according to their ownership structures as state-owned enterprises, state-owned nonprofit organizations, collectively owned enterprises, private enterprises, joint stock companies, and foreign-funded companies. Legal person shares are not tradable. State-owned and legal person shares can be transferred to domestic institutions upon approval of the CSRC. As to employee shares, companies may sell such shares to management and employees, typically at a significant discount, at the time of going public. These shares have to be held for 6 to 12 months after an IPO, and can then be sold on the stock exchanges following approval by the securities regulatory authorities. In 1998 the regulatory authorities issued a circular ruling that the issuance of employee shares should be discontinued. As a result, the number of employee shares is gradually falling.

Publicly traded shares, the only shares actually traded in mainland China, account for less than one-third of the total shares in existence. Ding et al. (2005) calculate the proportion of negotiable shares to total equity for all listed companies at the end of 2003. They find out that more than four-fifths of those companies' majority shares are not tradable.

A survey appearing in the book titled "Corporate Governance and Enterprise Reform in China: Building the Institutions of Modern Markets" (Tenev et. al., 2002) shows that a similarity shared by ownership structures of some West European companies and East Asian firms is the mutual ownership among different companies. In terms of types of largest shareholders, China is differentiated by the absence of significant ownership by individuals and families, the negligible role of financial institutions and institutional investors, and the large state role. These features have a direct bearing on the types of corporate governance issues that China faces. Perhaps

the most important implication of the dominant role of state ownership in China's listed companies is the control the government can exert over management appointments and incentives, and thereby over companies' behavior.

## *2.2 Related party transactions*

In 1997, the China Ministry of Finance, which serves as the accounting standards setter in China, issued an accounting standard for RPTs, "Related party transaction disclosure and its transactions" (hereafter, the RPT Standard), which requires publicly listed companies to disclose all material RPTs in the notes to the financial statements. Related parties, as defined by the RPT Standard, include the listed firm's parent company, affiliated companies<sup>4</sup>, its management, board members, principal owners, or members of the immediate families of any of these groups. Listed companies should disclose all transactions including trading of goods, services or assets with related parties. Table 2 shows the types of RPTs that should be disclosed by Chinese listed firms.

(Insert Table 2 here)

## *2.3 Corporate governance in China*

After entering the World Trade Organization, the government of the PRC has made some progress on corporate governance. According to the World Bank Group (1999), corporate governance is about maximizing value subject to meeting a corporation's financial, legal, and contractual obligations. This inclusive definition stresses the need for boards of directors to balance the interests of shareholders with

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<sup>4</sup> No disclosure is required for RPTs with subsidiaries which are consolidated in financial statements. However, for affiliated companies which the listed company can exert significant influence over that are not consolidated (i.e. ownership between 20% and 50%), disclosures are required.

those of other stakeholders such as employees, customers, suppliers, investors and creditors, in order to achieve long-term sustained value. Recognizing the importance of corporate governance to the continuous development of the Chinese capital markets, the CSRC promulgated a consultation paper, “Guiding Opinion for Listed Companies on the Establishment of Independent Non-Executive Directors Systems”, and the corresponding final version of “Guideline on the Management of Listed Companies” in 2001 and 2002 respectively.

However, despite the CSRC’s admirable intentions and the comprehensive coverage of its Guideline, its effectiveness will depend very much on its practical implementation. Some of the practical problems that domestically listed companies may have with the corporate governance initiative are:

i) Imprecise wording

As the criteria for compliance with the Guideline are not clearly defined, there are plenty of grey areas and ambiguities that leave room to maneuver for companies who wish to abuse the system. For example, independent directors have been praised as guardians of corporate governance, and champions and protectors of minority shareholders. However, the Guideline and the Guideline Opinion for Listed Companies on the Establishment of an Independent Directors System are not clear on who actually has the power to appoint independent directors. If majority shareholders dominate the appointment of the independent directors, the whole board may still be effectively under the control of those majority shareholders.

Secondly, although the CSRC has provided a detailed guideline for determining directors’ independence as stated in article 3, there are still some loopholes in the description. According to the world’s most influential Corporation Governance

Codes<sup>5</sup>, a company's ex-employee can only be qualified as an independent director after a certain cooling off period. For example, a period of five years is required by the New York Stock Exchange and the California Public Employees Retirement System in the U.S., while three years are required by the Australian Stock Exchange. However, the CSRC guideline requires only a one-year break time for an ex-employee to be an independent director, which is far from the actual concept of being truly independent. The whole idea of introducing independent directors is to provide objective and independent judgment on management's performance, without being influenced by the company's management or major shareholders. But, after only one year of cooling off the ex-employee might still have some sort of loyalty or connection with the company, which makes it difficult for him/her to raise opposition or act tough on the managers.

Thirdly, the CSRC guideline does not clearly specify whether a company's current non-executive directors can switch to be independent directors. In China, a listed company has a certain number of non-executive outside directors, who either come from the firm's controlling shareholders or other affiliations. For example, a director of a Chinese listed firm could simply be transferred and become an independent director in the following year. As a result, the company could then meet the CSRC's requirement to have at least one-third of board members that are independent. Officially, this non-executive director may be qualified as an independent director, but by serving at the same firm and the same board for a certain period, how independent can he or she be? Furthermore, the minimum requirement of one-third independent directors is relatively low. For example, in the U.S., boards should be comprised of a substantial majority of "independent" directors. At a

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<sup>5</sup> For details, please refer to the official website of SEC about corresponding rules: <http://www.sec.gov/rules/sro/34-48745.htm>

minimum, these directors should meet the definition of “independent director” as given by the relevant non-official regulatory organizations standards<sup>6</sup>. According to a 1999 survey conducted by the Organization for Economic Co-operation and Development, the average percentage of independent directors on companies’ board of directors was 62 percent in the U.S.. Therefore, the minimum requirement for the percentage of independent directors in China is comparatively quite low.

ii) Immature corporate governance environment

Unlike those in more mature securities markets, shareholders in the PRC stock markets polarize into majority and minority shareholders. Majority shareholders are typically very strong and individual minority shareholders are extremely weak, and there are only a few sophisticated institutional minority shareholders such as pension funds, mutual funds and financial institutions to counter the influence of the majority shareholders. Thus, under this immature corporate governance environment, opportunistic behavior is likely to occur through RPTs.

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<sup>6</sup> For example, CalPERs in April 13, 1999 promulgated the Corporate Governance Core Principles and Guidelines

### **3. Literature Review**

Previous empirical studies on transfer pricing in developing countries are quite limited, with most studies focusing on firms operating in the United States, Japan, and other major developed countries. Prior studies suggest that the governments of developing countries are more vulnerable than those of developed countries to transfer pricing abuse because of the lack of institutional frameworks and expertise and the inadequacy of resources to tackle this issue (Brean, 1979; Plasschaert, 1985; Rahman and Scapens, 1986).

#### *3.1 Factors affecting transfer pricing decisions and the choice of transfer pricing methods*

There is a wide diversity of transfer pricing practice for both domestic and international intra-corporate operations. Surveys by Emmanuel and Mehafdi (1994) show the diversity of transfer pricing methods and the multiplicity of policies used. They conclude that there are no universal or cure-all transfer prices. They also suggest that whether a company applies a market price, a cost price, or multiple pricing is not really the crux of the issue. What is more important is whether the transfer prices benefit the strategic and structural circumstances of the particular company, and reflect the operational realities of the divisions involved in the internal trade.

Previous studies on transfer pricing mainly analyzed transactional corporations (i.e. TNCs) in the U.S. and other developed countries. Tang and Chan (1979) finds that the overall company profit is the primary factor affecting method choice and the determination of subsidiary performance is the most important objective. No

significant relationship between TNC size and transfer pricing method was found. Wu and Sharp (1979) find that transfer pricing criteria differ by industries for U.S. TNCs. Primary criteria include compliance with tax and tariff regulations and profit maximization. Burns (1980) identifies the most influential factors affecting transfer pricing decisions as market conditions and competition in the host country, reasonable profit for the subsidiary, and U.S. income tax regulations. Yunker (1982) finds that larger firms tend to use market-based methods. Important environmental factors include overall market conditions and demand for the product, government regulations and restrictions, and economic conditions. According to Borkowski (1992), there is no relationship between transfer pricing method and industry, and smaller TNCs prefer cost-based methods. In detail, the transfer pricing decisions are affected by tax and customs rates and regulations, and the relative ease of using the transfer pricing method. In a replication of his earlier study, Tang (1993) confirms his prior findings of no relation between TNC size and pricing methods. The environmental factors affecting method choice were overall TNC profit, tax rate and regulation differences, and restrictions on repatriation of profits.

Chan and Chow (2001) investigated the international transfer pricing methods adopted by multinational corporations (MNCs) in China and how their choices are affected by corporate environments. This study adopts a structured interview methodology with the management of large foreign investment enterprises in China to obtain the data for testing the research hypotheses. A total of 64 useable responses were provided and included in the final sample. This study explains the impacts of corporate environments that are of particular relevance to the choice of transfer pricing methods in developing countries. The empirical results reveal that foreign investment enterprises having local partners' participation in management tend to use



market-based transfer pricing methods while foreign investment enterprises not having local partners' participation in management tend to use cost-based transfer pricing methods. The analysis also shows that two other corporate attributes, i.e. source of investment and activity orientation, are significant to the choice of transfer pricing methods when analyzed separately. Multivariate analysis reveals that the likelihood of adopting cost-based or market-based transfer pricing methods depends on both local partner's participation in management and the source of foreign investment of a foreign investment enterprise.

Luft and Libby (1997) also aim to find the factors affecting the choice of transfer pricing methods. This paper focuses on the fairness of transfer pricing methods and reports case-based questionnaire responses. These responses indicate that transfer pricing negotiations expect fairness-based price concessions that moderate the influence of an outside market price when the outside market price strongly favors one of the parties. Motivated by this study, Kachelmeier and Towry (2002) investigate whether these expectations of fairness relate to the actual prices that result from real-cash negotiations. They perform an experiment with 48 M.B.A. student volunteers by distributing a transfer pricing case in two settings. In one setting, a computerized negotiation mechanism is used in which the only communications are bids, asks and acceptances. In the other setting, the parties negotiate face-to-face, with no restrictions on communication. The results indicate that expectations of fairness-based price concessions do not survive actual negotiations when participants negotiate in the first setting. Conversely, both expectations and actual negotiated outcomes reflect fairness-based price concessions when participants negotiate in the second setting. Kachelmeier and Towry's (2002) findings imply that firms can influence the extent to which an outside market price

determines a negotiated internal transfer price by changing the means of negotiation.

There are a few papers that focus on the effects of management's perceptions and managerial autonomy on the choice of transfer pricing methods, such as Chan and Lo (2004), and Chan et al. (2006). Chan and Lo (2004) investigate the association between the management's perception of the importance of environmental variables and its choice of international transfer pricing methods in the context of a developing country. Field interviews were conducted with the management of large foreign investment enterprises in China. These foreign investment enterprises included main investors from the U.S., Japan, and Europe. The results indicate that the more important management perceives the interests of local partners and the maintenance of a good relationship with the host government to be, the more likely that the foreign investment enterprise will use a market-based transfer-pricing method. On the other hand, the more important management perceives foreign exchange controls in transfer-pricing decisions, the more likely the foreign investment enterprise will choose a cost-based method. Overall, there is moderate agreement between U.S. and non-U.S. foreign investment enterprises on the relative importance of the environmental variables studied. Furthermore, Chan et al. (2006) examine the impact of managerial autonomy on tax compliance in an international transfer pricing context. They specially study whether foreign subsidiaries' autonomy in making pricing and sourcing decisions on intra-firm transfers affect their profit shifting through international transfer pricing. They measure transfer pricing noncompliance in terms of tax audit adjustments made by tax authorities. Based on a sample of 163 transfer pricing audits on foreign investment enterprises in China, they find that tax audit adjustments for foreign investment enterprises that have autonomy in setting transfer prices or sourcing form

outsiders are smaller than those that have their transfer transactions dictated by parent companies.

Other factors, such as inducing truthful forecasts of demand from buying units, may also affect the choice of transfer pricing methods. Shih (1996) notice that previous studies on transfer pricing have one common trait; they only report what firms do with regard to transfer pricing but do not delve into the rationales behind the practices. Shih (1996) take one extra step to test whether the strategic concern of inducing truthful forecasts of demand from buying units affects transfer pricing decisions. A questionnaire was sent to the controller, treasurer or financial vice-president (in order of preference) of each of the 400 largest Canadian firms. The results show recurring transfer relationships are less likely to be priced at variable cost than are non-recurring transfers. The result is consistent with the hypothesis that inducing truthful forecasts of demand from buying units at the capacity planning stage has a larger influence on pricing of long-term transfer relationships.

In conclusion, there are number of factors affecting the choice of transfer pricing methods. Tax minimization and earnings management are the two most common motivations for transfer pricing manipulation. Management characteristics and the external market environment also have significant effects on the choice of transfer pricing methods. This study, by relating choice of transfer pricing to corporate governance, identifies some factors affecting the transfer pricing decision that are not investigated by previous studies.

### *3.2 Corporate Governance*

This study tries to identify the role of corporate governance in preventing management's opportunistic behaviors (abuse of pricing methods in RPTs in this study) Before going to the hypotheses development, a brief summary on existing

corporate governance empirical findings will be explained. According to previous studies, corporate governance has been characterized as a set of mechanisms protecting investors from opportunistic behavior (Shleifer and Vishny, 1997; Dennis and McConnell, 2002). Although there is not direct measure on the strength of corporate governance, empirical regularities identify that board characteristics and ownership structures are indicative to corporate governance (Hermalin and Weisbach, 2003). These mechanisms may be internal or external. Internal mechanisms include dispersed ownership structures, independent boards of directors, formal board processes, timely and accurate disclosure of relevant information, etc.; external mechanisms include the existence of active external take-over markets, a shareholder-friendly legal infrastructure, well-established capital markets, etc. This study investigates the impacts of two main internal governance mechanisms, ownership structures and board characteristics.

### *3.2.1 Ownership*

A defining characteristic of China's listed companies is the concentration of ownership. As stated by the Chinese government, the original purpose of the stock market is to help state-owned enterprises raise funds and improve their operating performance. For this historical reason, the majority of current listed Chinese companies originated from restructured state-owned enterprises and is still controlled by the State and/or other non-listed state-owned enterprises. Aharony et al. (2000) provides evidence that most of China's newly listed firms are restructured from existing state-owned enterprises. Theoretically, ownership structure is one of the indispensable elements of corporate governance (Shleifer and Vishny, 1997) because large owners, via their voting rights, can effectively monitor and govern the

management team. However, recent developments in corporate governance theory have highlighted the conflict of interests that manifests through action being taken by the controlling shareholders for their own benefit, at the expense of minority shareholders, and this is called “tunneling” (Johnson et al., 2000). Because of such conflict of interests, some Chinese firms may have incentives to engage in RPTs with their parent companies and other affiliates. Ding et al. (2007) investigate the role played by a firm’s ownership structure in earnings management, with reference to the Chinese capital market. Analyzing 273 state-owned and privately-owned Chinese companies listed in 2002, they establish a link between firm’s ownership structure and earnings management practices. The results show that the entrenchment effect of ownership concentration on earnings management is weaker in privately-owned listed firms than in state-owned listed firms. Liu and Lu (2003) state that in China, most listed companies are spin-offs from large state-owned enterprises and, in most cases, they still share personnel functions, capital, and assets with their parent companies. Local governments, instead of shareholder committees, appoint the management of listed firms. Therefore, management often takes action to benefit the largest shareholder and seldom considers minority shareholders’ interests. Especially, in China, minority shareholders cannot take listed companies to court, because of limitations in the civil law and a lack of punishment spectrum in the current securities laws<sup>7</sup>. Listed companies, therefore, are susceptible to RPTs carried out for the benefit of the controlling shareholders.

With regard to corporate governance to the RPTs, Jian and Wong (2003) discuss how RPTs can a) benefit the state-owned group companies as a whole including all its shareholders; and b) be used by controlling owners to expropriate assets from

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<sup>7</sup> For example, current Chinese securities laws do not allow proportionate legal enforcement. Regulators can only take extreme actions (prison sentences or warnings); they cannot impose moderate penalties.

minority shareholders. The study focuses on listed firms that engage in RPTs with their parent companies and affiliated entities such as subsidiaries of the parent companies. Jian and Wong (2003) find that the results are consistent with the notion that Chinese listed companies use recurring related party sales to manage earnings in order to meet the government's ROE requirements for rights issues or to avoid being delisted. In addition, through related lending, listed companies divert resources they obtain from operations to their major shareholders and their affiliates. These earnings management and tunneling activities are more pronounced in state-owned group-controlled companies.

### *3.2.2 Board characteristics*

The board of directors in principle monitors management on behalf of shareholders. Board characteristics are indicative to the functioning of board in carrying out their monitoring tasks. The board size and ratio of independent (outside) directors reflects a board's monitoring power and independence, while the managerial duality gauge the discretionary power of management. Byrd and Hickman (1992) intend to provide evidence on the importance of corporate boards by examining the relationship between the presence of outside directors and the returns to shareholders of bidding firms in tender offers. They examine 128 tender offer bids from 1980 through 1987 and classify outside directors as either independent from or having some affiliation with managers. The results show that bidding firms in which independent outside directors hold at least 50 percent of the seats have significantly higher announcement-date abnormal returns than other bidders, which indicates that independent boards benefit shareholders. They find evidence of a nonlinear relationship between the fraction of independent directors on a board and the

shareholder wealth effects of tender offer bids. This result implies that all categories of board members (i.e. managers, affiliated outside directors, and independent outside directors) play an important role in guiding the firm, but shareholders will not be best served by a board comprised entirely of outside directors. All results are lost if the traditional inside-outside board classification method is used.

Beasley (1996) tests whether the proportion of outsiders on the board of directors is lower for firms experiencing financial statement fraud than for no-fraud firms. This study used a choice-based 75 fraud and 75 non-fraud firms selected from Accounting and Auditing Enforcement Releases and the Wall Street Journal Index. Results from the logit regression analysis show that no-fraud firms have boards with significantly higher percentages of outside members than those of fraud firms; however, the presence of an audit committee does not significantly affect the likelihood of financial statement fraud. The results also indicate when outside director ownership in the firm and outside director tenure on the board increase, and when the outside director holds less directorships in other firms, the likelihood of financial statement fraud decreases.

Dechow et al. (1996) investigate the motives for and consequences of earnings manipulation in a sample of firms subject to accounting enforcement actions by the Securities and Exchange Commission (SEC). These firms are alleged to have violated generally accepted accounting principles (GAAP) by overstating their reported earnings. They examine the ability of several previously suggested motivations for earnings manipulation to explain the behavior of firms in this sample. They also test whether the incidence of earnings manipulation in this sample is systematically related to weaknesses in the firms' governance structures. Finally, they document the capital market consequences experienced by these firms after

allegations of earnings manipulation were made. They find that an important motivation for earnings manipulation is the desire to attract external financing at low cost. The results show that this motivation remains significant after controlling for contracting motives proposed in the academic literature. They also find that firms manipulating earnings are: (i) more likely to have boards of directors dominated by management; (ii) more likely to have a CEO who simultaneously serves as Chairman of the Board; (iii) more likely to have a CEO who is also the firm's founder; (iv) less likely to have an audit committee; and (v) less likely to have an outside block shareholder. Finally, they document that those firms manipulating earnings experience significant increases in their costs of capital when the manipulations are made public.

Using a sample of 692 publicly traded U.S. firm-years, Klein (2002b) examines whether the magnitude of abnormal accruals (a proxy of earnings management) is related to board or audit committee independence. The study is motivated by the implicit assertion by the SEC, the New York Stock Exchange and the NASDAQ that earnings management and poor corporate governance mechanisms are positively related. Klein found that there is a cross-sectional negative association between board or audit committee independence and earnings management. When either the board or the audit committee has less than a majority of independent directors, the results are stronger (i.e., earnings management is more prevalent).

Gordon et al. (2004) investigate the association between corporate governance mechanisms and RPTs. They used number of board members, percentage of executives on the board, CEO-Chairman duality, the annual cash retainer fee paid to board non-executive members, a dummy of director awarded stock, a dummy of director awarded options, and the total percentage of shares owned by large outside



owners as the corporate governance variables. They estimate separate regressions for the three main governance mechanisms, namely, sensitivities of CEO compensation, board characteristics and outside monitors. The results show that compensation structure of directors, size of board, board independence, and percentage of shares held by the largest shareholders have significant impacts on the volume of RPTs. Their results indicate that shareholders do not benefit from, but in fact are harmed by RPTs, showing strong support for the conflict of interest hypothesis. Their paper examines the relationship among the RPTs measured by the number of RPTs various measures of corporate governance mechanisms and firm value.

Berghe and Baelden (2005) examine the issue of independence as one element to improve board effectiveness. They focus on the monitoring role, and to a lesser extent on the strategic role of the board of directors. Their analysis of about 40 corporate governance codes and recommendations with respect to the definition of independence has revealed two common characteristics. First, these definitions characterize independence mainly in a negative way by listing those elements that disqualify a director from being considered independent. Second, almost all definitions approach the concept of independence from a formal, structural point of view, in a sense that independence seems to equal freedom from any possible conflicts of interest, at all times. Instead of emphasizing independence, the paper hypothesizes that, to ensure board effectiveness, a board of directors is needed which, among other things, vigilantly monitors the company and institutes an objective decision-making process. Berghe and Baelden (2005) find out that three conditions have to be jointly fulfilled in order to achieve an efficient and integrated corporate governance: each director should have the ability as well as the willingness to be a critical thinker, with an independent mind; however, the environment should also

facilitate directors to acquiring this attitude.

Davidson et al. (2005) explore whether the relationship between internal governance and earnings management holds in an institutional environment where corporate governance is less regulated and choice of governance mechanisms is voluntary. Their study involves a cross-sectional analysis of 434 firms listed on the Australian Stock Exchange for the financial year ending in 2000. They examine internal governance mechanisms including the board of directors, the audit committee, the internal audit function and the choice of external auditor. Using absolute discretionary accruals to measure earnings management, they find that a lower level of earnings management is associated with the presence of non-executive directors on the board. They also find a negative association between earnings management and audit committees comprising a majority of non-executives, but no relationship between earnings management and committees comprised solely of non-executives. Their results do not support the hypothesis of a relationship between earnings management and the use of internal audit or the choice of a Big 5 auditor.

The main objective of Farber (2005) is to examine whether there is an association between the detection of financial reporting fraud and subsequent improvements in the quality of governance mechanisms. Farber (2005) uses a sample of 87 firms identified by the SEC as fraudulently manipulating their financial statements. The results indicate that fraud firms have poor governance relative to a control sample in the year prior to fraud detection. Specially, fraud firms have fewer numbers and percentages of outside board members, fewer audit committee meetings, fewer financial experts on the audit committee, a smaller percentage of Big 4 auditing firms, and a higher percentage of CEOs who are also chairmen of the board of directors. The study also examines whether improved governance influences

informed capital market participation. The results show that stock analysts are less likely to make earnings forecast for listed companies with financial fraud record, and the institutional shareholding is also significant lower for fraud firms than other firms. However, the results also indicate that firms that take actions to improve governance have superior stock price performance, even after controlling for earnings management.

The objectives and findings of the corporate governance papers are summarized in Table 1.

[Insert Table 1 here]

#### **4. Research Hypotheses**

As previously discussed, transfer pricing methods can be classified into two main categories, i.e. market-based methods and cost-based methods. Market-based methods use comparable market prices or adjusted market prices, which reflect the economy of internal transfers. According to previous studies, market prices are less easily manipulated and can minimize the disputes between managers of affiliates (Anthony and Dearden, 1980; Cook, 1995; Granick, 1975). They are also perceived to be more objective and fair, and are less likely to be challenged by tax authorities (Al-Eryani, 1987). Cost-based methods include actual full cost, standard full cost, actual variable cost, and standard variable cost. Using cost-based methods, companies can mark up the costs. If the company's policy is to tie the mark-up to the prevailing market price, the transfer-pricing method is classified as a market-based method. If the policy is to determine the mark-up based on a desired rate of return on investment or capital, the transfer-pricing method is classified as a cost-based method (Chan and Lo, 2004; Chan and Chow, 1997b).

Basically, cost-based methods are determined using available internal cost data. However, cost allocation is relatively easy to abuse, and determining a fair profit to add to cost is difficult (MaAulay and Tomkins, 1992; Merville and Petty, 1978; Thomas, 1971). Therefore, companies can make use of cost-based method to manipulate the transfer prices and their profits. On the other hand, when market-based methods are used, companies' profits are hard to be manipulated. Prior studies find that good corporate governance can help to prevent or reduce earnings management (Berle and Means, 1932; Jensen and Meckling, 1976; La Porta et al., 1997; La Porta et al., 1998; La Porta et al., 2000). Therefore, I expect that companies

with good corporate governance would be less likely to manage earnings through transfer pricing manipulation and thus they are more likely to use market-based pricing methods.

Previous studies document various characteristics of good corporate governance. Good corporate governance can resolve the conflict between owners and managers and between controlling shareholders and minority shareholders. Generally speaking, governance mechanisms can be classified into internal and external mechanisms. Internal corporate governance mechanisms include the ownership structure, executive compensation, the board of directors, financial disclosure, and so on. External mechanisms include the external takeover market, the legal infrastructure, and product market competition. Generally, for cross-country studies, external governance mechanisms may have a significant impact on earnings manipulation. My study focuses only on the impacts of the internal governance of Chinese companies since the regulatory framework faced by China listed firms is identical as mandated by CSRC, and the market for corporate control in China is immature and often motivated by political concerns rather than economic logic. Prior studies find that ownership structure and board characteristics are the major indicators of a firm's internal corporate governance structure (Beasley, 1996; Berghe and Baelden, 2005; Davidson et al., 2005; Klein, 2002b; Gordon et al., 2004; Bai et al., 2004; Liu and Lu, 2003).

#### *4.1 Ownership*

Ownership is a crucial to internal governance mechanisms. A concentrated ownership structure allows the controlling shareholders to increase their shareholdings and control for minimal capital expense so that tunneling becomes

easier (Claessens et al., 2000). As discussed in Section 2, most Chinese listed companies are controlled by the Chinese government. The government is likely to have goals other than profit maximization, such as maintaining employment and social stability. Therefore, the government uses the listed companies as vehicles to achieve these policy goals even though by doing so, the shareholders' wealth may be reduced (Bai et al., 2000). Bai et al. (2004) find that government ownership has a negative effect on firms' market valuation. Jian and Wong (2003) find that state-owned group-controlled companies are more likely to use recurring related party sales to manage earnings in order to meet the government's ROE requirements for rights issues or to avoid being delisted.

However, in the absence of due corporate governance and legal protection, large shareholders serve as alternative ways to the corporate governance and can assure the investors of getting a maximized return of their investment (Shleifer and Vishny, 1997). In many developing countries, state-ownership plays a similar monitoring role as the large shareholders in the firms. Some authors (e.g. Che, 1997), observing the role that firms formally owned by local authorities (so called township and village enterprises or TVEs) have played in China's growth, argue that government ownership can serve as a commitment mechanism through which the government will restrain itself from rent seeking activities, and even offer support. As such government ownership may have a positive effect on the firm's value. As government can directly support their firms, these firms may be less likely to manage earnings via transfer pricing manipulation and thus are more likely to use market-based transfer pricing methods. Therefore, I develop the following hypothesis.

*H<sub>1</sub>: Government-controlled firms are more likely to use market-based transfer*

*pricing methods.*

#### *4.2 Board Characteristics*

Board characteristics are a second instrument through which shareholders can exert influence on the behavior of managers to ensure that the company is run according to their interests. Empirical findings on the relationship between board composition and firm performance are mixed.

I consider the relationship between transfer-pricing method and three characteristics that have been viewed as indicators of board independence, including board size, percent of independent directors on the board and dual CEO/chair position. Prior studies mainly use these three board characteristics and audit committee independence as proxies for corporate governance. Because not all Chinese companies have established audit committees, studies on the independence of audit committees is not applicable in my study but I include a variable to identify the firms which have established audit committees as one of the sensitivity tests.

Prior research contends that decision-making is more effective in small boards because having fewer people enhances the group's collection, sharing and processing of information (Klein, 2002a; Bushman et al., 2004b; Yermack, 1996). Similarly, a smaller board's monitoring ability and thus the corporate governance may be more effective. However, from a resource-dependent perspective, a large corporate board with directors of diversified expertise performs effective monitoring and aids firms to get more resources (Pfeffer 1972, 1973). Overall, the conclusion on the effect of board size on corporate governance is mixed. Therefore, I develop the second hypothesis as follows:

*H<sub>2</sub>: The number of the board of directors is related to the strength of corporate*

*governance, and the choice of pricing method in a related party transaction, while the sign of such relation cannot be predicted.*

In addition to its size, its composition is viewed as an indicator of a board's monitoring effectiveness. While inside directors bring to the board expertise about the firm's activities, it is the outside directors (i.e. independent directors) who serve as monitors and thereby mitigate agency problems (Fama and Jensen, 1983; Fama, 1980). Therefore, the percentage of independent directors on the board (i.e. outsiders) is viewed as an indicator of board effectiveness. The lower the percentage of independent directors, the less independent the board is (Klein, 2002b; Bushman et al., 2004b, Fama and Jensen, 1983). If a board is less independent, its monitoring ability will decrease. Thus, it is more likely that opportunistic earnings management will occur. In order to manage earnings through RPTs, these sorts of companies should prefer cost-based transfer pricing methods. Therefore, I develop the third hypothesis as follows:

*H<sub>3</sub>: The lower the percentage of independent directors a company has, the more likely that cost-based transfer pricing methods will be adopted.*

Another indicator of board independence is the dual role of chairman and CEO. A board that has a CEO who is also the chairman is viewed as less independent and is considered as a weaker monitor (Fama and Jensen, 1983). Weaker monitoring usually makes opportunistic earnings management through transfer pricing in RPTs possible. For example, the CEO/Chairman may have high incentive to maximize his dividend by minimizing taxation by shifting profits from high tax jurisdictions to low tax jurisdictions through transfer pricing manipulation. He/she may also simply inflate company's reported income by transfer pricing decisions. A CEO/Chairman



can also transfer assets from related parties to his own pocket through trading with the company. Therefore, cost-based pricing methods will be more likely to be used if the CEO/Chairman wants to engage in tunneling and propping (i.e., a negative tunneling)<sup>8</sup>. Therefore, I develop the fourth hypothesis as follows:

*H<sub>4</sub>: If the CEO of a company is also the Board chairman, it is more likely that cost-based transfer pricing methods will be used.*

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<sup>8</sup> For the definition and cases for propping in an emerging market, please refer to Friedman et al. 2003 "Propping and tunneling" *Journal of comparative economics* 31 732-750

## **5 Research Methodology**

### *5.1 Data collection*

My sample includes all companies listed on the Shanghai and Shenzhen stock markets from 2003 to 2005. Before 2003, the issue of the revised *Guideline on the Management of Listed Companies*, there is no statute governing the disclosure practice on RPTs and thus I select RPT cases after 2003 to insure the data reliability. Data including pricing methods, types of RPTs, and relations between related parties, industry, ownership structures, and board characteristics were collected from annual reports and the research databases CSMAR and WIND. Companies with missing information are excluded from the sample. The original sample consists of 13,267 firm-year observations. I select observations that relate to the trading of goods with the parent company in my final sample. “Trading of goods” is the major type of RPTs and market prices are more likely to be available for this kind of transaction. As such, the firm has a choice between market-based and cost-based pricing methods based on their incentives for earnings manipulation. In addition, excluding related-party transactions with parties other than parent companies can help to assure that each firm will only be included in the sample once for a year. Besides, as parent companies have more power to affect the listed firms’ decisions and previous studies show that parent companies have a high incentive to shift profits out from the listed firms (Jian and Wong, 2003; Gordon et al., 2004), I can investigate the impact of ownership on transfer pricing decisions by including this type of transaction. Finally, my sample consists of 4,515 firm-year observations after restricting the type of transactions and the type of related parties.

## 5.2 Regression Model

Because the dependent variable is dichotomous, I use logistic regression analysis to test the hypotheses (Norusis, 1999). The logistic regression model is as follows:

$$\begin{aligned} \text{PM} = & \alpha_0 + \alpha_1\text{GOV} + \alpha_2\#\text{BOD} + \alpha_3\%\text{ID} + \alpha_4\text{DUAL} + \alpha_5\text{HIGH\_TECH} + \\ & \alpha_6\text{RPT/SALES} + \alpha_7\text{LN\_ASSET} + \alpha_8\text{YEAR1} + \alpha_9\text{YEAR2} + \\ & \alpha_{10}\text{MARKET} + \varepsilon \end{aligned}$$

where:

PM	= 1 if cost-based methods are used; 0 otherwise
GOV	= 1 if the company is government-controlled; 0 otherwise
#BOD	= number of board members
%ID	= percentage of independent directors on the board
DUAL	= 1 if the chairman and an executive of the company is the same person; 0 otherwise

Control Variable:

HIGH_TECH	= 1 if the company is in a high-tech industry; 0 otherwise
RPT/SALES	= the amount of related party transaction divided by sales
LN_ASSET	= natural logarithm of total asset
YEAR1	= 1 if the year is 2003; 0 otherwise
YEAR2	= 1 if the year is 2004; 0 otherwise
MAEKET	= 1 if the firm is listed on Shanghai Stock Market; 0 otherwise

### 5.2.1 Dependent Variable

The dependent variable, PM, is used to differentiate transfer pricing methods used for the RPTs. PM is a dummy variable that is set equal to 1 if cost-based methods are used and 0 otherwise. The most commonly used cost-based pricing methods include the cost-plus method<sup>9</sup> and profit split method<sup>10</sup>. The most

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<sup>9</sup> A price as determined by cost-plus method is the cost of the product plus an appropriate mark-up.

<sup>10</sup> A price as determined by the profit split method is calculated by making a reasonable allocation of a controlled group's combined profit for related transactions with reference to the relative value of each company's contribution to the combined profit.

commonly used market-based pricing methods include uncontrolled price<sup>11</sup> and national regulated price<sup>12</sup>.

### *5.2.2 Policy Variable*

The first variable, GOV, is a dummy variable that is set equal to 1 if the largest shareholder (ultimate shareholder) is a local government, state government or government agency such as the State Asset Management Bureau. With respect to the hypothesis, government-controlled firms are more likely to adopt market-based methods. Thus, the estimated coefficient on GOV is expected to be negative.

As previously discussed, the variables #BOD, %ID and Dual represent board characteristics typically considered indicators of the quality of corporate governance. The variable #BOD is defined as the number of board members. Empirical studies have found that, *ceteris paribus*, companies with large boards have weak corporate governance. As I expect that companies with weak corporate governance are more likely to adopt cost-based pricing methods, the estimated coefficient on #BOD is expected to be positive. The variable %ID is defined as the percentage of independent directors on the board. *Ceteris paribus*, when the percentage of independent directors on the board is low, corporate governance should be weaker. I expect that cost-based methods are more likely to be used in companies with lower %ID; consequently, the estimated coefficient on %ID should be negative. DUAL is set equal to 1 when the company has the same person acting as CEO and Chairman of the board; and 0 otherwise. *Ceteris paribus*, when the chairman and chief

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<sup>11</sup> Uncontrolled price can be determined by internal prices or external prices. A price as determined by the internal uncontrolled price is the price that would be appropriate to a comparable transaction between the company and unrelated party (i.e., the market price for non-related-party transactions). A price as determined by the external uncontrolled price is the open market price between an unrelated buyer and seller.

<sup>12</sup> National regulated price is the price determined by the state government for certain restricted products.

executive of a company are the same person, corporate governance should be relatively weak. I expect that companies with the same person acting as the CEO and board chairman are more likely to use cost-based methods. Thus, the coefficient on Dual is expected to be positive.

### *5.2.3 Control variables*

I include six control variables, HIGH\_TECH, RPT/SALES, LN\_ASSET, YEAR1, YEAR2 and MARKET, in the regression model to control for the effects of firm and transaction characteristics on transfer pricing methods.

I add HIGH\_TECH to control for firm industry. HIGH\_TECH is set equal to 1 when the company is in a high-tech industry; and 0 otherwise. HIGH\_TECH is defined according to the American Electronic Association's high-tech definition under the North American Industrial Classification System. If the industry of a company is in the list of the American Electronic Association's high-tech definition, HIGH\_TECH is coded 1; otherwise HIGH\_TECH will be set equal to 0. As market price may be less likely to be available for high-tech products, a high-tech company will be more likely to adopt cost-based pricing methods. Thus, the coefficient of HIGH\_TECH is expected to be positive. HIGH\_TECH can also control for the impact of taxation on the transfer pricing decisions. In China, high-tech companies usually enjoy preferential tax rates and thus companies can minimize their group tax liabilities by shifting income into the listed companies which enjoy a reduced tax rate. Therefore, cost-based transfer pricing methods are more likely to be used by high-tech companies.

RPT/SALES is the amount of RPT divided by sales of the company. RPT/SALES is intended to measure the relative amount of RPTs, which may affect

the choice of transfer pricing method (the logic here is not adequately explained). To control for firm size, I include LN\_ASSET (i.e., natural logarithm of firms' total asset). Finally, to control for any possible effect of year and location of stock market on the pricing decisions, I include YEAR1, YEAR2 and MARKET as the control variables to control for unobserved time effect and location effect respectively. YEAR1 is set equal to 1 when RPTs occurred in 2003 and 0 otherwise. YEAR2 is set equal to 1 when RPTs occurred in 2004 and 0 otherwise. MARKET is set equal to 1 when the company is listed on Shanghai Stock Market, and it is set equal to 0 when the company is listed on Shenzhen Stock Market.

## 6. Empirical Findings

### 6.1 Descriptive statistics

Table 3, Panel A shows descriptive statistics for the dependent variables in my regression, and Panel B provides statistics for the independent variables related to corporate governance. The frequency of RPTs in each section is quite stable from 2003 to 2005. Panel A shows that in my final sample the majority (at least 73 percent) of transactions use market-based pricing methods from 2003 to 2005. This observation is consistent with the fact transaction involving tangible assets are usually based on market-based pricing methods. Overall, panel B shows that approximately 80 percent of the RPTs in the sample are conducted by government-controlled firms and about 20 percent are conducted by “other” firms. Panel B also indicates that only approximately 7 percent of RPTs occurred in firms in which the CEOs and Chairmen of the board are the same person. As duality indicates weak governance (Gorden et al., 2004), the frequency of CEO/Chairman duality raises concerns regarding corporate governance in Chinese listed companies. The mean number of board members in the sample is 9.77 and the average percentage of independent directors is around 34 percent.

(Insert Table 3 here)

In Table 4, the univariate test in Panel A reports the effects of type of ownership on the choice of transfer pricing methods. A chi-square statistics is reported for testing whether the variables of interest are statistically independent or associated since the variables are categorical (Michael, 2001). The percentages of transactions that were market-based were 80.28 percent and 74.52 percent for

government-controlled and other companies, respectively, a difference that is statistically significant (Chi-square = 19.336, significant at 1 percent level). This result is consistent with Hypothesis 1. Table 4, Panel B shows the distribution of RPTs between Dual and Non-Dual firms. The percentages of cost-based RPTs in Dual and Non-Dual companies are 32 percent and 21 percent respectively, a difference which is also statistically significant. This is consistent with my expectation that firms with CEO/Chairman duality are more likely to adopt cost-based pricing methods. However, inconsistent with my expectation, Table 4, Panel C indicates that firms that have larger board sizes are more likely to use market-based methods. Panel D shows that firms with a lower percentage of independent directors on the board are more likely to use market-based methods but this finding is not statistically significant.

(Insert Table 4 here)

Table 5 presents Spearman's correlations among all variables. Most of the correlations are below 0.50. The generally modest correlations suggest the multicollinearity is unlikely to be a problem in the regression analysis.

(Insert Table 5 here)

## *6.2 Regression results*

Table 6 shows the results of the main regression analysis. The overall percentage of companies correctly classified is 78.3 percent and the model is significant at the 1 percent level, which indicates a very strong relationship between the dependent variable and independent variables. Consistent with my expectations of H<sub>1</sub>, Government is negatively significant at the 1 percent level. That means government-controlled companies are more likely to use market-based pricing



methods. The results also show that Dual is positively significant at the 1 percent level which support my hypothesis H<sub>4</sub> (i.e., companies with the same person acting as the CEO and the chairman are more likely to adopt cost-based pricing methods). This result supports the view that state ownership as a presence of large shareholder, can effectively monitor the management behavior in the absence of due legal protection of investors and due corporate governance as suggested by Shleifer and Vishny (1997) and Perotti (2003).

The #BOD variable is statistically significant at the 1 percent level., Thus, firms with smaller board sizes are more likely to use cost-based methods. This result supports the resource-dependent theory on board size which I mentioned earlier. The presence of board directors with diversified expertise performs effective monitoring task (Pfeffer, 1972, 1973). This result may also due to fact that small board size is characterized with low democracy in China and the boards' decisions may be easily influenced by one or two board members. For the firm with a larger board size, the management needs to convince more board members that cost-based transfer pricing methods rather than market-based methods should be used. However, the result is inconsistent with hypothesis 3. The coefficient of %ID is not statistically significant<sup>13</sup>. The reason for this may be due to the fact that there is no great variation in terms of proportion of independent directors among the sample firms. Other reason for these results may be that independent directors are less efficient in developing countries than those in developed countries. Section 2 mentioned some loopholes of the regulation of independent directors. The independent directors in Chinese listed companies might not be really "independent". In this case, the

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<sup>13</sup> I replace the variable %ID by a dummy variable for classifying firms which have percentage of independent directors above and below the median instead of using the actual percentage. The results are similar to the original model and the coefficient of the new dummy variable is not significant, and the results are not reported here.

percentage of independent directors may not reflect a true enhancement of corporate governance.

(Insert Table 6 here)

### *6.3 Sensitivity analysis*

I conducted additional tests to check the robustness of the regression results. First, I used an alternative definition of HIGH\_TECH and replaced the variable HIGH\_TECH by HIGH\_TECH<sub>a</sub>, a dummy variable that is set equal to 1 if the company enjoys a high-tech preferential tax rate and 0 otherwise. The results, shown in Table 7, Column a, are essentially the same as those reported in Table 6. Second, I replaced the variable HIGH\_TECH by HIGH\_TECH<sub>b</sub>, a discrete dummy variable representing whether the subsidiaries of the firms have preferential tax rates. If one of the subsidiaries of the company has a high-tech preferential tax rate, HIGH\_TECH<sub>b</sub> is coded as 1. If none of the subsidiaries of the company has high-tech preferential tax rate, HIGH\_TECH<sub>b</sub> is coded 0. As shown in Table 7 (Column b), the results are similar to the original model and GOV, #BOD and DUAL remain statistically significant.

(Insert Table 7 here)

Third, as some papers study the impact of audit committees on corporate governance, I add a dummy variable, AUDIT, in the original model. AUDIT is set equal to 1 if the firm has established an audit committee and 0 otherwise. The coefficient of AUDIT is insignificant and DUAL becomes not significant.

(Insert Table 8 here)

Fourth, I exclude the firms that use national regulated prices in my sample. This reduces the sample size to 4,279. In China, the state government exercises significant

control on the pricing of certain necessities. Therefore, the firms may have no autonomy on their pricing decisions for these regulated products. Table 9 reports the results of this sensitivity test and shows that, similar to the original regression, the three policy variables, GOV, #BOD and DUAL are significant at 1 percent level.

(Insert Table 9 here)

## **7. Conclusion**

This study, based on a logit model, investigates the effects of corporate governance mechanisms on the choice of transfer pricing methods (cost-based vs. market-based) for RPTs. The results indicate that the type of ownership, board size and duality of the role of CEO and board chairman have significant impacts on transfer pricing decisions. I find that government-controlled firms, firms with large board size and firms with different persons acting as the CEO and board chairman are more likely to use market-based transfer pricing methods. Overall, the empirical results enrich the existing corporate governance literature. By deliberately choice of pricing methods, the related party transactions can be used by management as self-dealings, propping up earnings, tunneling corporate asset for management's own interests. This study corroborates the extant theory that how corporate governance deals with the agency problem, containing the opportunistic management behavior (abuse of RPTs in this study).

Moreover, the results have important implications for public policy makers. As the independent variables in the model are governance characteristics, public policy makers can encourage firms to improve their corporate governance and reduce the abuse of RPTs. Promulgation of "Guideline on the Management of Listed Companies" indicates that the regulatory body is determined to ameliorate the corporate governance practice of listed companies. The Chinese government can, for example, encourage the listed companies to increase the board size and employ different persons acting as the CEO and board chairman to reduce the risk of transfer pricing manipulation.

There are some limitations that may affect the reliability of the results. For

example, I assume that the details of RPTs and the pricing methods disclosed by the companies are accurate because they are audited by external auditors. However as RPTs are difficult to audit, there are risks that the information disclosed is not true and fair. Besides, as listed companies increasingly realize the importance and benefit of observing the revised “Guideline on the Management of Listed Companies” and make further progress in their corporate governance practice, a revisit of this issue might generate some interesting findings.

**TABLE 1. Literature Review of Corporate Governance**

Paper	Objectives	Policy Variables							
		Ownership Structure			Board Characteristics				
		Government-controlled	% of largest shareholder's share	% of top executives' share	Size of board	Board independence	CEO-Chairman Duality	Directors Compensation	Audit committee independence
Bai et al. (2004)	To investigate the relationship between governance mechanisms and the market valuation of publicly listed firms in China	Y* <sup>14</sup>	Y	Y		Y	Y*		
Beasley (1996)	To test whether the inclusion of larger proportions of outside members on the board of directors significantly reduces the likelihood of financial statement fraud					Y*	Y		Y
Byrd and Hickman (1992)	To examine the association between the presence of outside directors and the returns to share holders of bidding firms in tender offers					Y*			

<sup>14</sup> \*: the results of these variables are significant.

**TABLE 1. Literature Review of Corporate Governance (continued)**

Paper	Objectives	Policy Variables							
		Ownership Structure			Board Characteristics				
		Government-controlled	% of large shareholder's share	% of top executives' share	Size of board	Board independence	CEO-Chairman Duality	Directors Compensation	Audit committee independence
Davison et al. (2005)	To explore whether the internal governance-earnings management relationship holds in an institutional environment where corporate governance is less regulated and choice of governance mechanisms is voluntary		Y			Y*	Y		Y
DeChow and Sweeney (1996)	To investigate the motives for, and consequences of, earnings manipulation in a sample of firms subject to accounting enforcement actions by the Securities and Exchange Commission (SEC).					Y		Y	Y
DeFond et al. (2005)	to test whether market participants react favorably when firms announce the appointment of a financial expert to their audit committee								Y*

**TABLE 1. Literature Review of Corporate Governance (continued)**

Paper	Objectives	Policy variables							
		Ownership Structure			Board Characteristics				
		% of large shareholder's share	% of top executives' share	Government-controlled	Size of board	Board independence	CEO-Chairman Duality	Directors Compensation	Audit committee independence
Farber (2005)	To examine the association between the credibility of the financial reporting system and the quality of governance mechanisms					Y*	Y*		Y
Gordon et al. (2004)	To examine the relation of RPTs with corporate governance mechanisms and their association with firm value	Y*	Y		Y*	Y*	Y*	Y*	
Klein (2002b)	To examine whether audit committee and board characteristics are related to earnings management by the firm		Y			Y*			Y*
Liu and Lu (2003)	To examine whether earnings management in China's listed companies is mainly induced by controlling owners' tunneling activity	Y*	Y*	Y		Y	Y*		



**Table 2. Major Types of RPTS that Publicly Listed Firms Must Disclose in China**

	<b>Type of related party transactions</b>	<b>Description</b>
1	Trade of goods	Transactions which involve sales or purchases of goods between a listed company and its related party.
2	Trade of services	Transactions which involve sales or purchase of services between a listed company and its related party.
3	Trade of assets other than goods	Transactions which involve sales or purchase of assets other than goods between a listed company and its related party. Machinery and buildings are typical examples of other assets.
4	Leases	Operation or capital leases between a listed company and its related party.
5	Loans	Loans provided by (to) a listed company to (by) its related party (combining principal and interest revenue or expenses).
6	Commissions	Commissions paid (received) by a listed company to (from) its related party for providing agency services.
7	Overhead reimbursement	Fees paid by (received by) a listed company for obtaining (providing) administrative services from (to) its related party.
8	Transfer of R&D	Transactions which involve transfer of shared R&D projects between a listed company and its related party.
9	Permits and franchises	Transactions which involve permits or franchises between a listed company and its related party.

**TABLE 3. Descriptive Statistics on Variables****Panel A: Dependent Variable**

Pricing Method <sup>1</sup>	2003		2004		2005		Total (2003 to 2005)	
	No. of PRTs	% of the Sample	No. of RPTs	% of the Sample	No. of RPTs	% of the Sample	No. of RPTs	% of the Sample
Market-based <sup>2</sup>	444	73.75	1,186	80.85	1,911	78.13	3,541	78.43
Cost-based <sup>3</sup>	158	27.25	281	19.15	535	21.87	974	21.57
Total number of RPTs	602		1,467		2,446		4,515	

Sample size: 4,515

1. Pricing methods are the transfer pricing methods used in related party transactions. According to previous study (Chan and Lo, 2004), I classify these methods into to groups: cost-based and market-based pricing methods, which are commonly recognized in research.

2. Market-based methods include uncontrolled price method and national regulated price method.

3. Cost-based methods include cost plus method and profit split method.

**TABLE 3. Descriptive Statistics on Variables (continued)**

**Panel B: Corporate Characteristics of Sample Firms**

Types of firms <sup>1</sup>	2003		2004		2005		Total	
	No. of RPTs	% of the Sample	No. of RPTs	% of the Sample	No. of RPTs	% of the Sample	No. of RPTs	% of the Sample
Government-controlled <sup>3</sup>	486	80.73	1,173	79.96	1,991	81.40	3,650	80.84
Others <sup>4</sup>	116	19.27	294	20.04	455	18.60	865	19.16
Total number of RPTs	602		1,467		2,446		4,515	

  

Duality	2003		2004		2005		Total	
	No. of RPTs	% of the Sample	No. of RPTs	% of the Sample	No. of RPTs	% of the Sample	No. of RPTs	% of the Sample
Non-dual <sup>5</sup>	1,353	92.23	1,353	92.23	2,290	93.62	4,193	92.87
Dual <sup>6</sup>	52	8.64	114	7.77	156	6.38	322	7.13
Total number of RPTs	602		1,467		2,446		4,515	

	2003			2004			2005			Total		
	No. of RPTs	Mean	Std. Deviation	No. of RPTs	Mean	Std. Deviation	No. of RPTs	Mean	Std. Deviation	No. of RPTs	Mean	Std. Deviation
#BOD <sup>7</sup>	602	10.07	2.267	1467	9.70	1.97	2446	9.75	2.03	4515	9.77	2.05
%ID <sup>8</sup>	602	0.331	0.056	1467	0.35	0.04	2446	0.35	0.05	4515	0.34	0.05

Sample size: 4,515

1. The classification is based on the ultimate shareholder type from 2003 to 2005.
2. Government-controlled firms are those whose ultimate shareholders are state-owned assets management bureaus, state-owned assets management companies or local government agencies.
3. Others are the remaining firms in the sample, controlled by non-group and non-government entities, for example, universities, joint ventures and individual owners.
4. Non-dual firms are those whose chairman and an executive of the company is not the same person.
5. Dual firms are those whose chairman and an executive of the company is the same person.
6. #BOD is the number of boarder members.
7. %ID is the percentage of independent directors on the board.

**TABLE 4**

**Panel A: Univariate Test of Effects of Ownership on Pricing Methods**

Sample size: 4,515

	Government -controlled		Other		Total	
	NO. of RPTs	% of the sample	NO. of RPTs	% of the sample	NO. of RPTs	% of the sample
Market-based	2459	80.28	1082	74.52	3541	78.42
Cost-based	604	19.72	370	25.48	974	21.57
Total	3063	100	1452	100	4515	100
Chi-Square					19.336***	

\*\*\* Indicates significance at 1 percent level.

**Panel B: Univariate Test of Effects of CEO/Chairman Duality on Pricing Methods**

	DUAL		NON-DUAL		Total	
	NO. of RPTs	% of the sample	NO. of RPTs	% of the sample	NO. of RPTs	% of the sample
Market-based	226	68.07	3315	79.06	3541	79.43
Cost-based	96	31.93	878	20.94	974	21.57
Total	332	100	4193	100	4515	100
Chi-Square					13.919***	

\*\*\* Indicates significance at 1 percent level.

**Panel C: Univariate Test of Effects of Board Size on Pricing Methods**

	No. of RPTs	Mean Board Size?	Std. Deviation
Market-based	3541	9.853149	2.124357
Cost-based	974	9.485626	1.710646

T-test of the difference in means : t-statistic =4.9738\*\*\*

**Panel D: Univariate Test of Effects of Percentage of Independent Directors on Pricing Methods**

	No. of RPTs	Mean %ID?	Std. Deviation
Market-based	3541	.3441758	.0460001
Cost-based	974	.3444565	.0493687

T-test of the difference in means : t-statistic =0.1660 ( p-value= 0.5659)

**TABLE 5. Correlations among Dependent and Independent Variables**

	PM	GOV	#BOD	%ID	DUAL	HIGH_TEC H	RPT/SALES	Ln_ASSET	YEAR1	YEAR2	MARKET
PM	1.000										
GOV	-.081**	1.000									
#BOD	-.074**	.127**	1.000								
%ID	.002	-.086**	-.129**	1.000							
DUAL	.056**	.012	-.030*	-.037*	1.000						
HIGH_TEC H	.082**	.017	.021	.064**	.099**	1.000					
RPT/SALES	.027	.026	-.001	-.010	.012	.011	1.000				
LN_ASSET	-.058**	.184**	.112**	.153**	-.047**	-.028	-.040**	1.000			
YEAR1	.045**	-.001	.056**	-.112**	.023	-.014	.002	-.023	1.000		
YEAR2	-.041**	-.016	-.026	.020	.017	.023	.004	-.059**	-.272**	1.000	
MARKET	-.039**	.106**	.020	.024	-.032*	.120**	-.040**	.125**	-.192**	.145**	1.000

Sample size: 4,515

\*\*\* Correlation is significant at the 10%, 5%, 1% level, respectively, using Spearman's correlation test.

Definitions of variables:

PM = 1 if cost-based methods are used, 0 otherwise;

GOV = 1 if the company is government-controlled, 0 otherwise;

#BOD = number of board members;

%ID = percentage of independent directors on the board;

DUAL = 1 if the chairman and an executive of the company is the same person, 0 otherwise;

Control Variable:

HIGH\_TECH = 1 if the company is in a high-tech industry, 0 otherwise;

RPT\_SALES = the amount of related party transaction divided by sales;

LN\_ASSET = natural logarithm of total asset.

YEAR1 = 1 if the year is 2003, 0 otherwise;

YEAR2 = 1 if the year is 2004, 0 otherwise;

MAEKET = 1 if the firm is listed on Shanghai Stock Market; 0 otherwise

**TABLE 6. Regression Results for the Impact of Corporate Governance on the Choice of Transfer Pricing Methods**

Logistic Regression equation:

$$PM = \alpha_0 + \alpha_1 GOV + \alpha_2 \#BOD + \alpha_3 \%ID + \alpha_4 DUAL + \alpha_5 HIGH\_TECH + \alpha_6 RPT/SALES + \alpha_7 LN\_ASSET + \alpha_8 YEAR1 + \alpha_9 YEAR2 + \alpha_{10} MARKET + \epsilon$$

Independent Variable	Predicted Sign	Regression Coefficient	Sig.
CONSTANT		1.709	0.053*
GOV	-	-0.396	0.000***
#BOD	?	-0.084	0.000***
%ID	-	-0.413	0.605
DUAL	+	0.388	0.003***
HIGH_TECH	+	0.593	0.000***
RPT/SALES	?	0.774	0.127
LN_ASSET	?	-0.081	0.049**
YEAR1	?	0.212	0.051*
YEAR2	?	-0.198	0.018**
MARKET	?	-0.132	0.108
Chi-square			116.631
Percentage correct			78.3%
Sig.			0.000***

Sample size: 4,515

\*\*\*, \*\*, \* Indicate significance at the 1 percent, 5 percent and 10 percent levels, respectively.

Definitions of variables:

PM = 1 if cost-based methods are used, 0 otherwise;

GOV = 1 if the company is government-controlled, 0 otherwise;

#BOD = number of board members;

%ID = percentage of independent directors on the board;

DUAL = 1 if the chairman and an executive of the company is the same person, 0 otherwise;

Control Variable:

HIGH\_TECH = 1 if the company is in a high-tech industry, 0 otherwise;

RPT/SALES = the amount of related party transaction divided by sales;

LN\_ASSET = natural logarithm of total asset.

YEAR1 = 1 if the year is 2003, 0 otherwise;

YEAR2 = 1 if the year is 2004, 0 otherwise;

MARKET = 1 if the firm is listed on Shanghai Stock Market; 0 otherwise

**TABLE 7. Summary of Sensitivity Test Results (Test #1 and #2)**

Independent Variable	Predicted Sign	(a) <sup>1</sup>		(b) <sup>2</sup>	
		Regression Coefficient	P-value	Regression Coefficient	P-value
CONSTANT		1.845	0.036	1.994	0.007
GOV	-	-.385	0.000***	-0.350	0.000***
#BOD	?	-0.079	0.000***	-0.079	0.000***
%ID	-	-0.054	0.946	-0.340	0.667
DUAL	+	0.465	0.000***	0.495	0.000***
HIGH_TECH <sub>a</sub>	+	0.224	0.017**	-	-
HIGH_TECH <sub>b</sub>	+	-	-	0.531	0.000***
RPT/SALES	?	0.813	0.109	0.849	0.095*
LN_ASSET	?	-0.096	0.019**	-0.099	0.015**
YEAR1	?	0.230	0.034**	0.233	0.033**
YEAR2	?	-0.201	0.016**	-0.208	0.013**
MAREKT	?	0.067	0.412	-0.072	0.377
Chi-square			90.900		114.597
Sig.			0.000***		0.000***

Sample size: 4,515

\*\*\*, \*\*, \* Indicate significance at the 1 percent, 5 percent and 10 percent levels, respectively.

1. Column (a) presents the results from estimating the model with alternative proxy for HIGH\_TAX<sub>a</sub>.

2. Column (a) presents the results from estimating the model with alternative proxy for HIGH\_TAX<sub>b</sub>.

Definitions of variables:

PM = 1 if cost-based methods are used, 0 otherwise;

GOV = 1 if the company is government-controlled, 0 otherwise;

#BOD = number of board members;

%ID = percentage of independent directors on the board;

DUAL = 1 if the chairman and an executive of the company is the same person, 0 otherwise;

HIGH\_TECH<sub>a</sub> = 1 if the company enjoys the high-tech preferential tax rate, 0 otherwise;

HIGH\_TECH<sub>b</sub> = 1 if the subsidiaries of the company enjoys the high-tech preferential tax rate, 0 otherwise; RPT/SALES = the amount of related party transaction divided by sales;

LN\_ASSET = natural logarithm of total asset.

YEAR1 = 1 if the year is 2003, 0 otherwise;

YEAR2 = 1 if the year is 2004, 0 otherwise;

MARKET = 1 if the firm is listed on Shanghai Stock Market; 0 otherwise



**TABLE 8. Summary of Sensitivity Test Results (Test #3)**

Independent Variable	Predicted Sign	Regression Coefficient	Sig.
CONSTANT		1.861	0.292
GOV	-	-0.407	0.000***
#BOD	+	-0.060	0.001***
%ID	-	-0.556	0.498
DUAL	+	-0.330	0.015**
AUDIT	-	-0.147	0.370
HIGH_TECH	+	0.641	0.000***
RPT/SALES	?	1.170	0.035**
LN_ASSET	?	-0.640	0.126
YEAR1	?	0.105	0.358
YEAR2	?	-0.194	0.023**
MARKET	?	-0.138	0.097*
Chi-square			101.90
Sig.			0.000***

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Sample size: 4,515

\*\*\*, \*\*, \* Indicate significance at the 1 percent, 5 percent and 10 percent levels, respectively.

Definitions of variables:

PM = 1 if cost-based methods are used, 0 otherwise;

GOV = 1 if the company is government-controlled, 0 otherwise;

#BOD = number of board members;

%ID = percentage of independent directors on the board;

DUAL = 1 if the chairman and an executive of the company is the same person, 0 otherwise;

AUDIT = 1 if the company has established an audit committee, 0 otherwise

HIGH\_TECH = 1 if the company is in a high-tech industry, 0 otherwise;

RPT/SALES = the amount of related party transaction divided by sales;

LN\_ASSET = natural logarithm of total asset.

YEAR1 = 1 if the year is 2003, 0 otherwise;

YEAR2 = 1 if the year is 2004, 0 otherwise;

MAEKET = 1 if the firm is listed on Shanghai Stock Market; 0 otherwise

**TABLE 9. Summary of Sensitivity Test Results (Test #4)**

Independent Variable	Predicted Sign	Regression Coefficient	P-value
CONSTANT		1.802	0.058*
GOV	-	-0.327	0.000***
#BOD	?	-0.078	0.000***
%ID	-	-0.101	0.904
DUAL	+	-0.356	0.008***
HIGH_TECH	+	0.535	0.000***
RPT/SALES	?	1.063	0.118
LN_ASSET	?	-0.056	0.192
YEAR1	?	0.140	0.197
YEAR2	?	-0.275	0.001***
MAREKT	?	-0.180	0.030***
Chi-square			100.85
Sig.			0.000***

---

Sample size: 4,279

\*\*\*, \*\*, \* Indicate significance at the 1 percent, 5 percent and 10 percent levels, respectively.

We exclude all the transactions whose subject matters are mandatorily priced by government.

Definitions of variables:

PM = 1 if cost-based methods are used, 0 otherwise;

GOV = 1 if the company is government-controlled, 0 otherwise;

#BOD = number of board members;

%ID = percentage of independent directors on the board;

DUAL = 1 if the chairman and an executive of the company is the same person, 0 otherwise;

AUDIT= 1 if the company has established an audit committee, 0 otherwise

HIGH\_TECH = 1 if the company is in a high-tech industry, 0 otherwise;

RPT/SALES = the amount of related party transaction divided by sales;

LN\_ASSET = natural logarithm of total asset.

YEAR1 = 1 if the year is 2003, 0 otherwise;

YEAR2 = 1 if the year is 2004, 0 otherwise;

MAEKET =1 if the firm is listed on Shanghai Stock Market; 0 otherwise

## **APPENDIX I**

### ***Guideline on the Management of Listed Companies***

#### Chapter 1 Section 3

**Article 12.** Written agreements shall be entered into for related party transactions among a listed company and its connected parties. Such agreements shall observe principles of equality, voluntariness, and making compensation for equal value. The contents of such agreements shall be specific and concrete. Matters such as the signing, amendment, termination and execution of such agreements shall be disclosed by the listed company in accordance with relevant regulations.

**Article 13.** Efficient measures shall be adopted by a listed company to prevent its connected parties from interfering with the operation of the company and damaging the company's interests by monopolizing purchase or sales channels. Related party transactions shall observe commercial principles. In principle, the prices for related party transactions shall not deviate from an independent third party's market price or charging standard. The company shall fully disclose the basis for pricing for related party transactions.

**Article 14.** The assets of a listed company belong to the company. The company shall adopt efficient measures to prevent its shareholders and their affiliates from misappropriating or transferring the capital, assets or other resources of the company through various means. A listed company shall not provide financial guarantees for its shareholders or their affiliates.

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