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**HOW DO INSTITUTIONS  
AFFECT AUDITOR REPORTING BEHAVIOR?  
EMPIRICAL EVIDENCE FROM CHINA**

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**LINGNAN UNIVERSITY**

**2007**

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by  
**AN Yang**

**A thesis  
submitted in partial fulfillment  
of the requirements for the Degree of  
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**Lingnan University**

**2007**

## **ABSTRACT**

### **How do institutions affect auditor reporting behavior? Empirical evidence from China**

**By**

**AN Yang**

**Master of Philosophy**

It is well documented in cross-country research that institutions, both economic and political, affect the reporting behavior of auditors and audit services. These findings are based on the assumption that institutions vary across countries but are more homogeneous within a country. However, cross-country research suffers from the problems of country-specific cultures, accounting rules, and regulations, and can be criticized for the use of small sample sizes, potential endogeneity, and the correlation of omitted variables. This study overcomes these problems by engaging in within-country research. Specifically, this study examines how variations in the institutional environment within China affect auditor reporting behavior. Since the initiation of the open door policy in the early 1980s, China's institutional environment has, from both the economic and political perspectives, undergone different development stages that have moved east to west across the provinces. This thesis takes advantage of these special institutional characteristics in China to test the influence of institutions on auditor reporting behavior within a single country.

Based on the NERI Index (2001) of Marketization (NIM) (Fan and Wang, 2003), I classify China's 30 provinces into "good" and "poor" institutional regions. In poor regions, the local economy is more influenced by local governments, and suffers from an underdeveloped credit market and a poorer legal environment. Taking into account the close relationship between local governments and local government-owned companies, the absolute power of resource allocation by governments, and the low litigation risk, I hypothesize that auditors in poor institutional regions tend to be lenient to local government-owned companies by issuing them with more unqualified initial and subsequent audit opinions.

I collected 8,039 firm-year observations from the Chinese stock market, the results from which provide evidence to support the hypotheses. This study extends the previous research of Chan, Lin and Mo (2006) by revealing that the lenient reporting behavior of local auditors toward local government-owned companies is more prevalent in regions with a poor institutional environment. The findings of this thesis have rich implications for policy-makers and regulators in China. One implication is that institutional improvement is a key factor in the creation of a quality audit profession, even when uniform national auditing regulations have been established.

## DECLARATION

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



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**AN Yang**

February 29, 2008

CERTIFICATE OF APPROVAL OF THESIS

HOW DO INSTITUTIONS  
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EMPIRICAL EVIDENCE FORM CHINA

by  
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Master of Philosophy

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# **Chapter 1**

## **Introduction**

This chapter summarizes the motivation, research objectives, and main findings of this study. The theoretical contributions and practical implications of the study are also discussed.

### **1.1 Motivation**

A growing body of research has shown that institutions, both economic and political, affect auditor behavior (Ball, Robin and Wu, 2003; Choi and Wong, 2005) and audit services (Francis, Khurana and Pereira, 2003). For example, Ball, Robin and Wu (2003) find that differences in institutional environment are associated with a variation in financial reporting quality, and specifically that economies with more market-oriented characteristics, including stronger professional accounting bodies and higher expected litigation costs, are associated with better reporting quality. Choi and Wong (2005) suggest that a country's poor legal environment significantly weakens the demand for and supply of quality audits, and lessens the role of auditing as a bonding mechanism and a credible signal. Francis, Khurana and Pereira (2003) also document that countries with legal systems with stronger investor protection are more likely to have a higher auditing quality. However, these studies all use a cross-country research setting, based on the assumption that institutional environments vary across countries but are more homogeneous within a country. Schultz and Lopez (2001) argue that differences in infrastructure, culture, and socioeconomic and political systems across countries may lead to noncomparable accounting numbers. In addition, to the extent that the assumption underlying these

studies does not hold, the reported results will be subject to bias. Miller (2004) points out the limitations of studies based on cross-country analysis, suggesting that they suffer from the effects of country-specific accounting rules or regulations, small sample sizes, potential endogeneity, and correlated omitted variables.

This study overcomes the problems associated with cross-country research by using a within-country setting. China is a country with notable variations in institutional environment across regions. For example, Fan and Wang (2003) show that institutional development has not been uniform across the country, and Wong, Wang and Xia (2005) demonstrate that such institutional disparity can result in different incentives for state-owned enterprises (SOEs) to pursue high quality audits. Variations in China's institutional development thus provide a unique setting for examining the association between institutions and auditor reporting behavior. China is chosen for study because of this special institutional development, which was brought about by economic reform and the *gradual* implementation of the open door policy over the past 30 years. Under such gradual reform strategies, which have been rolled out from coastal to inland regions and from east to west, different provinces have made unbalanced institutional progress that has resulted in different levels of marketization. According to the National Economic Research Institute (NERI) Index (2001) of Marketization (IM) for China's 30 provinces and autonomous regions, which was compiled by Fan and Wang (2003), the institutional environment in eastern coastal provinces is much better than that in other regions. This unique situation provides a good opportunity to look into the relationship between institutions and auditor reporting behavior within a country.

China's particular setting has led me to reconsider the results of former studies on Chinese auditor reporting behavior. For example, Chan, Lin and Mo (2006) find

that Chinese local auditors tend to be lenient in issuing unqualified audit opinions to local government-owned companies in order to retain important clients. Their study reveals a strong political and economic relationship between local auditors and their clients. However, they do not provide evidence of whether this strong relationship occurs uniformly across all of the regions of China, and thus the empirical question remains as to whether institutional disparity affects auditor behavior. A similar study by Wong, Wang and Xia (2005) examines how China's institutional environment distorts the way in which SOEs hire auditors. They reveal that in regions in which the institutional environment is better developed (with the state withdrawing from controlling the economy and a more efficient credit market and legal environment), SOEs have more incentive to hire high-quality auditors. However, they do not consider the institutional variations in China when investigating the supply side. Specifically, they reveal that *small local* auditors may be submissive to political power, and are thus more likely to grant favorable audit opinions to SOEs, but do not show whether this phenomenon is consistent across the country. This thesis contributes to the relevant literature by further researching the behavior of auditors in the unique institutional environment of China.

## **1.2 Research Objective**

The institutional environment is important in auditing behavior research. The objective of this study is to extend previous research on the association between institutional development and auditing behavior. Specifically, this study attempts to empirically test whether institutional heterogeneity results in different auditor reporting behavior. Based on the work of Chan, Lin and Mo (2006), who find that Chinese auditors tend to be lenient to retain important clients, I hypothesize that

because institutions vary across regions of China, the extent to which local auditors are lenient in issuing clean opinions to local government-owned clients will also vary. Further, I expect the leniency of local auditors to be greater in *poor* institutional regions.<sup>1</sup>

This thesis adopts the same definition of local auditors as that used by Wong, Wang and Xia (2005), that is, that an auditor is considered to be local if it (or its branch) is located in the same province (or equivalent in China) as the client. When auditors from two or more regions merge to form a new auditor, both the original registry regions of the auditors engaged in the merger and the new registry region after merger are treated as the registry regions of the new audit firm, because the new auditor is likely to be influenced by the local governments of both its new registry region of the merged firm and the registry regions of the original firms prior to the merger (Wong, Wang and Xia, 2005).<sup>2</sup> The Big 4 in this thesis are classified in the same way. Liu and Zhou (2005) indicate that the audit quality of the Big 4 in China is not higher than that of domestic auditors, as the Big 4 are affected by Chinese

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<sup>1</sup>In accordance with the National Economic Research Institute Index compiled by Fan and Wang (2003), I classify China's 30 provinces or regions into "good" and "poor" institutional regions based on their level of institutional development. I intend to find out whether there is *generally* a disparity in the lenient reporting behavior of Chinese local auditors in developed regions and undeveloped regions. The goal of this thesis is not to investigate how such behavioral disparity varies in specific provinces in China, and I therefore do not use the raw index of these provinces as a proxy for institutional development level. Nevertheless, raw data are also used in robust test for H1b. The variable  $INST_{it}$  in H1b takes the specific marks of the 30 provinces as provided by Fan and Wang (2003). The results indicate that the interaction term  $INST_{it} * LocGov_{it}$  is significantly positively correlated with dependent variable at the 0.01 level, suggesting that, local government-owned companies are more likely to receive unqualified audit opinions in regions with less developed institutional environments. These results are consistent with the main results reported in Chapter 5.

<sup>2</sup> In other words, the merged audit firm will still be influenced by the local government where the merged firm is located prior to the merger, although the clients' total assets of the merged auditor may account for much less than 50% of the total clients' assets of the newly organized auditor.

In the sample of this thesis, only 4 auditors are not identified as a local auditor in any one region, and 32 relevant observations are involved. I conduct robust test without including these 32 observations, and the results are consistent with the main results. Besides, since an auditor is considered to be local if *it or its branches* are located in the same province as the client, more than half of all audit firms are identified as local auditors in more than one region.

institutional environment, such as closed relationship with government agencies and low litigation risks. Therefore, the Big 4 are also classified as local auditors as long as their offices are located in the same provinces as their clients. In terms of the classification of ownership, I choose 20% as the cutoff for determining controlling rights, that is, a listed firm is defined as a local government-owned company if its largest shareholder is a local government entity that owns at least 20% of the total shares outstanding.

### **1.3 Main findings**

Based on 8,039 firm-year observations during the period 1996-2005, the regression results suggest that although China's local audit firms show a similar degree of leniency in issuing unqualified opinions about local government-owned companies (Chan, Lin and Mo, 2006), local auditors in regions with a poor institutional environment are more likely to issue unqualified opinions to local government-owned listed companies than their counterparts in regions with a good institutional environment. To reinforce my main findings, I further examine whether qualified companies are more likely to succeed in opinion shopping after switching to local auditors in poor regions rather than to non-local auditors in the same regions. Similarly, I also examine whether these companies are more likely to succeed in opinion shopping after switching to local auditors in different institutional regions. The regression results show that for qualified companies that switched to regions with poor institutional environments, local auditors are more likely than non-local auditors to issue a subsequent clean audit opinion to local government-owned companies. However, the difference in local auditors' subsequent audit behavior in poor and good regions appears insignificant.

## **1.4 Contributions of the study**

### *1.4.1 Theoretical contributions*

This study contributes to the existing research on the political-economic analysis of auditor reporting behavior. Similar to the work of Chen, Sun and Wang (2002), who study whether harmonized accounting standards lead to harmonized accounting practice in China, I conduct this study by using within-country, firm-specific data to overcome the major limitations of cross-country studies that have been highlighted. Miller (2004) points out that the limitation of a small sample size is caused by the unavailability of data from some target countries, and that similarity in the characteristics of the sampled countries can lead to endogeneity. Miller (2004) also remarks that the problem of noisy variables makes research results vulnerable even when the changes in the sample are only small. Moreover, overlooking particular events that occur across countries during the study period can induce the problem of correlated omitted variables.

This thesis extends the recent studies by Chan, Lin and Mo (2006) and Wong, Wang and Xia (2005). Chan, Lin and Mo (2006) examine whether auditor reporting behavior is affected by institutional factors such as political and economic influences from government, and Wong, Wang and Xia (2005) examine how the institutional features of transition economies (i.e., the government ownership of firms, government power over external auditors, and market and legal failure) distort the incentives of SOEs in hiring auditors, and how audit behavior differs between *small local* auditors and other auditors in China. However, although this study shares many similarities with these two works, it differs in that I classify the various provinces of China into “good” and “poor” regions, and further test how the relationship between auditor reporting behavior and institutional environment varies across regions of



China. My results show that the degree of leniency that auditors extend toward local government-owned companies differs across regions with different institutional environments. Specifically, local auditors in poor institutional regions are more likely to be lenient, whereas their counterparts in good areas are more independent of local government-owned companies. The variations in auditor reporting behavior caused by institutional heterogeneity result from China's reform policy, which has given priority to the development of coastal areas. A further distinction from the study of Wong, Wang and Xia (2005) is that I examine the institutional influence on subsequent audit opinions, and find that opinion shopping by switching auditors is more likely to succeed in poor institutional regions. Appendix 1 provides a more detail comparison between this thesis and Wong, Wang and Xia (2005). In sum, this thesis complements the two previous studies by further classifying the provinces of China according to their institutional development levels and testing how such institutional variation affects subsequent audit opinions.

#### *1.4.2 Policy implications*

My findings have some policy implications for Chinese regulators, who have been making efforts to establish a high-quality auditing market in China. For example, although China's central government has issued a series of regulations to foster the independence of auditing firms, as will be elaborated later, these measures are not in themselves sufficient to create a quality audit profession. Rather, the institutional environment also plays a crucial role in developing an independent audit market. My findings suggest that Chinese regulators, and especially those in regions with a poor institutional environment, should improve local institutions by limiting government intervention in the local economy, improving the legal environment, and further developing the local credit market.

## **1.5 Organization of the thesis**

The organization of the remaining sections of this thesis is as follows. Chapter 2 describes the institutional background of China and the variation in institutional development across the country's regions. Chapter 3 develops the research hypotheses. The research methodology and data collection are presented in Chapter 4. Chapter 5 discusses the empirical results, and Chapter 6 concludes.

## **Chapter 2**

# **The Institutional Background and Audit Market in China**

Institutions play an active role in shaping the behavior of audit firms and the relationship among auditors, local government, and listed companies in China. In this chapter, I first describe the historical development of institutions in China, and then explain how variations in these institutions influence the audit market.

### **2.1 Relationships among auditors, local government, and listed companies in China**

#### *2.1.1 The supply of audit services*

Before China implemented its economic reform and open door policy in 1979, it had a command economy, with the government setting prices and allocating resources for all enterprises and SOEs dominating the national economy. Under these circumstances, there was little need for audit services. The professional audit service in China was initially created in 1979 to meet the demands of foreign investors (DeFond, Wong and Li, 2000). However, the majority of new audit firms were under the control of local governments. The market for audit services was highly protected by local governments, and sponsoring government units could exert their administrative power to procure clients for the firms and shield them from market competition and the threat of litigation (Yang, Tang, Kilgore and Hong, 2001). Until recently, local governments still had great power to control audit fees. According to Sheng and Liu (2006), although the Chinese government has in principle followed the regulations on audit fees set out in the Rules of Professional Ethics of Certified

Public Accountants in 2002, such fees in China are actually stipulated by local finance administration departments and pricing authorities. There is therefore no *actual* uniform criterion for audit fees in China: rather, they are heavily influenced by local governments.

Due to a lack of capital, most audit firms in the 1980s were established and sponsored by local government agencies (DeFond, Wong and Li, 2000; Tang, 1999), which means that most were in some way affiliated with the government. This affiliation of audit firms with local government agencies meant that auditors lacked independence, and local auditors became tools of regional protectionism, as the sponsoring agencies often demanded that the companies located within their administrative territory be audited by the audit firms that they sponsored (Chan, Lin and Mo, 2006; Yang, Tang, Kilgore and Hong, 2001).

To meet the rapid development of the capital markets in 1990s, China implemented a series of reforms to set up a credible independent auditing profession. In 1995, independent auditing standards were promulgated, and in 1997 the Ministry of Finance and the China Securities Regulatory Commission (CSRC) began to disaffiliate audit firms from their sponsoring government agencies. However, the close relationship between local governments and local auditors remains. For example, some audit firms still use the offices of their sponsors, enjoy the welfare given out by former local government agencies, and hire government officers as consultants. Because of these close ties, local governments are still able to exert a strong political influence on local auditors, and can affect the judgment and type of audit report issued by sponsored auditors to help listed companies in their jurisdictions embellish their financial reports (Aharony, Lee and Wong, 2000; Tang, 1999).

According to an investigation conducted by the chief accounting officer of the CSRC, by the end of 2004, 64% of the total assets of clients were audited by the top 10 audit firms, with the top 10 audit firms taking 428 clients (31%) and the other 62 audit firms competing for the remaining 959 clients. Because of this unbalanced market situation, many local auditors are obliged to maintain a close relationship with local government agencies to retain old clients or to acquire new clients, as most of the listed companies in China are still actually owned by local governments (Chan, Lin and Mo, 2006). The fierce competition for clients has forced many local auditors to compromise their professional independence to survive.

Another factor that makes some audit firms in less developed areas economically vulnerable is their lack of pricing power. Sheng and Liu (2006) argue that in well-developed provinces in which most audit fees are contracted by auditors and their clients, audit fees are more market based, but that in less market-based regions, audit fees are regulated by local governments. For example, local governments still set price ceilings and sometimes even require auditors to reduce the audit fee for local government-owned companies that are in financial distress. This pricing intervention negatively affects auditor reporting behavior, because the low audit fee forces audit firms to reduce the scope of their audits to retain a minimum profit margin, which severely damages audit quality.

### *2.1.2 The demand for audit services*

Concentrated corporate ownership has reduced the demand for independent auditing in China (Chan, Lin and Zhang, 2007). For example, 83% of the companies sampled in this study were controlled by local governments at the end of 2005, with the largest local governmental shareholders on average owning 36% of the total shares. As shares owned by government entities cannot be traded, the aim of such

entities is not to maximize shareholder wealth, but to pursue political or social objectives, such as developing infrastructure and providing relief for the fiscal and unemployment problems of their region (Lin, Cai and Li, 2000). Some firm leaders can even gain promotion by improving firm performance (Li and Zhou, 2005), a good example being the incentives created by Chinese local governments to direct the managers of SOEs to manage earnings before initial public offering (IPO) (Aharony, Lee and Wong, 2000). Local governments consider having a listed company in their region as a symbol of wealth and prestige (Chen, Chen and Su, 2001), and often rely on listed companies as a source of capital. They therefore have a strong incentive to direct management to report earnings that meet the profitability criteria to avoid delisting, and also have an incentive to direct managers to select an auditor that will not challenge such biased reporting (Chan, Lin and Mo, 2006; Chen, Chen and Su, 2001; DeFond, Wong and Li, 2000).

In China, local governments can assist SOEs financially and politically through various means, such as tax refunds, fiscal subsidies, and credit facilities from state-owned banks, to achieve certain non-economic goals. This unusual relationship between local governments and listed companies often distorts the attitude of equity investors. Investors are supposed to care about audit quality and audit independence, but investors in China often perceive the survival of listed firms to be ensured by the controlling government entities, rather than by efficient management and a good financial status. They believe that the controlling government entities can help to boost the performance of their subsidiaries in a variety of ways, such as selling them valuable assets at below market prices (DeFond, Wong and Li, 2000), offering them credit facilities from state-owned banks, and granting them tax refunds, and care little for whether the audit report is independent and of good quality. Without

significant pressure from equity investors, local governments often prevent or delay a company's failure by allowing or encouraging it to cover up its losses (Ball, Robin and Wu, 2003).

The lack of a sound legal system also reduces the litigation risks for Chinese auditors. In China, the pace of legal reform lags far behind that of economic reform (Clarke, 1996), and the corporate governance mechanisms that protect minority shareholders have not reached maturity (DeFond, Wong and Li, 2000). Minority shareholders in China may doubt the truthfulness of a firm's accounting information, but they lack the ability to monitor the management or to pursue legal action (Chan, Lin and Mo, 2006). Furthermore, the risk for auditors of being prosecuted is relatively low. In a legal environment in which there is little threat of costly shareholder litigation, auditors have less incentive to avoid audit failures, and shareholders have less incentive to discover them (DeFond and Subramanyam, 1998; Lys and Watts, 1994; Palmrose, 1988).

In short, due to historical conditions, Chinese local governments, local auditors, and local government-owned companies have a very close relationship. Under the influence of local governments, local auditors are inclined to report favorably on local government-owned clients to avoid economic losses, and the ultimate ownership of and support from local governments reduces the incentive for listed firms to demand high-quality audit reports.

## **2.2 Variation in institutional development across China**

Although the audit market and audit-client relationship show some common characteristics, such as the heavy dependence of local auditors on local governments, the ultimate control of most listed companies by governments, and the lenient

reporting behavior of local auditors toward local government-owned companies, these characteristics may vary across provinces due to the variation in institutional development in China. In this thesis, I explore how institutions affect auditor reporting behavior in China's institutional setting, considering in particular the government's involvement in the local economy, credit market development, and the legal environment.<sup>3</sup> These three aspects are the same institutional factors that are investigated by Fan and Wang (2003), and are directly linked with the auditing market in China. This section describes the evolution of institutional development in these three aspects across the country.

### *2.2.1 China's gradual economic reform strategy*

In 1979, China began to adopt economic reform and initiated the open door policy. Unlike adopting drastic changes by Eastern Europe and the former Soviet Union, China decided to relax price controls, abolish subsidies, sell off state assets, and float its currency gradually rather than suddenly. Gradualism has helped to maintain economic growth and price stability as China substitutes its command economy with the market mechanism (Lin, Cai and Li, 2000).

The reform started in agriculture between 1978 and 1984 with the transformation to individual peasant farming. The initial success in the agricultural sector encouraged the state government to extend its reform to the urban industrial sector. In late 1984, the decentralization process began, as the control of many SOEs was moved from central to local governments (Ying, 1999). Decentralization accelerated the demise of central planning, and indirectly pushed the economy toward the market (Yusuf, 1994). At the same time, financial reforms transferred the responsibility for allocating investment funds from the central government to the

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<sup>3</sup>I also consider institutional development by taking into account the development of non-state sectors and development of market in the sensitivity test.



decentralized state-owned banking system and allowed the introduction of new financial institutions and markets. Simultaneously, more discretion in credit allocation was extended to the local branches of the state-owned banks (Brandt and Zhu, 2000).

The coastal development strategy constituted another fundamental dimension of the reform. To attract foreign capital and technology, in 1980 four special economic zones (SEZs) were established in Guangdong and Fujian (Ying, 1999).<sup>4</sup> Local governments and enterprises in the SEZs enjoyed flexible economic policies that enabled them to be more market oriented. These policies not only encouraged local governments to attract foreign capital and develop local infrastructure, but also to support enterprises in the zones to further engage in foreign trade. These preferential policies boosted the economies of the SEZs. For example, since 1978 Fujian has sustained a high rate of economic growth, with its GDP in 1981 increasing by 77.5% from the figure for 1978 (Lin, Cai and Li, 2000). After the great success of the SEZs, China opened up 14 coastal cities in 1984.<sup>5</sup> The rapid economic development in the SEZs and coastal cities boosted the confidence of the central government, and in 1992 China opened up 5 inland cities along the Yangzi River.<sup>6</sup> Soon after, 17 inland provincial capitals were also opened up.

In the 20 years of reform, China's economy has progressed greatly. However, the main weakness of the gradualist approach is that it has caused a disparity in the economic development across regions. Although in the SEZs and coastal provinces the market economy is well developed, in other provinces, and especially those inland, administrative planning still heavily influences the local economy (Fan and

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<sup>4</sup>In 1988, Hainan province was added to the SEZs.

<sup>5</sup>They are Dalian, QinHuangdao, Tianjin, Yantai, Qingdao, Lianyungang, Nan tong, Shanghai, Ningbo, Wenzhou, Fuzhou, Guangzhou, Zhanjiang, and Beihai.

<sup>6</sup>They are Wuhu, Jiujiang, Yueyang, Wuhan, and Chongqing.

Wang, 2003). Based on data from 2000, Fan and Wang (2003) score the eastern, central, and western parts of China according to their marketization level. In all five dimensions, the eastern part had the highest scores (7.11, 7.58, 8.16, 5.66, and 6.43), the western part the lowest scores (5.4, 3.6, 6.39, 2.29, 4.34), and the central part intermediate scores (5.47, 4.65, 7.88, 2.59, 4.92).<sup>7</sup> This shows the evident disparity in marketization level, with the central and western parts lagging behind the eastern part of China.

### *2.2.2 Heterogeneity of the credit market in China*

According to Tang Suangning, who was Vice President of the China Banking Regulatory Committee from April 2003 to June 2007, the credit market has also been subject to unbalanced development across regions in China, with rapid development in the eastern provinces and relatively slow development elsewhere. The figures for company loans are a good illustration of this. By the end of 2005, loans issued in the eastern part of China amounted to 11,100 billion RMB, making up almost 60% of the total loans in the entire country. In contrast, the central, western, and northeastern parts of China received only 2,900 billion RMB, 3,200 billion RMB, and 1,500 billion RMB, respectively. In addition, the number of banking offices in the eastern regions is much larger than that in other regions. The headquarters of the big five state-owned banks and twelve commercial banks are all located in the east. As for the fourteen foreign financial institutions in China, all of their representative offices are located in the eastern regions and most of their branches (177 out of 189) are also in the east (Tang, 2006). In the process of reforming the Chinese financial system reform, three state-owned banks (the Industrial and Commercial Bank of China, Bank of China, and China Construction Bank) transferred their main businesses to

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<sup>7</sup>The five dimensions are the relation between the government and the market, the development of non-state sectors, the development of markets, the development of market intermediaries, and the legal environment (Wong, Wang and Xia, 2005).

the coastal regions. As has been mentioned, during the reform, more discretion in credit allocation was extended to the local branches of state-owned banks, and the concentration of the business of these state-owned banks further enhanced the liquidity of funds within these regions (Brandt and Zhu, 2000). This policy has further differentiated the development of the credit market between good and poor regions.

Fan and Wang (2003) compile a sub-index of capital market development level based on several ratios for the period 1999 to 2000. These ratios include the ratio of deposits taken by non-state-owned financial institutions to deposits taken by all financial institutions in a region, the ratio of short-term loans granted to non-state-owned companies to the total amount of short-term loans issued by financial institutions in that area, and the ratio of foreign capital investment to GDP in a certain region. Based on these ratios, they provide the credit market scores for different regions, and reveal a great disparity among them. For example, in 2000 Shanghai had the highest score of 7.94, whereas Qinghai had the lowest score of 0.35.

### *2.2.3 Government involvement in the local economy*

The differing level of government involvement in the local economy is also a significant characteristic of China's institutional heterogeneity. By using the ratio of fiscal expenditure to GDP to measure the behavior of governments in terms of resource allocation (where the larger the index, the smaller the government involvement), Fan and Wang (2003) show the sub-index of eastern regions to be twice that of western regions (7.44 vs. 3.02), thus demonstrating the large difference between government involvement across China.

Ni (2002) compares the institutional discrepancy between local governments in

areas with a high level of market development and those in regions with a low level of market development, and finds that in some coastal cities, such as Shanghai, Shenzhen, Guangzhou, Xiamen, Qingdao, and Ningbo, local governments operate efficiently. Ni shows that governments in coastal cities are mainly governed by laws and regulations, rather than by discretionary administrative instructions, and that local governments in these regions implement market-oriented policies. Furthermore, firms in these regions have more opportunity to raise capital, as these cities have abundant foreign capital in their markets.

#### *2.2.4 Disparity in the development of the legal environment in China*

Another important institutional dimension of a country is its legal system. Within recent decades, China has achieved great progress in improving its legal system. To fulfill its terms of entry into the WTO, the Chinese government has reviewed 2,300 laws and regulations relating to the trade in goods and services, and intellectual property rights and investment (Xinhua News Agency, 2004). However, the legal environment has not developed uniformly across China, and the differences in the legal profession between the eastern and western part of China are a good example of this. Outstanding lawyers and reputable law firms are mainly located in the politically and economically developed centers and coastal cities, whereas in the western regions it is quite difficult to gain well-served law consultation, especially in rural areas (Chen, 2005). The sub-index of legal environment development compiled by Fan and Wang (2003) shows much variation in this aspect. In the index, thirty provinces and regions were scored for legal environment development level, where the higher the score, the better the legal environment in a region. In 2000, Beijing's legal environment was the best (with the highest score of 7.97), and Hunan the worst (with the lowest score of 2.62; see Appendix 2 for more details).

In a nutshell, the heterogeneity of the credit market, the difference in government involvement in the local economy, and the unbalanced development of the legal environment in China together demonstrate that China's gradual economic reform has resulted in a disparity in the development of a market economy and a wide variation in institutional development across provinces. I expect this institutional disparity to bring about differences in auditor behavior in China.

## **Chapter 3**

### **Research Hypotheses**

As discussed in the foregoing chapter, Chan, Lin and Mo (2006) find the phenomenon that local audit firms in China are lenient toward local government-owned companies. However, I do not expect this phenomenon to be uniform across the whole country. In this chapter, I develop the research hypotheses based on the analysis of institutional variation in Chapter 2 and relevant conclusions drawn from Chinese audit market research. This chapter explains how institutional heterogeneity, including government involvement in the local economy, the local credit market, and the local legal environment, affect auditor reporting behavior in China.

#### **3.1 Institutional influences on initial auditor opinion**

Previous studies (Ali and Hwang, 2000; Ball, Robin and Wu, 2003; Fan and Wong, 2002; Leuz and Oberholzer-Gee, 2003) have shown that accounting standards are not the only determinant of reporting behavior, but that economic and political variables profoundly affect financial reporting practice. For example, the improvement of shareholder protection, which characterizes a country's corporate governance environment, can enhance the quality of accounting information (Hung, 2000). In an examination of the institutional settings of four East Asian countries and regions (Hong Kong, Malaysia, Singapore, and Thailand), Ball, Robin and Wu (2003) find that in markets with a more developed institutional environment in which there is a larger and more diverse base of individual shareholders and bondholders, information asymmetry is more efficiently resolved through public disclosure. They

argue that there is therefore a greater demand for quality auditing in countries with a better institutional environment. These results suggest that shareholders and bondholders potentially influence audit behavior.

In this thesis, I explore how institutions affect auditor reporting behavior in the institutional setting of China. China began its economic reforms in 1978, one of the major goals of which was to allow local governments to actively promote economic growth in their region. To fulfill this objective, the Chinese central government carried out a series of decentralization reforms, including allowing provinces to allocate and manage their own economic resources, decentralizing fiscal control to local governments, and providing political incentives to government officials to promote local economic growth (Huang, 1996; Li and Zhou, 2005; Qian and Xu, 1993). Under such incentives, local officers in different provinces compete in various economic dimensions, such as the number of firms listed on the stock exchange. To avoid firms being delisted from the stock markets and to make IPOs more successful, local governments exert a significant influence over auditor reporting behavior in their jurisdictions by threatening not to use the services of the auditor in question for the companies that they control (Wong, Wang and Xia, 2005). Although local governments undertook a series of measures in the 1990s to terminate their sponsorship of audit firms to increase auditor independence, some local governments still influence the activities of audit firms, which in turn potentially influence auditor independence (Chan, Lin and Mo, 2006). Thus, because of their deep involvement in the local economy and their historical relationship with local auditors, local governments have an adverse impact on the auditor independence.

The prevalent government ownership of SOEs in China also influences auditor reporting behavior. Chan, Lin and Zhang (2007) relate ownership structure to

mandatory external audits in the context of a concentrated ownership in China, and find that a decrease in the number of shares held by government and a corresponding increase in the number of institutionally held shares has led to a general increase in the demand for higher-quality audits in China's stock market. Park and Luo (2001) argue that in China most listed companies are ultimately owned or controlled by local governments, and thus the survival of firms often depends on their personal or organizational networking with such governments. This means that local auditors in China are under pressure from local governments that have both the incentive and the ability to protect the companies that they own.

The level of development of the credit market also affects audit behavior. Due to government control, most branches of foreign banks in China are located in coastal regions, where there are more financial institutions than in inland regions (Tang 2006).<sup>8</sup> Capital is tightly controlled by the state, and the government controls access to both loans from state-owned banks and equity capital. In other words, as state-owned banks issue loans to SOEs under pressure from local governments, their incentive to pursue high-quality audits and to challenge the accuracy of financial reports is low. Jin and Qian (1998) find that in areas with a lower level of market development, firms that are more affiliated with local governments enjoy more credit advantages. I therefore expect that in poor institutional regions in which the credit market is less developed, the demand for high audit quality will be lower.

The legal environment is an essential institutional factor that also affects the development of a country's audit market and auditor behavior. The literature suggests that a poor legal environment significantly weakens the demand for and supply of

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<sup>8</sup>Before China's entry into the WTO, the Chinese government carried out some measures to protect local credit markets. For example, to limit the industry shock from foreign financial institutions, most private or foreign banks were only allowed to locate themselves in coastal areas. Only after December 2006 did China eliminate all limitations on locality and currency businesses for foreign banks to fulfill its WTO entry commitments.



quality audits, and therefore decreases the quality of audit reports (Ball, Robin and Wu 2003; Choi and Wong, 2005). The NERI index (2001) (Fan and Wang, 2003) shows China's legal environment to be neither well nor uniformly developed. Fan and Wang (2003) rank provinces in this dimension according to their development level, and find Beijing to have the highest score (7.97) and Hunan the lowest score (2.62). In provinces or regions with a more mature legal environment, those who use audit reports may have more channels through which to protect their rights, and therefore the cost of collusion between auditors and clients is likely to be high. In contrast, in provinces or regions with a poor legal environment, auditors may well collude with clients to obtain economic benefits because of the low cost of litigation.

This thesis examines how institutions affect auditor reporting behavior in China by conducting research on the *combined* influence of government involvement in the local economy, and the development level of the local credit market and legal environment on auditor reporting behavior. Examining how and to what extent a *single* dimension influences auditor reporting behavior cannot capture the overall picture in China. Therefore, I did not study the influence of the above-mentioned three dimensions separately. Based on the foregoing analysis of the influence of the institutional environment on auditing in China and the heterogeneity of institutions across regions, I expect that in poor institutional regions in which government involvement in the local economy is heavy and the credit market and legal environment are less developed, local auditors are more likely to issue unqualified audit opinions to local government-owned companies. My first two hypotheses are therefore as follows.

**H1a:** *Compared with non-local auditors operating in poor institutional regions, local auditors in these regions are more likely to issue clean audit opinions to local government-owned companies, ceteris paribus (refer to Figure 1).*

**H1b:** *Compared with local auditors in good institutional regions, local auditors in poor institutional regions are more likely to issue clean opinions to local government-owned companies, ceteris paribus (refer to Figure 2).*

### **3.2 Institutional influences on subsequent auditor opinions**

Previous studies suggest that switching auditors may reduce the probability of subsequent audit qualification (Magee and Tseng, 1990). Chan, Lin and Mo (2006) focus on companies with qualified opinions in China to determine whether they succeeded in obtaining a clean opinion after switching to a local auditor, and find that local auditors that are subject to greater political pressure from local governments are more likely to issue a favorable audit report to local government-owned companies that were previously qualified and switched auditor. However, they do not consider the influence of institutional variation in China on subsequent audit opinions. To complement their study, I test whether the disparity in institutional environment in China affects subsequent audit opinions.

As explained in Section 3.1, because of the prevalent government ownership in SOEs and the close relationship between local governments and local auditors, Chinese local governments exert pressure on auditors in their jurisdictions to report favorably on clients that they own. Moreover, as the legal environment is generally not well developed in China, the litigation risk for Chinese local auditors is low, which leads them to collude with state-owned clients. However, as there is disparity in the institutional environment across different provinces in China, I expect that in poor institutional areas in which the involvement of local governments in the local economy is heavier, the credit market less developed, and the legal environment poorer, opinion shopping is more likely to be successful. Specifically, I expect audit firms in poor institutional regions to be more likely to issue subsequent favorable audit reports to local government-owned companies who were previously qualified

and switched auditor. I test the following hypotheses to provide empirical evidence for this argument.

**H2a:** *In poor institutional regions, local auditors are more likely than non-local auditors to issue a subsequent clean audit opinion to previously qualified local government-owned companies that switched auditors.*

**H2b:** *Compared with local auditors in good institutional regions, local auditors in poor institutional regions are more likely to issue subsequent clean opinions to local government-owned companies, ceteris paribus.*

## Chapter 4

### Research Method

This chapter describes the data collection and sample selection, and develops three multiple regression models for the empirical testing of the hypotheses on the relationship between (initial and subsequent) audit opinions and auditor locality and the ownership type of client firms in regions with differently developed institutional environments.

#### 4.1 Data collection

I collected data on the audit opinion types, auditor identity, and client firm characteristics from the 1996 to 2005 annual reports of the companies listed on the Shanghai and Shenzhen stock exchanges. These data were mainly taken from the WIND Information Database, which is a leading integrated service provider of financial data in mainland China. I also used public information from one of the three securities newspapers in China (*China Securities News*, *Shanghai Securities News*, and *Securities Times*) as a supplement when the necessary information was not available from the WIND Information Database.

The final sample data consists of 8,039 firm-year observations after the exclusion of firms with missing data, firms that also issued B-shares or H-shares, financial institutions and Tibetan firms (see Table 1).<sup>9</sup> In China, listed firms that

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<sup>9</sup>B-shares are issued by companies incorporated in mainland China, and are traded in the mainland B-share markets (Shanghai and Shenzhen). B-shares are quoted in foreign currencies. In the past, only foreigners were allowed to trade B-shares, but since March 2001 Chinese residents have also been allowed to trade B-shares with legal foreign currency accounts. H-shares are issued by companies incorporated in mainland China, and are listed on the Hong Kong Stock Exchange.

issue B-shares are required to prepare an additional set of financial statements for foreign investors in accordance with the International Accounting Standards, and must be audited by an international audit firm. Companies issuing H-shares are also required to prepare financial statements in accordance with the International Accounting Standards. Therefore, the auditor choice, financial characteristics, and regulatory environments of these firms are different from those of firms that issue only A-shares. Financial institutions are excluded from the sample because the nature of their business and financial reporting items are different from those of other listed companies. I exclude 40 firm-year observations from Tibet because there are no local auditors in the observation period, and thus these firms were only able to choose a non-local auditor.

[Insert Table 1 Here]

To measure the breadth of institutional variation in China, I classified China's 30 provinces into "good" and "poor" institutional regions according to the NERI index (2001) of Fan and Wang (2003), which ranks the marketization level of 30 provinces or regions of China. The NERI index (2001) reports on the relative process of marketization in each region in China, and captures the institutional characteristics of China's 30 regions in five dimensions. I use three of the five dimensions that are directly relevant to my study to measure institutional heterogeneity across regions. The first dimension is credit market development, which is measured by the percentage of deposits taken by non-state financial institutions and the percentage of short-term loans granted to the non-state sector. The second dimension of the index is government decentralization, which is based on government spending as a

percentage of GDP, the total number of local government-owned companies in a province, and the volume of government administrative regulations. The larger this index, the smaller the government involvement in the economy. The third dimension is the legal environment index, which measures the number of lawyers as a percentage of the population of the province (see Appendix 2 for more details).

I add up the scores of these three indices for each province, and then calculate the median score for each of the 30 provinces or regions and cities.<sup>10</sup> Based on the median value of 16.27, I categorize the first 14 provinces with marks that are above the median as regions with a good institutional environment, and the last 16 provinces as regions with a poor institutional environment. According to this classification, “good regions” include Shanghai, Zhejiang, Jiangsu, Guangdong, Shandong, Hebei, Tianjin, Beijing, Anhui, Liaoning, Chongqing, Hainan, Fujian, and Jilin (上海、浙江、江蘇、廣東、山東、河北、天津、北京、安徽、遼甯、重慶、海南、福建、吉林), and “poor regions” include Guangxi, Henan, Jiangxi, Yunnan, Guizhou, Gansu, Shanxi, Hubei, Hunan, Ningxia, Sichuan, Neimenggu, Shanxi, Heilongjiang, Xinjiang, and Qinghai (廣西、河南、江西、雲南、貴州、甘肅、山西、湖北、湖南、寧夏、四川、內蒙古、陝西、黑龍江、新疆、青海).<sup>11</sup>

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<sup>10</sup> In this thesis, the three dimensions of the index (i.e. credit market development, government decentralization, and legal environment) are assumed to have an equal weight in influencing the institutional environment. This is because I intend to study how institutions *as a whole* affect auditor reporting behavior (rather than to study each dimension’s separate effect). Further, these three dimensions are closely related to each other and there is no an objective way of measuring the relative importance of each dimension. Therefore, I treat the three dimensions as having an equal weight. Nevertheless, classifications of “good” and “poor” regions based on the three indices separately are also used in robust tests. As the results are mixed, no clear conclusion can be drawn.

<sup>11</sup>Appendix 2 shows the median and mean values of the sums to be 16.27 and 16.07, respectively. Thus Guangxi and Henan provinces have the median and just above the mean value. I do not categorize these two provinces into good regions because they have been officially classified as being in the less-developed central and western provinces that require more subsidies from the central government (West Development Office of State Council of China, 2001; Henan Government Work Report, 2007). In the robust tests, I classify these two provinces as good regions but find the results insensitive to this re-classification.

The NERI index is a series of continuous indices, and by 2007, four NERI indices had been published.<sup>12</sup> I choose the marks in the three dimensions (credit market development, government decentralization, and legal environment) that were compiled based on the 2000 data to rank the 30 provinces. As the year 2000 is in the middle of my study period of 1996 to 2005, I expect the data in 2000 to be representative of the classification throughout the study period. In fact, although the rankings of certain provinces changed in different periods, there are roughly no changes in the provinces in the good and poor groups after 2000.<sup>13</sup>

In classifying audit opinions, I follow previous empirical studies (Chan, Lin and Mo, 2000; Chen, Chen and Su, 2001; DeFond, Wong and Li, 2000) that define “qualified” opinions as including unqualified opinions with an explanatory paragraph, and qualified, disclaimer, and adverse opinions. I identify the type of share ownership of listed firms (local versus non-local government-owned companies) according to the Wind Information Database, which provides detailed information about the top ten shareholders of listed firms, such as the name, the number and percentage of shares held, and the ultimate owner of each of the shareholders. For the data not provided by Wind, I refer to other information sources, such as securities newspapers and company websites, to determine share ownership. Following the criteria in previous studies (Chan, Lin and Mo., 2006; La Porta, Lopez-de Silanos, Shleifer and Vishny, 1999), I choose 20% as the cutoff for an ownership type: that is, a listed firm is defined as a local government-owned company if its largest

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<sup>12</sup>The NERI (2000) published in 2001 was compiled based on the data from 1997 to 1999; the NERI (2001) published in 2003 was compiled based on the data from 1999 to 2000; and the NERI (2004) published in 2004 was compiled based on the data from 2001 to 2002.

<sup>13</sup>The rankings in 1999 and 2000 are the same. In 2001 and 2002, Sichuan (四川) became a “good” region, and Jilin (吉林) a “poor” region. In 2003, 2004, and 2005, Sichuan (四川) and Henan (河南) became “good” regions, whereas Jilin (吉林) and Hihai (海南) became “poor” regions. There were no other changes in the “good” and “poor” categories in these three years. Nevertheless, I conduct a sensitivity test in Chapter 5 according to the rankings in 2001 and 2003.

shareholder is a local government entity that owns at least 20% of the total shares outstanding.

As illustrated earlier, I follow the definition of “local auditor” used by Wong, Wang and Xia (2005) that an audit firm is considered to be local if the firm is located in the same jurisdiction (province or equivalent in China) as the client. In 2000, the Chinese government began to encourage the merger of small audit firms, and some auditors from two or more regions merged to form a new auditor. In this case, I adopt the classification method of Wong, Wang and Xia (2005) that treats the original registry regions of the auditors engaged in the merger and the new registry region after the merger as the registry regions of the new audit firm. For example, if a listed firm hires a new auditor that was created from the merger of several auditors from different regions, then this firm is considered to be located in the same jurisdiction as the auditor if it is located in any one of the registry regions of the new auditor.

## 4.2 Specification of the logistic regression models

To test the hypotheses, four logistic regression models are applied. Models (1), (2), (3), and (4) respectively test H1a, H1b, H2a, H2b.

$$\begin{aligned} \text{Op}_{it} = & \lambda_0 + \lambda_1 \text{LocAud}_{it} + \lambda_2 \text{LocGov}_{it} + \lambda_3 \text{LocAud}_{it} * \text{LocGov}_{it} + \lambda_4 \text{AuditSZ}_{it} \\ & + \lambda_5 \text{ROE}_{it} + \lambda_6 \text{Client}_{it} + \lambda_7 \text{TD/TA}_{it} + \lambda_8 \text{Cur\_rat}_{it} + \lambda_9 \text{Reciv}_{it} \\ & + \lambda_{10} \text{Inv}_{it} + \lambda_{11} \text{Loss}_{i2} + \varepsilon_{it} \end{aligned} \quad (1)$$

$$\begin{aligned} \text{Op}_{it} = & \beta_0 + \beta_1 \text{INST}_{it} + \beta_2 \text{LocGov}_{it} + \beta_3 \text{INST}_{it} * \text{LocGov}_{it} + \beta_4 \text{AuditSZ}_{it} \\ & + \beta_5 \text{ROE}_{it} + \beta_6 \text{Client}_{it} + \beta_7 \text{TD/TA}_{it} + \beta_8 \text{Cur\_rat}_{it} + \beta_9 \text{Reciv}_{it} \\ & + \beta_{10} \text{Inv}_{it} + \beta_{11} \text{Loss}_{i2} + \varepsilon_{it} \end{aligned} \quad (2)$$

$$\begin{aligned} \text{Sub\_Op}_{it} = & \alpha_0 + \alpha_1 \text{LocAud}_{it} + \alpha_2 \text{LocGov}_{it} + \alpha_3 \text{LocAud}_{it} * \text{LocGov}_{it} + \alpha_4 \text{AuditSZ}_{it} \\ & + \alpha_5 \text{ROE}_{it} + \alpha_6 \text{Client}_{it} + \alpha_7 \text{TD/TA}_{it} + \alpha_8 \text{Cur\_rat}_{it} + \alpha_9 \text{Reciv}_{it} \\ & + \alpha_{10} \text{Inv}_{it} + \alpha_{11} \text{Loss}_{i2} + \varepsilon_{it} \end{aligned} \quad (3)$$



$$\begin{aligned}
\text{Sub\_Op}_{it} = & \theta_0 + \theta_1 \text{INST}_{it} + \theta_2 \text{LocGov}_{it} + \theta_3 \text{INST}_{it} * \text{LocGov}_{it} + \theta_4 \text{AuditSZ}_{it} \\
& + \theta_5 \text{ROE}_{it} + \theta_6 \text{Client}_{it} + \theta_7 \text{TD/TA}_{it} + \theta_8 \text{Cur\_rat}_{it} + \theta_9 \text{Reciv}_{it} \\
& + \theta_{10} \text{Inv}_{it} + \theta_{11} \text{Loss}_{it} + \varepsilon_{it}
\end{aligned} \tag{4}$$

where  $i$  denotes the sample firm and  $t$  denotes the year in the sample period.

In model (1), the dependent variable  $\text{Op}_{it}$  is classified as either qualified (= 1) or unqualified (= 0).  $\text{LocAud}_{it} = 1$  if the auditor is local, and 0 otherwise.  $\text{LocGov}_{it} = 1$  if a listed company is a local government-owned company, and 0 otherwise. The interaction term  $\text{LocAud}_{it} * \text{LocGov}_{it} = 1$  represents a local government-owned company that is audited by a local auditor. I follow the analysis of Chan, Lin and Mo (2006) and use this interaction term to test the institutional influence of the local government on audit opinions. The sign of the coefficients of the interaction term (i.e.  $\lambda_3$ ) is expected to be negative.

In model (2), the sub-sample consists of clients that are audited by local auditors. The dependent variable ( $\text{Op}_{it}$ ) is as previously defined in model (1). The explanatory variable of interest in model (2) is  $\text{INST}_{it}$  (Institution).  $\text{INST}_{it} = 1$  if an auditor is located in a poor institutional region, and 0 otherwise.  $\text{LocGov}_{it}$  is as previously defined. I use the interaction term  $\text{INST}_{it} * \text{LocGov}_{it}$  to test the difference in political influence in different institutional environments.  $\text{INST}_{it} * \text{LocGov}_{it} = 1$  represents a local government-owned company in a poor institutional region that is audited by a local auditor. I expect this interaction term (i.e.  $\beta_3$ ) to be negatively associated with the dependent variable.

The sub-sample in model (3) comprises qualified-and-switched companies.<sup>14</sup> The dependent variable  $\text{Sub\_Op}_{it} = 1$  if a client gained a qualified audit opinion in year  $t$  after switching, and 0 otherwise. In this model, I compare the companies that

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<sup>14</sup> I did not study the four switching directions separately due to the concern of the sample size. The number of observations switching from “good” to “poor” regions, from “poor” to “good”, from “good” to “good” and from “poor” to “poor” are 77, 88, 586 and 63, respectively.

received qualified audits in year  $t-1$  and then switched to auditors in poor institutional regions in year  $t$  with the companies that received qualified audits in year  $t-1$  and then switched to auditors in good institutional regions in year  $t$ . Chan, Lin and Mo (2006) test the influence of locality on subsequent auditor opinion. They argue that compared with non-local auditors, local auditors are more likely to issue a subsequent clean opinion to local government-owned companies that were previously qualified and switched auditor. I focus on the subsequent reporting behavior of local auditors in regions with different institutional environment. The interaction term  $\text{LocAud}_{it} * \text{LocGov}_{it} = 1$  represents a local government-owned company that is audited by a local auditor, for which I expect the coefficient to be significantly negative.

The sub-sample in model (4) comprises qualified companies that switched to *local* auditors in either “poor” regions or “good” regions. The dependent variable ( $\text{Sub\_Op}_{it}$ ) is as previously defined in model (3). In this model, I compare the companies that were qualified in year  $t-1$  and then switched to *local* auditors in poor institutional regions in year  $t$  with the companies that were qualified in year  $t-1$  and then switched to *local* auditors in good institutional regions in year  $t$ . The explanatory variables  $\text{LocGov}_{it}$ ,  $\text{INST}_{it}$ , and  $\text{INST}_{it} * \text{LocGov}_{it}$  are as previously defined in model (1) and (2). I expect the interaction term  $\text{INST}_{it} * \text{LocGov}_{it}$  to be negatively correlated with the dependent variable.

### 4.3 Control variables in the models

In the three models, I use  $\text{AuditSZ}_{it}$  to control for the effect of auditor size on audit opinions, where  $\text{AuditSZ}_{it} = 1$  if an audit firm is a top ten audit firm, based on total client assets. DeFond, Wong and Li (2000) find that companies audited by the

top ten audit firms tend to be more likely to receive qualified opinions. I expect  $AuditSZ_{it}$  to be positively associated with the dependent variable.

Also following previous studies (Chen, Chen and Su, 2001; DeFond, Wong and Li, 2000; Schwartz and Menon, 1985; Wilkins, 1997), I use  $Client_{it}$ ,  $ROE_{it}$ ,  $TD/TA_{it}$ ,  $Cur\_rat_{it}$ ,  $Reciv_{it}$ ,  $Inv_{it}$ ,  $Loss_{i2}$  to measure the financial status of listed companies. Specifically, I use  $Client_{it}$  (the logarithm of the year-end total assets of a client) to proxy for client size and  $ROE_{it}$  (net income over year-end total owner equity) to measure client profitability level. I expect the coefficients of  $Client_{it}$  and  $ROE_{it}$  to be negatively associated with the dependent variable. In addition,  $TD/TA_{it}$  (total debt over total assets) and  $Cur\_rat_{it}$  (current assets over current liabilities) are used to measure the liquidity level of the sample companies. I expect  $TD/TA_{it}$  to be positively associated with the dependent variable. Some studies (e.g., Chen, Chen and Su, 2001) suggest that the current ratio has a negative impact on audit opinion, but other studies take the opposite view. For example, Dittmar, Mahrt-Smith and Servaes (2003) find cross-country evidence to suggest that firms hold more cash in countries with greater agency problems, which may lead to qualified audit opinions. In other words, a high current ratio *might* lead to qualified audit opinions, rather than unqualified opinions. As a result of the contradictory findings, I do not predict the sign of the coefficient of the variable  $Cur\_rat_{it}$ . To measure a company's management ability of accounts receivable and inventory, I include  $Reciv_{it}$  (accounts receivable to total assets) and  $Inv_{it}$  (inventory to total assets) in the models. The dummy variable  $Loss_{i2}$  is used to control for the effect of delisting avoidance incentives on the probability of receiving a qualified opinion (Chan, Lin and Mo, 2006), where  $Loss_{i2} = 1$  if a listed company made losses in year  $t-1$  and year  $t-2$ , and 0 otherwise. As Chinese regulations require listed companies to be de-listed if they report losses for

three consecutive years, I expect companies reporting losses in the two consecutive years preceding the observation year to be more likely to manage earnings, which in turn could lead to the receipt of a qualified report (Chen, Chen and Su, 2001).

## Chapter 5

### Empirical Results

This chapter presents the empirical results of the hypothesis testing, including the descriptive statistics, univariate tests, and multiple regression tests. The results of the various sensitivity tests are also reported.

#### 5.1 Empirical results for Hypothesis 1a

Table 2 (Panel A) presents the descriptive statistics on client firm characteristics partitioned by institutional region, client ownership, and auditor locale. For each category in Panel A, I winsorize the data at 1% and 99% to reduce the impact of outliers and data errors. The data out of the range 1%-99% are transferred into the relevant value at 1% and 99% respectively. Panels B, C, and D provide relevant comparisons of financial status for the sample firms used in the testing of H1a (good regions), H1a (poor regions), and H1b (local auditors in both good and poor regions), respectively. Panel B shows that local government-owned companies audited by local auditors in good regions have significantly larger total assets, lower current ratio and lower receivable level than those audited by non-local auditors. There are no significant differences in other financial ratios, such as ROE, leverage (TD/TA), inventory to total assets (Inv), and financial losses (Loss).

The comparison of client firm characteristics in Panel C indicates that, on average, local government-owned clients that are audited by local auditors in poor regions have significantly higher ROE, larger total assets, lower leverage (TD/TA), higher current ratio, and less likely to make consecutive losses than those local government-owned companies audited by non-local auditors in poor regions.

Panel D provides descriptive statistics on the difference in financial status of local government-owned companies audited by local auditors in good versus poor regions. Local government-owned companies audited by local auditors in good regions have lower ROE, larger total assets, higher leverage (TD/TA), lower current ratio, higher inventory ratio than those companies in poor regions.

[Insert Table 2 Here]

Table 3 shows the results of the univariate test of auditor reporting behavior in different institutional environments. Local auditors in poor regions report more favorably than non-local auditors towards local government-owned companies (94% vs. 82%). However, the figures in good institutional regions show no such tendency (87% vs. 87%).

[Insert Table 3 Here]

Table 4 presents the logistic regression results for H1a. Both models are significant at the 0.01 level. Consistent with my hypothesis, the interaction term  $LocAud_{it} * LocGov_{it}$  is significant in Panel B (p-value = 0.000), which suggests that, compared with non-local auditors in poor institutional regions, local auditors in these regions are more likely to issue clean audit opinions to local government-owned companies, ceteris paribus. However, this phenomenon is not evident in the good institutional regions. In short, institutional heterogeneity does have an independent influence on auditor behavior across China.

The results for the control variables are also as predicted. The sign of the

coefficient of  $ROE_{it}$  in Panel B is significantly negatively related to audit opinion, which suggests that in poor regions, firms with a higher ROE ratio are more likely to receive unqualified audit opinions. The coefficients of  $Client_{it}$  in Panel A and Panel B are both negatively related to the dependent variable, which suggests that a large firm is more likely to receive clean audit opinions. The coefficients of the variables  $TD/TA_{it}$  and  $Loss_{i2}$  are positively related with the dependent variable, which indicates that a firm with a higher debt ratio and that reports a loss in the two years before the reporting year is inclined to receive a qualified audit opinion.

[Insert Table 4 Here]

## 5.2 Empirical results for hypothesis 1b

I further analyze the opinions of local auditors toward local government-owned companies in good and poor institutional regions. The results of the chi-square test in Table 5 shows that local auditors in poor institutional regions are more likely to issue clean opinions to local government-owned companies than to non-local government-owned companies (94% vs. 89%), but in good institutional regions, local auditors do not exhibit this tendency (87% vs. 89%).

[Insert Table 5 Here]

Table 6 presents the logistic regression results for Model (2) (H1b), which are significant at the 0.01 level. The coefficient of the interaction term  $INST_{it} * LocGov_{it}$  is significantly negatively associated with auditor opinion at the 0.01 level. Consistent with the univariate test results, the results show that, ceteris paribus, local

auditors in poor institutional regions are more likely to issue clean opinions to local government owned companies than local auditors in good institutional regions.<sup>15</sup>

The coefficients of the control variables  $ROE_{it}$ ,  $Client_{it}$ ,  $TD/TA_{it}$  and  $Loss_{it}$  all have the predicted sign and are significant at the 0.1, 0.01, 0.01, and 0.05 level.

[Insert Table 6 Here]

### 5.3 Empirical results for hypothesis 2a

Table 7 provides univariate test on the subsequent opinions after clients switched to auditors in good or poor institutional regions. The results show that local auditors in poor regions are more likely than non-local auditors to issue unqualified audit opinions to local government-owned clients, who were qualified and then switched to auditors in poor regions (87% vs. 73%).

[Insert Table 7 Here]

Table 8 presents the logistic regression results for model (3). The sub-sample in this table is companies that were qualified in year  $t-1$  and then switched to auditors in poor or good institutional regions in year  $t$ . The interaction term  $LocAud_{it} * LocGov_{it}$  is insignificant in Panel A, but significant in Panel B, which implies that local

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<sup>15</sup>I do not investigate the difference in the behavior of non-local auditors toward local government-owned clients in good and poor regions, as I do not expect a significant behavioral difference among non-local auditors. Chan, Lin and Mo (2006) reveal that, compared with non-local auditors, local auditors are more inclined to report favorably on companies controlled by local governments. In China, non-local auditors face smaller political pressure from local governments and have less of an economic dependence on local clients than local auditors (Chan, Lin and Mo, 2006). I therefore expect institutions to have little influence on non-local auditors in China. Nevertheless, I still use the logistic regression of Model (2) to test the difference in the behavior of non-local auditors in good and poor regions. Table 13 presents the results, which indicate that non-local auditors in poor regions are indifferent from those in good regions in the extent to which they issue clean audit opinions to local government-owned companies.



auditors in poor regions are inclined to issue clean subsequent opinions to local government-owned companies that switched auditor. Panel A of the table shows that the coefficients of the variables  $Client_{it}$  and  $TD/TA_{it}$  have the expected sign and are significant at the 0.01 level.

[Insert Table 8 Here]

#### **5.4 Empirical results for hypothesis 2b**

Table 9 provides univariate test on the subsequent opinions of those companies that switched to *local* auditors in good or poor institutional regions. The results show that local government-owned companies are more likely to receive a subsequent clean opinion when they switched to a successor auditor resided in poor institutional regions ( $\chi^2 = 0.219$ ,  $p = 0.640$  vs.  $\chi^2 = 6.229$ ,  $p = 0.013$ ).

[Insert Table 9 Here]

Table 10 presents the logistic regression results for model (4). The results show that the interaction term  $INST_{it} * LocGov_{it}$  is insignificant. This suggests that institutions have little power in explaining the likelihood of issuing subsequent audit opinions to local government-owned companies by local auditors. The coefficients of the control variables  $ROE_{it}$ ,  $Client_{it}$ ,  $TD/TA_{it}$  and  $Loss_{i2}$  all have the predicted signs and are significant at the 0.1 level.

[Insert Table 10 Here]

## 5.5 Sensitivity tests

To check the robustness of the regression results, I conduct the following sensitivity tests. First, I retest the main hypotheses (H1a and H1b) by reclassifying the “good” and “poor” institutional regions on the basis of the median and mean values of the index, based on Fang and Wang (2003). Appendix 2 shows the median and mean values of the sums to be 16.27 and 16.07, respectively. Guangxi and Henan provinces are the median provinces, and their values are also closest to the mean value. Table 11 reports the robust test on H1a and shows that classifying Henan and Guangxi as good regions makes the interaction term of  $LocAud_{it} * LocGov_{it}$  negatively significant at the 0.1 level for the good region sample. However, Table 12 shows that the interaction term of  $INST_{it} * LocGov_{it}$  is negatively significant, consistent with the main results,

In order to eliminate the effect of “neutral” regions, such as Henan and Guangxi, I classify the “good” and “poor” regions by excluding the middle 10 provinces in the robustness test. In this case, good and poor institutional regions include only the top 10 and bottom 10 provinces.<sup>16</sup> Again, the results of running the robustness tests are consistent with the main results.

Third, I test the effect of the three indices separately, by classifying “good” and poor regions according to the “credit market index”, “government decentralization index” and “legal environment index” of 30 provinces.<sup>17</sup> For the classification by

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<sup>16</sup> “Good regions” include Shanghai, Zhejiang, Jiangsu, Guangdong, Shandong, Hebei, Tianjin, Beijing, Anhui, Liaoning (上海、浙江、江蘇、廣東、山東、河北、天津、北京、安徽、遼寧), and “Poor regions” include Shanxi, Hubei, Hunan, Ningxia, Sichuan, Neimenggu, Shanxi, Heilongjiang, Xinjiang, and Qinghai (山西、湖北、湖南、寧夏、四川、內蒙古、陝西、黑龍江、新疆、青海).

<sup>17</sup> According to the “credit market index”, “Good regions” include Shanghai, Shandong, Zhejiang, Jiangsu, Hebei, Guangdong, Chongqing, Liaoning, Hunan, Shanxi, Henan, Jilin, Tianjin, Hainan (上海、山東、浙江、江蘇、河北、廣東、重慶、遼寧、湖南、陝西、河南、吉林、天津、海南), and “poor regions” include Anhui, Guizhou, Yunnan, Gansu, Jiangxi, Ningxia, Hubei, Beijing, Fujian, Guangxi, Neimenggu, Heilongjiang, Shanxi, Xinjiang, Sichuan, Qinghai

“credit market index”, the results of hypothesis 1a are consistent with the main results, however, the results of hypothesis 1b are inconsistent. For the classification by “government decentralization index” and “legal environment index”, the results of hypotheses 1a are inconsistent with the main results, and the results of hypothesis 1b are consistent. Therefore, no clear conclusions can be made from these results.

Finally, I reclassify the “good” and “poor” institutional regions according to different versions of the NERI Index. The NERI Index of Marketization of China’s provinces is a continuous index compiled four times by Fan and Wang in 2001, 2003, 2004 and 2006. The NERI (2000) published in 2001 was compiled based on the data from 1997 to 1999, the NERI (2001) published in 2003 was compiled based on the data from 1999 to 2000, the NERI (2004) published in 2004 was compiled based on the data from 2001 to 2002, and the NERI (2006) published in 2007 was compiled based on the data from 2001 to 2005. Fan and Wang (2003, 2007) point out that, in the main, the changes in marketization ranking for the 30 regions were small from 1999 to 2005. In the main tests, I classify the different institutional groups on the basis of the NERI Index in 2001 (version 2003). To avoid potential bias in classifying the good and poor regions by using only one year’s NERI Index, I refer to

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(安徽, 貴州, 雲南, 甘肅, 江西, 寧夏, 湖北, 北京, 福建, 廣西, 內蒙古, 黑龍江, 山西, 新疆, 四川, 青海).

According to the “government decentralization index”, “Good regions” include Zhejiang, Jiangsu, Guangdong, Guangxi, Chongqing, Shanghai, Anhui, Sichuan, Shandong, Hebei, Fujian, Yunnan, Beijing, Jiangxi, Liaoning (浙江、江蘇、廣東、廣西、重慶、上海、安徽、四川、山東、河北、福建、雲南、北京、江西、遼寧), and “poor regions” include Tianjin, Hainan, Gansu, Hunan, Jilin, Henan, Guizhou, Shanxi, Hubei, Shanxi, Ningxia, Heilongjiang, Neimenggu, Xinjiang, Qinghai (天津、海南、甘肅、湖南、吉林、河南、貴州、陝西、湖北、山西、寧夏、黑龍江、內蒙古、新疆、青海).

According to the “legal environment index”, “Good regions” include Beijing, Guangdong, Shanghai, Tianjin, Hainan, Fujian, Jiangsu, Zhejiang, Jilin, Shandong, Liaoning, Shanxi, Heilongjiang, Anhui, Ningxia (北京、廣東、上海、天津、海南、福建、江蘇、浙江、吉林、山東、遼寧、山西、黑龍江、安徽、寧夏), and “poor regions” include Hebei, Hubei, Henan, Neimenggu, Guangxi, Jiangxi, Sichuan, Qinghai, Guizhou, Xinjiang, Gansu, Yunnan, Chongqing, Shanxi, Hunan (河北、湖北、河南、內蒙古、廣西、江西、四川、青海、貴州、新疆、甘肅、雲南、重慶、陝西、湖南).

the other versions of the NERI Index to sort the good institutional regions from the poor regions. In retesting the hypotheses on the basis of the different NERI Index versions, I find the robust tests results to be consistent with the main tests.

## **Chapter 6**

### **Conclusion and Limitations**

This chapter summarizes the main results of this empirical study, and discusses several limitations and possible areas for future research.

#### **6.1 Conclusion**

This study examines how institutions affect auditor reporting behavior by taking advantage of China's institutional setting, in which the heterogeneity of institutions exists across different provinces or regions. The use of within-country, firm-specific data in this study overcomes some of the limitations of cross-country studies, such as a small sample size, endogeneity, and correlated omitted variables. In addition, my study supplements the findings of previous studies (Chan, Lin and Mo, 2006; Wong, Wang and Xia, 2005) on the relationship between institutional factors and China's auditing market. Chan, Lin and Mo (2006) argue that audit opinions in China are affected by the political and economic influence of local governments, arguing that politically vulnerable local auditors have an incentive to report leniently and favorably on local government-owned companies. Wong, Wang and Xia (2006) find that institutional disparity can result in different incentives for the SOEs to pursue high-quality audits, and that small local auditors are more lenient toward government-owned clients. However, they do not provide any analysis or evidence as to whether such leniency holds uniformly across China. I expect the situation to be complicated in China's unique institutional setting, and propose that in regions in which the institutional environment is less developed, local auditors are more likely than non-local auditors to compromise their independence by issuing more

unqualified audit opinions to please their local government-owned clients. Further, compared with local auditors in good institutional regions, local auditors in poor institutional regions are more likely to issue an unqualified opinion to local government-owned companies. Finally, I test the influence of institutions on subsequent audit opinions. I expect that for qualified companies that switched to auditors in a poor institutional region, local auditors are more likely than non-local auditors to issue a subsequent clean audit opinion to local government-owned clients.

Using a sample of firm-year data covering the period from 1996 to 2005, my empirical results support all of the hypotheses. I find that in regions with a poor institutional environment in which the level of local government involvement in the local economy is high, the development of the local credit market is immature, and the legal environment is poor, local auditors are more likely than non-local auditors to sacrifice their independence.

A policy implication of this study is that establishing auditing standards and restructuring the auditing industry alone are not enough to develop an independent audit market: institutional development is also a basic condition for formulating a high-quality auditing profession. Especially in provinces or regions with a poor institutional environment, lessening the involvement of local government in the economy and in business activities, developing the credit market, and perfecting the legal environment may help to improve auditor independence.

Overall, the evidence that is reported in this study helps give a better understanding of auditor reporting behavior in China. Moreover, it also provides useful information for China's ongoing economic reform, demonstrating that unbalanced institutional development profoundly affects the accounting profession, and should not be neglected in the next step of the reform process.

## 6.2 Limitations and suggestions for future studies

The chief limitation of this empirical analysis is that the classification of the regions according to their level of institutional development is mainly based on the research of Fan and Wang (2003), who admit that their results may suffer from the unavailability of data from some provinces. However, they argue that the NERI index (2001) captures the main aspects of the situation in China, and I therefore expect the results in this thesis to reflect the general circumstances in China.

Besides, I *assume* that the three indices (i.e. credit market index, government decentralization index, and legal environment index) used in this thesis have equal weight in influencing auditor reporting behavior. This is a limitation of this thesis, since there is no objective way of measuring whether one index dominates another and whether some indices have no effect at all. It is worthwhile to develop further research based on more accurate institutional classification.

I believe that several research issues deserve further consideration as the institutional environment of China keeps improving. For example, as China's reform moves forward, the central government is trying to narrow the development gap between the eastern and western regions, and to establish a better developed institutional environment for businesses. On January 1<sup>st</sup>, 2007, China began to implement new accounting standards that are based on the International Financial Reporting Standard (IFRS). However, whether the application of the IFRS will narrow the disparity in auditor behavior in different regions is an empirical issue.

This thesis demonstrates that auditor reporting behavior can be different within a country due to institutional heterogeneity. Future research on this issue using data from other transition economies would provide a more comprehensive picture of this issue, and would also serve as a valuable reference for decision-makers.

## Appendix 1

Comparison of similarities and differences between AN (2007) and Wong, Wang and Xia (2005)

	AN (2007)	Wong, Wang and Xia (2005)
Similarity	Research on the relationship between institutional environment and auditing profession in China.	
Differences	Supply Side: Research on the reporting behavior of auditors.	Demand Side: Research on the auditor choice behavior of SOEs or non-state firms.
	Consider institutional aspect in testing auditors' reporting behavior.	Not consider institutional aspect in testing auditors' reporting behavior.
	Research on the relationship between subsequent audit opinion and institutional environment.	N/A



## Appendix 2

Credit market index, government decentralization index, and legal environment index for each region in 2000

Rank	Regions	Credit Market Index	Government Decentralization Index	Legal Environment Index	Total Marks
1	SHANGHAI	7.94	7.49	6.98	22.41
2	ZHEJIANG	7.68	8.37	6.24	22.29
3	JIANGSU	7.67	8.12	6.29	22.08
4	GUANGDONG	6.37	7.99	7.29	21.65
5	SHANDONG	7.74	7.38	5.63	20.75
6	HEBEI	7.2	7.13	5.15	19.48
7	TIANJIN	5.34	6.05	6.96	18.35
8	BEIJIN	3.85	6.4	7.97	18.22
9	ANHUI	5.24	7.43	5.32	17.99
10	LIAONING	6.16	6.14	5.53	17.83
11	CHONGQING	6.33	7.61	3.83	17.77
12	HAINAN	5.25	6.02	6.33	17.6
13	FUJIAN	3.74	7.12	6.32	17.18
14	JILIN	5.37	5.7	5.81	16.88
15	GUANGXI	3.46	7.89	4.92	16.27
16	HENAN	5.8	5.54	4.93	16.27
17	JIANGXI	4.69	6.15	4.78	15.62
18	YUNNAN	4.75	6.56	3.87	15.18
19	GUIZHOU	4.89	5.43	4.36	14.68
20	GANSU	4.7	5.94	3.98	14.62
21	SHAANXI	5.88	5.3	3.21	14.39
22	HUBEI	4.21	5.11	5.05	14.37
23	HUNAN	5.9	5.73	2.62	14.25
24	NINGXIA	4.36	3.79	5.16	13.31
25	SICHUAN	0.7	7.43	4.69	12.82
26	NEIMENGGU	3.42	3.27	4.93	11.62
27	SHANXI	1.08	4.54	5.53	11.15
28	HEILONGJIANG	1.89	3.6	5.34	10.83
29	XINJIANG	0.9	3.16	4.1	8.16
30	QINGHAI	0.35	3.04	4.69	8.08

These three indices are based on the 2000 data from Fan and Wang (2003). The Credit Market Index, Government Decentralization Index, and Legal Environment Index measure the development of the local credit market, the degree of government involvement in the local economy, and the development of the local legal environment for each province or provincial level region, respectively. For the Credit Market Index, the larger the index, the more developed the credit market. For the Government Decentralization Index, the larger the index, the smaller the government involvement. For the Legal Environment Index, the larger the index, the better the legal environment. Fan and Wang (2003) do not provide an index for Tibet. The median of the “Total marks” is 16.28. The first 14 regions (shaded) are classified as “good institutional regions” and the last 16 regions “poor institutional regions.”

**Table 1 Descriptive information on the data selection and audit opinions****Panel A: Data Selection**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	1996-2005
Total number of A-share firms	518	717	817	912	1045	1169	1233	1296	1371	1366	10444
Less: Firms also having B-shares	68	73	76	78	82	86	86	86	86	86	807
Less: Firms also having H-shares	13	17	18	19	19	24	27	29	29	30	225
Less: Financial institutions	3	3	3	4	5	5	6	9	9	9	56
Less: Firms in Tibet	0	0	0	0	0	8	8	8	8	8	40
Less: Missing data	93	158	165	154	149	202	150	116	49	41	1277
Total used	341	466	555	657	790	844	956	1048	1190	1192	8039

**Panel B: Types of audit opinion**

	1996(%)	1997(%)	1998(%)	1999(%)	2000(%)	2001(%)	2002(%)	2003(%)	2004(%)	2005(%)	1996-2005(%)
<b>Good institutional regions</b>											
Unqualified	222(88)	255(83)	292(80)	347(80)	499(85)	546(87)	647(89)	761(94)	871(92)	883(91)	5323(88)
Qualified	29(12)	52(17)	75(20)	89(20)	89(15)	81(13)	79(11)	45(6)	74(8)	85(9)	698(12)
Sub-total	251(100)	307(100)	367(100)	436(100)	588(100)	627(100)	726(100)	806(100)	945(100)	968(100)	6021(100)
<b>Poor institutional regions</b>											
Unqualified	87(97)	146(92)	173(92)	186(84)	180(89)	201(93)	209(91)	15(6)	225(92)	203(91)	1625(81)
Qualified	3(3)	13(8)	15(8)	35(16)	22(11)	16(7)	21(9)	227(94)	20(8)	21(9)	393(19)
Sub-total	90(100)	159(100)	188(100)	221(100)	202(100)	217(100)	230(100)	242(100)	245(100)	224(100)	2018(100)
<b>Total</b>											
Unqualified	309(91)	401(86)	465(84)	533(81)	679(86)	747(89)	856(90)	988(94)	1096(92)	1086(91)	7160(89)
Qualified	32(9)	65(14)	90(16)	124(19)	111(14)	97(11)	100(10)	60(6)	94(8)	106(9)	879(11)
Total	341(100)	466(100)	555(100)	657(100)	790(100)	844(100)	956(100)	1048(100)	1190(100)	1192(100)	8039(100)

**Table 2 Descriptive statistics on client firm characteristics partitioned by client ownership and auditor locale**  
**Panel A: Descriptive statistics on the characteristics of all of the client firms (n = 8,039)**

		Good institutional regions				Poor institutional regions			
		Local government-owned companies		Non-local government-owned companies		Local government-owned companies		Non-local government-owned companies	
		Local auditor (n=3,045)	Non-local auditor (n=725)	Local auditor (n=1,564)	Non-local auditor (n=687)	Local auditor (n=1,178)	Non-local auditor (n=213)	Local auditor (n=507)	Non-local auditor (n=120)
ROE	Mean	0.019	0.021	-0.094	-0.320	0.054	-0.043	-0.041	-0.118
	Median	0.067	0.065	0.070	0.061	0.073	0.044	0.068	0.048
	St.Dev	0.274	0.219	4.472	6.017	0.134	0.376	0.793	1.418
Client	Mean	21.084	20.947	20.990	20.933	20.766	20.617	20.661	20.628
	Median	21.044	20.906	20.890	20.812	20.704	20.667	20.638	20.564
	St.Dev	0.874	0.837	1.001	0.969	0.845	0.675	0.867	0.739
TD/TA	Mean	0.468	0.467	0.471	0.472	0.438	0.474	0.461	0.450
	Median	0.473	0.472	0.487	0.475	0.429	0.469	0.447	0.434
	St.Dev	0.184	0.180	0.188	0.179	0.167	0.177	0.190	0.191
Cur_rat	Mean	1.614	1.893	1.898	1.612	1.768	1.522	1.778	1.694
	Median	1.286	1.364	1.395	1.368	1.439	1.235	1.428	1.341
	St.Dev	1.185	2.189	1.990	1.030	1.215	0.975	1.284	1.178
Reciv	Mean	0.096	0.118	0.113	0.109	0.110	0.101	0.134	0.104
	Median	0.071	0.093	0.091	0.090	0.087	0.085	0.117	0.083
	St.Dev	0.087	0.095	0.098	0.088	0.099	0.081	0.098	0.081
Inv	Mean	0.163	0.168	0.169	0.150	0.136	0.134	0.147	0.138
	Median	0.128	0.139	0.135	0.130	0.115	0.107	0.131	0.099
	St.Dev	0.143	0.141	0.145	0.119	0.102	0.115	0.096	0.142
Loss	Mean	0.019	0.023	0.020	0.029	0.008	0.047	0.018	0.058
	Median	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	St.Dev	0.136	0.151	0.139	0.168	0.092	0.212	0.132	0.235

Data in Panel A is winsorized at 1% and 99%.

**Panel B: Descriptive statistics on the characteristics of local government-owned companies in good institutional regions (n=3,770)**

		Local auditor (n=3,045)	Non-local auditor (n=725)	<i>p</i> -value
ROE	Mean	0.019	0.021	0.900
	Median	0.067	0.065	0.191
	St.Dev	0.274	0.219	
Client	Mean	21.084	20.947	0.000***
	Median	21.044	20.906	0.001***
	St.Dev	0.874	0.837	
TD/TA	Mean	0.468	0.467	0.876
	Median	0.473	0.472	0.934
	St.Dev	0.184	0.180	
Cur_rat	Mean	1.614	1.893	0.000***
	Median	1.286	1.364	0.006***
	St.Dev	1.185	2.189	
Reciv	Mean	0.096	0.118	0.000***
	Median	0.071	0.093	0.000***
	St.Dev	0.087	0.095	
Inv	Mean	0.163	0.168	0.380
	Median	0.128	0.139	0.035
	St.Dev	0.143	0.141	
Loss	Mean	0.019	0.023	0.410
	Median	0.000	0.000	0.499
	St.Dev	0.136	0.151	

The *p*-values are from the t-tests for the means and the wilcoxon sign-ranked tests for the medians.

*Panel C: Descriptive statistics on the characteristics of local government-owned companies in poor institutional regions (n=1,391)*

		Local auditor (n=1,178)	Non-local auditor (n=213)	<i>p</i> -value
ROE	Mean	0.054	-0.043	0.000***
	Median	0.073	0.044	0.000***
	St.Dev	0.134	0.376	
Client	Mean	20.766	20.617	0.015**
	Median	20.704	20.667	0.238
	St.Dev	0.845	0.675	
TD/TA	Mean	0.438	0.474	0.004**
	Median	0.429	0.469	0.017**
	St.Dev	0.167	0.177	
Cur_rat	Mean	1.768	1.522	0.005**
	Median	1.439	1.235	0.012*
	St.Dev	1.215	0.975	
Reciv	Mean	0.110	0.101	0.211
	Median	0.087	0.085	0.775
	St.Dev	0.099	0.081	
Inv	Mean	0.136	0.134	0.778
	Median	0.115	0.107	0.109
	St.Dev	0.102	0.115	
Loss	Mean	0.008	0.047	0.000***
	Median	0.000	0.000	0.000***
	St.Dev	0.092	0.212	

The *p*-values are from the t-tests for the means and the wilcoxon sign-ranked tests for the medians.

**Panel D: Descriptive statistics on the characteristics of local government-owned companies audited by local auditors (n=4,223)**

		Good institutional regions (n=3,045)	Poor institutional regions (n=1,178)	p-value
ROE	Mean	0.019	0.054	0.000***
	Median	0.067	0.073	0.042**
	St.Dev	0.274	0.134	
Client	Mean	21.084	20.766	0.000***
	Median	21.044	20.704	0.000***
	St.Dev	0.874	0.845	
TD/TA	Mean	0.468	0.438	0.000***
	Median	0.473	0.429	0.000***
	St.Dev	0.184	0.167	
Cur_rat	Mean	1.614	1.768	0.000***
	Median	1.286	1.439	0.000***
	St.Dev	1.185	1.215	
Reciv	Mean	0.096	0.110	0.000***
	Median	0.071	0.087	0.007**
	St.Dev	0.087	0.099	
Inv	Mean	0.163	0.136	0.000***
	Median	0.128	0.115	0.001***
	St.Dev	0.143	0.102	
Loss	Mean	0.019	0.008	0.017**
	Median	0.000	0.000	0.025
	St.Dev	0.136	0.092	

The *p*-values are from the t-tests for the means and the wilcoxon sign-ranked tests for the medians.

Definitions of variables:

$ROE_{it}$  = net income/year-end total owners' equity.

$Client_{it}$  = the natural logarithm of a firm's year-end total assets.

$TD/TA_{it}$  = the ratio of year-end total debt to total assets.

$Cur\_rat_{it}$  = year-end total current assets divided by year-end total current liabilities.

$Reciv_{it}$  = the ratio of year-end accounts receivable to year-end total assets.

$Inv_{it}$  = the ratio of year-end inventory to year-end total assets.

$Loss_{i2}$  = 1, if a firm reported a loss for the two consecutive years preceding the reporting period, and 0 otherwise.

\*\*\*, \*\*, \* Statistical significance at the 0.01, 0.05, and 0.1 level, respectively

**Table 3 Univariate test of auditor reporting behavior in different institutional environments (n=8,039)**

	Good institutional regions								Poor institutional regions							
	Local government-owned companies				Non-local government-owned companies				Local government-owned companies				Non-local government-owned companies			
	Local auditors (n=3045)		Non-local auditors (n=725)		Local auditors (n=1564)		Non-local auditors (n=687)		Local auditors (n=1178)		Non-local auditors (n=213)		Local auditors (n=507)		Non-local auditors (n=120)	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Unqualified opinion	2,264	87	634	87	1396	89	629	92	1,104	94	174	82	450	89	109	91
Qualified opinion	381	13	91	13	168	11	58	8	74	6	39	18	57	11	11	9
	3,045	100	725	100	1564	100	687	100	1,178	100	213	100	507	100	120	100
	$\chi^2 = 1.622, p=0.203$				$\chi^2 = 2.794, p=0.095^*$				$\chi^2 = 34.965, p=0.000^{***}$				$\chi^2 = 0.432, p=0.511$			

**Table 4 Multivariate test of auditor reporting behavior in different institutional environments**

Variable	Predicted sign	Panel A: Good Regions		Panel B: Poor Regions	
		Coefficient	p-value	Coefficient	p-value
Intercept		6.859	0.000***	5.487	0.033**
LocAud <sub>it</sub>	-	0.337	0.039**	0.299	0.467
LocGov <sub>it</sub>	?	0.524	0.004**	0.968	0.021**
LocAud <sub>it</sub> * LocGov <sub>it</sub>	-	-0.261	0.214	-1.326	0.004***
AuditSZ <sub>it</sub>	+	0.062	0.481	0.394	0.078*
ROE <sub>it</sub>	-	-0.040	0.783	-1.023	0.043**
Client <sub>it</sub>	-	-0.557	0.000***	-0.491	0.000***
TD/TA <sub>it</sub>	+	4.430	0.000***	4.245	0.000***
Cur_rat <sub>it</sub>	?	0.077	0.000***	0.130	0.096*
Reciv <sub>it</sub>	+	0.668	0.103	-0.887	0.285
Inv <sub>it</sub>	?	-1.283	0.000***	-1.629	0.097*
Loss <sub>i2</sub>	+	0.608	0.007**	0.574	0.153
Pseudo R <sup>2</sup>			0.108		0.17
P-value			0.000***		0.000***
Sample size			n=6021		n=2018

This table provides the logistic regression results for the different institutional regions of Model (1).

$$Op_{it} = \lambda_0 + \lambda_1 LocAud_{it} + \lambda_2 LocGov_{it} + \lambda_3 LocAud_{it} * LocGov_{it} + \lambda_4 AuditSZ_{it} + \lambda_5 ROE_{it} + \lambda_6 Client_{it} + \lambda_7 TD/TA_{it} + \lambda_8 Cur\_rat_{it} + \lambda_9 Reciv_{it} + \lambda_{10} Inv_{it} + \lambda_{11} Loss_{i2} + \varepsilon_{it}$$

- Op<sub>it</sub> = 1, if a company received qualified opinion, and 0 otherwise.
- LocAud<sub>it</sub> = 1, if a company was audited by a local auditor, and 0 otherwise.
- LocGov<sub>it</sub> = 1, if a company was owned by a local government, and 0 otherwise.
- LocAud<sub>it</sub>\*LocGov<sub>it</sub> = 1, if a local government-owned company was audited by a local auditor, and 0 otherwise.
- AuditSZ<sub>it</sub> = 1, if a company was audited by a top 10 auditor, and 0 otherwise.
- ROE<sub>it</sub> = net income/year-end total owners' equity.
- Client<sub>it</sub> = the natural logarithm of a firm's year-end total assets.
- TD/TA<sub>it</sub> = the ratio of year-end total debt to total assets.
- Cur\_rat<sub>it</sub> = year-end total current assets divided by year-end total current liabilities.
- Reciv<sub>it</sub> = the ratio of year-end accounts receivable to year-end total assets.
- Inv<sub>it</sub> = the ratio of year-end inventory to year-end total assets.
- Loss<sub>i2</sub> = 1, if a firm reported a loss for the two consecutive years preceding the reporting period, and 0 otherwise.

\*\*\*, \*\*, \* Statistical significance at the 0.01, 0.05, and 0.1 level, respectively.



**Table 5 Univariate test of *local* auditor reporting behavior in different institutional environments (n = 6,294)**

	Good institutional regions				Poor institutional regions			
	Local government-owned companies		Non-local government-owned companies		Local government-owned companies		Non-local government-owned companies	
	Number	%	Number	%	Number	%	Number	%
Unqualified opinion	2664	87	1396	89	1104	94	450	89
Qualified opinion	381	13	168	11	74	6	57	11
Total	3045	100	1564	100	1178	100	507	100
	$\chi^2 = 3.087, p = 0.079^*$				$\chi^2 = 12.165, p = 0.000^{***}$			

\*\*\*Represents statistical significance at the 0.01level.

**Table 6 Multivariate test of *local* auditor reporting behavior in different institutional environments (n = 6,294)**

Variable	Predicted sign	Coefficient	p-value
Model			0.000***
Intercept		6.416	0.000***
INST <sub>it</sub>	-	-0.193	0.275
LocGov <sub>it</sub>	?	0.260	0.013**
INST <sub>it</sub> *LocGov <sub>it</sub>	-	-0.607	0.006***
AuditSZ <sub>it</sub>	+	0.163	0.077**
ROE <sub>it</sub>	-	-0.501	0.097*
Client <sub>it</sub>	-	-0.516	0.000***
TD/TA <sub>it</sub>	+	4.143	0.000***
Cur_rat <sub>it</sub>	?	0.105	0.000***
Reciv <sub>it</sub>	+	0.702	0.069
Inv <sub>it</sub>	?	-1.440	0.000***
Loss <sub>i2</sub>	+	0.706	0.004**
Pseudo R <sup>2</sup>			0.129
P-value			0.000***
Sample size			6,294

This table provides the logistic regression results for Model (2).

$$Op_{it} = \beta_0 + \beta_1 INST_{it} + \beta_2 LocGov_{it} + \beta_3 INST_{it} * LocGov_{it} + \beta_4 AuditSZ_{it} + \beta_5 ROE_{it} + \beta_6 Client_{it} + \beta_7 TD/TA_{it} + \beta_8 Cur\_rat_{it} + \beta_9 Reciv_{it} + \beta_{10} Inv_{it} + \beta_{11} Loss_{i2} + \varepsilon_{it}$$

The sub-sample comprises *local* auditors in good and poor regions.

Op<sub>it</sub> = 1, if a company received a qualified opinion, and 0 otherwise.

INST<sub>it</sub> = 1, if a company was audited by a local auditor from a poor institutional regions, and 0 otherwise.

LocGov<sub>it</sub> = 1, if a company is owned by a local government, and 0 otherwise.

INST<sub>it</sub>\*LocGov<sub>it</sub> = 1, if a local government-owned company is audited by a local auditor from a poor institutional regions, and 0 otherwise.

For the definition of the other independent variables, see the note to Table 4.

\*\*\*,\*\* Statistical significance at the 0.01 and 0.05 level, respectively

**Table 7 Univariate test of subsequent auditor reporting behavior in different institutional environments (n=814)**

	Switch to a good institutional region								Switch to a poor institutional region							
	Local government-owned companies				Non-local government-owned companies				Local government-owned companies				Non-local government-owned companies			
	Local auditors		Non-local auditors		Local auditors		Non-local auditors		Local auditors		Non-local auditors		Local auditors		Non-local auditors	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Unqualified opinion	197	80	127	85	129	82	103	94	52	87	24	73	21	72	14	78
Qualified opinion	50	20	23	15	29	18	16	6	8	13	9	27	8	28	4	22
	247	100	150	100	158	100	119	100	60	100	33	100	29	100	18	100
	$\chi^2 = 1.499, p = 0.221$				$\chi^2 = 1.202, p = 0.273$				$\chi^2 = 2.769, p = 0.096^*$				$\chi^2 = 0.168, p = 0.682$			

**Table 8 Multivariate test of subsequent auditor reporting behavior in different institutional environments (n = 814)**

Variable	Predicted Sign	Panel A: Good Regions		Panel B: Poor Regions	
		Coefficient	p-value	Coefficient	p-value
Intercept		8.288	0.002 ***	-5.435	0.576
LocAud <sub>it</sub>	-	0.631	0.072 *	0.198	0.824
LocGov <sub>it</sub>	?	0.404	0.267	0.081	0.924
LocAud <sub>it</sub> *LocGov <sub>it</sub>	-	-0.365	0.426	-1.911	0.085 *
AuditSZ <sub>it</sub>	+	0.081	0.739	2.249	0.009 ***
ROE <sub>it</sub>	-	0.019	0.078 *	-4.401	0.026 **
Client <sub>it</sub>	-	-0.625	0.000 ***	0.254	0.591
TD/TA <sub>it</sub>	+	5.158	0.000 ***	0.343	0.917
Cur_rat <sub>it</sub>	?	0.158	0.148	-1.229	0.083
Reciv <sub>it</sub>	+	-0.171	0.850	-0.302	0.916
Inv <sub>it</sub>	?	-1.610	0.069 *	2.241	0.376 **
Loss <sub>it</sub>	+	0.664	0.163	0.189	0.864
Pseudo R <sup>2</sup>			0.143		0.382
P-value			0.000***		0.000***
Sample size			n=674		n=140

This table provides the logistic regression results for the *different* institutional regions in Model (3):

$$\text{Sub\_Op}_{it} = \alpha_0 + \alpha_1 \text{LocAud}_{it} + \alpha_2 \text{LocGov}_{it} + \alpha_3 \text{LocAud}_{it} * \text{LocGov}_{it} + \alpha_4 \text{AuditSZ}_{it} + \alpha_5 \text{ROE}_{it} + \alpha_6 \text{Client}_{it} + \alpha_7 \text{TD/TA}_{it} + \alpha_8 \text{Cur\_rat}_{it} + \alpha_9 \text{Reciv}_{it} + \alpha_{10} \text{Inv}_{it} + \alpha_{11} \text{Loss}_{it} + \mathcal{E}_{it}$$

Sub\_Op<sub>it</sub> = 1, if a qualified-and-switched company was qualified in period *t* after switching to a poor institutional region, and 0 otherwise.

LocAud<sub>it</sub> = 1, if a company was audited by a local auditor in period *t* after switching, and 0 otherwise.

LocGov<sub>it</sub> = 1, if a company is owned by the local government, and 0 otherwise.

LocAud<sub>it</sub>\*LocGov<sub>it</sub> = 1, if a local government-owned company was audited by a local auditor in period *t* after switching to a poor institutional region, and 0 otherwise.

For the definition of the other independent variables, see the note to Table 4.

\*\*\*, \*\*, \* Statistical significance at the 0.01, 0.05, and 0.1 level, respectively.

**Table 9 Univariate test of subsequent reporting behavior of *local* auditor in different institutional environments (n=494)**

	Switch to a good institutional region				Switch to a poor institutional region			
	Local government-owned companies		Non-local government-owned companies		Local government-owned companies		Non-local government-owned companies	
	Number	%	Number	%	Number	%	Number	%
Unqualified opinion	197	80	129	82	52	87	21	72
Qualified opinion	50	20	29	18	8	13	8	28
Total	247	100	158	100	60	100	29	100
	$\chi^2 = 0.219, p = 0.640$				$\chi^2 = 6.229, p = 0.013^{**}$			

\*\*Represents statistical significance at the 0.05 level.

**Table 10 Multivariate test of subsequent reporting behavior of *local* auditors in different institutional environments (n = 494)**

Variable	Predicted sign	Coefficient	p-value
Model			0.000***
Intercept		5.180	0.089*
INST <sub>it</sub>	-	0.285	0.593
LocGov <sub>it</sub>	?	0.027	0.929
INST <sub>it</sub> *LocGov <sub>it</sub>	-	-0.955	0.151
AuditSZ <sub>it</sub>	+	0.521	0.062*
ROE <sub>it</sub>	-	-0.735	0.093*
Client <sub>it</sub>	-	-0.506	0.001***
TD/TA <sub>it</sub>	+	6.447	0.000***
Cur_rat <sub>it</sub>	?	0.454	0.001***
Reciv <sub>it</sub>	+	-0.183	0.850
Inv <sub>it</sub>	?	-2.576	0.022**
Loss <sub>i2</sub>	+	1.012	0.084*
Pseudo R <sup>2</sup>			0.221
P-value			0.000***
Sample size			494

This table provides the logistic regression results for Model (4).

$$\text{Sub\_Op}_{it} = \theta_0 + \theta_1 \text{INST}_{it} + \theta_2 \text{LocGov}_{it} + \theta_3 \text{INST}_{it} * \text{LocGov}_{it} + \theta_4 \text{AuditSZ}_{it} + \theta_5 \text{ROE}_{it} + \theta_6 \text{Client}_{it} + \theta_7 \text{TD/TA}_{it} + \theta_8 \text{Cur\_rat}_{it} + \theta_9 \text{Reciv}_{it} + \theta_{10} \text{Inv}_{it} + \theta_{11} \text{Loss}_{i2} + \varepsilon_{it}$$

The sub-sample comprises *local* auditors in good and poor regions.

Sub\_Op<sub>it</sub> = 1, if a company received a qualified opinion, and 0 otherwise.

INST<sub>it</sub> = 1, if a company was audited by a local auditor from a poor institutional regions, and 0 otherwise.

LocGov<sub>it</sub> = 1, if a company is owned by a local government, and 0 otherwise.

INST<sub>it</sub>\*LocGov<sub>it</sub> = 1, if a local government-owned company is audited by a local auditor from a poor institutional regions, and 0 otherwise.

For the definition of the other independent variables, see the note to Table 4.

\*\*\*, \*\* Statistical significance at the 0.01 and 0.05 level, respectively

**Table 11 Sensitivity test for H1a: Multivariate test of auditor reporting behavior in different institutional environments**

Variable	Predicted sign	Panel A: Good Regions		Panel B: Poor Regions	
		Coefficient	p-value	Coefficient	p-value
Intercept		6.766	0.000***	5.050	0.049**
LocAud <sub>it</sub>	-	0.289	0.076*	0.410	0.324
LocGov <sub>it</sub>	?	0.604	0.001***	0.732	0.087**
LocAud <sub>it</sub> * LocGov <sub>it</sub>	-	-0.373	0.071*	-1.062	0.026**
AuditSZ <sub>it</sub>	+	0.119	0.176	0.337	0.140
ROE <sub>it</sub>	-	-0.055	0.780	-0.924	0.078*
Client <sub>it</sub>	-	-0.550	0.000***	-0.481	0.000***
TD/TA <sub>it</sub>	+	4.315	0.000***	4.725	0.000***
Cur_rat <sub>it</sub>	?	0.073	0.001***	0.149	0.062
Reciv <sub>it</sub>	+	0.609	0.123	-0.895	0.302
Inv <sub>it</sub>	?	-1.226	0.000***	-1.828	0.075*
Loss <sub>i2</sub>	+	0.641	0.004***	0.477	0.265
Pseudo R <sup>2</sup>			0.105		0.168
P-value			0.000***		0.000***
Sample size			n=6,308		n=1,731

This table provides the logistic regression results for *different* institutional regions of Model (1).

$$Op_{it} = \lambda_0 + \lambda_1 LocAud_{it} + \lambda_2 LocGov_{it} + \lambda_3 LocAud_{it} * LocGov_{it} + \lambda_4 AuditSZ_{it} + \lambda_5 ROE_{it} + \lambda_6 Client_{it} + \lambda_7 TD/TA_{it} + \lambda_8 Cur\_rat_{it} + \lambda_9 Reciv_{it} + \lambda_{10} Inv_{it} + \lambda_{11} Loss_{i2} + \varepsilon_{it}$$

Op<sub>it</sub> = 1, if a company received a qualified opinion, and 0 otherwise.

LocAud<sub>it</sub> = 1, if a company was audited by a local auditor, and 0 otherwise.

LocGov<sub>it</sub> = 1, if a company is owned by the local government, and 0 otherwise.

LocAud<sub>it</sub>\*LocGov<sub>it</sub> = 1, if a local government-owned company was audited by a local auditor, and 0 otherwise.

AuditSZ<sub>it</sub> = 1, if a company was audited by a top 10 auditor, and 0 otherwise.

ROE<sub>it</sub> = net income/year-end total owners' equity.

Client<sub>it</sub> = the natural logarithm of a firm's year-end total assets.

TD/TA<sub>it</sub> = the ratio of year-end total debt to total assets.

Cur\_rat<sub>it</sub> = the year-end total current assets divided by year-end total current liabilities.

Reciv<sub>it</sub> = the ratio of year-end accounts receivable to year-end total assets.

Inv<sub>it</sub> = the ratio of year-end inventory to year-end total assets.

Loss<sub>i2</sub> = 1, if a firm reported a loss for the two consecutive years preceding the reporting period, and 0 otherwise.

\*\*\*, \*\*, \* Statistical significance at the 0.01, 0.05, and 0.1 level, respectively.

**Table 12 Sensitivity test for H1b: Multivariate test of local auditor reporting behavior in different institutional environments**

Variable	Predicted sign	Coefficient	p-value
Intercept		6.140	0.000***
INST <sub>it</sub>	-	-0.017	0.929
LocGov <sub>it</sub>	?	0.233	0.025**
INST <sub>it</sub> *LocGov <sub>it</sub>	-	-0.553	0.015**
AuditSZ <sub>it</sub>	+	0.222	0.015**
ROE <sub>it</sub>	-	-0.510	0.097*
Client <sub>it</sub>	-	-0.506	0.000***
TD/TA <sub>it</sub>	+	4.112	0.000***
Cur_rat <sub>it</sub>	?	0.106	0.000***
Reciv <sub>it</sub>	+	0.655	0.088*
Inv <sub>it</sub>	?	-1.377	0.000***
Loss <sub>i2</sub>	+	0.728	0.003**
Pseudo R <sup>2</sup>			0.124
P-value			0.000***
Sample size			6,294

This table provides the logistic regression results for Model (2).

$$Op_{it} = \beta_0 + \beta_1 INST_{it} + \beta_2 LocGov_{it} + \beta_3 INST_{it} * LocGov_{it} + \beta_4 AuditSZ_{it} + \beta_5 ROE_{it} + \beta_6 Client_{it} + \beta_7 TD/TA_{it} + \beta_8 Cur\_rat_{it} + \beta_9 Reciv_{it} + \beta_{10} Inv_{it} + \beta_{11} Loss_{i2} + \varepsilon_{it}$$

Op<sub>it</sub> = 1, if a company received a qualified opinion, and 0 otherwise.

INST<sub>it</sub> = 1, if a company was audited by a local auditor from a poor institutional region, and 0 otherwise.

(In this test, Henan and Guangxi are defined as good provinces)

LocGov<sub>it</sub> = 1, if a company is owned by a local government, and 0 otherwise.

INST<sub>it</sub>\*LocGov<sub>it</sub> = 1, if a local government-owned company was audited by a local auditor of poor institutional regions, and 0 otherwise.

For the definition of the other independent variables, see the note to Table 4.

\*\*\*, \*\* Statistical significance at the 0.01 and 0.05 level, respectively.



**Table 13 Sensitivity test for *non-local* auditor reporting behavior in different institutional environments (n = 1,745)**

Variable	Predicted sign	Coefficient	p-value
Model			0.000***
Intercept		6.740	0.001***
INST <sub>it</sub>	-	-0.137	0.716
LocGov <sub>it</sub>	?	0.544	0.003**
INST <sub>it</sub> *LocGov <sub>it</sub>	-	0.368	0.394
AuditSZ <sub>it</sub>	+	-0.062	0.757
ROE <sub>it</sub>	-	-0.004	0.851
Client <sub>it</sub>	-	-0.547	0.000***
TD/TA <sub>it</sub>	+	4.659	0.000***
Cur_rat <sub>it</sub>	?	0.061	0.009**
Reciv <sub>it</sub>	+	-0.497	0.576
Inv <sub>it</sub>	?	-1.321	0.047*
Loss <sub>i2</sub>	+	0.627	0.056*
Pseudo R <sup>2</sup>			0.112
P-value			0.000***
Sample size			1,745

This table provides a sensitivity test based on the logistic regression of Model (2).

$$Op_{it} = \beta_0 + \beta_1 INST_{it} + \beta_2 LocGov_{it} + \beta_3 INST_{it} * LocGov_{it} + \beta_4 AuditSZ_{it} + \beta_5 ROE_{it} + \beta_6 Client_{it} + \beta_7 TD/TA_{it} + \beta_8 Cur\_rat_{it} + \beta_9 Reciv_{it} + \beta_{10} Inv_{it} + \beta_{11} Loss_{i2} + \varepsilon_{it}$$

The sub-sample comprises *non-local* auditors in good and poor regions.

- Op<sub>it</sub> = 1, if a company received a qualified opinion, and 0 otherwise.
- INST<sub>it</sub> = 1, if a company was audited by a local auditor from a poor institutional region, and 0 otherwise.
- LocGov<sub>it</sub> = 1, if a company is owned by the local government, and 0 otherwise.
- INST<sub>it</sub>\*LocGov<sub>it</sub> = 1, if a local government-owned company was audited by a local auditor from a poor institutional region, and 0 otherwise.

For the definition of the other independent variables, see the note to Table 4.

\*\*\*,\*\* Statistical significance at the 0.01 and 0.05 level, respectively.

**Figure 1 A political-economic model of auditor reporting in poor institutional regions (Hypothesis 1a)**

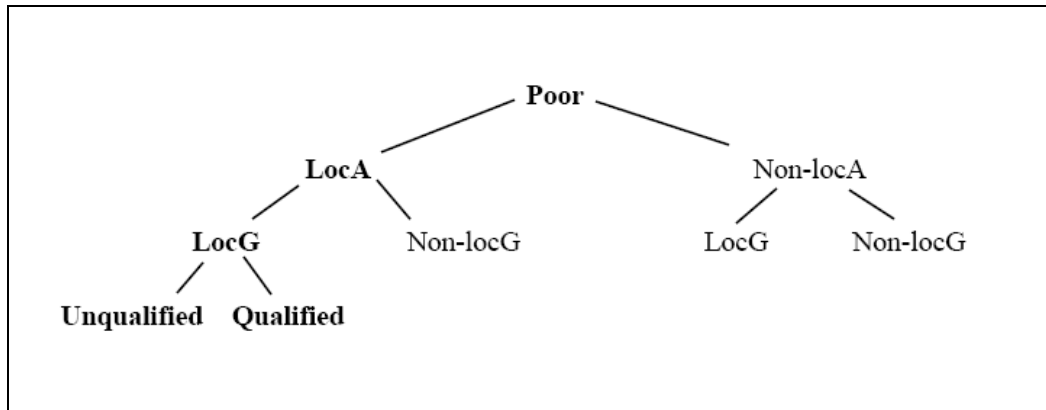


Figure 1 represents Hypothesis 1a, which states that compared with non-local auditors in poor institutional regions, local auditors (LocA) in these regions are more likely to issue clean audit opinions to local government-owned companies (LocG), ceteris paribus.

**Figure 2 A political-economic model for auditor reporting in poor and good institutional regions (Hypothesis 1b)**

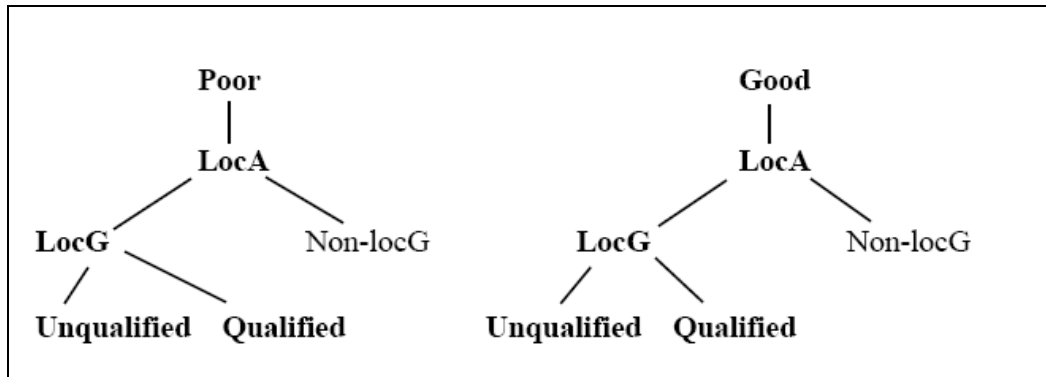


Figure 2 represents Hypothesis 1b, which states that compared with local auditors in good institutional regions, local auditors in poor institutional regions are more likely to issue clean opinions to local government-owned companies, ceteris paribus.

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