Audit Quality in China: Evidence from Audit Market Development and Split-share Structure Reform

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ABSTRACT

This study examines audit quality in China over the period 2003 to 2014. In particular, we study the period where two main structural reforms took place in China and investigate how they affect audit quality. The first of these is the privatization of Local State-owned Enterprises (LSOEs) through the Split-share Structure Reform (SSSR) and the second is the development of the domestic accounting industry through "Document 56". We also study how government influence over firms affects audit quality and the moderating effect of auditor choice on this relationship. We finally study how audit quality differs across China's regions based on the level of market development.

In this study, we use an input-based measure "total audit fees" as a surrogate for audit quality, in response to the findings of DeFond and Zhang's (2014) survey of empirical audit quality research. Using a sample of 1,826 Chinese listed firms during the period from 2003 to 2014, we run quantitative regression models (i.e., OLS, first difference and GMM estimation models) to explain how audit quality was developed in China throughout its structural reforms period. The main results show that LSOEs are charged lower audit fees compared with NSOEs. The results also show that big audit firms, both domestic Big 6 and international Big 4, charge higher audit fees than non-Big-10 audit firms. We observe a drop in audit quality after the SSSR, followed by a slight improvement after the announcement of Document 56. The results provide no evidence that market development improves audit quality in China.

Keywords: Audit quality, Audit fees, Ownership structure, Split-share structure reform, Document 56.

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جودة مهنة التدقيق في الصين في ظل تطوير قطاع التدقيق وإعادة هيكلة ملكية القطاع العام

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ملخص

تبحث هذه الدراسة في جودة مهنة التدقيق في الصين في الفترة من 2003 إلى 2014. حيث حدّد الباحثون فترة الدراسة لتغطي أثر تغييرين جذريين في هيكل الملكية ومهنة التدقيق في الصين، وانعكاساتهما على جودة التدقيق في المنطقة. التغيير الأول يكمن في اتباع سياسة خصخصة مؤسسات الدولة المملوكة للحكومة، ويكمن التغيير الثاني في "الوثيقة 56" المنوطة بتطوير مهنة التدقيق في الدولة. تبحث هذه الدراسة أيضاً في أثر التدخّل الحكومي في الشركات على جودة التدقيق، كما تتحقّق من دور المدققين في الحد من هذا التدخّل. وأخيراً، يدرس هذا البحث الاختلافات في العلاقات السابقة وحدّتها في الأقاليم المختلفة في الصين.

في هذه الدراسة، قمنا بفحص جودة التدقيق باستخدام أتعاب المدقّق، وهو مقياس يعتمد على مدخلات التدقيق تبعاً لاستنتاجات DeFond and Zhang (2014) في مراجعتهما الأدبية لطرق قياس جودة التدقيق. وبعد أخذ عينة متكونة من 1,826 شركة مساهمة عامة مدرجة في الفترة من 2003 إلى 2014، قمنا بعمل اختبارات الانحدار المختلفة لفحص وتتبّع تطوّر جودة مهنة التدقيق في الصين إثر التغييرات الجوهرية في هيكل الملكية وتعليمات "الوثيقة 56". وخلصت الدراسة إلى أن الشركات المملوكة للحكومة تدفع أتعاب تدقيق أقل مقارنة بالشركات الخاصة، مما يقلل من جودة التدقيق فيها. كما وجدت الدراسة أن شركات التدقيق الكبرى، المحلية والعالمية، تطلب أتعاب تدقيق أكبر من شركات التدقيق الأصغر حجماً. وبعد تمحّيص البيانات، بينت الدراسة أن جودة التدقيق التي كانت منخفضة في الشركات المملوكة حكومياً ما لبثت أن زادت بعد إصدار تعليمات "الوثيقة 56" المتعلقة بأحكام التدقيق. وتضمنت نتائج الدراسة أن جودة التدقيق تحسنّت في الصين خلال فترة الدراسة.

الكلمات الدالة: جودة التدقيق، أتعاب المدقق، هيكل الملكية، إعادة هيكلة الأسواق، الوثيقة 56.

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INTRODUCTION

This study examines how ownership structure and market development affect audit quality in China from 2003 to 2014. This period covers two main structural reforms in the country and may impact audit market development in China's various regions. Despite the body of research that investigates government ownership and audit quality in China in the past few decades (e.g. Liu and Subramaniam, 2013; Chen *et al.*, 2011; Chen, 2010; Wang *et al.,* 2008; DeFond *et al.*, 2000), the link between China's structural reforms and how they, in turn, affect audit quality are still not adequately investigated. Hence, this paper investigates two major reforms in China during the last decade and how they improve audit quality in the country. The first reform is the SSSR in the period from 2005 to 2009.[1] The SSSR triggered the final stage of privatization, during which LSOEs were allowed to actively sell the remainder of their shareholdings in the financial markets upon the achievement of a consensus on a reform implementation plan with the major private investors of the firm.

The second major reform is the government policy "Document 56" that aims to develop the Chinese national audit market, where the government, in steps to develop the accounting industry to produce firms that can compete with the international Big 4 audit firms, introduced a national policy -"Several Opinions on Accelerating the Development of Certified Public Accountants" - in 2009 through the State Council (Gillis: 2014: 242). Hence, this paper studies how these two major reforms affect audit quality in China, giving the study its importance. Besides, this paper considers the differences between China's different regions.[2] In China, where the legal enforcement and the application of courts are weak, the state still dominates the economy, even when it gives up direct control (Wong, 2016), resulting in different levels of legal enforcement and government intervention across China's 31 provinces. By studying these fundamental and crucial events and considering the differences across regions, this study follows a specific theoretical construct, as discussed below, based on the political economy, to study audit quality in China. By doing so, we try to reduce the problem of the weak theoretical structure that is a feature of previous empirical studies on audit quality, according to DeFond and Zhang 's (2014) audit quality research survey.

We use the audit fees charged for audit services as a measure for audit quality. The pricing of audit services is widely used in literature as a proxy for high-quality audit, assuming that the higher the fee charged by the audit firm, the more time and effort the audit firm will take and, hence, the higher the quality of the audit. Simunic (1980) introduced four factors that affect audit pricing: 1) monopoly pricing; 2) production economies; 3) the increase in auditor share of losses; and 4) the increase in loss exposure. In developed nations, like the UK and the US, many scholars built on the Simunic (1980) model and investigated different aspects about the determinants of audit fees (Chan *et al.,* 1993; Seetharaman *et al.,* 2002; McMeeking *et al.,* 2007), leading to well-developed models that can explain up to 83% of the variance in total audit fees (Low *et al.,* 1990; Hassan and Naser, 2013). Other research focused on the macroeconomic factors that might also affect audit pricing (Taylor and Simon, 1999).

In China, unlike in more developed nations like the UK and US, the audit market is dispersed between international, large and small domestic audit firms, rather than being dominated by the international Big 4 audit firms (Wang *et al.,* 2008; Lu and Fu, 2014). Also, Gillis (2014: 253) reported that the government plays a

significant role in both the financial and the audit markets in China, either directly as the ultimate controlling shareholder of the firm or indirectly through its political connections. Song and Xiong (2018) also highlighted how China's market is different from western markets, as it has a bank-based financial system, where almost 50% of total bank deposits belong to only four banks tightly controlled by the government. Hence, a body of literature in China investigated how government ownership and the institutional environment (e.g. regional market development and legal enforcement environment) affect audit quality as proxied for by the pricing of audit services (Wang *et al.,* 2008; Hu *et al.,* 2012; Liu and Subramaniam, 2013).

However, these studies either cover one of the major restructural reforms (e.g. the SSSR in the study of Liu and Subramaniam (2013) or none of them, e.g. Wang *et al.* (2008). Furthermore, previous studies failed to agree on one classification for high-quality audit firms in China.[3] Trying to overcome this issue, we incorporate Gillis's (2014, 242) observation that the Chinese Institute of Certified Public Accountants (CICPA) started several significant reforms that are intended to improve the efficiency and competitiveness of domestic audit firms against the Big 4 international audit firms (i.e., Document 56). Hence, we distinguish between three types of audit firms in China (i.e., the international Big 4, domestic Big 6 and other non-Big-10 audit firms) instead of two.

In this study, we focus on the structural changes and reforms in the Chinese financial and audit markets and their impact on the pricing of audit services and, hence, audit quality. Initially, we investigate the government influence over audit quality in China. To do so, we study audit quality from a supply point of view, where, following Liu and Subramaniam (2013), this allows the examination of how audit firms perceive government ownership and how this affects their pricing behavior. We conjecture that audit quality for auditors of LSOEs is lower compared to the auditors of NSOEs. Hence, the audit fees charged to LSOE clients will be lower than those for NSOEs after controlling for the other determinants of audit fees. This is because the state has a lower demand for high-quality audits and lower risk compared with NSOEs (Wang *et al*., 2008). Nevertheless, we investigate whether audit quality has improved as a result of the SSSR (representing the third and final wave of privatization in China) and Document 56 (which sets a five-year policy to develop the accounting industry in the country). We also investigate the moderating effect of auditor choice on previous relationships[4] and the impact of market development on audit quality in the different regions of China.

To test our conjectures, we run quantitative regression models (i.e., OLS, first difference and GMM estimation models) to explain how audit quality, from the supply point of view, was developed in China during the study period.[5] These models also include firm characteristics that previous related literature introduced as determinants of audit fees.[6] With data available on 1,826 public firms listed on the Shanghai and Shenzhen stock exchanges for the period from 2003 to 2014, the empirical results support previous literature that, overall, LSOEs are charged less compared to NSOEs. However, we do not find a similar behavior if a big audit firm is appointed (i.e., either domestic Big six or international Big 4). This implies that although the state dominates the Chinese market, big audit firms assess litigation risk regardless of government influence. The results also support the argument that big audit firms, both domestic and international, charge higher audit fees. Presumably, this is a result of higher quality audit services, as seen through their counter-balancing effect on government influence

when we use interaction terms between big audit firms and ownership structure.

The investigation of the two major reforms in the Chinese financial and audit markets (i.e., the SSSR and Document 56) shows that firms that complete the SSSR are being charged lower audit fees than firms that do not complete the SSSR. However, after the announcement of Document 56, there is a slight improvement in overall audit quality in China. This paper, therefore, extends the previous literature on audit quality in several ways. First, we study how government influence over audit firms affects audit fees' pricing as a proxy for audit quality. Second, we investigate two major reforms in the Chinese financial and audit markets (i.e., the SSSR and Document 56) that aim to enhance audit quality. Finally, we investigate the role of market development in improving audit quality in China.

The remainder of this paper proceeds as follows. The next section introduces related literature and develops the research hypotheses. Then, the research methodology is discussed, followed by presenting the study sample and data. The main results are reported in the second last section and the last section concludes the paper.

Literature Review and Development of Hypotheses

Studies on audit quality in developed stock markets, such as the UK and the US, usually use archival data and econometrics to develop models that, in turn, can define high-quality audit as a binary outcome of the audit process (DeFond and Zhang, 2014). These models use proxies that, in theory, explain the determinants of the high-quality audit. Input-based measures of audit quality include auditor characteristics and audit-client contracting features. In contrast, output-based measures of audit quality can include material misstatement, auditor opinion and financial reporting quality, where audit provides a monitoring tool over managers' actions to limit agency costs. The quality of the audit service depends on the auditor's competence (i.e., discovering any breach in the contract) and independence (i.e., reporting this breach of contract) (Watts and Zimmerman, 1981: 314).

DeAngelo (1981) introduced an argument that the quality of audit services is dependent on the audit firm size (e.g. the number of clients). In her study, she determined whether firms tend to choose a big audit firm before an IPO. She found a positive market reaction, reflected in share prices as a result. Hence, a higher-quality audit is perceived to be provided by the Big 4 audit firms, as well as higher assurance services (i.e., the financial statements are fairly presented), suggesting that big audit firms will not compromise on independence (i.e., reporting a breach in financial statements that has been uncovered) to maintain that particular client. Meanwhile, a small audit firm that benefits from maintaining a vital client (even if a breach is discovered in its financial statements) might outweigh the risks of reputation loss compared to a big audit firm. This dichotomy between big and small audit firms triggered empirical research that either supports or contradicts the audit size and audit quality argument.

Francis and Yu (2009) argued that the Big 4 international audit firms' audit quality is even higher for firms with larger offices. Using a sample of 6,568 US firm-year observations audited by 285 Big 4 audit firms from 2003 to 2005, they reported that clients of larger Big 4 offices receive more accurate going-concern reports. Moreover, they have less aggressive earnings management and, hence, receive higher-quality audits than clients of smaller Big four offices. Moreover, Kim *et al.* (2003) provided evidence that the international Big 4 (formerly Big 6) audit firms' higher quality audit is limited to the case when the client incentives are towards income-increasing earnings management. Using a sample of 33,353 US

firm-year observations from 1984 to 1998, they found that the international Big 4 (formerly Big 6) audit quality is not different from that of small audit firms or even less when the client has income-decreasing incentives. Khurana and Raman (2004) also investigated the relationship between audit firm size and audit quality and further showed that the international Big four higher-audit quality is motivated by litigation exposure rather than by reputation risk.

This study uses audit fees as a surrogate for audit quality in China. Where Aobdia (2018) founds a significant association between audit fees and the measures of the audit quality performed by auditors and regulators, hence, this study explores the effect of the main structural reforms in the Chines market (i.e., the SSSR and Document 56) on the pricing of audit services as a measure of audit quality.

Simunic (1980) suggested that price competition between audit firms prevails throughout the audit market, irrespective of the international Big 4 audit firms (formerly Big 8) being accused of monopolizing the audit market. To test his theory, he developed a model to estimate audit fees as a product of the number of audit services demanded by firms' management (hereafter client) and unit price. Hence, Simunic's (1980) assumption is that the external audit is a subsystem of a client's overall financial reporting system. Furthermore, the external audit is an economic good to the client and the quantity of audit demanded is a trade-off between the client's benefits (i.e., having the auditors attest that the financial reports are reliable) and costs (i.e., potential legal liability) (Hu *et al.,* 2012). Moreover, Simunic (1980) assumed that clients and auditors are risk-neutral and seek to maximize their expected profits.

In his model, Simunic (1980) introduced four factors that affect audit pricing: 1) monopoly pricing; 2) production economies; 3) the increase in auditor share of loss; and 4) the increase in loss exposure. Hence, variables that control the differences in these factors may help develop an estimation model for the determinants of audit fees. First, variables on loss exposure include client size, assumed to increase audit fees in that the larger the firm size, the bigger the sample size required by the audit firm to achieve the same level of control; the complexity of the client's operations (i.e., diversification and decentralization of operations) is hypothesized to increase audit fees; receivables and inventories assumed to increase a firm's relative audit risk and, as a result, increase its audit fees; and client industry, where it affects audit pricing, but there is no clear basis on how each industry affects audit price. However, Al Bhoor and Khamees (2016) highlighted the role of Auditor Industry Specialization in reducing audit report lag. Second, variables on the assessed loss-sharing ratio (i.e., in financial distress) include the accounting rate of return with a negative relationship with audit fees, the net loss during the current and previous years with a positive relationship and a qualification in auditor opinion in the current year is hypothesized to increase audit price. Third, audit variables include a) size of the audit firm; and b) audit tenure.

The application of the Simunic (1980) model was well received in both developed and developing markets literature. Chan *et al.* (1993), using 985 UK quoted companies in 1989, found that client size plays a significant role in determining audit fees, both measured as the firm's turnover and total assets. They further found a "Big 4" premium (formerly Big 8) over other smaller audit firms, though, many recent studies attribute this premium to selection bias using Heckman two-step procedures. Nonetheless, Clatworthy *et al.* (2009), using propensity score and portfolio matching methods, argued that the use of Heckman two-step procedures to confirm that big audit firms' fee premium vanishes when we control for selection bias might not be valid. They provided

evidence that the estimates that Heckman's two-step tests provide are highly sensitive to sample selection and model specifications. Chan *et al.* (1993) also found that ownership diversification, number of subsidiaries and auditor location (London office in their study) increase total audit fees.

In France, Gonthier-Besacier and Schatt (2007), studying the joint audit process effect on audit fees using a sample of 127 non-financial firms in 2003, reported that along with client size and client risk factors, as suggested by Simunic (1980), joint audit process further affects audit fees. In particular, they found that firms with two Big four auditors pay lower audit fees than comparable firms with one or no Big 4 auditors, after adjusting for firm size. Taylor and Simon (1999) hypothesized that increased litigation pressure, disclosure and regulations lead to an increase in total audit fees. In their paper they combined observations on 20 countries into a single sample and developed a model with two sets of variables: 1) microeconomic variables that deal with firm-specific audit fee determinants like in Simunic's (1980) model; and 2) macroeconomic variables that describe the political/economic environment for each country (i.e., litigation propensity, disclosure and regulation). They found that litigation pressure, disclosure and regulations increase audit fees.

Furthermore, in emerging markets, Simunic's (1980) model successfully explains up to 83% of the variance in total audit fees. Hassan and Naser (2013) reported, using data on 65 listed non-financial companies in the Abu Dhabi Stock Exchange in 2011, a significant effect of client size, client operational complexity and audit report lag on total audit fees. Low *et al.* (1990) also applied the Simunic (1980) audit pricing model on 291 listed firms in the Singapore Stock Exchange in 1986. They reported similar findings, with client size being the strongest determinant of audit fees. Similarly, Joshi and Al-Bastaki (2000) applied the model to 38 listed firms in the Bahrain Stock Exchange in 1998, providing similar results.

Different from Anglo-American markets, there are two distinctive features of the Chinese financial market that, in turn, might affect the quality of audit services in the country. First, there is the complicated ownership structure of the Chinese stock market, where the state exerts influence over listed firms (Gillis, 2014: 257). There is the weak legal enforcement and application of courts, where the state is dominating the economy, even when it gives up direct control (Wong, 2016). Second, the Chinese audit market is diffused compared to the audit market in more developed markets (i.e., the UK and US), as less than 5% of Chinese listed firms are audited by one of the international Big 4 audit firms, while the remaining market share is split between Chinese Big 6 and small audit firms with 55% and 40% market share, respectively. Moreover, a wave of regulations has affected the Chinese financial and audit markets in the last few decades that aims to limit state control and develop the accounting industry (i.e., the SSSR and Document 56).

Wang *et al.* (2008) estimated an audit fee model using a sample of Chinese listed firms from 2001 to 2003, assuming that audit pricing is a function of demand for a high-quality audit. They assumed that LSOEs have less demand for high-quality, reputable audit firms and, hence, they will receive an audit fee discount. Their results supported their argument. They observed, however, a mediating effect of auditor choice on this audit fee discount. In particular, they found that small auditors charge LSOEs less than NSOEs, but do not give such a discount for Central SOEs (CSOEs). This result explains the lower demand for high-quality audit firms by LSOEs compared with both NSOEs and CSOEs during their study period.

Hu *et al.* (2012), using more recent Chinese data for 1,428 listed firms in 2008, investigated the impact of the ultimate ownership on audit fees in China. In their study, they also distinguished between three types of ownership (LSOEs, CSOEs and NSOEs) and found that due to the wave of mergers between audit firms, the shape of the Chinese audit market has changed. They provided evidence that contrasts with Wang *et al.* (2008), where, due to the bargaining power that the CSOEs have and the lower audit risk they face, they pay the least audit fees followed by LSOEs and finally NSOEs. This demonstrates the argument by Hu *et al.* (2012) that external audit is an economic good to the client and the quantity of audit demanded is a trade-off between the client's benefits (i.e., having the auditors attest that the financial reports are reliable) and costs (i.e., potential legal liability) from hiring a high-quality audit firm. However, Abu Khalaf and Al-Tarawneh (2019) introduced the argument that the governance level in firms improves as the experience of the management increases and the board size gets smaller. Their findings, from the Jordanian market, might not apply in the Chinese context where the government support for SOEs dominates the market.

Liu and Subramaniam (2013) further supported the Hu *et al.* (2012) argument by studying 8,116 Chinese firm-year observations for the period from 2001 to 2008. In their study, they also divided SOEs into central and local SOEs to study the ownership effect on audit fees and further investigate how audit firm size affects the audit fee discount charged to these types of SOEs. They followed a trade-off argument between the federal benefits, such as preferential access to capital and government bailout in financial distress (Wang *et al.* (2008)) and costs associated with state ownership (i.e., litigation risk). They argued that audit firms' benefits from their CSOE clients outweigh the potential litigation cost, although CSOEs are larger and have more complicated operations. This is because central SOEs follow stricter regulations and enjoy stronger oversight compared with LSOEs. Nonetheless, they only receive an audit fee discount if a small audit firm that is less concerned about reputation maintenance is assigned, following the argument that small audit firms are less conservative than more prominent audit firms. Audit quality is not independent of the audit firm size, as DeAngelo (1981) argued.

In this study, we focus on the structural changes and reforms in the Chinese financial and audit markets and their impact on the pricing of audit services and, hence, audit quality. In particular, we investigate the influence of the state over audit quality in China, the impact of the SSSR that represents the third and final wave of privatization in China and how it affects the state's influence over audit fees. Furthermore, we investigate China's effort to develop its domestic accounting industry to compete with the international Big 4 audit firms through the announcement of Document 56, which sets a five-year policy starting from 2009 to create a structure of "10-200-7000" audit firms to provide services to large, medium and small audit firms, respectively. To do so, we study audit quality from a supply point of view, where following Liu and Subramaniam (2013) will allow us to examine how these reforms affect audit firms' perceptions and behavior.

The first hypothesis is to examine the conjecture that government influence impairs audit quality. Hence, we classify firms into LSOEs or NSOEs, following Clause 41 of the Guidelines for the Articles of Association of Listed Companies released by the China Securities Regularity Commission (CSRC),[7] Furthermore, we predict that audit quality for LSOEs is lower compared to NSOEs. Hence, the audit fees charged to LSOEs will be lower than those for NSOEs after controlling for the other determinants that affect total audit fees charged.

Hypothesis 1. *Ceteris paribus*, auditors of LSOEs exhibit lower audit quality compared to auditors of NSOEs.

We then investigate the role of the assigned auditor in moderating this relationship. Unlike previous literature that treats auditor choice as a dichotomy, we distinguish between three auditors (i.e., the international Big 4, Chinese Big 6 and other small Chinese audit firms).[8] The argument is that both the international Big 4 and the domestic Big 6 audit firms produce higher quality audits than other small audit firms. However, the international Big 4 audit firms enjoy more independence and follow stricter procedures regarding risk assessment compared to domestic Big 6 audit firms when they audit an LSOE. Hence, the next hypothesis is to investigate the role of the auditor in moderating state influence over audit quality as follows:

Hypothesis 2a. *Ceteris paribus*, the international Big 4 and the domestic Big 6 audit exhibit higher audit quality than other small Chinese audit firms.

Hypothesis 2b. *Ceteris paribus*, Big 10 auditor choice moderates LSOE negative impact on audit quality.

We also investigate the effect of Taylor and Simon's (1999) macroeconomic factors on audit pricing (i.e., litigation, disclosure and regulatory environments). The NERI publishes periodic reports that show differences across regions in mainland China. We differentiate between China's 31 different provinces based on market development to investigate how this affects audit quality (as proxied for by the pricing of audit services). Hence, we form the following hypotheses examining the role of market development in enhancing higher-quality audits in China.

Hypothesis 3. *Ceteris paribus*, audit quality increases as firms move to regions of higher market development scores.

Finally, we build on previous literature investigating how structural reforms (i.e., privatization and changes in regulations) affect audit quality. Guedhami *et al.* (2009), using a cross-country sample, provide empirical evidence that privatization (i.e., when ownership moves from the state to private investors) enhances higher-quality auditor choice. Hence, we conjecture that the SSSR will limit government influence over audit fees.[9] Furthermore, we investigate the effect of the announcement of Document 56, which aims to develop the Chinese domestic accounting profession, on audit fees. We conjecture that it will also enhance auditor quality following the stream of literature that showed a positive impact of regulations and standard changes that aim to improve audit quality (DeFond *et al.,* 2000; Chen *et al.,* 2001; Chen *et al.,* 2010; Chi *et al.,* 2013) on audit quality. Hence, the last two hypotheses are formed as follows:

Hypothesis 4. *Ceteris paribus*, after the SSSR, there is an increase in overall audit quality.

Hypothesis 5. *Ceteris paribus*, after the announcement of Document 56, there is an increase in overall audit quality.

Methodology

Table 1 summarizes the definition of the variables used in this paper. To test the research hypotheses, we build on Simunic's (1980) audit pricing model and its developments (Chan *et al.,* 1993; Taylor and Simon, 1999; Joshi and Al-Bastaki, 2000; Gonthier-Besacier and Schatt, 2007; Wang *et al.,* 2008; Hu *et al.,* 2012; Hassan and Naser, 2013; Liu and Subramaniam, 2013) to better specify the determinants of audit fees. We also include experimental variables capturing state influence and the structural reforms during the

study period (i.e., the SSSR and Document 56).[10] We assume that a firm's characteristics determine the audit fee charged. Hence, the experimental variables will test the impact of the state influence over audit fees and the impact of the structural reforms in the Chinese market during the study period (i.e., the SSSR and Document 56) on the pricing of audit services. As a result, we first run the following estimation model[11] as a benchmark.

$$\begin{aligned} &ln\ (Total\ Audit\ Fees) \\ &= b_0 + b_1 Local\ SOE_{it} \\ &+ b_2 International\ Big\ 4_{it} \\ &+ b_3 Domestic\ Big\ 6 + b_4 MDI_{it} \\ &+ \sum_{k=8}^{n} \beta_k\ Control_{it} \end{aligned} \qquad (1)$$

We then rerun the estimation model to include the auditor choice's moderating impact on the state influence over audit quality as in Equation 2.

$$\begin{aligned} &ln\ (Total\ Audit\ Fees) \\ &= b_0 + b_1 Local\ SOE_{it} \\ &+ b_2 International\ Big\ 4_{it} \\ &+ b_3 Local\ SOE. International\ Big\ 4_{it} \\ &+ b_4 Domestic\ Big\ 6 \\ &+ b_5 Local\ SOE. Domestic\ Big\ 6_{it} + b_7 MDI_{it} \\ &+ \sum_{k=8}^{n} \beta_k\ Control_{it} \end{aligned} \qquad (2)$$

Finally, we incorporate the impact of the SSSR and Document 56 to test the hypotheses as follows.

$$\begin{aligned} &ln(Total\ Audit\ Fees) \\ &= b_0 + b_1 Local\ SOE_{it} \\ &+ b_2 International\ Big\ 4_{it} \\ &+ b_3 Local\ SOE. International\ Big\ 4_{it} \\ &+ b_4 Domestic\ Big\ 6 \\ &+ b_5 Local\ SOE. Domestic\ Big\ 6_{it} + b_7 MDI_{it} \\ &+ \beta_8 Post\ SSSR + \beta_9 Post\ Document\ 56 \\ &+ \sum_{k=10}^{n} \beta_k\ Control_{it} \end{aligned} \qquad (3)$$

Simunic's (1980) audit pricing model is based on a cross-sectional ordinary least squares (OLS) linear regression equation. We, however, follow Cahan *et al.* (2011), Eshleman and Lawson (2017) and Ghosh and Lustgarten (2006) and run a pooled OLS regression model on all firm-year observations combined to obtain a bigger sample size and test for the impact of the structural reforms over the study period (i.e., before and after each of the SSSR and Document 56) using the aggregated sample.

Table (1): Variable definitions

Variable	Definition
Auditor Characteristics	
International Big 4	A dummy variable equal to 1 if the auditor is an international Big 4 and 0 otherwise
Domestic Big 6	A dummy variable equal to 1 if the auditor is a domestic Big 6 and 0 otherwise
Big 10 Auditor	A dummy variable equal to 1 if the auditor is a Big 10 and 0 otherwise
Log of Real Audit Fees	Log of audit fees adjusted for inflation through the use of CPI
Audit Fees to Assets	Total audit fees to total assets
MAO Last Year	A dummy variable equal to 1 if the firm received a modified auditor opinion in the previous year and 0 otherwise
Audit Tenure	The period the client kept the same auditor - data from 2003 onwards
Post Document 56	A dummy variable for the event of the State Council's national policy announcement (Document 56)

Ownership Structure	
LSOE	A dummy variable equal to one if the firm is classified as a local state-owned enterprise and 0 otherwise
Post SSSR	A dummy variable equal to 1 if the firm completed the Split-share Structure Reform and 0 otherwise.
Regional Development	
MDI	Market Development Index
Firm Characteristics	
Ln (Total Assets)	The natural logarithm of total assets
Sales Growth	The natural logarithm of (current sales/previous sales)
RoA	Return on total assets
Leverage	Total debt to total assets
Current Ratio	Current assets to current liabilities
Receivables & Inventories	The sum of receivables and inventories as a proportion of total assets
Asset Turnover	Sales to total assets
Equity Issuance	A dummy variable equal to 1 if the firm issued new shares during the year and 0 otherwise
Loss Last Year	A dummy variable equal to 1 if the firm incurred losses in the previous year and 0 otherwise

We include industry and region dummies to allow for different intercepts based on the region in which the firm is located and its industry. We finally consider the dynamic behavior of audit fees, where Kacer *et al*. (2018) reported that audit fees are persistent over time. Hence, we use different estimation methods that consider this (i.e., GMM). In the GMM estimation model, as illustrated later in this paper, we use an adjustment of the Arellano-Bond estimator and use the last year's audit fee as a determinant of the current year audit fee (using lagged dependent variable first-differences as suitable instrumental variables (IVs)) after controlling for multicollinearity (Roodman, 2009).[12,13]

Data and Sample

The sample comprises all Chinese listed firms for the period from 2003 to 2014. We start in 2003, where data on ownership structure started to be publicly available through the China Stock Market and Accounting Research (CSMAR) database. Audit firms are classified based on the CICPA Top-100 Accounting Firms, which published these reports annually since 2003 based on variant audit quality indicators (i.e., total revenue, number of employed CPAs, internal governance and practice quality). Regional development data is constructed based on the National Economic Research Institute (NERI) periodic reports on Index of Marketization of China's provinces from 1997 to 2014. Table 2 presents the sample selection process, where data on 1,826 listed firms is used in the analysis.

We restrict the sample to non-financial firms issuing A-shares only[14]. Furthermore, observations with missing data are removed. We also exclude observations during the SSSR; the sample can be divided into three periods (i.e., before the SSSR, after the SSSR and after Document 56). This sample allows the conducting of several tests on the determinants of audit fees (i.e., cross-sectional analysis, pooled OLS and dynamic panel data), as illustrated later in this paper.

Table (2): Sample selection

	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Number of listed firms	1,178	1,209	1,154	1,137	1,188	1,368	1,531	1,743	2,041	2,437	2,485	2,613
Less: firms with B-shares or H-shares	12	11	10	10	16	18	66	145	244	372	394	437
Less: firms in the financial industry	26	25	23	23	26	31	31	35	39	43	37	43
Less: firms without ownership information	6	4	1	1	4	4	6	7	5	12	24	34
Less: CSOEs	185	197	197	204	202	234	256	271	287	298	305	310
Less: firms without financial information	96	121	60	92	132	94	107	163	155	126	86	132
Final sample	**853**	**851**	**863**	**807**	**808**	**987**	**1,065**	**1,122**	**1,311**	**1,586**	**1,639**	**1,657**

Data covers the period from 2003 to 2014, including 13,549 firm-year observations. Financial data and data on ownership structure is available publicly at the CSMAR database. All continuous variables are winsorized at the top and bottom 1%.

Table 3 demonstrates the audit market structure of Chinese listed firms over the study period from 2003 to 2014. In particular, it shows the market share of clients for each audit type, along with information on total assets audited and total audit fees. From the table, we can notice that the international Big 4 audit firms maintain an average market share of 4% of clients. Nonetheless, this percentage accounts for 18% and 13% of total assets audited and total audit fees, respectively. Domestic Big 6 audit firms' market share grew from as little as 5% in 2003 to almost 60% of total firms by the end of 2014. This substantial increase is reflected in the reduction of the non-Big-10 audit firms' market share and the growing number of listed firms in China during the study period. Moreover, by 2014, the domestic Big 6 audit firms audited almost 50% of firms' total assets and earned around 50% of all firms' total audit fees.

The remaining non-Big-10 audit firms' market share dropped substantially in all three market share indicators as follows. The number of clients dropped from 91% of total firms in 2003 to as little as 4% in 2014. Both total assets audited and total earnings dropped from an average of 80% in 2003 to around 35% by the end of the study period.

Table (3): Audit market share by audit type from 2003 to 2014

Auditor Choice	**Ownership Type**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
International Big 4	Number of Clients	0.04	0.03	0.04	0.04	0.05	0.04	0.04	0.04	0.05	0.04	0.04	0.04
	Total Assets Audited	0.14	0.14	0.17	0.19	0.21	0.18	0.20	0.19	0.20	0.20	0.19	0.19
	Total Audit Fees	0.07	0.06	0.08	0.12	0.18	0.14	0.13	0.13	0.16	0.16	0.15	0.14
Domestic Big 6	Number of Clients	0.05	0.05	0.06	0.09	0.12	0.19	0.29	0.31	0.34	0.50	0.55	0.56
	Total Assets Audited	0.08	0.06	0.09	0.13	0.14	0.23	0.28	0.30	0.31	0.43	0.47	0.48
	Total Audit Fees	0.07	0.06	0.07	0.11	0.13	0.21	0.30	0.31	0.33	0.46	0.50	0.51
Non-Big-10	Number of Clients	0.91	0.91	0.90	0.87	0.83	0.77	0.68	0.65	0.61	0.46	0.41	0.40
	Total Assets Audited	0.78	0.80	0.73	0.68	0.66	0.59	0.53	0.51	0.50	0.37	0.33	0.34
	Total Audit Fees	0.86	0.88	0.84	0.77	0.69	0.65	0.56	0.55	0.50	0.39	0.35	0.35

Data covers the period from 2003 to 2014, including 13,549 firm-year observations. Total assets and total Audit fees percentages are calculated using data in Yuan currency for all firms.

Results

Table 4 summarizes the variables we use to examine the determinants of audit fees in China as a surrogate for audit quality. The table reports how the averages change[15] for each variable throughout the sample period. We can see the decrease in the number of SOEs throughout the sample period due to the SSSR, from 68% in 2003 to 35% in 2014. We can also compare the variable means across the sample period and between the two types of ownership (SOEs and NSOEs). All continuous variables are winsorized at the top and bottom 1% to limit extreme values and potential outliers. We also use the Consumer Price Index (CPI) to adjust audit fees to control for changes due to inflation.[16]

Table (4): Mean value for firm characteristics by ownership type

Firm Characteristics	Ownership Type	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Big 10 Auditor %	All firms	0.09	0.09	0.10	0.13	0.17	0.23	0.32	0.35	0.39	0.54	0.59	0.60
	LSOEs	0.10	0.09	0.12	0.15	0.17	0.25	0.33	0.36	0.39	0.51	0.56	0.57
	NSOEs	0.07	0.08	0.08	0.10	0.16	0.20	0.32	0.34	0.38	0.56	0.62	0.61
International Big 4 %	All firms	0.04	0.03	0.04	0.04	0.05	0.04	0.04	0.04	0.05	0.04	0.04	0.04
	LSOEs	0.04	0.03	0.04	0.05	0.05	0.05	0.05	0.06	0.07	0.07	0.07	0.07
	NSOEs	0.04	0.04	0.04	0.03	0.05	0.04	0.02	0.02	0.03	0.02	0.03	0.03
Domestic Big 6 %	All firms	0.05	0.05	0.06	0.09	0.12	0.19	0.29	0.31	0.34	0.50	0.55	0.56
	LSOEs	0.06	0.06	0.07	0.10	0.12	0.21	0.28	0.31	0.32	0.44	0.49	0.51
	NSOEs	0.03	0.05	0.04	0.07	0.11	0.17	0.30	0.32	0.36	0.53	0.59	0.58
LSOE %	All firms	0.68	0.65	0.61	0.56	0.54	0.52	0.50	0.47	0.43	0.37	0.36	0.35
MDI	All firms	6.65	7.28	8.03	8.42	8.89	8.66	9.02	9.02	9.30	9.80	9.98	10.39
	LSOEs	6.63	7.25	7.89	8.30	8.73	8.43	8.75	8.75	8.91	9.24	9.45	9.85
	NSOEs	6.69	7.35	8.24	8.59	9.09	8.93	9.28	9.26	9.58	10.13	10.27	10.69
Ln (Total Assets)	All firms	21.08	21.15	21.16	21.24	21.38	21.37	21.45	21.61	21.78	21.83	21.94	22.07
	LSOEs	21.19	21.31	21.36	21.52	21.69	21.73	21.83	22.01	22.23	22.32	22.44	22.56
	NSOEs	20.86	20.86	20.84	20.88	21.02	20.99	21.08	21.26	21.44	21.54	21.66	21.80
Sales Growth	All firms	0.14	0.18	0.03	0.11	0.19	0.08	0.04	0.23	0.18	0.08	0.12	0.06
	LSOEs	0.14	0.19	0.09	0.11	0.20	0.08	0.05	0.22	0.17	0.06	0.08	0.02
	NSOEs	0.15	0.15	-0.05	0.11	0.17	0.07	0.02	0.24	0.19	0.09	0.14	0.08
RoA	All firms	0.01	0.00	-0.01	0.01	0.05	0.02	0.03	0.05	0.04	0.04	0.04	0.03
	LSOEs	0.02	0.02	0.01	0.02	0.04	0.02	0.02	0.04	0.04	0.03	0.03	0.02
	NSOEs	-0.02	-0.02	-0.04	-0.01	0.06	0.03	0.04	0.05	0.05	0.04	0.04	0.04
Leverage	All firms	0.26	0.26	0.26	0.26	0.23	0.22	0.21	0.20	0.18	0.16	0.16	0.15
	LSOEs	0.24	0.25	0.25	0.24	0.23	0.23	0.22	0.21	0.20	0.19	0.19	0.18
	NSOEs	0.31	0.29	0.29	0.28	0.23	0.22	0.20	0.18	0.16	0.15	0.15	0.14
Current Ratio	All firms	1.48	1.41	1.39	1.38	1.40	1.53	1.61	1.85	2.30	2.35	2.18	2.08
	LSOEs	1.51	1.41	1.39	1.31	1.30	1.31	1.38	1.44	1.53	1.53	1.48	1.52
	NSOEs	1.42	1.41	1.39	1.46	1.52	1.76	1.84	2.23	2.87	2.84	2.58	2.38
Receivables & Inventories	All firms	0.30	0.31	0.31	0.30	0.25	0.27	0.26	0.27	0.28	0.28	0.27	0.28
	LSOEs	0.28	0.29	0.29	0.27	0.23	0.24	0.23	0.24	0.24	0.25	0.24	0.24
	NSOEs	0.33	0.35	0.34	0.34	0.28	0.30	0.29	0.29	0.30	0.29	0.29	0.29
Asset Turnover	All firms	0.56	0.62	0.65	0.67	0.71	0.73	0.65	0.69	0.70	0.66	0.65	0.62
	LSOEs	0.58	0.66	0.70	0.72	0.76	0.74	0.67	0.70	0.72	0.68	0.67	0.62
	NSOEs	0.50	0.54	0.57	0.62	0.66	0.71	0.64	0.68	0.68	0.65	0.65	0.62
Equity Issuance	All firms	0.16	0.23	0.15	0.34	0.32	0.37	0.25	0.32	0.37	0.30	0.29	0.35
	LSOEs	0.15	0.23	0.13	0.27	0.27	0.31	0.22	0.25	0.27	0.23	0.21	0.22
	NSOEs	0.17	0.22	0.18	0.42	0.39	0.43	0.29	0.39	0.44	0.35	0.34	0.42

Loss Last Year	All firms	0.13	0.13	0.13	0.20	0.11	0.07	0.17	0.12	0.07	0.08	0.09	0.10
	LSOEs	0.11	0.10	0.10	0.15	0.08	0.06	0.16	0.12	0.06	0.09	0.11	0.11
	NSOEs	0.17	0.18	0.16	0.28	0.15	0.08	0.17	0.12	0.07	0.07	0.08	0.09
Audit Tenure	All firms	1.00	1.88	2.59	2.98	3.24	3.40	3.52	4.14	4.21	3.90	3.86	4.47
	LSOEs	1.00	1.90	2.61	3.05	3.34	3.56	3.64	4.35	4.60	4.40	4.29	4.90
	NSOEs	1.00	1.85	2.56	2.88	3.12	3.21	3.41	3.94	3.92	3.60	3.61	4.24
Ln (Real Audit Fees)	All firms	21.08	21.11	21.10	21.17	21.26	21.20	21.28	21.41	21.53	21.55	21.64	21.74
	LSOEs	21.19	21.27	21.31	21.44	21.57	21.55	21.66	21.81	21.98	22.04	22.14	22.24
	NSOEs	20.86	20.82	20.78	20.81	20.90	20.81	20.92	21.06	21.19	21.26	21.36	21.48
Audit Fees to Assets	All firms	0.36	0.36	0.36	0.37	0.37	0.40	0.40	0.37	0.34	0.33	0.31	0.29
	LSOEs	0.32	0.31	0.30	0.28	0.27	0.28	0.28	0.26	0.24	0.23	0.22	0.20
	NSOEs	0.45	0.45	0.46	0.48	0.50	0.53	0.51	0.47	0.42	0.39	0.36	0.34
CPI	All firms	438.70	455.80	464.00	471.00	493.60	522.70	519.00	536.10	565.00	579.70	594.80	606.70

Variables are defined in Table 1. All continuous variables are winsorized at the top and bottom 1%.

We also test whether the independent variables have any multicollinearity problems. Table 5 reports the correlation coefficients matrix for the variables we use in the analysis. From the table and after running Variance Inflation Factor (VIF) tests (not tabulated), there seem to be no collinearity problems.

Table (5): Correlation coefficients

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**
1 Big 10 Auditor	1.00																		
2 International Big 4	**0.28**	1.00																	
3 Domestic Big 6	**0.91**	**-0.14**	1.00																
4 Ln (Real Audit Fees)	**0.32**	**0.36**	**0.18**	1.00															
5 MAO	**-0.06**	**-0.03**	**-0.05**	**-0.11**	1.00														
6 Post Document 56	**0.35**	0.00	**0.36**	**0.33**	**-0.08**	1.00													
7 Post SSSR	**0.27**	0.02	**0.27**	**0.28**	**-0.12**	**0.55**	1.00												
8 LSOE	**-0.09**	**0.06**	**-0.12**	**0.04**	**-0.05**	**-0.19**	**-0.14**	1.00											
9 MDI	**0.28**	**0.07**	**0.25**	**0.28**	**-0.08**	**0.33**	**0.33**	**-0.20**	1.00										
10 Ln (Total Assets)	**0.21**	**0.24**	**0.11**	**0.70**	**-0.25**	**0.26**	**0.23**	**0.22**	**0.12**	1.00									
11 Sales Growth	**-0.02**	0.00	**-0.02**	**0.04**	**-0.18**	**0.02**	0.02	0.00	**-0.02**	**0.13**	1.00								
12 RoA	**0.08**	**0.05**	**0.06**	**0.13**	**-0.41**	**0.13**	**0.17**	**-0.03**	**0.11**	**0.19**	**0.32**	1.00							
13 Leverage	**-0.12**	**-0.03**	**-0.11**	-0.02	**0.22**	**-0.23**	**-0.20**	**0.09**	**-0.17**	**0.08**	**-0.05**	**-0.39**	1.00						
14 Current Ratio	**0.08**	**-0.05**	**0.10**	**-0.09**	**-0.12**	**0.18**	**0.11**	**-0.20**	**0.12**	**-0.13**	**-0.02**	**0.20**	**-0.42**	1.00					
15 Receivables & Inventories	**-0.02**	**-0.06**	0.00	-0.01	**-0.02**	**-0.03**	**-0.07**	**-0.13**	**0.08**	0.01	**0.03**	**-0.09**	**0.07**	-0.01	1.00				
16 Asset Turnover	0.01	-0.01	0.01	**0.15**	**-0.09**	0.01	**0.05**	**0.04**	**0.11**	**0.08**	**0.16**	**0.14**	**-0.09**	**-0.10**	**0.04**	1.00			
17 Equity Issuance	**0.04**	0.00	**0.05**	**0.10**	**-0.11**	**0.07**	**0.12**	**-0.14**	**0.09**	**0.13**	**0.17**	**0.18**	**-0.08**	**0.11**	-0.01	**0.03**	1.00		
18 Loss Last Year	**-0.06**	**-0.04**	**-0.05**	**-0.11**	**0.32**	**-0.07**	**-0.07**	**-0.02**	**-0.09**	**-0.22**	**-0.08**	**-0.29**	**0.18**	**-0.13**	0.00	**-0.08**	**-0.14**	1.00	
19 Audit Tenure	**0.11**	**0.09**	**0.07**	**0.21**	**-0.06**	**0.28**	**0.32**	0.01	**0.21**	**0.17**	**-0.04**	**0.05**	**-0.04**	**-0.05**	**-0.05**	**0.04**	**-0.03**	**-0.04**	1.00

Variables are defined in Table 1. All continuous variables are winsorized at the top and bottom 1%. Bold numbers indicate significance at 5% level.

Table 6 presents the pooled OLS regression results for the estimation of the models. The estimated regression coefficients are accompanied by the associated t-statistics and are reported based on robust standard errors. In the analysis, we control for industry and region fixed effects by adding industry and region dummies. Model 1 shows the results ignoring the SSSR and Document 56. The results show a fee discount given to LSOEs compared with NSOEs. Moreover, we find that big audit firms (i.e., international Big 4 and domestic Big 6) charge higher audit fees. For the macroeconomic variable introduced by Taylor and Simon (1999), we do not find a significant impact of market development on audit fees.[17] This indicates that after controlling for

the firm's geographic location through region dummies, market development does not have an incremental effect on audit fees.

In model 2, we test whether there is any moderating role for Big ten audit firms in the effect of state influence on audit fees. Nonetheless, the results show no incremental change in audit fees for LSOEs' audit by either the international Big 4 or the domestic Big 6 audit firms compared to other non-Big-10 auditors. Model 3 tests the impact of the structural reforms (i.e., the SSSR and Document 56) on audit fees and hence, audit quality. The results show a decrease in audit quality in the period after the SSSR. Nonetheless, after the announcement of Document 56, there is a slight improvement in audit quality.[18]

Other control variables prove to be functional determinants of audit fees as follows. Audit tenure increases audit fees, suggesting that the audit period does not impair audit quality. Firms with MAOs and loss-making firms are charged higher audit fees the following year. Client size is an important determinant of audit fees while firm profitability and liquidity, measured by RoA and Current Ratio, slightly reduce audit fees. Firms with a higher leverage ratio have lower audit fees, but the results are only slightly significant. Finally, receivables plus inventories to total assets variable do not reflect the complexity of operations as they do not affect audit fees.[19]

Table (6): Regression analysis of the determinants of audit fees - OLS panel estimates of audit fees

Dependent Variable: Log of Real Audit Fees	Model 1	Model 2	Model 3
LSOE	-0.100***	-0.109***	-0.110***
	(-6.341)	(-6.336)	(-6.298)
International Big 4	0.587***	0.601***	0.600***
	(13.783)	(8.943)	(8.924)
International Big 4. LSOE		-0.019	-0.018
		(-0.227)	(-0.222)
Domestic Big 6	0.080***	0.065***	0.063***
	(5.864)	(4.104)	(3.906)
Domestic Big 6. LSOE		0.035	0.038
		(1.355)	(1.457)
MDI	0.006	0.006	0.008
	(1.189)	(1.278)	(1.428)
Post SSSR			-0.037***
			(-3.129)
Post Document 56			0.020*
			(1.818)
Log Total Assets	0.309***	0.308***	0.308***
	(38.883)	(38.827)	(37.997)
Sales Growth	-0.048***	-0.047***	-0.048***
	(-5.840)	(-5.797)	(-5.924)
RoA	-0.119**	-0.118**	-0.105**
	(-2.277)	(-2.248)	(-2.001)
Leverage	-0.087**	-0.089**	-0.090**
	(-1.983)	(-2.012)	(-2.010)
Current Ratio	-0.011***	-0.011***	-0.011***
	(-3.771)	(-3.732)	(-3.828)

(Receivables plus Inventories) to Assets	0.005	0.006	0.000
	(0.121)	(0.129)	(0.009)
Asset turnover	0.109***	0.108***	0.109***
	(6.361)	(6.345)	(6.420)
Equity Issuance	-0.000	-0.000	0.002
	(-0.023)	(-0.037)	(0.190)
Loss Last Year	0.050***	0.050***	0.051***
	(4.400)	(4.390)	(4.446)
Audit Tenure	0.004*	0.004*	0.005**
	(1.959)	(1.909)	(2.041)
MAO Last Year	0.168***	0.167***	0.167***
	(7.760)	(7.717)	(7.713)
Constant	6.237***	6.246***	6.255***
	(36.676)	(36.599)	(35.851)
Adjusted R^2	0.568	0.568	0.568
Industry Dummies	Yes		
Region Dummies	Yes		
Observations	13549		

Variables are defined in Table 1. *, ** and *** denote 10%, 5% and 1% significance levels, respectively.

For additional analysis, we consider the persistence in audit fees over time. In particular, we test the De Villiers *et al.* (2013) argument on the stickiness of audit fees and that audit fees do not adjust immediately based on the determinants of audit fees in the audit pricing models. In their paper, they assumed that the change in audit fees takes from one year to four years until it is reflected in actual prices. Hence, we apply a change model, where we regress the actual change in audit fees (i.e., current year audit fee minus last year's audit fee) on the experimental and control variables.[20] The results are as reported and discussed in Appendix B.

Finally, we employ dynamic panel estimates to test for the persistence of audit fees over time by including last year's audit fee as a determinant of current year audit price. We follow Kacer *et al.* (2018) and run a simple OLS regression estimate of audit fees using last year's audit fee as the only explanatory variable of the current audit fee. Then, GMM estimation models are run to incorporate the other control and experimental variables in the analysis. The results are reported and discussed in Appendix C.

Summary and Conclusions

This study has explored the structural reforms in the Chinese market that aimed to develop the country's domestic accounting industry (i.e., the SSSR and Document 56). In China, where the government plays a crucial role in the financial and audit markets, we investigate two main factors that can affect audit quality. First, we study how state influence, by differentiating between LSOEs and NSOEs, affects China's audit quality. Second, we highlight the regional differences in market development across China's 31 provinces. Finally, we considered the moderating role of auditor choice in this relationship. In particular, we differentiate between three types of audit firms: international Big 4, domestic Big 6 and other non-Big-10 Chinese audit firms.[21]

Using a sample of 1,826 Chinese listed firms from 2003 to 2014, we used higher audit fees as a surrogate for higher audit quality. The empirical results show that LSOEs receive an audit fee discount regardless of

the audit firm type; hence, state influence impairs audit quality. Nonetheless, the results report higher audit fees charged by big audit firms, both domestic Big 6 and international Big 4. This implies that the Big ten audit firms provide a higher quality audit than other small audit firms. Finally, the investigation of the two major reforms (i.e., the SSSR and Document 56) shows a decrease in audit quality after the SSSR, followed by a slight increase in audit fees in the period after the announcement of Document 56. As for additional analysis, the use of different proxies of audit fees does not affect this study's findings. However, it is important to understand the pricing behavior that audit firms follow and how they can model audit pricing.[22] In this study, we assumed that audit services' pricing is solely dependent on a firm's characteristics and the current year's firm characteristics will reflect any persistence in audit fees. Other research that assumes that audit fees are persistent over time and are a function of the change in either firm characteristics or last year's prices uses different audit pricing estimation models that can derive different conclusions, as discussed in Appendices B and C.

The findings of this study cast some light on audit quality in China in the following ways. First, it investigates the impact of government influence on audit quality when China experienced structural reforms in its state capitalism. In particular, it investigates two major reforms (i.e., the SSSR and Document 56) that aim to reduce government control and improve audit quality. This paper also explores the role of market development in improving audit quality. Finally, yet importantly, this paper provides some initial evaluation of China's experience in deregulating its market. This study can help China's practitioners and policymakers follow up with the consequences of the SSSR and Document 56. It can also provide some evidence for other countries with similar ownership structures (i.e., other state-capitalist economies) to import the Chinese experience into their markets.

APPENDIX A
Summary statistics

Variable	Mean	S.D.	Min.	25%	Median	75%	Max.
Big 10 Auditor %	0.35	-	-	-	-	-	-
International Big 4 %	0.04	-	-	-	-	-	-
Domestic Big 6 %	0.31	-	-	-	-	-	-
LSOE %	0.48	-	-	-	-	-	-
MDI	9.03	2.41	2.60	7.33	9.02	11.14	13.33
Ln(Total Assets)	21.59	1.16	18.27	20.82	21.52	22.27	25.26
Sales Growth	0.12	0.40	-2.15	-0.03	0.11	0.25	2.84
RoA	0.03	0.09	-0.97	0.01	0.03	0.06	0.36
Leverage	0.20	0.16	0.00	0.07	0.19	0.31	1.34
Current Ratio	1.84	1.97	0.08	0.90	1.30	2.00	21.12
Receivables & Inventories	0.28	0.18	0.00	0.14	0.25	0.38	0.85
Asset Turnover	0.66	0.48	0.02	0.34	0.55	0.83	3.06

Equity Issuance	0.30	-	-	-	-	-	-
Loss Last Year	0.11	-	-	-	-	-	-
Audit Tenure	3.46	2.50	1.00	2.00	3.00	5.00	12.00
Ln(Real Audit Fees)	13.06	0.53	11.85	12.71	13.00	13.34	15.15
Audit Fees to Assets	0.35	0.38	0.02	0.14	0.24	0.42	3.23

Data covers the period from 2003 to 2014, including 13,549 firm-year observations. Variables are defined in Table 1. All continuous variables are winsorized at the top and bottom 1%.

APPENDIX B

Regression analysis of the determinants of audit fees-OLS panel model estimates of change in audit fees

Dependent Variable: Δ Log of Real Audit Fees	Model 1	Model 2	Model 3
LSOE	-0.017***	-0.014***	-0.012***
	(-4.742)	(-3.413)	(-2.897)
International Big 4	0.030**	0.037**	0.039**
	(2.409)	(2.159)	(2.255)
International Big 4 . LSOE		-0.012	-0.014
		(-0.530)	(-0.589)
Domestic Big 6	0.008**	0.012**	0.011**
	(2.249)	(2.338)	(2.153)
Domestic Big 6 . LSOE		-0.007	-0.010
		(-1.050)	(-1.344)
MDI	0.003***	0.003***	0.001
	(2.644)	(2.580)	(1.256)
Post SSSR			0.025***
			(3.977)
Post Document 56			-0.002
			(-0.412)
Log Total Assets	0.013***	0.013***	0.012***
	(6.732)	(6.762)	(6.336)
Sales Growth	0.070***	0.070***	0.070***
	(9.000)	(8.995)	(8.981)
RoA	0.026	0.025	0.016
	(0.705)	(0.688)	(0.434)
Leverage	0.003	0.003	0.008
	(0.235)	(0.253)	(0.668)
Current Ratio	0.000	0.000	0.000
	(0.136)	(0.127)	(0.128)
(Receivables plus Inventories) to Assets	0.009	0.009	0.013
	(0.924)	(0.920)	(1.285)
Asset turnover	-0.006*	-0.006*	-0.006*
	(-1.680)	(-1.662)	(-1.656)
Equity Issuance	0.050***	0.050***	0.049***
	(11.607)	(11.598)	(11.333)
Loss Last Year	0.006	0.007	0.006
	(0.957)	(0.967)	(0.891)
Audit Tenure	-0.002***	-0.002***	-0.002***

	(-2.843)	(-2.805)	(-3.427)
MAO Last Year	0.012	0.013	0.014
	(1.278)	(1.314)	(1.410)
Constant	-0.268***	-0.271***	-0.266***
	(-6.557)	(-6.598)	(-6.459)
Adjusted R^2	0.050	0.050	0.051
Industry Dummies	Yes		
Region Dummies	Yes		
Observations	11133		

Variables are defined in Table 1. *, ** and *** denote 10%, 5% and 1% significance levels, respectively.

The table shows similar results to the OLS Panel estimates in Table 6 for Models 1 and 2. When considering the change in audit fees instead of total audit fees, the (positive) impact of MDI on audit quality becomes significant. For Model 3, however, there are significant differences between the OLS panel estimates in Table 6, where we observe an increase in the change in audit fees after the SSSR. Moreover, we do not see any impact of Document 56 on audit quality.

APPENDIX C
Regression analysis of the determinants

Panel A: Analysis Deduced from OLS Panel Estimates Of Audit Fees			
Dependent Variable: Log of Real Audit Fees	Model 1		
Lagged Log of Real Audit Fees	0.945***		
	(210.855)		
Constant	0.758***		
	(13.002)		
Observations	11,133		
Adjusted R-squared	0.862		
Dependent Variable: Audit Fees to Assets	Model 2		
Lagged Audit Fees to Assets	0.886***		
	(68.416)		
Constant	0. 029***		
	(7.070)		
Observations	11,133		
Adjusted R-squared	0. 779		
PANEL B: ANALYSIS DEDUCED FORM DYNAMIC PANEL ESTIMATES OF AUDIT FEES– GMM			
Dependent Variable: Log of Real Audit Fees	Model 1	Model 2	Model 3
LSOE	0.079***	0.082***	0.083***
	(3.288)	(3.362)	(3.384)
International Big 4	0.294***	0.399***	0.404***
	(7.548)	(7.311)	(7.445)
International Big 4. LSOE		-0.183***	-0.192***
		(-2.790)	(-2.931)
Domestic Big 6	0.065***	0.088***	0.084***
	(6.834)	(6.968)	(6.626)

Domestic Big 6. LSOE		-0.047***	-0.051***
		(-2.849)	(-3.112)
MDI	0.008*	0.008*	0.005
	(1.901)	(1.906)	(1.117)
Post SSSR			0.013*
			(1.875)
Post Document 56			0.010*
			(1.696)
Lagged Log of Real Audit Fees	0.410***	0.408***	0.411***
	(29.687)	(29.534)	(29.746)
Log Total Assets	0.172***	0.172***	0.165***
	(21.515)	(21.506)	(19.506)
Sales Growth	0.009*	0.008	0.007
	(1.665)	(1.516)	(1.418)
RoA	0.047	0.046	0.036
	(1.468)	(1.438)	(1.110)
Leverage	0.081***	0.083***	0.084***
	(2.833)	(2.915)	(2.930)
Current Ratio	-0.005*	-0.005**	-0.005**
	(-1.949)	(-2.045)	(-2.048)
(Receivables plus Inventories) to Assets	-0.153***	-0.151***	-0.137***
	(-4.365)	(-4.328)	(-3.896)
Asset turnover	-0.005	-0.005	-0.010
	(-0.378)	(-0.315)	(-0.671)
Equity Issuance	0.022***	0.022***	0.023***
	(4.544)	(4.618)	(4.685)
Loss Last Year	0.016**	0.016**	0.016**
	(2.354)	(2.328)	(2.353)
Audit Tenure	0.006***	0.006***	0.005***
	(4.152)	(4.295)	(3.334)
MAO Last Year	0.032***	0.033***	0.034***
	(2.612)	(2.661)	(2.756)
Observations	8965		

Variables are defined in Table 1. *, ** and *** denote 10%, 5% and 1% significance levels, respectively.

The results in panel A show that lagged audit fees explain more than 85% of the variation in the current year audit fee.[23] Hence, the use of OLS estimates will lead to biased estimates and dynamic estimates should be incorporated.[24] Therefore, we use the GMM estimation, using an adjustment of the Arellano-Bond estimator that allows for the use of 'lagged dependent variable first-differences' as suitable instrumental variables (Roodman, 2009).[25] The results of the dynamic GMM estimates, in panel B, show that lagged audit fee is a very important determinant of current-year audit fees. Moreover, the results confirm that there is a slight improvement in audit quality after the SSSR and a further improvement after the announcement of Document 56.[26,27]

NOTES

1 The SSSR is the third wave of privatization in China after the development of SOEs in the 1970s and launching Shanghai and Shenzhen stock exchanges in the early 1990s.

2 We split China into six regions: Metropolis, Northeast, Coast, Central, Northwest and Southwest following Sun and Graham's (2013) classification, which is based on *per capita* GDP data at the provincial level from 1949 to 2011. Data on *per capita* GDP is taken from China Compendium of Statistics (NBS, 2010) and China Statistical Yearbook 2012 (NBS, 2013).

3 Many papers have used Big 10 (including the international Big 4) audit firms to reflect high-quality audit, while others use the international Big 4 audit firms to signal higher quality (Lin and Liu 2009; Li and Luo 2011; Chi et al. 2013; Leung and Cheng 2014)

4 We distinguish between three types of auditors. These are international Big 4, domestic Big 6 and non-Big-10 audit firms.

5 The models use the pricing of audit services as a proxy for audit quality.

6 We control for the changes in audit fees due to inflation throughout the study period by adjusting the prices using China's Consumer Price Index (CPI) using 1978 as our base year =100.

7 A firm is considered as a LSOE if the state or a state agency meets any of the following criteria: "1) the one with the maximum shareholding in the shareholder list of the listed company unless contrary evidence exists; 2) the one who can execute and control superior voting rights than the shareholder with the maximum shareholding of a listed company; 3) the one who holds and controls 30 percent or above of shares and voting rights unless contrary evidence exists; 4) the one who can decide the election of over half of members of the board of directors of a listed company by executing voting rights; 5) the one who is under other circumstances as the stipulations of CSRC (CSMAR, China Listed Firm Shareholders Research Database user guide).

8 Guedhami et al. (2009) and Guedhami et al. (2014) compare between the international Big 4 and all other Chinese audit firms. Chen et al. (2011) used the largest eight firms (i.e., the international Big 4 and the four largest Chinese firms) and all other Chinese audit firms. Wang et al. (2008) used the most significant ten firms (i.e., the international Big 4 and the six largest Chinese firms) and all other Chinese audit firms. Furthermore, Yang (2013) and Liu and Subramaniam (2013) used the largest 14 firms (i.e., the international Big 4 and the ten largest Chinese firms) and all other Chinese audit firms.

9 The SSSR allows LSOEs to sell their shareholdings in the financial markets. Hence, this should reduce government ownership and, in turn, government influence over audit quality. Wang et al. (2008) referred to this situation as the collusion argument of the state with small audit firms.

10 We use LSOE as a proxy for government influence over firms. The firm is set to be an LSOE if the state at its local level is any of the following: i) the one with the maximum shareholding in the shareholder list company unless contrary evidence exists. ii) the one who can execute and control superior voting rights than the shareholder with the maximum shareholding of a listed company. iii) the one who holds and controls 30 percent or above of shares and voting rights unless opposite evidence exists. iv) the one who can decide the election of over half of the board of directors of a listed company by executing voting rights. v) the one who is under other circumstances as the stipulations of CSRC (CSMAR, China Listed Firm Shareholders Research Database user guide).

11 The use of different versions of audit fees (i.e., total audit fees or audit fees to total assets) does not affect the main findings of the study.

12 GMM estimation models use statistical tools that allow for using the lagged dependent variable as one of the independent variables without causing multicollinearity between independent variables by the use of IVs.

13 "A problem with the original Arellano-Bond estimator is that lagged levels are poor instruments for first differences if the variables are close to a random walk" (STATA 15 User manual "help for xtabond2").

14 to keep a sample of firm's subject to the same regulatory environment. For a similar reason and to keep the samples comparable in the three empirical essays in this thesis, we exclude Central SOEs from the sample.

15 We provide summary statistics for the variables used in the analysis in Appendix A.

16 Data on CPI is collected from the National Bureau of Statistics of China for the period from 2003 to 2014 using 1978 prices as the base price to calculate the index and adjust total audit fees to real audit fees.

17 A more detailed investigation of market development effect on audit fees after the SSSR and Document 56 shows that market development becomes an important determinant of audit fees in the period after the SSSR.

18 We test the interaction effect of the SSSR and Document 56 with government ownership and auditor type variables (not tabulated). The results show no significant difference between SOEs and NSOEs, with a slight increase in audit fees charged by the international Big 4 audit firms after the SSSR.

19 Simunic (1980) suggested the ratio of foreign assets to total assets as a measure of operations complexity, which is predicted to increase audit fees. Because of the limited availability of data, we used the ratio of income attributed to subsidiaries as a proxy of a firm's operational complexity and found a positive but not significant effect.

20 We also applied a different model to regress the change in audit fees on the changes in the experimental and control variables. The results (not tabulated) are similar to the change model in Table 7.

21 The ranking is based on the Chinese Institute of Certified Public Accountants CICPA Top-100 Chinese accounting firms for each year for the period 2003 to 2014.

22 The main objective of this study is to investigate how audit quality changes in response to China's recent structural reforms and it uses audit fees as a surrogate of audit quality, following relevant literature. It is not the objective of this study to compare and contrast the different pricing models of audit services.

23 Using audit fees to total assets as a different proxy of audit quality shows a similar result with Adjusted R^2 of around 78%.

24 This is due to the collinearity between lagged audit fees and the other independent variables if we include them in one OLS regression model.

25 "A problem with the original Arellano-Bond estimator is that lagged levels are poor instruments for first differences if the variables are close to a random walk" (STATA 15 User manual "help for xtabond2").

26 In the dynamic GMM estimates, LSOE has a positive impact on audit fees, implying that the results are very sensitive to the audit pricing behaviour we assume (i.e., audit pricing is purely dependent on firm characteristics, changes or the dynamics of the pricing of audit fees).

27 As a robustness check, we rerun the tests using audit fees to total assets as a proxy for audit quality and hence, audit quality. We do not find any major differences from the results deduced using ln (audit fee) except that firm size shows a negative impact on audit fees. This is explained by the economy of scale argument that the larger the firm size, the smaller the relative proportion of audit fees to total assets.

REFERENCES

Abu Khalaf, B., & Al-Tarawneh, A. 2019. Impact of Corporate Governance on the Efficiency of Managing Working Capital in the Manufacturing Sector in Jordan. ***Jordan Journal of Business Administration***, 15 (2): 201-208.

Al Bhoor, A., & Khamees, B. 2016. Audit Report Lag, Audit Tenure and Auditor Industry Specialization Empirical Evidence from Jordan. ***Jordan Journal of Business Administration***, 12 (2): 459-479.

Aobdia, D. 2018. Do Practitioner Assessments Agree with Academic Proxies for Audit Quality? Evidence from PCAOB and Internal Inspections. ***Journal of Accounting and Economics***, https://doi.org/10.1016/j.jacceco.2018.09.001.

Cahan, S.F., Jeter, D.C., & Naiker, V. 2011. Are All Industry Specialist Auditors the Same? ***American Accounting Association***, 30 (4): 191-222.

Chan, P., Ezzamel, M., & Gwilliam, D. 1993. Determinants of Audit Fees for Quoted UK Companies. ***Journal of Business Finance & Accounting***, 20 (6): 765-86.

Chen, C.J., Chen, S., & Su, X. 2001. Profitability Regulation, Earnings Management and Modified Audit Opinions: Evidence from China. ***Auditing: A Journal of Practice & Theory***, 20 (2): 9-30.

Chen, H., J. Z. Chen, G. J. Lobo, & Y. Wang. 2011.

Effects of Audit Quality on Earnings Management and Cost of Equity Capital: Evidence from China. ***Contemporary Accounting Research***, 28 (3): 892-925.

Chen, S. 2010. Client Importance, Institutional Improvements and Audit Quality in China: An Office and Individual Auditor Level Analysis. ***The Accounting Review***, 85 (1): 127-158.

Chi, W. *et al.* 2013. Do Regulations Limiting Management Influence Over Auditors Improve Audit Quality? Evidence from China. ***Journal of Accounting and Public Policy***, 32 (2): 176-187.

China Compendium of Statistics. 2010. ***China Statistical Yearbook***. [Online] Available at: http://www.stats.gov.cn (Accessed: 30 September 2018).

Clatworthy, M.A., Makepeace, G.H., & Peel, M.J. 2009. Selection Bias and the Big Four Premium: New Evidence Using Heckman and Matching Models. ***Accounting and Business Research***, 39 (2): 139-166.

CSMAR. 2017. ***China Stock Market and Accounting Research Database***. [Online] Available at http://us.gtadata.com (Accessed: 30 September 2018).

DeAngelo, L.E. 1981. Auditor Size and Audit Quality. ***Journal of Accounting and Economics***, 3 (3): 183-199.

DeFond, M., & Zhang, J. 2014. A Review of Archival Auditing Research. ***Journal of Accounting and Economics***, 58 (2-3): 275-326.

DeFond, M.L., Wong, T.J., & Li, S. 2000. The Impact of Improved Auditor Independence on Audit Market Concentration in China. ***Journal of Accounting and Economics***, 28 (3): 269-305.

De Villiers, C., Hay, D., & Zhang, Z. 2013. Audit Fee Stickiness. ***Managerial Auditing Journal***, 29 (1): 2-26.

Eshleman, J.D., & Lawson, B.P. 2017. Audit Market Structure and Audit Pricing. ***American Accounting Association***, 31 (1): 57-81.

Francis, J.R., & Yu, M.D. 2009. Big Four Office Size and Audit Quality. ***Accounting Review***, 84 (5): 1521-1552.

Ghosh, A., & Lustgarten, S., 2006. Pricing of Initial Audit Engagements by Large and Small Audit Firms. ***Contemporary Accounting Research,*** 23 (2): 333-368.

Gillis, P. 2014. The Big Four and the Development of the Accounting Profession in China. ***Emerald Group Publishing***, Vol. 16.

Gonthier-behavior, N., & Schatt, N.G.A. 2007. Determinants of Audit Fees for French Quoted Firms. ***Managerial Auditing Journal***, 22 (2): 139-160.

Guedhami, O., Pittman, J.A., & Saffar, W. 2009. Auditor Choice in Privatized Firms: Empirical Evidence on the Role of State and Foreign Owners. ***Journal of Accounting and Economics***, 48 (2-3): 151-171.

Guedhami, O., Pittman, J.A., & Saffar, W. 2014. Auditor Choice in Politically Connected Firms. ***Journal of Accounting Research***, 52 (1): 107-162.

Hassan, Y.M., & Naser, K. 2013. Determinants of Audit Fees: Evidence from an Emerging Economy. ***International Business Research***, 6 (8): 13-25.

Hu, N., Wang, F., Wang, P., Yao, L.J., & Zhang, J. 2012. The Impact of Ultimate Ownership on Audit Fees: Evidence from Chinese Listed Companies. ***Asia-Pacific Journal of Accounting & Economics***, 19 (3): 1608-1625.

Jensen, C., & Meckling, H. 1976. Theory of the firm: Managerial Behavior, Agency Costs and Ownership Structure. ***Journal of Financial Economics***, 3: 305-360.

Joshi, P. L., & Al-Pataki, H. 2000. Determinants of Audit Fees: Evidence from the Companies Listed in Bahrain. ***International Journal of Auditing***, 4: 129-138.

Kacer, M., Peel, D.A., Peel, M.J., & Wilson, N. 2018. On the Persistence and Dynamics of Big Four Real Audit Fees: Evidence from the UK. ***Journal of Business Finance & Accounting***, 45 (5-6): 714-727.

Khurana, I.K., & Raman, K.K. 2004. Litigation Risk and the Financial Reporting Credibility of Big Four. ***The Accounting Review***, 79 (2): 473-495.

Kim, J.B., Chung, R., & Firth, M. 2003. Auditor Conservatism, Asymmetric Monitoring and Earnings Management. ***Contemporary Accounting Research***, 20 (2): 323-359.

Leung, N.W., & Cheng, M.-A. 2014. Corporate Governance Mechanisms and Auditor Choice: Evidence from China. ***International Journal of Business and Management***, 9 (9): 41-56.

Li, M., & Luo, D. 2011. Political Connections, Auditor Choice and Auditor Independence: Evidence from Private A-share Listed Firms in China. ***China Accounting and Finance Review***, 13 (2): 22-44.

Lin, Z.J., & Liu, M. 2009. The Impact of Corporate Governance on Auditor Choice: Evidence from China. ***Journal of International Accounting, Auditing and Taxation***, 18: 44-59.

Liu, L., & Subramaniam, N. 2013. Government Ownership, Audit Firm Size and Audit Pricing: Evidence from China. ***Journal of Accounting and Public Policy***, 32: 161-175.

Low, L. Tan, P., & Koh, H. 1990. The Determination of Audit Fees: An Analysis in The Singapore Context. ***Journal of Business Finance and Accounting***, 17: 285-296.

Lu, H., & Fu, J. 2014. Structural Changes in the Chinese Stock Market: A Review of Empirical Research. ***China Accounting and Finance Review,*** 16 (2): 39-67.

McMeeking, K.P., Peasnell, K.V., & Pope, P.F. 2007. The Effect of Large Audit Firm Mergers on Audit Pricing in the UK. ***Accounting and Business Research***, 37 (4): 301-319.

NBS. 2010, 2013. ***National Bureau of Statistics of China***. [Online] Available at http://www.stats.gov.cn/english (Accessed: 30 September 2018).

Roodman, D. 2009. How to Do Xtabond2: An Introduction to Difference and System GMM in Stata. ***Stata Journal***, 9 (1): 86-136.

Seetharaman, A., Gul, F.A., & Lynn, S.G. 2002. Litigation Risk and Audit Fees: Evidence from UK Firms Cross-listed on US Markets. ***Journal of Accounting and Economics***, 33: 91-115.

Simunic, D.A. 1980. The Pricing of Audit Services: Theory and Evidence. ***Journal of Accounting Research***, 18 (1): 161-190.

Song, Z., & Xiong, W. 2018. Risks in China's Financial System. ***Annual Review of Financial Economics***, 10: 261-286.

STATA. 2015. ***User's Guide***. [Online] Available at: https://www.stata.com/manuals/u (Accessed on 30 September 2018).

Sun, Z., & Graham, B. 2013. ***Explaining Regional Disparities of China's Economic Growth: Geography, Policy and Infrastructure***. Ph.D. Thesis. University of California, Berkeley.

Taylor, M.H., & Simon, D.T. 1999. Determinants of Audit Fees: The Importance of Litigation, Disclosure and Regulatory Burdens in Audit Engagements in 20 Countries. ***The International Journal of Accounting***, 34 (3): 375-388.

Wang, Q., Wong, T.-J., & Xia, L. 2008. State Ownership, the Institutional Environment and Auditor Choice: Evidence from China. ***Journal of Accounting and Economics***, 46 (1): 112-134.

Watts, R., Zimmerman, J. 1981. ***Auditors and the Determination of Accounting Standards***. Working Paper. The University of Rochester.

Wong, T.J. 2016. Corporate Governance Research on Listed Firms in China: Institutions, Governance and Accountability. ***Foundations and Trends in Accounting***, 9 (4): 259-326.

Yang, Z. 2013. Do Political Connections Add Value to Audit Firms? Evidence from IPO Audits in China. ***Contemporary Accounting Research***, 30 (3): 891-921.