

# State ownership, the institutional environment and auditor choice: evidence from China\*

Qian Wang<sup>a</sup>

TJ Wong<sup>b</sup>

Lijun Xia<sup>c</sup>

January 2007

---

## Abstract:

This paper examines how the institutional features of transition economies, i.e., state ownership, market and legal institutions, and government power over auditors, affect auditor choice of Chinese listed firms. We find that, compared with non-state-owned firms, state-owned enterprises (SOEs) managed by local (province, city and county) governments are more likely to hire small auditors within the same local government jurisdiction. Also, in regions where governments are more involved with the economy and where the credit market and legal environment are less developed, the preference of SOEs to hire these small local auditors is even stronger. The auditor appointment decisions of SOEs are likely to be motivated by efficiency as well as opportunistic considerations. Our finding that the local SOEs, which hire small local auditors, are associated with lower firm value suggests that the opportunistic incentive for appointing low-quality auditors is more dominant than the efficiency incentive.

JEL classification: M49, G32, G38

Keywords: Auditor choice; State ownership; Institutions; Corporate governance; Transition economies

---

<sup>a</sup> Center for Institutions and Governance, The Chinese University of Hong Kong, Hong Kong, PRC, Tel: +852-2609-8691

<sup>b</sup> Corresponding author, School of Accountancy, The Chinese University of Hong Kong, Hong Kong, PRC, Tel: +852-2609-7750, Fax: +852-2603-5114, Email: [tjwong@cuhk.edu.hk](mailto:tjwong@cuhk.edu.hk)

<sup>c</sup> Institute of Accounting and Finance, and School of Accountancy, Shanghai University of Finance and Economics, Shanghai, PRC, Tel: +8621-6590-4202, Email: [sufexlj@163.com](mailto:sufexlj@163.com)

\* This study was funded by grants from the Research Grants Council of the Hong Kong SAR Government (HKUST 6024/00H), and the National Natural Science Association of China (No. 70572105). We appreciate helpful comments from Jerry Zimmerman (the editor), an anonymous referee, Xinyuan Chen, Joseph Fan, Hongbin Li, Yue Li, Gordon Richardson, Ann Vantraelen, Jason Xiao, Tianyu Zhang and Weiguo Zhang, and workshop participants at the Chinese University of Hong Kong (CUHK), the 2005 AAA International Symposium on Auditing Research, and the Panel Discussion titled "Corporate Governance, Accounting Research for Asia and China" at the 2005 American Accounting Association Annual Meeting and the 2006 China Research Conference at CUHK. Mochou Li and Hongjun Zhu's help in our data collection is greatly appreciated.

## 1. Introduction

This paper studies how state ownership and the government's role in the economy affect Chinese listed firms' incentives to hire high-quality auditors. We study the Chinese audit market because its government has heavy involvement in business, creating a natural laboratory to study the relation between political institutions and firm-level auditor appointment decisions. This paper is motivated by a growing body of research that examines the role of political institutions in firm behaviors (e.g. Shleifer and Vishny, 1994; Shleifer, 1998; Johnson and Mitton, 2003; Faccio, 2006) and in corporate reporting incentives and accounting quality (Ball et al., 2000; Fan and Wong, 2002; Bushman et al., 2004; Leuz and Oberholzer-Gee, 2006).<sup>1</sup>

Despite the audit market reforms in China, the market share of the Top-10 audit firms, which presumably would provide better quality and more independent audits, has been declining (DeFond et al., 1999).<sup>2</sup> By 2003, these firms commanded just 25 percent of market share, suggesting that there is a significant portion of Chinese listed firms that do not choose the Top-10 auditors.<sup>3</sup> Our paper seeks to address the following questions: why have Chinese listed firms not moved towards hiring the Top-10 audit firms in their country? More fundamentally, how do Chinese listed firms choose auditors? The

---

<sup>1</sup> Other research using cross-country data has shown that the legal environment in a country, a broad institutional factor, has significant effects on the quality of accounting information (Ball et al., 2003; Hung, 2000; Leuz et al., 2003) and audit services (Francis et al., 2003; Choi and Wong, 2006).

<sup>2</sup> Recognizing the importance of increasing auditor independence, the Chinese government conducted three major audit market reforms in the past decade: (1) adoption of international auditing standards in 1995, (2) delinking audit firms from government control in 1998 and (3) orchestrating mergers of small auditors in 2000.

<sup>3</sup> The market share is computed based on the number of clients. The market share computed based on total assets audited, bottomed out in 1998 and rose again thereafter. However, the rise in market share after 1998 is a result of a few very large firms (each with more than RMB 10 billion in total assets). This is corroborated by the evidence that except for the top size quartiles of clients, the Top-10 auditors' market shares (based on assets) are all decreasing among the bottom three size quartiles of clients.

answers to these questions lie in the economic and political institutions of the Chinese audit market. We suggest that there are three institutional factors that lower the incentives of Chinese state-owned enterprises (SOEs) to appoint top-quality auditors: (1) ownership of listed firms by the state, (2) market and legal institutions, and (3) the government power over auditors.

The empirical results support our conjecture that these institutional factors matter in auditor appointment decisions. Using a sample of Chinese listed firms from 1993 to 2003, we document that compared with non-state firms, SOEs managed by local (province, city, and county) governments (local SOEs) have stronger preference to hire low-quality auditors that are small (non-Top-10) and from the same locality (small local auditors).<sup>4</sup> In addition, we find that such difference in audit quality preference between local SOEs and non-state firms decreases as the institutional environment improves. That is, local SOEs become more like non-state firms in their preference to appointing high-quality auditors when the state withdraws from controlling the economy and as the credit market and legal environment develop.

However, the relation between firm ownership and auditor choice is likely to be spurious. To address this endogeneity issue, we focus on a subsample of SOEs that switched controlling ownership between government and private owners and assume that these switches are likely to be triggered by exogenous factors. We find that firms are more inclined to hire low-quality auditors when they are under local government control, but prefer to appoint high-quality auditors when the controlling owners are private. Also, the effects of ownership control switches on the change in the quality of the auditors

---

<sup>4</sup> Section 2.3 provides detailed arguments that small local auditors are of the lowest quality. The regression results in Section 4.5 confirm this conjecture.

appointed is more pronounced in regions with less developed market and legal institutions, providing corroborating evidence that the audit quality gap between state and private ownership is significantly larger in regions with weak institutions. However, to the extent that the ownership changes are also endogenous, we cannot infer a casual relation between state ownership and choice of low-quality auditors from our analysis.

We propose that two views explain how economic and political institutions shape SOEs' preference for choosing low-quality auditors. The efficiency view holds that the underdeveloped market and legal institutions in China and the state ownership in SOEs reduce the economic benefits of auditing, and thus rendering the appointment of high-quality auditors by SOEs suboptimal. The opportunistic view, however, holds that the institutional environment in China induces SOEs to hire low-quality auditors for pursuing government officials' private benefits. Both views are likely to be valid but one may dominate to the other in explaining auditor choice. To distinguish whether the efficiency incentive or opportunistic incentive provides a more dominant motivation for auditor appointment decision, we examine the association between firm valuation, proxied by market-to-book assets and auditor choice.<sup>5</sup> The results show that local SOEs that appoint small local auditors have significantly lower market-to-book assets, which suggests that local SOEs' preference for low-quality auditors is more driven by opportunistic than efficiency motivations.

A possible alternative explanation, which is consistent more with the efficiency view than with the opportunistic view, is that local SOEs have weak demand for raising equity capital because of limited growth prospects, and thus they have lower market-to-book assets and weaker incentive to hire high-quality auditors. However, we have

---

<sup>5</sup> The firm valuation variable, defined in Table 3, is a variant of Tobin's q.

controlled for sales growth and equity issuance in the market-to-book assets regression analysis. Also, two additional results in our analysis are inconsistent with this explanation. First, the auditor choice analysis shows that sales growth and equity issuance are not associated with the appointment of high-quality auditors in China. Second, both local and central SOEs do not receive a fee discount from hiring small local auditors, which is inconsistent with the efficiency argument that the appointment of low-quality auditors reduce costs. Despite this additional evidence, caution in interpreting the results is warranted to extent that there remain spurious effects in our analysis.

Our paper contributes to the literature in a number of ways. First, it extends Francis et al. (2003) and Choi and Wong (2006) that link legal environments and auditor choice by demonstrating that in addition to legal institution, there is an association between political institutions and the derived demand for audit quality. Second, our results complement prior research by suggesting that government influence on firms' accounting properties can manifest through its impact on their auditor appointment decisions (Ball et al., 2000; Bushman et al., 2004; Fan and Wong, 2002; Leuz and Oberholzer-Gee, 2006). Third, while most prior studies use a cross-country setting, we focus on a single country but analyze the cross-sectional effects of political institutions on accounting using the regional differences in government's involvement in the economy. The approach enables us to eliminate cross-country confounding factors and to obtain more detailed regional and firm-level information about the level of government influence. Finally, our findings that state ownership and weak legal and market systems lower the demand for high-quality auditors in a transition economy provide supporting evidence on the importance of institutional development for enhancing efficient

allocation of resources and economic growth (Rajan and Zingales, 1998; Wurgler, 2000; and Bushman and Smith, 2001).

The remainder of this paper proceeds as follows. Section 2 develops our hypotheses. Data and summary statistics are presented in Section 3. We present the regression results in Section 4. Section 5 reports on some robustness checks. Section 6 concludes the paper.

## **2. Hypothesis Development**

In this section, we discuss how the three institutional features of the Chinese economy: (1) state ownership, (2) market and legal institutions, and (3) government power over auditors, affect SOEs' auditor choice. We focus on SOEs because they comprise 76 percent of the listed firms at the end of 2003. Of these SOEs, 72 percent in the 76 percent has a largest shareholder, a government entity, owning more than 20 percent of the firm's stock.<sup>6</sup> Local governments own the majority of the SOEs (70 percent of SOEs in 2003) and the rest are owned by the central government.

We provide two potential arguments, the efficiency view and the opportunistic view, for explaining how these institutions shape SOEs' decisions in hiring auditors. The two views are not necessarily mutually exclusive. Even if the government owners have opportunistic incentives, they will pursue efficiency objectives when making auditor choices provided that they do not hurt their personal welfare. Which of the two motivations has a more significant effect on the final decision is a question to be addressed in our analysis.

---

<sup>6</sup> Of the remaining 4 percent in the 76 percent of sample firms that are state-owned, 3% and 1% had a largest shareholder owning 10-20% and less than 10% of the stock, respectively.

There are three hypotheses in our analysis. The first two hypotheses formally establish the relation between the three institutional features and auditor choice of the Chinese listed firms. The third hypothesis distinguishes whether the efficiency incentive or the opportunistic incentive provides a more dominant motivation for the auditor appointment decision.

### *2.1. The efficiency view*

The efficiency view argues that compared with non-state firms it is suboptimal for Chinese SOEs to hire high-quality auditors that are more costly.<sup>7</sup> Several factors lower the benefits from hiring high-quality auditors for the SOEs. First, in a transition economy, such as China's, where institutions for shareholder protection are less developed, government ownership can reduce agency costs through providing alternative monitoring mechanisms such as appointing the Chairmen and CEOs in the listed SOEs (Qian, 1995). The alternative governance mechanisms can serve as a substitute for employing high-quality auditors.

Second, the preferential treatment of SOEs over non-state firms in accessing capital (Brandt and Li, 2003) has led to a weaker demand for high-quality auditors among the three groups of stakeholders in SOEs, the securities regulators, creditors, and outside shareholders.<sup>8</sup> The stock market regulators give preferential treatment by providing listing privileges to SOEs based on political rather than economic objectives.<sup>9</sup> Similarly,

---

<sup>7</sup> Results reported in Section 4.6 show that quality and fees are positively related in China.

<sup>8</sup> The state dominance in the market and its monopolistic control over resources such as capital allocation is typical in transition countries such as China (McMillan, 1997; Chang and Wang, 1994; Li, 1996; Qian, 1995).

<sup>9</sup> One example of the preferential treatment is related to the profitability requirement in the three years immediately prior to the IPO. Many SOEs are restructured from a parent company immediately prior to the IPO. The restructuring creates a new firm out of the productive assets from the parent state firm (Aharony et al., 2000). The government has made special provisions for such newly created firms to report the three years of earnings based on estimations because they were not in existence prior to the IPO (Companies Law

SOEs have weaker incentives in reducing information asymmetries in order to obtain credit from state banks, which lend to SOEs for political, social stability, and tax reasons rather than for profitability (Brandt and Li, 2003). In contrast, state banks pay more attention to non-state firms' auditor quality because loan decisions are more likely to be based on economic rather than political considerations.<sup>10</sup> Outside shareholders have a lower demand for high-quality auditors because they are attracted to SOEs primarily for their political and financial support from the government. Government leaders have incentives to assist SOEs (Kornai, 1993; Qian, 1994) because successful listing of more SOEs from their regions would enhance their political capital and chances for promotion (Li and Zhou, 2005).

Third, in addition to the lower demand for the monitoring and information role of auditing, SOEs have weaker incentives than non-state firms to hire auditors for insurance purposes as well. When SOEs have financial problems, investors are likely to look to the largest shareholder, the government, as an ultimate source for a bail out. Such government backing would provide financial insurance to investors and political insurance to securities regulators, which in turn would lead to a weaker demand for high-quality information by the two parties. In contrast, non-state firms rely more on auditors for such insurance, and thus they have more incentives to hire good-quality auditors (Dye, 1993; Willenborg, 1999).

---

No. 137 promulgated in July 1994; CSRC Share Issuance Announcement in December 1996). This special provision will enable SOEs to provide favorable profit numbers to qualify for listing and inflate their IPO prices. However, non-state firms have to be in operation in the three years prior to the IPO and therefore they will need to report actual earnings.

<sup>10</sup> According to Zhou Xiaochuan, the governor of the People's Banks of China, China's central bank, the Chinese government has imposed stricter rules for state-owned commercial banks to make use of information provided by auditors in their loan decisions (Caijing Magazine, 2004).

The demand gap in the insurance role of auditing between SOEs and non-state firms is becoming significant, as auditors' litigation risks are increasing in China. Starting in 1993, the securities laws in China (No. 42 of the CPA Law issued in 1993 and No. 202 of the Securities Law issued in 1998) became explicit about the joint liability of CPAs. There were numerous civil lawsuits against Chinese auditors after the People's Supreme Court's pronouncements on CPA firms' liability in investment capital audits between 1996 and 1998.<sup>11</sup> In 2002, the People's Supreme Court began to accept civil lawsuits on fraudulent accounting reporting of listed firms.<sup>12</sup> The rising litigation risks were also accompanied by CPA firms' increasing ability to compensate the plaintiffs. For instance, the mean annual revenue of Top-10 auditors in China was US\$23 million in 2002, which amounted to about 17 percent of the mean total market capitalization of their clients' tradable shares (held by outside shareholders).

## *2.2. The opportunistic view*

The opportunistic view suggests that government owners have incentives to hire low-quality auditors to satisfy their private benefits at the expense of outside shareholders' wealth. These opportunistic incentives arise as a result of the institutional setting in China. First, maximization of shareholders' wealth is not the only objective of the SOEs. Government ownership creates competing objectives, which include social and political goals such as infrastructure development, fiscal and unemployment conditions of the region (Lin et al., 1998).<sup>13</sup> Some government officials may even use their control

---

<sup>11</sup> The Chinese Companies Law states that all limited liability companies are required to have audits of their investment capital when the companies are initially established and when there is new capital infusion.

<sup>12</sup> The major civil lawsuits against audit firms involved (1) KPMG in the Jinzhou Port scandal in 2001, (2) a domestic CPA firm, Zhongtianqin, in the Yin Guang Xia scandal in 2002 and (3) Deloitte & Touche in the Kelong Electric Scandal in 2006.

<sup>13</sup> It is easy for the government to intervene in SOEs, even if such a decision is not economically efficient (Shleifer and Vishny, 1994; Shleifer, 1998).

power in the firm to pursue private gains. There is evidence that they achieve these objectives through controlling SOEs' boards (Fan et al., 2006) and through setting up corporate structures that facilitate direct intervention (Fan et al., 2005). In addition, compared with private owners of non-state firms, the government owners are less concerned about the price discount against pursuing political or private goals because the bureaucrats that control the SOEs do not own shares in the firms (Fan et al., 2006; Jian and Wong, 2005).

The second institutional condition that gives rise to opportunistic incentives is government power over auditors. Through political influence, local governments can pressure auditors operating under their jurisdiction (local auditors) to compromise independence. Although both SOEs and non-state firms have incentives to collude with auditors, government owners of local SOEs have significantly lower collusion costs because of their political power over local auditors. Despite efforts to delink the local auditors both financially and operationally from the local governments, many of them remained under strong government influence. Being a major client to local auditors, the local government can exert significant influence over them by threatening not to use their services for the SOEs. Many of the firms' partners are ex-bureaucrats of the local governments, and the same governments serve as controlling shareholders of a large portion of their audit clients. Local governments can further exert influence on audit firms through their finance bureaus, audit bureaus and local CPA institutes in the licensing of the audit firms, administering their staff's qualification examinations, and regulating the firms' day-to-day operations (Zhong, 1998; Tang, 1999). Relative to local

governments, the central government has less direct influence on local auditors where its firms operate.

Third, despite the increase in litigation risk of auditors in China, the legal environments are still relatively underdeveloped (Clarke, 1996), which exacerbates the collusion problem between government owners and local auditors. Lacking the rule of law to prevent large shareholders from encroaching on small shareholders is a typical problem for transition economies (Che and Qian, 1998).

Given these institutional conditions, SOEs, particularly local SOEs, may have incentives to hire low-quality auditors not for efficiency enhancement purpose, but to facilitate meeting China's Securities Regulatory Commission's (CSRC) earnings targets for IPO and seasoned equity offerings and for avoiding delisting (Aharony et al., 2000; Chan and Yuan, 2004). An acquiescent auditor would allow its client to manipulate earnings, by not issuing a modified opinion that may lead to share price declines and may trigger government sanctions such as loss of qualifications for seasoned equity offerings and delisting (Chen et al., 2000).

### *2.3. Measurement of auditor quality*

The lowest quality auditors in China are likely to be local auditors (serving clients from the same jurisdiction where the auditor is located) that are small in size.<sup>14</sup> As discussed earlier, political pressure from local governments over auditors operating under their jurisdiction will jeopardize auditor independence. Besides locality, auditor size can

---

<sup>14</sup> Using U.S. data, Reynolds and Francis (2001) and Craswell et al. (2002) find that within a local office of an audit firm, the relative client size in terms of asset size or audit fee does not affect the auditor's independence. In a transition economy such as China's, we argue that government power can affect the independence of small auditors within its jurisdiction. The opinion regression results in Section 4.5 show that small local auditors are significantly more lenient towards all their clients. There is also weak evidence that small local auditors are more lenient towards local SOEs than non-state firms.

serve as a measure of audit quality in China.<sup>15</sup> A larger auditor size means more resources and training and thus the ability to provide higher-quality auditing. Consistent with the argument by DeAngelo (1981), larger Chinese firms will have stronger incentives to provide high-quality auditing because sanctions from the CSRC will lead to a bigger loss in reputation and clients. Between 1993 to 2003, 35 out of about 100 CPA firms with license to audit listed firms were sanctioned, resulting in closer scrutiny of client firms by the government, subsequent loss of clients to other auditors, and revocation of audit license (Zhu et al., 2004; Sami and Ye, 2005). There is evidence that domestic firms are raising audit quality through merging with international audit firms (e.g. the mergers of Dahua and Ernst & Young in 2001 and of Shenzhen Tianjian Xinde and Deloitte & Touche in 2005). The acquired expertise and the need to maintain its international reputation provide incentives for the merged firm to increase audit quality.

#### *2.4. Hypotheses*

In this section, we formally present the three hypotheses for our analysis. Both the efficiency argument and the opportunistic argument predict that SOEs have weaker incentives to hire high-quality auditors. The formal hypothesis (*in alternative form*) is as follows:

*Hypothesis 1: SOEs are more likely than non-state firms to hire small local auditors.*

The fiscal decentralization from central to local governments since 1978 has created great heterogeneity in marketization and institutional quality across localities in China (Qian and Xu, 1993; Huang, 1996; Qian and Weingast, 1997; Jin et al., 2005). This significant variation in institutions across regions provides us an opportunity to test cross-

---

<sup>15</sup> DeFond et al. (1999) provide evidence consistent with the conjecture that large auditors in China are of better quality measured by the higher propensity to give modified opinions. This evidence is consistent with the prior literature (Dopuch and Simunic, 1980; DeAngelo, 1981).

sectionally the effects of institutions on auditor choice. We predict that the difference in SOEs' and non-state firms' preference to hiring small local auditors is higher (lower) in regions with less (more) developed market and legal institutions. This leads to our second hypothesis (*in alternative form*):

*Hypothesis 2: The difference in the propensity to choose small local auditors between non-state firms and SOEs is smaller in regions with more developed market institutions.*

We consider the three different institutional indexes in Hypothesis 2. First, we use the credit market quality index because as credit markets develop, state banks will become more independent from the government and will demand SOEs to appoint high-quality auditors. The second index measures the level of government involvement in the economy, which in turn will affect the government's ability and willingness to influence local auditors and to provide SOEs with insurance against potential financial distress or lawsuits (Jin and Qian, 1998). In regions where the government plays a marginal role in the economy, we expect that SOEs are more likely to hire high-quality auditors. Finally, we consider the legal environment index because the level of legal institution development will have an effect on the degree of collusion between local SOEs and small local auditors. We expect that SOEs have greater incentives to appoint high-quality auditors in regions with stronger legal systems.

So far, both the efficiency view and the opportunistic view can provide explanation for Hypotheses 1 and 2. We attempt to test in Hypothesis 3 whether SOEs are more motivated by efficiency incentives or opportunistic incentives when making auditor hiring decisions. We regress market-to-book assets, a measure of firm value, on auditor choice to examine if the auditor appointment will result in a net benefit or loss to the firm.

If SOEs appoint small local auditors more for efficiency gains than opportunistic reasons, we will expect that the appointment of these auditors is associated with an increase in client firms' market-to-book assets. The formal hypothesis (*in alternative form*) is presented as follows:

*Hypothesis 3a: The appointment of small local auditors by SOEs is associated with an increase in their market-to-book assets.*

However, if the small local auditors are hired mainly to fulfill opportunistic needs of the controlling owners and not so much for efficiency consideration, outside shareholders will significantly discount the share price and lower market-to-book assets. The formal hypothesis (*in alternative form*) is presented as follows:

*Hypothesis 3b: The appointment of small local auditors by SOEs is associated with a drop in their market-to-book assets.*

If the null in Hypotheses 3a and 3b is not rejected, it will mean that auditor appointment decision is not dominated by either motivation.

### **3. Data**

For this study, we collected the auditor choice and audit opinion data of all listed companies in China from 1993 to 2003. We have also obtained a subsample of audit fees for all years available, i.e., 2001, 2002 and 2003. Information about companies' backgrounds, auditor identities, audit opinions and audit fees is obtained from companies' annual reports or summaries of annual reports published in one of the three securities newspapers in China (*China Securities News, Shanghai Securities News, and*

*Securities Times*). The China Securities Markets and Accounting Research (CSMAR) database serves as the primary source for our financial data.

As reported in Table 1, a number of firms are excluded from our sample. Firms that have issued B-shares or H-shares are excluded from the sample because these firms' financial characteristics and regulatory environments are different from those that issue only A-shares.<sup>16</sup> We exclude firms in regions where there is no local auditor because they can only choose non-local auditors.<sup>17</sup> Further, firms without any information on their ultimate controlling shareholders and/or financial information are not included in the sample. The final sample includes 67 percent of all listed firms in China from 1993 to 2003.

### *3.1. Size and locale of auditors*

In this study, we use locality and auditor size to measure auditor quality and its level of independence. More specifically, we divide audit firms into two types: small local auditors and other auditors. A listed firm is considered to have hired a local auditor when the audit firm is located in the same province or region with provincial status (autonomous administrative region or municipality under the central government) of the listed firm. In China, auditors typically have a single office and thus their locations can easily be identified.<sup>18</sup> When auditors from two or more regions merge to form a new auditor, we treat the original registry regions of the auditors engaged in the merger and

---

<sup>16</sup> B-shares are available for foreign investors in the two domestic markets in China and H-shares are traded on the Hong Kong stock exchange. We include B-share and H-share firms as a diagnostic check in section 5.

<sup>17</sup> The regions that do not have auditors in our sample period between 1993 and 2003 are: Guangxi, Guizhou, Hebei, Henan, Jiangxi, Inner Mongolia, Ningxia, Qinghai, Shaanxi, Shanxi, Tibet and Xinjiang. Tibet does not have any auditor in the entire sample period.

<sup>18</sup> In the early years, some Top-10 auditors did subcontract out auditing work to smaller auditors that did not have licenses to audit listed firms (DeFond et al., 1999). It was the signing auditors who subcontracted out the audit work, not the affiliates, that bore all the legal and government sanction risks. Thus, we identify auditors based on the signing auditors, not the affiliates, in these cases.

the new registry region after the merger as the registry regions of the new audit firm. In this case, if a listed firm hires a new auditor that results from a merger of several auditors from different regions, this firm is considered to be hiring a local auditor if it is located in any one of the registry regions of the new audit firm.<sup>19</sup> We classify a local auditor this way because the new auditor is likely to be influenced by the local governments of both the new registry region of the merged firm and the registry regions of the original firms prior to the merger. Local auditors, being under the influence of local governments in the same region, would be less independent than non-local auditors.

Following DeFond et al. (1999), we classify audit firms as small if they are not a Top-10 auditor based on total assets audited.<sup>20</sup> It is rather easy for the market to distinguish Top-10 auditors from other auditors.<sup>21</sup> The CSRC publishes the list of Top-10 auditors annually, which is relatively stable with at most two firms falling off the list annually between 1993 and 2003. The mean size of Top-10 auditors based on client assets (US\$43 billion in 2003) is significantly larger than that of non-Top-10 auditors (US\$4 billion in 2003).

### *3.2. Ownership control*

To test our hypotheses, we separate the sample into three ownership categories. The first category is non-state firms whose ultimate owners are non-government units

---

<sup>19</sup> If a Beijing firm merges with a Shanghai firm, the new merged firm will have a Beijing office and a Shanghai office. It is considered a local auditor for any Beijing and Shanghai client. We have used alternative treatments for merged firms such as using the location of the lead office (in terms of size prior to the merger) to measure locality for the merged firm or deleting all the merged firms from our sample. The main results do not change.

<sup>20</sup> We rank Top-10 auditors nationally, but not within each province because the size of the top auditors of each province varies significantly. The mean size of the top auditor in each of the bottom 10 provinces (with at least one local auditor) was RMB 43 billion yuan in 2003, which is significantly smaller than the mean size of RMB 337 billion yuan of the Top-10 auditors (in the country) in the same year.

<sup>21</sup> We experimented with different definitions of top auditors (Big-4 international auditors, and Big-4 international or Top-10 domestic auditors by number of clients and clients assets), and the results still support our hypotheses.

such as entrepreneurs, townships and villages and foreign companies. The other two categories are local SOEs that are owned by local governments (e.g. the bureau of state assets management and the finance bureau), and central SOEs that owned by the central government (e.g. the Ministry of Finance and the Central Industrial Enterprises Administration Committee), respectively. Ownership information is obtained from annual reports, where mandatory disclosure of the ultimate owner has been required since 2001. For years prior to 2001, we treat the ultimate owner to be the same as that in 2001 unless there is a change in the controlling owner. In the latter case, we use the annual report information of the old controlling owner prior to the change to ascertain the ultimate ownership type.

Table 2 reports the sample distribution and choice of auditors by companies of different ownership types. The first column (all years combined) in Table 2 shows that compared with non-state firms and central SOEs, local SOEs are more likely to choose small local auditors. In addition, the first row (total sample) in Table 2 reports that from 1993 to 1997, the ratio of companies choosing small local auditors increases each year. In the period of 1998 to 2003, the increasing trend no longer persists.

Table 2 further reports by ownership types the ratio of companies choosing small local auditors from 1993 to 2003. From 1993 to 1997, the ratio increased among each ownership type. From 1998 to 2003, the ratio of non-state firms and central SOEs choosing small local auditors decreased. However, local SOEs continued to choose a higher ratio of small local auditors. This indicates that the reforms of delinking audit firms from local governments and mergers of small auditors have had positive effects on non-state firms and central SOEs, but have had no effects on local SOEs in their choices

of higher-quality auditors. In the next section, we will report the multivariate LOGISTIC regression analysis of auditor choice.

Based on prior research (Dopuch et al., 1987; DeFond et al., 1999), several firm-specific firm characteristic and financial variables are used as control variables in the multivariate regressions. We also control for the clients' industrial sector, including industrial manufacturers, finance, utilities, properties, conglomerates and commerce. Table 3 and Table 4 provide the definitions and summary statistics of all variables used in our analysis. With the exception of *Growth*, which is winsorized at top and bottom one percent, the financial variables are generally distributed within reasonable ranges.<sup>22</sup> As diagnostic checks, in Section 5, we winsorize all financial variables at the top and bottom one or two percent. The Pearson and Spearman correlation matrices of all variables are given in Appendix 1.

Table 4 Panel B to D report that across the three subsamples based on the three ownership categories, the summary statistics of firm performance variables (*Loss*, *Stock Return*, and *Return on Assets*), risk variables (*S.D. of Residuals*, *Total Debt / Total Assets* and *Current Assets / Current Liabilities*), and asset complexity variables (*Receivables / Total Assets* and *Inventory / Total Assets*) do not exhibit significant difference. However, mean rate of sales growth, as captured by *Growth*, does seem to vary across the three subsamples, with 0.21 among local SOEs, and 0.28 and 0.31 among central SOEs and non-state firms, respectively.

### 3.3. Institutional indices

---

<sup>22</sup> We have also performed all our analyses without winsorizing *Growth* and our key results for auditor choice, audit opinion and audit fees remain the same.

In this paper, we focus on three indices: the credit market index, the government decentralization index, and the legal environment index. These indices are obtained from the National Economic Research Institute (NERI) indices (see Appendix 2 for a description of the NERI project). All three indices for the various regions are presented in Appendix 2. The first index, the credit market development index, measures the percentage of deposits taken by non-state financial institutions and the percentage of short-term loans to the non-state sector.

The second index, the government decentralization index, is constructed based on the following information: (1) the provincial government's spending as a percentage of provincial GDP; (2) the tax rates in the province; (3) the time spent by entrepreneurs in dealing with bureaucracy; and (4) the time needed for firm registration and obtaining various licenses. This type of information has been used by La Porta et al. (1999a) to examine the quality of a government. As they argue, less government decentralization (more government involvement) and red tape would lead to lower institutional quality.

Finally, the legal environment index has the following components: (1) The number of lawyers as a percentage of the provincial population;<sup>23</sup> (2) the efficiency of local courts (percentage of lawsuits pursued by the courts); and (3) protection of property rights. The efficiency of courts and protection of property rights have been used by La Porta et al. (1999b) and Johnson et al. (2002a, b) for measuring the quality of legal institutions in developing/transition countries. The number of lawyers is important in China and other transition countries, because it indicates the importance of legal channel

---

<sup>23</sup> Compared with the US and UK, China has a far smaller percentage of lawyers in the population. For example, in 2005, the percentage of lawyers in the population was 0.38% in US, 0.20% in UK, but only 0.01% in China.

in resolving business disputes.<sup>24</sup> For historical, cultural and political reasons, the implementation of laws or the general legal environment varies significantly across localities in China.

## 4. Results

### 4.1. Government ownership and auditor choice

Table 5 presents the LOGISTIC regressions with the dummy variable for small local auditors as the dependent variable. In this study, all Z-statistics in the LOGISTIC regressions and *t*-statistics in the OLS regressions are computed using Newey-West standard errors to adjust for autocorrelations. Year and industry dummies are included in the regressions, but, for brevity, they are not reported in the table.

Our regression results show that local SOEs are more likely than non-state firms to choose small local auditors. In model (1) of Table 5, we report on a regression including ownership type and the financial characteristics of the client firms. The coefficient of *Local SOEs* is positive and statistically significant at the one percent level, while that of *Central SOEs* is positive but insignificant statistically. This suggests that local SOEs have the strongest propensity to hire small local auditors, while central SOEs are not different from non-state firms in the likelihood of hiring small local auditors. The change in odds for *Local SOEs* is 0.345, which indicates that it has economic significance. The results support our conjecture that, compared with non-state firms, local SOEs have less incentive to employ good-quality auditors. Our finding that local SOEs are more

---

<sup>24</sup> There are three major channels in these countries: the government, the mafias and the legal channels (Li et al., 2006). For example, in Russia, firms use private mechanisms such as arbitration instead of courts to resolve disputes (Hay and Shleifer, 1998). Firms may also pay mafias for private protection. Thus, the number of lawyers is a good indicator of how often firms rely on the legal channels.

likely to hire small local auditors while central SOEs are not support the conjecture that local governments have more direct political power than central government over small local auditors.

A few other variables in model (1) also explain auditor choice. The coefficient of *Log of Client Assets* is negative and significant at the one percent level, suggesting that large companies are less likely to choose small local auditors. This is reasonable since large companies usually require scale economies and more sophisticated audit services, which small local auditors may not be able to handle. The coefficients of *Receivables / Total Assets* and *Inventories / Total Assets* are both negative, though only the former is statistically significant, providing some evidence that small local auditors are less able to serve clients with complex businesses. The statistically significantly negative coefficient of *Total Debt / Total Assets* indicates that firms with higher risks prefer to hire Top-10 or non-local auditors. Furthermore, consistent with earlier discussion that SOEs lack incentives to hire high-quality auditors, we find that the coefficients of *Growth* and *Equity Issuance* are not significantly negative.

#### *4.2. Interaction between government ownership and institutions*

Before looking at the interaction effects of institutions and ownership on auditor choice, we examine whether the institutional environment will have a direct impact on the appointment of auditors. To avoid multicollinearity, we employ one market index at a time, i.e., credit market, government decentralization, and legal environment, respectively, in models (2)-(4) of Table 5. The coefficients pertaining to the institutional indices are all negative and significant at the one percent level as expected. The change in odds in

models (2) to (4) is -0.215, -0.215, and -0.324, respectively, suggesting that the decrease in odds is substantial with the development of market institutions.

In model (5), we include all three institutional indices in one regression. Even though including all indices reduces individual explanatory power due to multicollinearity, the regression results continue to indicate that institutions do matter in auditor choice. The coefficients of the credit market and legal environment indices are negative and significant at the one percent level, but the magnitude of the coefficients is smaller than those in models (2) and (4). The coefficient of the government decentralization index remains negative, but statistically insignificant.

We next test Hypothesis 2, i.e., whether the effect of government ownership on auditor choice varies with the quality of institutions. We add the interaction terms between government ownership (*Local SOEs* and *Central SOEs*) and the three institutional indices to the regression model. Hypothesis 2 predicts that when credit markets or the legal system are more developed, or when the government is less involved in the markets, SOEs are more likely to behave the same as non-state firms in choosing auditors. We expect the coefficients of these interaction terms to be negative.

Regression results reported in Table 6 support our predictions. The coefficient of *Local SOEs* is significantly positive, while the coefficient of the interaction term between *Local SOEs* and each of the three institution indices is significantly negative. This suggests that when institutions develop, the positive effect of local government ownership on the choice of small local auditors will decrease. The change in odds of choosing of the interaction term between *Local SOEs* and each of the three institution

indices is -0.254, -0.270, and -0.353, respectively, suggesting that the decrease in odds is substantial.

Turning to the results for central SOEs, the coefficient of *Central SOEs* is significantly positive and the coefficient of the interaction term is significantly negative in models (1) and (2) and marginally significantly positive in model (3) of Table 6. The model (3) result is caused by central SOEs from Beijing, which has the highest legal environment index (Appendix 2), choosing auditors in the same locality. The coefficient of this interaction term will become significantly negative (-0.174 with Z-statistics equal -2.28) when all Beijing central SOEs are dropped. These results, together with the results in Table 5, show that central SOEs on average have similar auditor choice patterns as non-SOE firms, but in regions with less-developed credit markets or more local government involvement, central SOEs are more likely than non-state firms to hire small local auditors.

Care must be taken in drawing inferences from the results in Tables 5 and 6 because they are potentially subject to endogeneity problem. Thus, we cannot infer causality in the relation between client firms' ownership structure and auditor choice. In the next analysis, we use a sample of firms that switch controlling owners to examine the effects of change in ownership control on auditor choice, and whether these effects differ across regions with various levels of institutional development. To the extent that the ownership change is caused by exogenous factors that do not affect auditor choice, this analysis would alleviate the endogeneity problem in Table 5 and 6.

#### *4.3. Change in ownership control and auditor choice*

To provide corroborating evidence for Hypotheses 1 and 2, we use a subsample of 74 SOEs that switched controlling ownership during the sample period.<sup>25</sup> We include all available years before and after the switch (529 observations) in the regression. *Local SOEs* or *Central SOEs* is equal to one when the firm is under the control of either a local government or the central government before or after the switch, and zero when the firm is controlled by a private owner. The dependent and independent variables used in this analysis are the same as those in Table 6.<sup>26</sup>

Results reported in Table 7 show that when the firm is under the control of a local government (a private owner), it is more (less) likely to choose a small local auditor. Moreover, as institutions develop, the impact of this switch in controlling ownership on the change of auditors becomes smaller. The effect of switching between a local government owner and a private owner is statistically significant for all three institutional variables in models (1) to (3) in Table 7. However, the effect involving the central government owner and private owners is only statistically significant when the government decentralization index is used in model (2).

In summary, the evidence of the ownership switch sample, especially the results of the switches between local governments and private owners, provide further support for Hypotheses 1 and 2.<sup>27</sup> However, this conclusion relies on the assumption that the change in controlling ownership is exogenous. To the extent that the ownership switches

---

<sup>25</sup> There were 66 firms that switched from a government owner to private owner in the sample. Only eight firms switched control ownership in the opposite direction.

<sup>26</sup> Opposite to prior predictions, the coefficients of *Growth* and *Log of Client Assets* are positive and statistically significant. When the sample is partitioned into before and after the switch, we find the two coefficients to be positive *only* in the post-switch sample, which comprises mainly of firms that are just privatized (66 of the 74 firms). One possible explanation is that larger, high growth ex-SOEs continue to behave like SOEs because they remain under government influence even after the transfer of control.

<sup>27</sup> We have also tried panel regressions with fixed and random effects. The coefficients of *Local SOEs* and the interaction terms with each of the three institutional variables are all statistically significant.

and auditor choice are endogenously determined, the results in Table 7 are still subject to the same endogeneity problem as in Table 5 and 6.

#### 4.4. *Efficiency view and opportunistic view*

In this subsection, we use the firm valuation effects of auditor appointment to test whether efficiency or opportunistic motivation is the dominant reason for explaining Hypotheses 1 and 2. If the auditor choice is more driven by efficiency than opportunistic incentives, then hiring small local auditors by local SOEs should not cause any price discounts by investors. On the other hand, if the opportunistic view is the more dominating reason for choosing small local auditors, we will observe a decline in price for local SOEs in hiring small local auditors.

We regress the client firm's *Market-to-Book Assets* on *Small Local Auditors* (auditor type), *Local SOEs and Central SOEs* (control ownership type), the interaction terms between auditor type and ownership type, sales growth, three institutional indexes, and a set of other control variables.<sup>28</sup> Results of models (1) and (2) in Table 8 show that the coefficient of *Small Local Auditors* is negative and statistically significant. The coefficient of *Small Local Auditors* is significantly negative even after controlling for *Local SOEs and Central SOEs* in model (2) indicates that, regardless of the client firms' ownership type, investors will discount their share prices if they appoint small local auditors.

The results from model (3) indicate that the interaction between auditor type and central government control is not associated with *Market-to-Book Assets*. This

---

<sup>28</sup> In our calculation of *Market-to-Book Assets*, as defined in Table 3, we use book value to proxy for the market price of non-tradable shares. To control for this potential measurement error in *Market-to-Book Assets*, we include *The Ratio of Tradable Shares* in the regression and find that the coefficient is significantly positive, indicating that these non-tradable shares are likely have a market price higher than book value.

corroborates results in Tables 5 and 7 that central SOEs do not have a strong preference for small local auditors. Even if they do choose this type of auditors, it is unlikely that opportunistic motivation is the dominant reason. However, the interaction term, *Small Local Auditors × Local SOEs*, has a negative and significant coefficient, suggesting that comparing with other non-state firms local SOEs are subject to a larger price discount for hiring low-quality auditors. This result provides support to the notion that local SOEs are more motivated by opportunistic incentives than efficiency incentives when appointing small local auditors.

One possible alternative explanation to this result is that high growth firms have large market-to-book assets and are more likely to hire high-quality auditors for equity issuance. However, the auditor choice results in Tables 5, 6 and 7 do not show that high growth and equity issuing firms are more likely to appoint high-quality auditors in China. In addition, we include sales growth in the regression model to control for this potential spurious effect.<sup>29</sup> To the extent that this spurious effect is not properly controlled in the model, we have to take caution in drawing conclusion from the results.

#### 4.5. Audit opinion and small local auditors

Throughout the analysis, we have assumed that small local auditors provide lower-quality audit services and are less independent compared with other types of auditors. In this subsection, we use auditors' propensity to issue modified opinions to gauge whether this assumption is well grounded in China. If small local auditors are

---

<sup>29</sup> As additional control for the endogeneity effect, we included *Equity Issuance* in the model and the results remain the same. We also partition the sample into high and low growth based on sample median sales growth and rerun the regressions. The interaction term, *Small Local Auditors × Local SOEs*, remains negative and statistically significant in both high growth and low growth sub-samples.

found to have issued fewer modified opinions, then they are likely to provide lower-quality services and are less independent.

Following prior studies (Chen et al., 2000; Chen et al., 2001), we classify opinions that are unqualified with an explanatory paragraph, qualified opinions, disclaimer, and adverse opinions, as “modified opinions”.<sup>30</sup> Table 9 presents the ratios of modified audit opinions issued by two types of auditors. From 1993 to 2003, the ratio of modified opinions issued by small local auditors was 11 percent, two percent lower than by auditors that are either large or non-local. If issuing modified opinions is an indicator of audit quality and independence, these numbers suggest that small local auditors have lower quality and are less independent.

The LOGISTIC regression results, presented in Table 10, confirm the summary statistics results. As shown in model (1), *Small Local Auditors* has a negative and significant coefficient, with a change in odds of -0.111, suggesting that compared with other auditors, small local auditors are less likely to issue modified opinions.<sup>31</sup>

---

<sup>30</sup> Though according to the Chinese auditing standards, unqualified opinions with explanatory paragraphs should only be issued for events and transactions that do not have a direct influence on the financial statements but are important to financial statements users, Chinese auditors often use this type of opinion as an alternative to qualified opinions to reduce the probability of losing their clients (Chen et al., 2000). Moreover, the CSRC also treats this type of opinion the same as a qualified opinion in terms of disclosure requirements (CSRC, 2001). Therefore, we do not separate this type of opinion from the qualified opinions. To mitigate auditors’ propensity of employing unqualified opinions with an explanatory paragraph as an alternative to qualified opinions, CICPA revised the auditing standard named “Audit Report” in 2003. The new standard clearly specifies that only in the following two situations that an auditor should issue unqualified opinion with an explanatory paragraph: (1) going concern issues that do not influence the type of opinion issued; (2) uncertainty (not including going concern issues) that do not influence the type of opinion issued. Following this new standard, the ratio of modified opinions in 2003 decreased significantly, as indicated in the 2003 (last) column of Table 4.

<sup>31</sup> The performance variables (*Loss*, *Stock Return*, *Return on Assets*), risk variables (*S.D. of Residuals*, *Total Debt / Total Assets*) and asset complexity variable (*Receivables / Total Assets*) are significantly associated with modified opinions in the predicted directions. However, inconsistent with prior U.S. evidence, the coefficient of *Inventory / Total Assets* is significantly negative in both the opinion regressions (Table 10) and fee regressions (Table 11). In China, inventory is less associated with audit risks because listed firms prefer to use methods other than inventory manipulation to manage earnings. Also, a high level of inventory does not necessarily signal poor performance because firms in regions with weak logistical support need to stock up inventory to meet volatile product demand.

In the second model of Table 10, we include *Local SOEs* and *Central SOEs* to capture any differences in return-risk structure related to client firms' ownership types. The coefficient of *Small Local Auditors* remains significantly negative. The coefficients of *Local SOEs* and *Central SOEs* are negative and significant, indicating that they are less likely to receive modified opinions. This is consistent with the argument that SOEs have lower financial risks because of economic and political backing by the government. The significantly negative coefficient of *Small Local Auditors* in model (1) and (2) support the conjecture that small local auditors are more lenient towards all clients, consistent with our assumption that they have lower quality.

In model (3) of Table 10, we test whether small local auditors are more lenient towards SOEs than non-state firms using the two additional interaction terms, *Small Local Auditors*  $\times$  *Local SOEs* and *Small Local Auditors*  $\times$  *Central SOEs*. The coefficients of the interaction terms are negative but with only marginal significance (*t*-statistics of -1.33 and -1.50, respectively). This result only weakly supports the notion that small local auditors are more acquiescent to SOEs.<sup>32</sup>

In summary, the opinion results suggest that compared with other auditors, small local auditors are generally more lenient, and there is weak evidence showing that they are more lenient to SOEs than to non-state firms. This conclusion relies on the assumption that the ownership type variables, *Local SOEs* and *Central SOEs*, and the financial variables such as *Loss*, *Stock Return*, *S.D. of Residuals*, *Return on Assets*, *Total Debt / Total Assets* in the regression models can properly capture the difference in risk-return structures between SOEs and non-state firms. To the extent that our models fail to

---

<sup>32</sup> Using a sample of firms switching from non-local auditors to local auditors, Chan et al. (2006) document that local auditors are more likely to issue clean opinions to local SOEs.

control for risks that are associated with the three ownership types, the difference in propensity to issue modified opinions may well be attributed to risks, than to the quality of the small local auditors, and thus our results would have to be interpreted with caution.

#### 4.6. *The supply-side effect*

A supply-side story could potentially explain the finding that local SOEs are more likely to hire small local auditors. Due to perceived audit risks, Top-10 or non-local auditors may choose not to supply audit services to local SOEs by rejecting them directly or charging them significant fee premiums. However, whether or not local SOEs are perceived to be more risky than non-state firms remains an empirical issue.

To test the supply-side story, we use the annual audit fee data from 2001 to 2003 to examine whether Top-10 or non-local auditors use high fees to turn away local SOEs. We run a standard audit fee regression by adding dummy variables: *Small Local Auditors*, *Local SOEs*, *Central SOEs* and two interaction terms, *Small Local Auditors*  $\times$  *Local SOEs* and *Small Local Auditors*  $\times$  *Central SOEs*. These interaction terms can pick up fee discounts (for lower perceived risks) charged by small local auditors or fee premiums charged by Top-10 or non-local auditors (for higher perceived risks) to local or central SOEs. To be consistent with the supply-side story, the coefficients of *Small Local Auditors*  $\times$  *Local SOEs* and *Small Local Auditors*  $\times$  *Central SOEs* are expected to be negative.

The regression results, reported in Table 11 model (1) and (2), show that the coefficient of *Small Local Auditors* is -0.079 and -0.071, respectively, at the one percent significance level. This suggests that small local auditors charge a discount to all clients. Results of model (3) that neither of the two interaction terms has a significantly negative

coefficient do not support the supply-side story. In fact, the coefficient of *Central SOEs × Small Local Auditors* is positive and significant, suggesting that Top-10 or non-local auditors do not charge SOEs a fee premium, but give a fee discount in the case of central SOEs. Recent anecdotal evidence that Big 4 international accounting firms are expanding client base among SOEs through mergers (e.g. Deloitte & Touche and Shenzhen Tianjian Xinde in 2005) is also inconsistent with the supply-side story that high-quality auditors are rejecting SOEs (Caijing Magazine, 2005).<sup>33</sup>

In summary, the results from the empirical analysis do not support the supply-side story. In addition, the finding that SOEs fail to receive fee discounts, and in fact central SOEs pay more, when hiring small local auditors is inconsistent with the efficiency argument. That is, there is no evidence that SOEs benefit from reducing audit fees by hiring small local auditors. There is a critical assumption in the analysis that the regression model has properly controlled for the variation in client risks and asset complexity and any difference in fees between small local auditors and other auditors is related to how they perceive and price client risks. To the extent that this assumption is violated, we have to interpret our test of the supply-side story with caution.

## **5. Robustness checks**

The three main results, (1) local SOEs, compared with non-state firms, tend to have a stronger preference for small local auditors, (2) local SOEs' preference for small local auditors is weaker in regions with more developed credit markets, less government

---

<sup>33</sup> The age variable (*Clients <= 3 Years Old*) is positively associated with modified opinions (Table 10), indicating that the post-IPO earnings decline increases firm risks (Aharony et al. 2000). However, the coefficient of the age variable is negatively associated with audit fees. This indicates that for older firms, the drop in audit fees due to the associated longer auditor tenure outweighs any possible fee premium for the decline in performance.

involvement and stronger legal systems, and (3) local SOEs' appointment of small local auditors is significantly associated with the firms' market-to-book assets, still hold when we perform the following robustness checks. First, we use alternative definitions of large auditors, which are Top-10 auditors based on the number of clients, Big-4 international auditing firms, and Big-4 international or Top-10 domestic auditors which are based on the total assets audited or the number of clients. Second, we use alternative definitions for local auditors to check whether auditor mergers affect our results. In addition to requiring the client's registry region to be the same as that of its auditor, we add either one of these criteria: (a) the auditor has more than 50 percent of total assets audited from clients in its registry region, or (b) the auditor has more than 50 percent of total number of clients audited from its registry region. Third, we delete firms that are not under the effective control of their largest shareholders (state or non-state) holding less than 10 percent (or 20 percent or 30 percent) of the shares. Fourth, we exclude all clients in three major cities, Guangdong (or Shenzhen), Shanghai and Beijing, where most Top-10 auditors are located. We also re-do our tests by excluding two provinces, Jiangxi and Tianjin, that do not have non-state firms. Fifth, to remove any possible initial public offering effect, we exclude firms that had been listed for less than a year. Sixth, we winsorize all financial variables at the top and bottom one or two percent. Seventh, we include B-share and H-share firms in the test sample and add a control variable indicating these firms in the models. Eighth, we re-do the tests for each of the four reform periods (1993-1994, 1995-1997, 1998-1999, and 2000-2003) and by using the standard Fama-Macbeth (annual) regressions. Finally, we define local auditors as auditors in the same region where the firm is located or where the ultimate owner is located. This alternative definition

alleviates the concern that ultimate owners may tend to collude with auditors in their regions.

In addition, we tried to disentangle the size and locale effects by running the auditor choice regressions using auditor size<sup>34</sup> (Top-10 versus other auditors) and locality (local versus non-local auditors) as dependent variables separately.<sup>35</sup> The main results for all three hypotheses remain statistically significant, although the significance levels for some of the tests are lower.

## **6. Conclusions**

This paper analyzes how economic and political institutions affect the choice of auditors in China. Using a sample of firms covering the period from 1993 to 2000, we find that SOEs and in particular local SOEs are more likely to choose small local auditors than non-state firms. Moreover, when the institutional environments become more developed, SOEs behave more like non-state firms in the choice of auditors, i.e., they will be less likely to hire small local auditors. In addition, using the market-to-book assets analysis, we find that the choice of small local auditors by local SOEs is associated with significant price discounts. This suggests that although both opportunistic and efficiency motivations are likely to affect local SOEs' auditor appointment decision, the opportunistic incentive is more dominant than the efficiency incentive.

The interpretation of our results is subject to a few important caveats. First, ownership structure of the client firms and auditor choice are likely to be endogenously

---

<sup>34</sup> When the auditor type is further divided into three groups, Big 4 international, Top-10 that are non-Big 4 international, and all others, the multinomial auditor choice regression results show that local SOEs most (least) prefer non-Top auditors (Big 4 international auditors).

<sup>35</sup> To avoid confounding effects in our analysis, we exclude firms in regions where there are Top-10 auditors.

determined by certain institutional factors. We cannot infer causality from our analyses in Tables 5 and 6. Second, the ownership switch sample can potentially alleviate the endogeneity problem, but switches in ownership control can also be endogenously determined and will affect the inference of our analysis. Third, the relation between market-to-book assets and the choice of small local auditors by local SOEs can be spurious because low growth firms have low market-to-book assets and are less likely to hire high-quality auditors. In the analysis, we have included sales growth to control for this spurious effect and we take comfort from the results in Tables 5, 6 and 7 that client's growth and equity issuance is not positively associated with the appointment of high-quality auditors. The audit fee results also provide corroborating evidence inconsistent with the efficiency argument that the appointment of small local auditors can reduce cost. This additional evidence notwithstanding, we need to take caution in making inferences of our analysis to the extent that the relation between market-to-book assets and auditor choice remains spurious.

In spite of the limitations above, we think that our paper represents a useful first step toward understanding the relation between political institutions and the derived demand for auditors in a transition economy such as China. Future research should focus on gaining better understanding of government owners' as well as private owners' incentives in choosing auditors and how the economic and political institutions affect their incentives.

## References

- Aharony, J., Lee, C. W., Wong, T.J., 2000. Financial packaging of IPO firms in China. *Journal of Accounting Research* 38, 103-126.
- Ball, R., Kothari, S.P., Robin, A., 2000. The effect of institutional factors on properties of accounting earnings: international evidence. *Journal of Accounting and Economics* 29, 1-52.
- Ball, R., Robin, A., Wu, J., 2003. Properties of accounting earnings in four East Asian countries. *Journal of Accounting and Economics* 36, 235-270.
- Brandt, L., Li, H., 2003. Bank discrimination in transition economies: ideology, information or incentives? *Journal of Comparative Economics* 31, 387-413.
- Bushman, R., Piotroski, J. Smith, A., 2004. What determines corporate transparency? *Journal of Accounting Research* 42, 207-252.
- Bushman, R., Smith, A., 2001. Financial Accounting Information and Corporate Governance. *Journal of Accounting and Economics* 31, 237-333.
- Caijing Magazine, 2004. Zhou Xiaochuan speaking on interest rate. *Caijing Magazine* November 15, 34-41. (in Chinese)
- Caijing Magazine, 2005. Deloitte & Touche merges with Tianjian. *Caijing Magazine* April 4, 40-40. (in Chinese)
- Chang, C., Wang, Y., 1994. The nature of the township-village enterprise. *Journal of Comparative Economics* 19, 434-452.
- Chan, H., Lin, K., Mo, P., 2006. A Political-economic analysis of auditor reporting and auditor switches, *Review of Accounting Studies* 11, 21-48.
- Che, J., Qian, Y., 1998. Institutional environment, community government, and corporate governance: understanding China's township-village enterprises. *Journal of Law, Economics, and Organization* 14, 1-23.
- Chen, C. J. P., Su, X., Zhao, R., 2000. An emerging market's reaction to initial modified audit opinions: Evidence from the Shanghai Stock Exchange. *Contemporary Accounting Research* 17, 429-455.
- Chen, C. J. P., Chen, S., Su, X., 2001. Profitability regulation, earnings management and modified audit opinions: evidence from China. *Auditing: A Journal of Practice & Theory* 20, 9-30.
- Chen, K., Yuan, H., 2004. Earnings management and capital resource allocation: evidence from China's accounting based regulation on rights issues. *The Accounting Review* 79, 645-665.

- China Securities Regulatory Commission (CSRC), 2001. Disclosure requirements of China securities market No. 14 – non-standard unqualified audit opinions and their related events. (in Chinese)
- Choi, J., Wong, T.J., 2006. Auditor's governance functions and legal environments: an international investigation, *Contemporary Accounting Research*, forthcoming.
- Clarke, D., 1996. The creation of a legal structure for market institutions in China. In: McMillan, J., Naughton, B. (Eds.), *Reforming Asian Socialism: the Growth of Market Institutions*. University of Michigan Press, Ann Arbor, 39-59.
- Craswell, A., Stokes, D.J., Laughton, J., 2002. Auditor independence and fee dependence. *Journal of Accounting and Economics* 33, 253–275.
- DeAngelo, L., 1981. Auditor size and audit quality. *Journal of Accounting and Economics* 3, 183-199.
- DeFond, M., Wong, T.J., Li, S., 1999. The impact of improved auditor independence on auditor market concentration in China. *Journal of Accounting and Economics* 28, 269-305.
- Dopuch, N., Holthausen, R., Leftwich, R., 1987. Predicting audit qualifications with financial and market variables. *The Accounting Review* 62, 431-454.
- Dye, R.A., 1993. Auditing standards, legal liability, and auditor wealth. *Journal of Political Economy* 101, 887-914.
- Faccio, M., 2006. Politically connected firms, *The American Economic Review* 96, 369-386.
- Faccio, M., Lang, L., Young, L., 2001. Dividends and expropriation. *American Economic Review*, 91, 54-78.
- Fan, G., Wang, X., 2003. The report on the relative process of marketization of each region in china. *The Economic Science Press*. (in Chinese)
- Fan, J., Wong, T.J., 2002. Corporate ownership structure and the informativeness of accounting earnings in East Asia. *Journal of Accounting and Economics* 33, 401-425.
- Fan, J., Wong, T.J., Zhang, T., 2006. Politically-connected CEOs, corporate governance and post-IPO performance of China's partially privatized firms, *Journal of Financial Economics*, Forthcoming.
- Fan, J., Wong, T.J., Zhang, T., 2005. The emergence of corporate pyramids in China, Working Paper, The Chinese University of Hong Kong.

- Fisman, R., 2001. Estimating the value of political connections. *American Economic Review* 91, 1095-1102.
- Francis, J.R., Khurana, I.K., Pereira, R., 2003. The role of accounting and auditing in corporate governance and the development of financial markets around the world. *Asia-Pacific Journal of Accounting and Economics* 10, 1-30.
- Hay, J., Shleifer, A., 1998. Private enforcement of public laws: a theory of legal reform. *American Economic Review* 88(2), 398-403.
- Huang, Y. 1996. *Inflation and Investment Controls in China*. Cambridge University Press, Cambridge.
- Hung, M., 2000. Accounting standards and value relevance of financial statements: an international analysis. *Journal of Accounting and Economics* 30, 401-420.
- Jian, M., Wong, T.J., 2005. Earnings management and tunneling through related party transactions: evidence from Chinese corporate groups, Working Paper, The Chinese University of Hong Kong.
- Jin, H., Qian, Y., 1998. Public ownership of firms: evidence from rural China. *Quarterly Journal of Economics* 113, 773-808.
- Jin, H., Qian, Y., Weingast, B., 2005. Regional decentralization and fiscal incentives: Federalism, Chinese style. *Journal of Public Economics* 89, 1719-1742.
- Johnson, S., Mitton, T., 2003. Cronyism and capital controls: evidence from Malaysia. *Journal of Financial Economics* 67, 351-382.
- Johnson, S., McMillan, J., Woodruff, C., 2002a. Property rights and finance. *American Economic Review* 92, 1335-1356.
- Johnson, S., McMillan, J., Woodruff, C., 2002b. Courts and relational contracts. *Journal of Law, Economics, and Organization* 18, 221-77.
- Kornai, J, 1993. The evolution of financial discipline under the postsocialist system. *Kyklos* 46, 315-336.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 1999a. The quality of government. *Journal of Law, Economics and Organization* 15(1), 222-279.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 1999b. Corporate ownership around the world. *Journal of Finance* 54, 471-518.
- Leuz, C., Oberholzer-Gee, F., 2006. Political relationships, global financing and corporate transparency: evidence from Indonesia, *Journal of Financial Economics*, Forthcoming.

- Leuz, C., Nanda, D., Wysocki, P., 2003. Earnings management and investor protection: an international comparison. *Journal of Financial Economics* 69, 505-527.
- Li, D., 1996. Ambiguous property right. *Journal of Comparative Economics* 23, 1-19.
- Li, H., Zhou, L., 2005. Political turnover and economic performance: the disciplinary role of personnel control in China. *Journal of Public Economics* 89, 1743-1762.
- Li, H., Meng, L., Zhang, J., 2006. Why do entrepreneurs enter politics? evidence from China. *Economic Inquiry* 44, 559-578.
- Lin, Y., Cai, F., Li, Z., 1998. *The China Miracle: Development Strategy and Economic Reform*. The Chinese University Press.
- McMillan, J., 1997. Markets in transition. In: Kreps, D.M., Wallis, K.F. (Eds.), *Advances in Economics and Econometrics. Volume II*. Cambridge University Press, Cambridge, pp. 210-239.
- Qian, Y., 1994. A theory of shortage in socialist economies based on the “soft budget constraint”. *American Economic Review* 84, 145-156.
- Qian, Y., 1995. Reforming corporate governance and finance in China. In: Aoki M., and Kim, H.K. (Eds.), *Corporate Governance in Transition Economies: Insider Control and the Role of Banks*. The World Bank, pp. 215-252.
- Qian, Y., Weingast, B., 1997. Federalism as a commitment to preserving market incentives. *Journal of Economic Perspectives* 11, 83-92.
- Qian, Y., Xu, C., 1993. Why China’s economic reforms differ: The M-form hierarchy and entry/expansion of the non-state sector. *Economics of Transition* 1, 135-170.
- Rajan, R., Zingales, L., 1998. Financial dependence and growth. *American Economic Review* 88, 559-586.
- Reynolds, J.K., Francis, J.R., 2001. Does size matter? The influence of large clients on office level reporting decisions. *Journal of Accounting and Economics* 30, 375-400.
- Sami, H., Ye, Z., 2005. Auditor failure and market reactions: evidence from China, Working Paper, Lehigh University, and Temple University.
- Shleifer A., 1998. State versus Private Ownership, *Journal of Economic Perspectives* 12, 133-150.
- Shleifer, A., Vishny, R., 1994. Politicians and firms. *Quarterly Journal of Economics* 109, 995-1025.

- Shleifer, A., Vishny, R., 1997. A survey of corporate governance. *Journal of Finance* 52, 737-783.
- Tang, Y. W., 1999. Issues in the development of the accounting profession in China. *China Accounting and Finance Review* 1, 21-36.
- Willenborg, M., 1999. Empirical analysis of economic demand for auditing in the initial public offering market. *Journal of Accounting Research* 37, 225-238.
- Wurgler, J., 2000. Financial markets and the allocation of capital. *Journal of Financial Economics* 58, 187-214.
- Zhong, H., 1998. Analysis of the answers to survey questions by Chinese CPAs. *CPA News* 1, 59-64. (in Chinese)
- Zhu, H., Xia, L., Chen X., 2004. The characteristics of auditor choice in the transitional economy of China. *Audit Research Journal* 5, 53-62. (in Chinese)

Appendix 1  
Pearson and Spearman correlation matrix of variables

	Small Local Auditors	Market-to-Book Assets	Audit Opinion	Log of Audit Fee	Local SOEs	Central SOEs	Credit Market Index	Government Decentralization Index	Legal Environment Index	Growth	Equity Issuance
Small Local Auditors	1.000	0.031	-0.035	-0.131	0.117	-0.075	-0.128	-0.123	-0.204	-0.007	0.020
Market-to-Book Assets	0.034	1.000	0.021	-0.312	-0.139	0.051	-0.037	-0.031	-0.060	0.064	0.034
Audit Opinion	-0.035	0.018	1.000	0.033	-0.002	-0.049	-0.009	0.011	0.039	-0.038	-0.092
Log of Audit Fee	0.009	0.184	0.009	1.000	0.885	0.000	0.474	0.389	0.003	0.004	0.000
Local SOEs	-0.120	-0.347	0.029	0.122	1.000	0.039	0.077	0.065	0.186	-0.047	0.042
Central SOEs	0.000	0.000	0.169	0.885	0.008	1.000	0.000	0.002	0.000	0.025	0.047
Credit Market Index	0.117	-0.126	-0.002	0.017	-0.056	-0.648	0.007	-0.013	0.329	-0.070	0.028
Government Decentralization Index	0.000	0.000	0.000	0.190	0.000	1.000	0.596	0.025	0.109	0.000	0.033
Legal Environment Index	-0.075	0.050	-0.049	0.066	0.000	0.007	1.000	0.537	0.341	0.035	-0.030
Growth	0.000	0.000	0.525	0.002	0.008	0.896	0.605	0.000	0.000	0.007	0.022
Equity Issuance	-0.178	-0.041	0.024	0.043	-0.027	-0.047	0.000	1.000	0.459	0.011	-0.005
Loss	0.000	0.002	0.071	0.043	0.045	0.000	0.000	0.000	0.000	0.408	0.716
Stock Return	-0.177	-0.084	0.042	0.190	-0.121	0.111	0.424	0.490	1.000	0.035	0.014
S. D. of Residuals	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.289
Log of Client Assets	0.007	0.027	-0.116	0.017	-0.078	0.048	0.031	0.007	0.020	1.000	0.010
Return on Assets	0.607	0.046	0.000	0.427	0.000	0.000	0.020	0.624	0.137	0.023	0.447
Total Debt / Total Assets	0.020	0.049	-0.092	0.040	0.028	-0.030	0.029	-0.001	0.017	0.076	1.000
Current Assets / Current Liabilities	0.124	0.000	0.000	0.056	0.033	0.022	0.027	0.920	0.209	0.076	0.076
Receivables / Total Assets	0.012	0.007	0.316	-0.034	0.000	-0.017	-0.054	-0.029	-0.005	-0.106	-0.112
Inventory / Total Assets	0.382	0.587	0.000	0.107	0.980	0.195	0.000	0.026	0.704	0.000	0.000
Clients >= 3 Years Old	-0.007	0.316	-0.048	0.005	0.003	0.004	0.033	0.012	0.012	0.097	0.056
The Ratio of Tradable Shares	0.600	0.000	0.000	0.796	0.823	0.783	0.012	0.371	0.357	0.000	0.000
Ownership of the Largest Shareholders	0.012	0.258	0.144	-0.096	0.034	-0.019	-0.017	-0.007	-0.014	-0.073	0.135
Loss	0.362	0.000	0.000	0.000	0.009	0.152	0.209	0.577	0.285	0.000	0.000
Stock Return	-0.053	-0.490	-0.061	0.549	0.000	0.046	0.055	0.001	0.122	0.018	-0.068
S. D. of Residuals	0.000	0.000	0.000	0.000	0.986	0.001	0.000	0.934	0.000	0.184	0.000
Log of Client Assets	0.009	0.284	-0.273	-0.010	-0.049	0.015	0.060	0.037	0.029	0.104	0.297
Return on Assets	0.489	0.000	0.000	0.652	0.000	0.245	0.000	0.005	0.026	0.000	0.000
Total Debt / Total Assets	-0.026	-0.188	0.148	0.125	0.094	-0.113	-0.010	0.007	-0.008	-0.045	-0.009
Current Assets / Current Liabilities	0.046	0.000	0.000	0.000	0.000	0.000	0.455	0.594	0.565	0.001	0.480
Receivables / Total Assets	0.055	0.241	-0.128	-0.089	-0.103	0.105	-0.038	-0.058	0.003	0.023	-0.008
Inventory / Total Assets	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.831	0.075	0.535
Clients >= 3 Years Old	-0.005	0.072	0.186	0.035	-0.077	0.038	-0.072	-0.063	-0.043	-0.104	-0.005
The Ratio of Tradable Shares	0.722	0.000	0.000	0.100	0.000	0.004	0.000	0.000	0.001	0.000	0.714
Ownership of the Largest Shareholders	0.015	-0.039	-0.006	0.026	0.016	-0.015	0.016	0.013	-0.019	-0.038	0.016
Loss	0.249	0.004	0.648	0.221	0.223	0.264	0.223	0.311	0.158	0.004	0.219
Stock Return	-0.065	-0.012	0.103	0.029	-0.036	-0.011	0.064	0.042	0.054	-0.026	-0.159
S. D. of Residuals	0.000	0.361	0.000	0.166	0.006	0.400	0.000	0.002	0.000	0.051	0.000
Log of Client Assets	0.093	0.154	0.034	0.046	0.004	-0.078	-0.096	-0.097	-0.114	-0.017	-0.086
Return on Assets	0.000	0.000	0.011	0.029	0.746	0.000	0.000	0.000	0.000	0.204	0.000
Total Debt / Total Assets	0.006	-0.129	-0.069	0.022	0.078	0.089	-0.002	-0.021	0.011	0.007	0.046
Current Assets / Current Liabilities	0.645	0.000	0.000	0.290	0.000	0.000	0.893	0.120	0.392	0.581	0.001

All variable definitions are presented in Table 3. N=5759 except for *Log of Audit Fee* for which N=2263, *Market-to-Book Assets*, *The Ratio of Tradable Shares* and *Ownership of the Largest Shareholders* for which N=5665, the correlation of *Log of Audit Fee* and *Market-to-Book Assets*, *The Ratio of Tradable Shares* and *Ownership of the Largest Shareholders* for which N=2236. The upper (lower) triangular shows the Pearson (Spearman) correlation coefficients and p values.

Appendix 1 (continued)

	Loss	Stock Return	S. D. of Residuals	Log of Client Assets	Return on Equity	Total Debt / Total Assets	Current Assets/ Current Liabilities	Receivables/ Total Assets	Inventory/ Total Assets	Clients >= 3 Years Old	The Ratio of Tradable Shares	Ownership of the Largest Shareholders
Small Local Auditors	0.012	-0.011	-0.004	-0.075	-0.003	-0.029	0.001	-0.003	-0.007	-0.065	0.075	0.003
	0.382	0.413	0.753	0.000	0.796	0.029	0.950	0.802	0.624	0.000	0.000	0.852
Market-to-Book Assets	0.011	0.328	0.181	-0.433	0.102	-0.160	0.136	0.067	-0.056	0.027	0.194	-0.148
	0.423	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.042	0.000	0.000
Audit Opinion	0.316	-0.035	0.110	-0.069	-0.295	0.164	-0.039	0.229	-0.006	0.103	0.025	-0.069
	0.000	0.008	0.000	0.000	0.000	0.000	0.003	0.000	0.661	0.000	0.065	0.000
Log of Audit Fee	-0.040	0.029	-0.079	0.568	0.047	0.113	-0.079	0.023	0.014	0.029	0.060	0.040
	0.058	0.163	0.000	0.000	0.025	0.000	0.000	0.284	0.496	0.167	0.005	0.058
Local SOEs	0.000	-0.015	0.034	-0.005	-0.018	0.089	-0.033	-0.081	0.049	-0.036	-0.014	0.074
	0.980	0.243	0.011	0.706	0.163	0.000	0.012	0.000	0.000	0.006	0.306	0.000
Central SOEs	-0.017	0.007	-0.026	0.057	0.034	-0.112	0.034	0.030	-0.049	-0.011	-0.082	0.093
	0.195	0.616	0.051	0.000	0.010	0.000	0.011	0.021	0.000	0.400	0.000	0.000
Credit Market Index	-0.047	0.029	-0.021	0.052	0.050	-0.020	0.005	-0.084	0.036	0.041	-0.038	-0.006
	0.000	0.028	0.112	0.000	0.000	0.123	0.733	0.000	0.006	0.002	0.004	0.632
Government Decentralization Index	-0.018	0.013	0.009	0.003	0.023	0.009	-0.006	-0.055	0.040	0.035	-0.068	0.005
	0.183	0.325	0.477	0.829	0.086	0.519	0.675	0.000	0.003	0.009	0.000	0.728
Legal Environment Index	-0.005	0.012	-0.011	0.123	0.003	-0.006	0.031	-0.023	0.037	0.050	-0.085	0.029
	0.688	0.360	0.407	0.000	0.831	0.644	0.021	0.079	0.006	0.000	0.000	0.029
Growth	-0.018	0.070	0.028	-0.051	0.013	-0.029	0.022	-0.062	0.015	0.006	-0.008	-0.026
	0.170	0.000	0.036	0.000	0.317	0.031	0.098	0.000	0.266	0.633	0.525	0.053
Equity Issuance	-0.112	0.074	0.096	-0.065	0.186	-0.015	-0.023	-0.011	0.013	-0.159	-0.067	0.044
	0.000	0.000	0.000	0.000	0.000	0.246	0.077	0.417	0.336	0.000	0.000	0.001
Loss	1.000	-0.122	0.047	-0.083	-0.605	0.206	-0.069	0.181	0.022	0.161	0.065	-0.074
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.091	0.000	0.000	0.000
Stock Return	-0.136	1.000	0.219	-0.031	0.202	-0.042	0.006	0.025	-0.022	-0.030	-0.036	0.025
	0.000	0.000	0.000	0.019	0.000	0.001	0.666	0.055	0.101	0.022	0.006	0.064
S. D. of Residuals	0.062	0.179	1.000	-0.337	0.027	0.059	-0.008	0.166	0.037	-0.137	-0.076	-0.044
	0.000	0.000	0.000	0.000	0.038	0.000	0.549	0.000	0.005	0.000	0.000	0.001
Log of Client Assets	-0.077	-0.049	-0.390	1.000	0.023	0.099	-0.125	-0.120	0.024	0.198	0.019	0.133
	0.000	0.000	0.000	0.000	0.086	0.000	0.000	0.000	0.070	0.000	0.161	0.000
Return on Assets	-0.470	0.299	0.125	-0.142	1.000	-0.287	0.126	-0.192	-0.052	-0.235	-0.162	0.146
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Debt / Total Assets	0.187	-0.050	0.064	0.127	-0.425	1.000	-0.364	0.138	0.099	0.193	0.108	-0.129
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Current Assets / Current Liabilities	-0.201	0.038	0.012	-0.181	0.374	-0.557	1.000	-0.005	-0.066	-0.139	-0.038	0.021
	0.000	0.004	0.368	0.000	0.000	0.000	0.000	0.694	0.000	0.000	0.005	0.115
Receivables / Total Assets	0.140	-0.011	0.217	-0.135	-0.159	0.146	0.078	1.000	0.005	0.014	0.019	-0.049
	0.000	0.426	0.000	0.000	0.000	0.000	0.000	0.000	0.680	0.290	0.147	0.000
Inventory / Total Assets	0.020	-0.036	0.052	0.015	-0.120	0.116	0.019	0.158	1.000	0.067	0.055	0.005
	0.132	0.006	0.000	0.269	0.000	0.000	0.156	0.000	0.000	0.000	0.000	0.731
Clients >= 3 Years Old	0.161	-0.070	-0.146	0.222	-0.360	0.195	-0.267	0.000	0.050	1.000	0.318	-0.158
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.991	0.000	0.000	0.000	0.000
The Ratio of Tradable Shares	0.079	-0.065	-0.093	0.032	-0.233	0.115	-0.060	0.030	0.064	0.331	1.000	-0.475
	0.000	0.000	0.000	0.018	0.000	0.000	0.000	0.024	0.000	0.000	0.000	0.000
Ownership of the Largest Shareholders	-0.074	0.042	-0.052	0.131	0.152	-0.136	0.091	-0.047	0.018	-0.159	-0.432	1.000
	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.001	0.184	0.000	0.000	0.000

All variable definitions are presented in Table 3. N=5759 except for *Log of Audit Fee* for which N=2263, *Market-to-Book Assets*, *The Ratio of Tradable Shares* and *Ownership of the Largest Shareholders* for which N=5665, the correlation of *Log of Audit Fee* and *Market-to-Book Assets*, *The Ratio of Tradable Shares* and *Ownership of the Largest Shareholders* for which N=2236. The upper (lower) triangular shows the Pearson (Spearman) correlation coefficients and *p* values.

## Appendix 2

## Credit market index, government decentralization index and legal environment index for each region

Regions	Credit Market Index	Government Decentralization Index	Legal Environment Index
ANHUI	5.24	7.43	5.32
BEIJIN	3.85	6.40	7.97
CHONGQING	6.33	7.61	3.83
FUJIAN	3.74	7.12	6.32
GANSU	4.70	5.94	3.98
GUANGDONG	6.37	7.99	7.29
GUANGXI	3.46	7.89	4.92
GUIZHOU	4.89	5.43	4.36
HAINAN	5.25	6.02	6.33
HEBEI	7.20	7.13	5.15
HEILONGJIANG	1.89	3.60	5.34
HENAN	5.80	5.54	4.93
HUBEI	4.21	5.11	5.05
HUNAN	5.90	5.73	2.62
JIANGSU	7.67	8.12	6.29
JIANGXI	4.69	6.15	4.78
JILIN	5.37	5.70	5.81
LIAONING	6.16	6.14	5.53
NEIMENGGU	3.42	3.27	4.93
NINGXIA	4.36	3.79	5.16
QINGHAI	0.35	3.04	4.69
SHAANXI	5.88	5.30	3.21
SHANDONG	7.74	7.38	5.63
SHANGHAI	7.94	7.49	6.98
SHANXI	1.08	4.54	5.53
SICHUAN	0.70	7.43	4.69
TIANJIN	5.34	6.05	6.96
XINJIANG	0.90	3.16	4.10
YUNNAN	4.75	6.56	3.87
ZHEJIANG	7.68	8.37	6.24

We make use of the National Economic Research Institute (NERI) Index of Marketization of China's provinces in 2001 to measure the quality of market-supporting institutions at the provincial level. The NERI Index project was sponsored by the National Economic Research Institute and the China Reform Foundation and conducted by Fan and Wang (2003). The NERI indices capture the progress of the institutional transition in China's 30 provinces (excluding Tibet, due to the lack of data). Appraisals of the regional institutions are made in several dimensions, namely the relationship between the government and the market, the development of the non-state sector, the development of the factor markets, the development of the product markets, and the development of market intermediaries and the legal environment.

The data in the NERI Index project mainly come from the statistical yearbooks of the National Statistics Bureau, which contain statistical information about prices and the administration of industry and commerce, the courts, consumers' associations, as well as the government's statistical information from banks' surveys and the entrepreneur survey system, and survey information about rural households from the National Statistics Bureau.

Each of the five principal indices comprises of several sub-indices. In total there are 25 sub-indices measuring 25 different dimensions of institutions. In this paper, we focus on three indices: the financial market index, the government decentralization index, and the legal environment index.

Table 1  
Sample selection process

	1993-2003	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Population	8627	183	291	323	530	744	851	949	1088	1160	1223	1285
Step 1: exclude firms having B-shares or H-shares	1205	45	64	81	99	118	124	127	133	137	138	139
Step 2: exclude firms in a region where there is no auditor	112	4	9	8	11	12	12	13	7	21	8	7
Step 3: exclude firms without information on ultimate controlling shareholders	1483	21	34	37	81	137	163	180	198	191	213	228
Step 4: exclude firms without financial information	68	1	3	0	0	0	3	7	8	14	14	18
Sample	5759	112	181	197	339	477	549	622	742	797	850	893
Sample/Population (%)	67	61	62	61	64	64	65	66	68	69	70	69

The regions that do not have any auditors in our sample period between 1993 and 2003 are: Guangxi, Guizhou, Hebei, Henan, Jiangxi, Inner Mongolia, Ningxia, Qinghai, Shaanxi, Shanxi, Tibet and Xinjiang. Tibet does not have any auditor in the entire sample period.

Table 2  
Sample by ownership type and auditor type

		1993-2003	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Sample	Total Number of Clients	5759	112	181	197	339	477	549	622	742	797	850	893
	Ratio Choosing Small Local Auditors	58%	48%	54%	55%	57%	62%	59%	63%	62%	58%	57%	54%
Local SOE Clients	Total Number of Clients	3601	93	149	160	250	323	357	391	442	472	485	479
	Ratio Choosing Small Local Auditors	63%	52%	56%	56%	59%	64%	60%	67%	68%	64%	65%	62%
Central SOE Clients	Total Number of Clients	1158	10	16	20	47	87	109	132	162	178	194	203
	Ratio Choosing Small Local Auditors	51%	30%	44%	50%	53%	56%	58%	55%	52%	51%	47%	47%
Non-state Firm Clients	Total Number of Clients	1000	9	16	17	42	67	83	99	138	147	171	211
	Ratio Choosing Small Local Auditors	51%	33%	50%	53%	48%	63%	59%	60%	57%	47%	44%	45%

Local SOEs, central SOEs and non-state firms refer to the listed firms whose ultimate shareholders are local government (any department in the local government, such as bureau of state assets management or finance bureau), central government (any central government unit, such as Ministry of Finance or Central Industrial Enterprises Administration Committee), and non-government units (individuals, townships and villages, or foreign companies), respectively. Small local auditors: if a client's registry province or provincial level region is the same as that of its auditor who is not a Top-10 auditor in terms of assets audited, then this client is considered hiring a small local auditor. In case of mergers, the merged firms are considered to have multiple registry regions, comprising of all the registry regions of merging firms before merger and of the registry region of the merged firm after the merger.

Table 3  
Definition of variables

Variables on Auditor Type, Audit Opinion, Market-to-Book Assets and Audit Fee	
Small Local Auditors	Dummy variable equals 1 if a client's registry province or provincial level region is the same as that of its auditor who is not a Top-10 auditor based on assets audited and 0 otherwise. In case of mergers, the merged firms are considered to have multiple registry regions, comprising of all the registry regions of merging firms before merger and of the registry region of the merged firm after the merger.
Audit Opinion	Dummy variable equals 1 if the audit opinion is modified and 0 otherwise.
Market-to-Book Assets	The market value of owners' equity and book value of total liability all divided by book value of total assets. The market value of tradable shares is calculated based on the market price in the secondary markets. For non-tradable shares, we set their market price at book value because they are usually transacted at a price benchmarked against book value.
Log of Audit Fee	The natural logarithm of annual audit fee in year 2001, 2002 and 2003, when the data was disclosed publicly.
Variables on Ownership Type	
Local SOEs	Dummy variable equals 1 if a firm's ultimate shareholder is local government (any department in the local government, such as bureau of state assets management or finance bureau), and 0 otherwise.
Central SOEs	Dummy variable equals 1 if a firm's ultimate shareholder is central government (any central government unit, such as Ministry of Finance or Central Industrial Enterprises Administration Committee), and 0 otherwise.
Variables on Institutions across Regions	
Credit Market Index	The index, constructed by Fan and Wang (2003), measures the percentage of deposits taken by non-state financial institutions and the percentage of short-term loans to the non-state sector for each province or provincial level region.
Government Decentralization Index	The index, constructed by Fan and Wang (2003), is based on government spending as a percentage of GDP, the tax rates in a province, and the amount of government administrative regulations for each province. Higher index suggests less government involvement.
Legal Environment Index	The degree of legal environment development, measured by the number of lawyers as a percentage of the population, the efficiency of the local courts and protection of property rights, for each province or provincial level region from Fan and Wang (2003).
Variables on Client Characteristics	
Growth	(Total sales of next year divided by total sales of current year) - 1.
Equity Issuance	Dummy variable equals 1 if a firm issues equity next year and 0 otherwise.
Loss	Dummy variable equals 1 if a firm's net income is below zero and 0 otherwise.
Stock Return	Yearly market adjusted stock returns during the fiscal year.
S. D. of Residuals	The standard deviation of residuals from the market model estimated by daily returns during the year.
Log of Client Assets	The natural logarithm of year-end total assets.
Return on Assets	Net income divided by year-end total assets.
Total Debt / Total Assets	Year-end total debt divided by year-end total assets.
Current Assets / Current Liabilities	Year-end total current assets divided by year-end total current liabilities.
Receivables / Total Assets	Year-end total receivables divided by year-end total assets.
Inventory / Total Assets	Year-end inventory divided by year-end total assets.
Clients $\geq$ 3 Years Old	Dummy variable equals 1 if the firm has been listed for 3 years or more, and 0 otherwise.
The Ratio of Tradable Shares	The ratio of the number of tradable shares of a firm over its number of total shares.
Ownership of the Largest Shareholders	The ratio of the number of shares held by the largest shareholders over the number of total shares of the firm.

Table 4  
Summary statistics of variables

Variables	N	Mean	Standard Deviation	Min	25% Percentile	Median	75% Percentile	Max
<b>Panel A: Total Sample</b>								
Market-to-Book Assets	5665	1.55	0.44	0.62	1.23	1.43	1.74	3.31
Log of Audit Fee	2263	3.64	0.44	2.30	3.37	3.61	3.91	5.02
Credit Market Index	5759	5.43	2.20	0.35	3.85	5.90	7.67	7.94
Government Decentralization Index	5759	6.73	1.33	3.04	5.94	7.38	7.61	8.37
Legal Environment Index	5759	5.82	1.30	2.62	4.93	5.81	6.98	7.97
Growth	5759	0.24	0.61	-0.77	-0.04	0.13	0.36	3.91
Equity Issuance	5759	0.13	0.34	0.00	0.00	0.00	0.00	1.00
Loss	5759	0.08	0.27	0.00	0.00	0.00	0.00	1.00
Stock Return	5759	0.02	0.40	-1.76	-0.18	-0.04	0.14	5.33
S. D. of Residuals	5759	0.02	0.01	0.00	0.01	0.02	0.02	0.21
Log of Client Assets	5759	20.77	0.91	17.71	20.16	20.71	21.27	26.95
Return on Assets	5759	0.04	0.08	-3.10	0.02	0.04	0.07	0.38
Total Debt / Total Assets	5759	0.21	0.14	0.00	0.10	0.20	0.31	0.75
Current Assets / Current Liabilities	5759	1.95	2.23	0.09	1.10	1.47	2.10	47.13
Receivables / Total Assets	5759	0.24	0.14	0.00	0.13	0.22	0.32	1.28
Inventory / Total Assets	5759	0.14	0.12	0.00	0.06	0.12	0.19	0.84
Clients >= 3 Years Old	5759	0.57	0.50	0.00	0.00	1.00	1.00	1.00
The Ratio of Tradable Shares	5665	0.36	0.12	0.03	0.27	0.33	0.42	1.00
Ownership of the Largest shareholders	5665	0.45	0.18	0.01	0.30	0.44	0.59	0.89
<b>Panel B: Non-state Firm Clients</b>								
Market to Book Ratio	964	1.67	0.51	0.67	1.28	1.55	1.91	3.31
Log of Audit Fee	474	3.66	0.45	2.30	3.40	3.69	3.91	5.01
Credit Market Index	1000	5.61	2.27	0.35	4.21	6.37	7.68	7.94
Government Decentralization Index	1000	6.87	1.49	3.04	5.98	7.43	7.99	8.37
Legal Environment Index	1000	5.91	1.22	2.62	5.05	6.24	6.98	7.97
Growth	1000	0.31	0.75	-0.77	-0.03	0.18	0.46	3.91
Equity Issuance	1000	0.13	0.33	0.00	0.00	0.00	0.00	1.00
Loss	1000	0.09	0.29	0.00	0.00	0.00	0.00	1.00
Stock Return	1000	0.03	0.45	-1.49	-0.18	-0.04	0.13	3.99
S. D. of Residuals	1000	0.02	0.01	0.00	0.01	0.02	0.02	0.21
Log of Client Assets	1000	20.67	0.89	17.71	20.13	20.62	21.14	26.61
Return on Assets	1000	0.04	0.14	-3.10	0.02	0.05	0.07	0.32
Total Debt / Total Assets	1000	0.21	0.15	0.00	0.09	0.21	0.32	0.67
Current Assets / Current Liabilities	1000	1.99	1.74	0.09	1.09	1.51	2.24	19.47
Receivables / Total Assets	1000	0.26	0.16	0.01	0.14	0.23	0.34	1.28
Inventory / Total Assets	1000	0.14	0.12	0.00	0.06	0.11	0.18	0.80
Clients >= 3 Years Old	1000	0.63	0.48	0.00	0.00	1.00	1.00	1.00
The Ratio of Tradable Shares	964	0.39	0.14	0.12	0.28	0.36	0.46	1.00
Ownership of the Largest shareholders	964	0.37	0.15	0.01	0.26	0.32	0.49	0.74
<b>Panel C: Local SOE Clients</b>								
Market-to-Book Assets	3570	1.50	0.40	0.62	1.21	1.40	1.68	3.30
Log of Audit Fee	1278	3.62	0.43	2.30	3.33	3.56	3.91	4.94
Credit Market Index	3601	5.37	2.22	0.35	3.85	5.88	7.67	7.94
Government Decentralization Index	3601	6.72	1.33	3.04	5.73	7.38	7.49	8.37
Legal Environment Index	3601	5.71	1.27	2.62	4.92	5.63	6.98	7.97
Growth	3601	0.21	0.57	-0.77	-0.05	0.12	0.32	3.91
Equity Issuance	3601	0.14	0.34	0.00	0.00	0.00	0.00	1.00

Loss	3601	0.08	0.27	0.00	0.00	0.00	0.00	1.00
Stock Return	3601	0.02	0.39	-1.76	-0.18	-0.04	0.14	5.33
S. D. of Residuals	3601	0.02	0.01	0.01	0.01	0.02	0.02	0.11
Log of Client Assets	3601	20.77	0.89	17.79	20.16	20.72	21.28	26.64
Return on Assets	3601	0.04	0.06	-0.90	0.02	0.04	0.07	0.27
Total Debt / Total Assets	3601	0.22	0.14	0.00	0.12	0.21	0.31	0.75
Current Assets / Current Liabilities	3601	1.90	2.42	0.09	1.06	1.42	1.99	47.13
Receivables / Total Assets	3601	0.23	0.14	0.00	0.13	0.21	0.31	0.91
Inventory / Total Assets	3601	0.15	0.13	0.00	0.06	0.12	0.20	0.84
Clients >= 3 Years Old	3601	0.55	0.50	0.00	0.00	1.00	1.00	1.00
The Ratio of Tradable Shares	3570	0.36	0.12	0.03	0.27	0.34	0.42	1.00
Ownership of the Largest shareholders	3570	0.46	0.18	0.02	0.31	0.45	0.60	0.89

Panel D: Central SOE Clients

Market-to-Book Assets	1131	1.59	0.46	0.83	1.25	1.47	1.82	3.27
Log of Audit Fee	511	3.67	0.47	2.30	3.37	3.64	4.01	5.02
Credit Market Index	1158	5.46	2.04	0.35	3.85	5.90	7.67	7.94
Government Decentralization Index	1158	6.65	1.19	3.04	6.02	6.40	7.49	8.37
Legal Environment Index	1158	6.10	1.40	2.62	5.05	6.29	7.29	7.97
Growth	1158	0.28	0.58	-0.77	-0.02	0.16	0.42	3.91
Equity Issuance	1158	0.11	0.31	0.00	0.00	0.00	0.00	1.00
Loss	1158	0.07	0.26	0.00	0.00	0.00	0.00	1.00
Stock Return	1158	0.03	0.40	-1.47	-0.17	-0.04	0.15	2.98
S. D. of Residuals	1158	0.02	0.01	0.00	0.01	0.02	0.02	0.06
Log of Client Assets	1158	20.88	0.97	18.65	20.23	20.78	21.43	26.95
Return on Assets	1158	0.04	0.06	-0.90	0.02	0.04	0.07	0.38
Total Debt / Total Assets	1158	0.18	0.14	0.00	0.07	0.17	0.27	0.58
Current Assets / Current Liabilities	1158	2.10	1.96	0.22	1.22	1.63	2.34	36.25
Receivables / Total Assets	1158	0.25	0.14	0.00	0.14	0.23	0.33	0.70
Inventory / Total Assets	1158	0.13	0.10	0.00	0.06	0.12	0.19	0.70
Clients >= 3 Years Old	1158	0.55	0.50	0.00	0.00	1.00	1.00	1.00
The Ratio of Tradable Shares	1131	0.34	0.11	0.04	0.27	0.32	0.40	1.00
Ownership of the Largest shareholders	1131	0.48	0.18	0.06	0.33	0.48	0.63	0.85

All variable definitions are presented in Table 3.

Table 5  
 Logistic regressions examining the choice of small local auditors with ownership type and institution variables

Independent Variables	Dependent Variable: Small Local Auditors														
	(1)			(2)			(3)			(4)			(5)		
	Change in Odds	Coeff.	Z-stat	Change in Odds	Coeff.	Z-stat	Change in Odds	Coeff.	Z-stat	Change in Odds	Coeff.	Z-stat	Change in Odds	Coeff.	Z-stat
Intercept	n/a	3.337	4.55 ***	n/a	3.587	4.84 ***	n/a	4.501	6.03 ***	n/a	3.794	5.14 ***	n/a	3.974	5.28 ***
Local SOEs	0.345	0.613	8.13 ***	0.319	0.573	7.50 ***	0.319	0.573	7.49 ***	0.294	0.533	6.94 ***	0.285	0.518	6.70 ***
Central SOEs	0.023	0.057	0.64	0.013	0.033	0.37	0.004	0.011	0.12	0.042	0.102	1.13	0.032	0.078	0.85
Credit Market Index				-0.215	-0.110	-7.70 ***							-0.116	-0.056	-3.24 ***
Government Decentralization Index							-0.215	-0.182	-7.68 ***				-0.027	-0.020	-0.67
Legal Environment Index										-0.324	-0.300	-13.44 ***	-0.285	-0.258	-10.50 ***
Growth	0.000	0.000	0.00	0.007	0.012	0.25	0.001	0.002	0.04	0.011	0.018	0.38	0.013	0.022	0.46
Equity Issuance	0.042	0.124	1.43	0.044	0.128	1.48	0.035	0.103	1.19	0.046	0.133	1.52	0.045	0.131	1.50
Log of Client Assets	-0.148	-0.176	-4.98 ***	-0.130	-0.153	-4.26 ***	-0.140	-0.166	-4.68 ***	-0.090	-0.104	-2.88 ***	-0.088	-0.101	-2.77 ***
Return on Assets	-0.022	-0.279	-0.76	-0.020	-0.251	-0.68	-0.024	-0.300	-0.80	-0.038	-0.476	-1.28	-0.035	-0.437	-1.17
Total Debt / Total Assets	-0.083	-0.617	-2.78 ***	-0.086	-0.640	-2.89 ***	-0.083	-0.616	-2.78 ***	-0.086	-0.639	-2.89 ***	-0.087	-0.647	-2.93 ***
Current Assets / Current Liabilities	-0.027	-0.012	-0.84	-0.026	-0.012	-0.84	-0.030	-0.014	-0.98	-0.012	-0.005	-0.39	-0.014	-0.007	-0.47
Receivables / Total Assets	-0.049	-0.355	-1.68 *	-0.063	-0.456	-2.13 **	-0.060	-0.437	-2.05 **	-0.049	-0.353	-1.64	-0.057	-0.414	-1.90 *
Inventory / Total Assets	-0.046	-0.378	-1.50	-0.041	-0.336	-1.36	-0.039	-0.324	-1.30	-0.042	-0.345	-1.36	-0.039	-0.320	-1.27
5 Industry Dummies (not reported)															
10 Year Dummies (not reported)															
N		5759			5759			5759			5759			5759	
Pseudo R <sup>2</sup>		0.025			0.035			0.035			0.048			0.051	
Chi Square		193.33			238.43			245.06			364.49			370.12	
P-value		0.000			0.000			0.000			0.000			0.000	

All variable definitions are presented in Table 3. The change in odds equals  $[\exp(s_i\beta_i) - 1]$ , where  $s_i$  is the sample standard deviation of variable  $i$  and  $\beta_i$  is the estimated regression coefficient for variable  $i$ .

\*\*\*, \*\* and \* represent statistical significance at 1%, 5% and 10% levels, two-tailed.

Table 6

Logistic regressions examining the choice of small local auditors with ownership type and institution variables, and their interaction terms

Independent Variables	Dependent Variable: Small Local Auditors								
	( 1 )			( 2 )			( 3 )		
	Change in Odds	Coeff.	Z-stat	Change in Odds	Coeff.	Z-stat	Change in Odds	Coeff.	Z-stat
Intercept	n/a	3.176	4.21 ***	n/a	3.926	4.92 ***	n/a	3.133	3.89 ***
Local SOEs	0.698	1.094	5.25 ***	0.792	1.205	3.15 ***	0.964	1.395	3.83 ***
Central SOEs	0.237	0.530	2.08 **	0.581	1.143	2.30 **	-0.218	-0.612	-1.48
Credit Market Index	-0.078	-0.037	-1.30						
Local SOEs × Credit Market Index	-0.254	-0.093	-2.71 ***						
Central SOEs × Credit Market Index	-0.189	-0.089	-2.09 **						
Government Decentralization Index				-0.124	-0.099	-2.25 **			
Local SOEs × Government Decentralization Index				-0.270	-0.092	-1.69 *			
Central SOEs × Government Decentralization Index				-0.365	-0.167	-2.32 **			
Legal Environment Index							-0.277	-0.249	-4.73 ***
Local SOEs × Legal Environment Index							-0.353	-0.148	-2.46 **
Central SOEs × Legal Environment Index							0.333	0.114	1.69 *
Growth	0.008	0.013	0.27	0.001	0.002	0.05	0.010	0.017	0.35
Equity Issuance	0.043	0.126	1.46	0.034	0.098	1.13	0.048	0.139	1.58
Log of Client Assets	-0.130	-0.153	-4.26 ***	-0.140	-0.166	-4.68 ***	-0.075	-0.085	-2.35 **
Return on Assets	-0.022	-0.274	-0.74	-0.025	-0.312	-0.83	-0.040	-0.501	-1.33
Total Debt / Total Assets	-0.081	-0.600	-2.71 ***	-0.079	-0.579	-2.61 ***	-0.085	-0.627	-2.82 ***
Current Assets / Current Liabilities	-0.025	-0.011	-0.78	-0.029	-0.013	-0.94	-0.008	-0.004	-0.26
Receivables / Total Assets	-0.061	-0.445	-2.08 **	-0.057	-0.416	-1.95 *	-0.054	-0.390	-1.80 *
Inventory / Total Assets	-0.044	-0.363	-1.47	-0.039	-0.324	-1.30	-0.038	-0.314	-1.23
5 Industry Dummies (not reported)									
10 Year Dummies (not reported)									
N		5759			5759			5759	
Pseudo R <sup>2</sup>		0.036			0.036			0.052	
Chi Square		237.04			248.23			377.44	
P-value		0.000			0.000			0.000	

All variable definitions are presented in Table 3. The change in odds equals  $[\exp(s_i\beta_i) - 1]$ , where  $s_i$  is the sample standard deviation of variable  $i$  and  $\beta_i$  is the estimated regression coefficient for variable  $i$ .

\*\*\*, \*\* and \* represent statistical significance at 1%, 5% and 10% levels, two-tailed.

Table 7  
 Logistic regressions examining the choice of small local auditors for the ownership change sample

Independent Variables	Dependent Variable: Small Local Auditors								
	( 1 )			( 2 )			( 3 )		
	Change in Odds	Coeff.	Z-stat	Change in Odds	Coeff.	Z-stat	Change in Odds	Coeff.	Z-stat
Intercept	n/a	-6.641	-2.03 **	n/a	-6.138	-1.79 *	n/a	-2.956	-0.84
Local SOEs	1.225	1.598	2.81 ***	11.256	5.008	3.18 ***	4.849	3.530	3.41 ***
Central SOEs	0.312	0.888	0.94	30.316	11.273	3.65 ***	0.554	1.443	0.77
Credit Market Index	0.031	0.013	0.20						
Local SOEs × Credit Market Index	-0.464	-0.206	-2.17 **						
Central SOEs × Credit Market Index	-0.219	-0.136	-0.89						
Government Decentralization Index				-0.073	-0.060	-0.48			
Local SOEs × Government Decentralization Index				-0.892	-0.643	-2.93 ***			
Central SOEs × Government Decentralization Index				-0.966	-1.553	-3.63 ***			
Legal Environment Index							-0.174	-0.141	-1.28
Local SOEs × Legal Environment Index							-0.803	-0.551	-3.24 ***
Central SOEs × Legal Environment Index							-0.330	-0.204	-0.71
Growth	0.290	0.291	2.62 ***	0.292	0.293	2.50 **	0.243	0.249	2.34 **
Equity Issuance	0.005	0.015	0.05	-0.004	-0.014	-0.04	-0.011	-0.035	-0.12
Log of Client Assets	0.282	0.336	2.07 **	0.276	0.329	1.99 **	0.152	0.192	1.16
Return on Assets	-0.106	-0.712	-1.34	-0.099	-0.664	-1.31	-0.131	-0.899	-1.54
Total Debt / Total Assets	-0.148	-1.144	-1.52	-0.105	-0.790	-1.02	-0.047	-0.344	-0.44
Current Assets / Current Liabilities	-0.133	-0.077	-1.56	-0.219	-0.134	-1.88 *	-0.092	-0.052	-0.62
Receivables / Total Assets	-0.042	-0.271	-0.36	0.024	0.152	0.19	-0.046	-0.293	-0.37
Inventory / Total Assets	0.190	1.291	1.41	0.183	1.246	1.31	0.254	1.679	1.73 *
5 Industry Dummies (not reported)									
10 Year Dummies (not reported)									
N		529			529			529	
Pseudo R <sup>2</sup>		0.076			0.128			0.116	
Chi Square		49.70			67.88			62.06	
P-value		0.000			0.000			0.000	

All variable definitions are presented in Table 3. The change in odds equals  $[\exp(s_i\beta_i) - 1]$ , where  $s_i$  is the sample standard deviation of variable  $i$  and  $\beta_i$  is the estimated regression coefficient for variable  $i$ .

\*\*\*, \*\* and \* represent statistical significance at 1%, 5% and 10% levels, two-tailed.



Table 8  
 OLS regressions examining market to book ratio with auditor type and ownership type

Independent Variables	Dependent Variable: Market to Book Ratio					
	(1)		(2)		(3)	
	Coeff.	Z-stat	Coeff.	Z-stat	Coeff.	Z-stat
Intercept	6.468	50.07 ***	6.492	50.59 ***	6.473	50.49 ***
Small Local Auditors	-0.034	-4.04 ***	-0.026	-3.05 ***	0.035	1.42
Local SOEs			-0.082	-6.03 ***	-0.030	-1.56
Central SOEs			-0.008	-0.54	-0.003	-0.12
Small Local Auditors × Local SOEs					-0.096	-3.65 ***
Small Local Auditors × Central SOEs					-0.012	-0.40
Growth	0.031	3.98 ***	0.028	3.64 ***	0.028	3.60 ***
Log of Client Assets	-0.264	-40.64 ***	-0.262	-40.63 ***	-0.262	-40.80 ***
Return on Assets	0.955	5.57 ***	0.920	5.46 ***	0.922	5.52 ***
Total Debt / Total Assets	-0.207	-5.57 ***	-0.183	-4.94 ***	-0.182	-4.94 ***
The Ratio of Tradable Shares	0.764	15.53 ***	0.773	15.72 ***	0.773	15.80 ***
Ownership of the Largest Shareholders	-0.033	-1.20	-0.005	-0.18	-0.001	-0.05
Credit Market Index	0.000	0.13	0.000	-0.08	-0.001	-0.21
Government Decentralization Index	0.000	0.03	0.001	0.33	0.002	0.47
Legal Environment Index	0.017	4.32 ***	0.013	3.37 ***	0.012	3.12 ***
5 Industry Dummies (not reported)						
10 Year Dummies (not reported)						
N		5665		5665		5665
R <sup>2</sup>		0.509		0.516		0.518
F-statistics		172.42		163.72		155.34
P-value		0.000		0.000		0.000

All variable definitions are presented in Table 3.

\*\*\*, \*\* and \* represent statistical significance at 1%, 5% and 10% levels, two-tailed.

Table 9  
Auditor opinion by ownership type and auditor type

			1993-2003	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Sample	All Auditors	Number of Clients	5759	112	181	197	339	477	549	622	742	797	850	893
		Ratio of Modified Reports	11%	4%	4%	12%	11%	13%	15%	16%	14%	12%	11%	6%
	Small Local Auditors	Number of Clients	3362	54	98	109	193	298	326	393	462	462	481	486
		Ratio of Modified Reports	11%	0%	2%	6%	7%	12%	15%	15%	15%	11%	8%	5%
	Other Auditors	Number of Clients	2397	58	83	88	146	179	223	229	280	335	369	407
		Ratio of Modified Reports	13%	7%	7%	18%	15%	13%	15%	17%	13%	14%	14%	7%
Local SOE Clients	All Auditors	Number of Clients	3601	93	149	160	250	323	357	391	442	472	485	479
		Ratio of Modified Reports	11%	3%	3%	10%	10%	14%	15%	16%	15%	13%	10%	5%
	Small Local Auditors	Number of Clients	2263	48	83	90	148	207	214	262	299	303	313	296
		Ratio of Modified Reports	10%	0%	2%	7%	7%	13%	14%	16%	15%	11%	7%	5%
	Other Auditors	Number of Clients	1338	45	66	70	102	116	143	129	143	169	172	183
		Ratio of Modified Reports	13%	7%	5%	14%	15%	16%	16%	16%	15%	17%	15%	7%
Central SOE Clients	All Auditors	Number of Clients	1158	10	16	20	47	87	109	132	162	178	194	203
		Ratio of Modified Reports	8%	0%	6%	15%	11%	9%	14%	10%	7%	8%	9%	4%
	Small Local Auditors	Number of Clients	591	3	7	10	25	49	63	72	84	90	92	96
		Ratio of Modified Reports	7%	0%	0%	0%	4%	8%	13%	7%	6%	8%	10%	3%
	Other Auditors	Number of Clients	567	7	9	10	22	38	46	60	78	88	102	107
		Ratio of Modified Reports	10%	0%	11%	30%	18%	11%	15%	13%	8%	9%	9%	5%
Non-state Firm Clients	All Auditors	Number of Clients	1000	9	16	17	42	67	83	99	138	147	171	211
		Ratio of Modified Reports	15%	11%	13%	24%	12%	12%	17%	24%	20%	15%	14%	9%
	Small Local Auditors	Number of Clients	508	3	8	9	20	42	49	59	79	69	76	94
		Ratio of Modified Reports	16%	0%	0%	11%	10%	17%	20%	24%	24%	14%	11%	10%
	Other Auditors	Number of Clients	492	6	8	8	22	25	34	40	59	78	95	117
		Ratio of Modified Reports	15%	17%	25%	38%	14%	4%	12%	25%	15%	15%	17%	9%

All variable definitions are presented in Table 3.

Table 10  
 Logistic regressions examining auditor opinions with auditor type and ownership type

Independent Variables	Dependent Variable: Audit Opinion								
	(1)			(2)			(3)		
	Change in Odds	Coeff.	Z-stat	Change in Odds	Coeff.	Z-stat	Change in Odds	Coeff.	Z-stat
Intercept	n/a	-2.395	-1.59	n/a	-2.535	-1.64	n/a	-2.657	-1.73 *
Small Local Auditors	-0.111	-0.238	-2.45 **	-0.110	-0.236	-2.42 **	0.019	0.037	0.18
Local SOEs				-0.126	-0.279	-2.26 **	-0.056	-0.120	-0.69
Central SOEs				-0.219	-0.615	-3.89 ***	-0.146	-0.393	-1.87 *
Small Local Auditors × Local SOEs							-0.143	-0.315	-1.33
Small Local Auditors × Central SOEs							-0.132	-0.467	-1.50
Loss	0.193	0.649	2.57 ***	0.196	0.658	2.56 ***	0.197	0.664	2.58 ***
Stock Return	-0.104	-0.274	-1.83 *	-0.108	-0.284	-1.91 *	-0.110	-0.288	-1.94 *
S. D. of Residuals	0.215	25.724	2.98 ***	0.219	26.112	2.73 ***	0.221	26.373	2.80 ***
Log of Client Assets	-0.101	-0.117	-1.72 *	-0.086	-0.099	-1.43	-0.086	-0.099	-1.44
Return on Assets	-0.445	-7.329	-4.51 ***	-0.449	-7.413	-4.44 ***	-0.448	-7.396	-4.44 ***
Total Debt / Total Assets	0.280	1.750	4.48 ***	0.268	1.679	4.27 ***	0.266	1.668	4.25 ***
Current Assets / Current Liabilities	0.044	0.019	0.73	0.044	0.019	0.74	0.041	0.018	0.69
Receivables / Total Assets	0.501	2.858	8.60 ***	0.509	2.896	8.68 ***	0.509	2.894	8.66 ***
Inventory / Total Assets	-0.170	-1.501	-3.11 ***	-0.163	-1.435	-3.01 ***	-0.162	-1.420	-2.97 ***
Clients >= 3 Years Old	0.253	0.454	3.74 ***	0.231	0.420	3.44 ***	0.230	0.417	3.40 ***
Credit Market Index	0.018	0.008	0.31	0.021	0.009	0.37	0.018	0.008	0.32
Government Decentralization Index	-0.044	-0.034	-0.73	-0.051	-0.039	-0.85	-0.052	-0.040	-0.88
Legal Environment Index	0.128	0.093	2.15 **	0.145	0.104	2.32 **	0.146	0.105	2.32 **
5 Industry Dummies (not reported)									
10 Year Dummies (not reported)									
N		5759			5759			5759	
Pseudo R <sup>2</sup>		0.201			0.205			0.205	
Chi Square		586.73			580.12			580.36	
P-value		0.000			0.000			0.000	

All variable definitions are presented in Table 3. The change in odds equals  $[\exp(s_i\beta_i) - 1]$ , where  $s_i$  is the sample standard deviation of variable  $i$  and  $\beta_i$  is the estimated regression coefficient for variable  $i$ .

\*\*\*, \*\* and \* represent statistical significance at 1%, 5% and 10% levels, two-tailed.

Table 11  
 OLS regressions examining the determinants of audit fees

Independent Variables	Dependent Variable: Log of Audit Fee					
	(1)		(2)		(3)	
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Intercept	-3.405	-15.16 ***	-3.412	-15.20 ***	-3.408	-15.11 ***
Small Local Auditors	-0.079	-5.26 ***	-0.071	-4.71 ***	-0.084	-2.56 **
Local SOEs			-0.071	-3.67 ***	-0.052	-1.79 *
Central SOEs			-0.040	-1.65 *	-0.095	-2.77 ***
Small Local Auditors × Local SOEs					-0.028	-0.72
Small Local Auditors × Central SOEs					0.116	2.47 **
Loss	0.007	0.24	0.008	0.30	0.007	0.24
Stock Return	-0.073	-1.93 *	-0.073	-1.92 *	-0.074	-1.94 *
S. D. of Residuals	4.020	1.95 *	4.059	1.98 **	3.885	1.89 *
Log of Client Assets	0.320	31.40 ***	0.323	31.54 ***	0.324	31.66 ***
Return on Assets	-0.100	-1.53	-0.103	-1.74 *	-0.103	-1.67 *
Total Debt / Total Assets	0.166	2.81 ***	0.172	2.88 ***	0.163	2.74 ***
Current Assets / Current Liabilities	0.000	-0.07	0.000	-0.09	-0.001	-0.24
Receivables / Total Assets	0.206	3.22 ***	0.188	2.94 ***	0.182	2.84 ***
Inventory / Total Assets	-0.158	-2.39 **	-0.152	-2.28 **	-0.161	-2.43 **
Clients >= 3 Years Old	-0.056	-3.11 ***	-0.056	-3.10 ***	-0.057	-3.17 ***
Credit Market Index	-0.004	-1.13	-0.004	-1.19	-0.004	-1.14
Government Decentralization Index	0.015	2.13 **	0.014	2.06 **	0.015	2.20 **
Legal Environment Index	0.033	4.73 ***	0.032	4.51 ***	0.029	4.15 ***
5 Industry Dummies (not reported)						
2 Year Dummies (not reported)						
N		2263		2263		2263
R <sup>2</sup>		0.376		0.380		0.384
F-statistics		63.55		58.59		54.91
P-value		0.000		0.000		0.000

All variable definitions are presented in Table 3. The audit fee data are available only for year 2001 to 2003. \*\*\*, \*\* and \* represent statistical significance at 1%, 5% and 10% levels, two-tailed.