

**Increasing Auditors' Competence:
The Impact of the ST Regulation of the CSRC**

By

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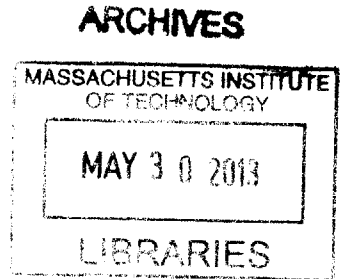
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Abstract

This paper examines the competence and independence of Chinese auditors. I find significant positive correlation between the modified audit opinions (MAOs) of China A-share companies from 2002 to 2011 and parameters of the clients' company-level control risks, auditor changes, and relative client importance. The evidence indicates that Chinese auditors generally demonstrate competence and independence.

I argue that with the "Special Treatment" (ST) regulation, the audit quality of Chinese auditors remains satisfactory; without the ST regulation, the audit quality of Chinese auditors deteriorates. I use the regression results to substantiate that the audit failures of cross-listed Chinese companies occur because of the unavailability of the ST regulation, since the ST regulation has helped to improve the competence of auditors in China.

Finally, I analyze the audit quality of "Big Four" affiliate companies in China, and find that the "Big Four" in China do not exhibit higher audit quality compared to local Chinese auditing firms. In fact, the quality of the "Big Four" auditing firms equals that of their non-"Big Four" peers.

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1. Introduction

1.1 Research Background

In 2011 and 2012, over a hundred Chinese companies listed in the US were scrutinized by the US regulators. The U.S. Securities and Exchange Commission (SEC) has since filed several lawsuits against these companies and their auditors (a few examples are listed in Appendix A). The SEC was suspicious about audit quality in China and required the Chinese affiliates of the “Big Four” public accounting firms to provide their working documents. In addition, the US investors cast doubts about the audit quality of these cross-listed companies through their trading activities: it has been found that “they’ve traded at a discount on all metrics of valuation—typically, in the range of 20 to 30 percent” (David Griffith, 2011).

In this paper, I find that though there are many audit failures in the cross-listed Chinese companies, the audit quality for A-share companies (listed in Shanghai and Shenzhen stock exchanges) in China is generally good. I argue that the audit failures of cross-listed Chinese companies occur because of the unavailability of the “Special Treatment” (ST) regulation. The ST regulation helps improve the auditor competence in China. In other words, I conclude that in an environment that the ST regulation is available, the audit quality will be better than the audit quality in an environment without the ST regulation. Empirical results support my inference. I also use a few real case studies that lend additional credence to my hypotheses. Therefore, I conclude that the absence of ST is a key reason for audit failures in the cross-listed Chinese companies. I recommend that the Chinese Security Regulation Commission (CSRC) also apply the ST regulation to the Chinese companies cross-listed in the US.

1.2 Research Methods and Findings

According to DeAngelo, an auditor's¹ competence and independence jointly determine its audit quality (DeAngelo 1981). Following this classic theory, my study also examines the audit quality in China through analyzing the competence and independence of Chinese auditors. I draw my assumption from the statement of DeAngelo that if a factor influences the audit quality, it must influence either the auditor competence or the auditor independence.

Previous literature usually observes the auditor competence and independence through examining whether auditors are able to address the going-concern issues of financially distressed clients (Libby and Lewis, 1982; Barnes and Huan, 1993). Considering this approach and the typical practices in China, I select the modified audit opinions (MAOs) as the dependent variable to establish my research model. In terms of the independent variables, I select a set of competence variables including asset size (*LnAss*), conservatism (*TATA*), bankruptcy risk (*AZbkprpro*), and ownership concentration (*Biggestown*); I also select two easily observable variables to proxy auditor independence: auditor changes (*AudChg*, a dummy variable), and client-fee-importance (*CI*) for an auditor in a specific year. Chapter 2 elaborates on the audit quality literature, and Chapter 3 illustrates the development of my hypotheses and research methods.

Considering the wide doubts on the audit quality in China, I first hypothesize that the Chinese auditors are either incompetent or client-dependent, or both. However, my study result shows that the audit quality parameter has demonstrated significant positive correlations with the competence and independence variables. Therefore, my first hypothesis is not supported, since

¹ Unless specifically stated in this paper, an “auditor” refers to a public accounting firm rather than an individual accountant.

the evidence between 2002 and 2011 shows the audit quality in China to be satisfactory, in general.

As my findings oppose the perceived low audit quality of the cross-listed Chinese companies (as presented in the first paragraph and Appendix A), my second step is to investigate factors to explain the contradiction.

In the previous literature about the audit quality in China, Cai et al. examined A-share companies in 2003 and pointed out that the asset scales, financial leverages, asset turnover rates, ST-status of clients, and the sizes of auditors are key factors influencing MAOs in China (Cai et al, 2005). Unlike the other factors, the ST-status (the investigation result of ST regulation of the CSRC²) is a unique factor that is available for the A-share companies in China yet is unavailable for the cross-listed Chinese companies in the US. Therefore, it is highly possible that the ST regulation is the factor that reconciles the contradiction between the satisfactory audit quality for A-share companies and the massive audit failures for cross-listed Chinese companies. Following this clue, I add the ST regulation to my original regression model (the model designed to test the first hypotheses), and find a positive correlation between the ST regulation and the audit quality parameter based on the A-share companies' data between 2002 and 2011. The finding reinforces my assumption the relation between the ST regulation and the satisfactory audit quality for the A-share companies. I thus predict that for Chinese auditors, with the ST regulation, the audit quality remains satisfactory; without the ST regulation, the audit quality deteriorates.

Further, according to my assumption that if there is a factor influencing the audit quality, it must influence either the auditor competence or the auditor independence, the ST regulation must

² If a company has previous two continuous years' losses, the company will be marked "special treatment" (ST), which means more monitoring by regulators, higher delisting risks, and fewer re-financing choices.

influence either the auditor competence or the auditor independence, or both. My previous analyses prove that ST influences audit quality in China; however, how the ST regulation improves audit quality is not clear. Cai et al.'s research also failed to explain how the ST regulation improved the audit quality.

My second hypothesis addresses the above question. I test my second hypothesis through adding both the ST variable and interaction variables between the ST regulation and the previous independent variables in my original regression model. I find that MAOs have significant correlation with the ST-competence interaction variables, but have no significant correlation with the ST-independence variables. In addition, MAOs have no significant correlation with the independent ST variable either. My findings demonstrate that the ST regulation of the CSRC mainly improves the competence aspect of the audit quality in China, but does not improve the auditors' independence.

My empirical study uses the data from A-share companies, which are listed in mainland China. In order to reexamine my conclusion about the audit quality of cross-listed Chinese companies in the US, I study one audit failure case mentioned in Appendix A: AUTC. I test if the ST regulation is available in the US, what the auditor of AUTC would have reported, compared with what the auditor actually reported. This case study again supports my conclusion that the audit failures of cross-listed companies occur mainly because there is no such "ST" regulation for the cross-listed Chinese companies; therefore, the auditors are less competent in detecting the misstatement risks of the clients. With the ST regulation, auditors can simply observe the ST status of a company and form a preliminary judgment of the clients' risks.

I recommend that the CSRC regulate the cross-listed companies by applying the ST regulation to all the listed companies that have their main operations in China (no matter where they are listed), and publicly release the “special treatment” notifications. I also recommend domestic regulators such as the US SEC pay more attention to the cross-listed companies from emerging markets, especially those that have suffered continuous losses or have been warned by the regulators in their own countries.

Investors worrying about the audit failures of the cross-listed companies may also recommend that all the cross-listed companies use the “Big Four” auditors to improve audit quality. It has been proved that the capital market usually expects the “nationally recognized accounting firms” to have better audit quality (DeAngelo, 1981). Wong et al. also found that the earnings response coefficients (ERCs) of the “Big Eight”³ clients are statistically significantly higher than those for non-“Big Eight” clients (Wong et al., 1993). The results of Wong et al. implied that investors expect the profits of the clients audited by the “Big Eight” to be more persistent and reliable. In order to test if hiring the “Big Four” is also an alternative solution, I examine the audit quality of the “Big Four” auditors (Deloitte, Ernst & Young, KPMG, PricewaterhouseCoopers) in China by adding one more dummy variable “Big Four” to the regression model, which I have developed to test the previous hypotheses. However, I find that audit quality of the “Big Four” auditors is not better than the audit quality of other local auditors in China. Therefore, simply hiring “Big Four” auditing firms is not sufficient to mitigate the risks of reporting inappropriate audit opinions.

³ Big Eight (B8) refers to the biggest eight public accounting firms in the 1980s. They are: Arthur Andersen, Arthur Young & Company, Coopers & Lybrand, Ernst & Whinney (formerly Ernst & Ernst), Haskins & Sells (merged with European firm to become Deloitte, Haskins and Sells), KPMG (formed by merger of Peat Marwick International and KMG Group), Price Waterhouse, Touche Ross.

1.3 Contributions

This paper has two main contributions. First, it addresses the real problem of the audit failures of cross-listed Chinese companies through an academic study. I demonstrate that the ST regulation is a key factor maintaining the audit quality in China and the absence of the ST regulation accounts for the audit failures of cross-listed Chinese companies in the US. Based on my research, I recommend that the CSRC extend the ST regulation from only applying to A-share companies to applying to all the listed companies that have substantial business in China. Second, this paper, for the first time, illustrates that the ST regulation improves the audit quality in China through enhancing auditor competence. Previous research has usually assumed that auditors are competent. As a result, most scholars have not worried about auditor competence. However, my study demonstrates that in emerging markets such as China, the auditor competence could also be problematic.

To conclude, I argue that with the ST regulation, the audit quality of auditors in China remains satisfactory; without the ST regulation, the audit quality deteriorates. The unavailability of the ST regulation could explain the massive audit failures of the cross-listed Chinese companies in the US. I recommend the CSRC to apply the ST regulation to all the listed companies that mainly operate in China. Further, I argue that simply relying on the “Big Four” auditors is not sufficient to ensure the audit quality of these cross-listed companies.

The rest of the paper proceeds as follows: Chapter 2 reviews the audit quality theories. Chapter 3 describes the hypotheses and research methods, summarizes data, reports the empirical results, and then presents conclusions. Then an audit failure case of a cross-listed company is analyzed. The audit quality of “Big Four” auditors is also examined in the last section of this chapter.

Chapter 4 reviews the limitations of my research methods and makes suggestions for future studies. Chapter 5 summarizes the results and gives recommendations to the CSRC.

2. Literature Review

Audit quality is a continuing issue in the profession (AICPA, 1987). It is important because it is a monitoring device that could mitigate the conflict of interests between investors and managers (Watts, 1977). A typical description of the auditor's fiduciary duty is to be "sufficiently skilled, knowledgeable, and experienced to satisfactorily complete designated audit tasks; and physically and mentally able to audit and report in an unprejudiced or unbiased way" (Lee and Stone, 1995).

Audit quality is jointly determined by auditor competence and independence (DeAngelo, 1981a). DeAngelo argued that the probability of discovering a breach of a client's accounting system depends on the auditor's technical skills, while the probability of reporting the error depends on the auditor's independence (DeAngelo, 1981a). It has usually been assumed that auditor competence is certain and positive. Therefore, many previous scholars have focused on the auditor independence (Mayhew and Pike, 2004). This might be true in the relatively mature markets such as the US; however, in the emerging markets such as China, the assumption that auditors are technically capable may not always remain true. Therefore, in this study, I examine both the competence and independence aspects of the auditors in China.

Because it is relatively hard to judge auditor competence directly, previous scholars evaluated audit quality through examining the responses or reactions of auditors to clients' errors. For instance, Libby and Lewis (1982) and Barnes and Huan (1993) both studied the audit quality in an insolvency scenario. Libby and Lewis (1982) argued that competence is deemed to exist if an

auditor identifies a going concern problem of a client and the other auditors also reach a consensus about the judgment; while Barnes and Huan (1993) argued that independence is deemed to exist if an auditor identifies the going concern problems and also reports the failing concern. The former study assumed that competence and independence are independent from each other while the latter study assumed that auditor independence is conditional on the auditor competence. Since the latter statement eliminates a scenario in which the auditor is incompetent but independent (which is possible in emerging countries such as China), I agree with the independent relation between auditor competence and auditor independence.

Compared with auditor competence literatures, there are more previous studies about auditor independence. It has been stated that “independence issue has become the central in auditing” (Goldman and Barlev, 1974). Independent auditors are deemed "gatekeepers" of the capital markets (SEC 2001, III. A). Auditor independence is vital because auditors and managers have conflict of interests in reporting the errors of clients: auditors are expected to produce a report only on the basis of professional standards (otherwise they may be sued), while the clients tend to conceal the management errors from existing and potential shareholders and creditors (Goldman and Barlev, 1974). Goldman and Barlev proposed a theoretical framework of independence, stating that auditor independence depends on both the power of auditors and the power of clients. On one hand, the clients have the ability to hire and fire auditors, determine the audit fees, and determine the auditors' work conditions. On the other hand, auditors have the ability to judge the nature and severity of the errors of the clients, use the professional standards as a basis for negotiation, and report to the parties that have intervention power.

Many empirical studies examine auditor independence through one or more of Goldman and Barlev's perspectives. For instance, auditor tenures (Bricker, 2002; Myers et al., 2003; Mansi et

al., 2004; Ghosh and Moon, 2005), auditor switches (Chow and Rice, 1982; Smith, 1986; Krishnan and Stephens, 1995; Geiger, 1998; Carcello and Neal, 2003), fees from both audit services and non audit services (Schuetze, 1994; Wallman, 1996; Saul, 1996; DeFond et al., 2002; Frankel et al., 2002), auditor sizes (Wong et al., 1993; Craswell et al., 1995), and client importance (Chung and Kallapur, 2003; Chen et al., 2010) are the key factors that have been widely studied. Many studies find pretty positive evidence that the auditors are relatively independent. However, there are also researchers challenging the independence of auditors by demonstrating evidence of “opinion shopping” activities (Clive Lennox, 2000). In this paper, I study auditor independence by evaluating auditors’ reactions to auditor changes, and client-fee-importance. These two factors are selected because they are relatively more observable through the public data that I have access to.

My study has two main assumptions. First, I assume auditor competence and independence collectively and exhaustively decide audit quality. Second, I assume that auditor competence and independence are not interactive; in other words, I expect that a competent auditor could be either client-dependent or independent, and an independent auditor could be either competent or incompetent in their audit techniques. Therefore, I presume that if any factor has an impact on audit quality, it must contribute either to auditor competence or auditor independence, or both. These assumptions allow me to figure out how one factor influences audit quality: through influencing auditor competence or through influencing auditor independence, or both.

3. Hypotheses Development and Research Methods

3.1 The First Hypothesis

To give a general evaluation of audit quality in China, I made the following assumption:

H1a. Auditors are not competent in China.

H1b. Auditors are not independent in China.

Previous studies state there are three main proxies of audit quality: first, the auditor's propensity to issue a going-concern opinion for distressed companies; second, the amount of abnormal working capital accruals; and third, the extent to which key earnings targets are just beaten (Carey and Simnett, 2006). In the first approach, a high propensity of going-concern opinion is the proxy of a good audit quality. In the second approach, a small abnormal working capital accrual (AWCA) demonstrates that auditors only tolerate very little management discretionary in the financial statements, implying good audit quality. In the third approach, under a "just beaten the budget" condition, the audit quality is usually perceived to be negative because it is probable that the auditor does not report the earnings management activities of the client.

In my study, I select the first approach to study audit quality. Because the Chinese auditors usually have multiple clients across different industries, using the first approach to determine the dependent variable fits my pooling regression methodology. Comparatively, the AWCA approach might work better if a cross-sectional analysis method is used, because the change of working capital accruals may vary year by year, industry by industry. Investigating if an auditor allows the client to "just meet" its earning budgets is also a good method to test the auditor competence and independence in theory, but since it calls for the internal earning budgets

information (which is usually unavailable to the public in China), it is hard for me to use this approach.

In China, an auditor could issue four types of audit opinions: an unqualified opinion (with or without explanatory paragraphs), a qualified opinion (with or without explanatory paragraphs), a disclaimer (failing to explain an audit opinion, for instance, because of limited audit scope), and an adverse opinion. Because most of the companies receive “clear opinions” (unqualified audit opinion without explanatory paragraphs), I classify all the rest audit opinions as modified audit opinions (in short, MAOs). Also, since the going-concern issue of financially distressed company is not the only reason that leads the Chinese auditors to issue MAOs (please refer to Appendix B for details), the auditors’ ability to address bankruptcy risk will only reflect one aspect of the auditor competence and independence in China. Therefore, I use MAOs in general rather than only the going-concern MAOs as the dependent variable in this paper. Accordingly, I choose to use not only the bankruptcy probability ratio as the independent variable in this paper, but added other factors that may also lead to internal control weakness.

Doyle et al. argues that companies that are smaller, younger, and financially weaker have more entity-wide control problems (Doyle et al., 2007). I used firm size ($LnAss$, the natural logarithm of the total asset of the client company), bankruptcy risk ($AZbkprpro$, the Altman Z bankruptcy probability, Altman 1986), conservativeness ($TATA$, the total accrual of the client deflated by the total assets), and ownership centralization ($Biggestown$, the ownership percentage of the largest shareholder) to proximate a company’s entity-wide control situations.

My fundamental assumptions are presented here. First, a smaller company is more venerable and lacks resources to ensure a good internal control system. Similarly, financially distressed

companies have too much constraints on their management expenditures and are unable to invest sufficiently in their internal control system. In addition, more conservative companies usually have better internal controls so that they are able to identify potential future losses and expenditures. Furthermore, lower the ownership concentration is usually associated with high degree of agency problem between shareholders and managers, and will have more entity-level internal control risks.

In terms of independence parameters, I follow the method of Chen et al. (2010), and continued to use client-fee-importance (defined as an auditor's annual audit fee from one client out of the total annual audit fees from all the auditor's clients in that year) as a proxy when auditors bear pressures to sacrifice their independence. In addition, since the period Chen et al. studied was between 1995 and 2005, they were unable to use fees directly to decide client importance. Instead they used the client-asset-importance to approximate the fee-importance. But as the fee information is publicly available since 2002, I am able to use the client-fee-importance directly. Moreover, I also added the auditor changes as a dummy variable to proxy a scenario when auditors may be stressed to sacrifice their independence in order to please a new client.

Auditor client-dependence evidence is usually presented as "opinion shopping" (Clive Lennox, 2000). There have been studies arguing that just like MAOs, the auditor changing facts also signify "bad earnings quality" to the capital market, therefore a client may choose between to have a MAO and to "shop" for a clear opinion by changing its auditor. If this is the case, MAOs should have a significant negative relation with the auditor change variable due to the substitution effect between MAOs and auditor changes.

The paper uses the China Stock Market and Accounting Research Database (CSMAR) to collect all the financial information about the A-share companies between 2002 and 2011. I selected this period because audit fee has only become publicly available since 2002. 16,197 company-year data are exported from CSMAR and used in this paper. I eliminated some extreme observations (please refer to the notes of Table 1 for details) for the fairness of the regressions.

Table 1 describes the meaning of the variables and the summary of the data.

[Table 1 should be inserted here]

I developed Formula (1) to test my Hypotheses (1a) and (1b) as below:

$$\text{MAOs} = a + b_1 * \text{LnASS} + b_2 * \text{TATA} + b_3 * \text{AZbkriptpro} + b_4 * \text{biggestown} + b_5 * \text{AudChg} + b_6 * \text{CI} + \varepsilon \quad (1)$$

If hypotheses (1a) and (1b) are true, I expect to observe that: first, MAOs have few correlations with the entity-level control risk factors, which equals that b_1, b_2, b_3, b_4 are not significant; second, MAOs have negative correlations with the auditor change variable (*AudChg*) and the client-fee-importance variable (*CI*).

On the contrary, if the Chinese auditors are competent, I expect b_1, b_2, b_4 to be significantly negative, b_3 to be significantly positive, because competent auditors should have ability to companies that have high entity-level control risks. Also, if the auditors are independent, I expect b_5 and b_6 to be significantly positive: on one hand, an independent auditor should be more careful to a new client (it is always the succeeding auditor that issues an opinion in an auditor changing scenario), because it is possible that the previous auditing firm left the client because of identified frauds; on the other hand, an independent auditor should be more careful while a client

is more important to it in terms of fee, because a higher audit fee also means a higher litigation cost.

Table 2 summarizes the logistic regression results.

[Table 2 should be inserted here]

I find a positive correlation between MAOs and Altman-Z bankruptcy probability (*AZbkrtpro*) and negative relations between MAOs and company size (*LnAss*), MAOs and total accruals deflated by total assets (*TATA*), and MAOs and biggest owner percentage (*Biggestown*). The results indicate that Chinese auditors successfully respond to companies that are financially weaker, smaller, less conservative, and more diversified in ownership. Also, I find a positive correlation between MAOs and the auditor change variable (*AudChg*, dummy variable), indicating that one client is more likely to receive a worse audit opinion when it changes its auditor. In addition, I find that MAOs have a positive correlation with the relative client-fee-importance (*CI*), which is defined as an auditor's annual audit fee from one client out of the total annual audit fee from all the auditor's clients in that year. This finding also infers that if a client is very important for an auditor, its auditor is more likely to issue MAOs, an evidence of the independence of that auditor.

There might be some other reasons for the significant positive correlation between MAOs and the auditor change variable. For instance, previous research has argued that auditors are usually fired if they issue opinions that are unfavorable to the clients. In these situations, MAOs would also have a positive correlation with the auditor change variable. However, this casual effect may differ from the one implied by Formula (1). This might also explain why the correlation between the auditor change variable and MAOs is as high as 8.3 in Table 2. My study fails to separate the

two possible relations between MAOs and the auditor change factors, but future researchers may study the two potential relations and figure out which one is the dominant.

According to the above findings, Hypotheses (1a) and (1b) are not supported. Therefore, I argue that Chinese auditors generally demonstrate satisfactory competence and independence.

My findings oppose the audit failure cases of the cross-listed companies. The following section identifies factors that reconcile the contradiction.

3.2 The Second Hypothesis

Cai et al. examined A-share companies in 2003 and found that the asset scales, financial leverages, asset turnover rates, the ST-status of clients, and the sizes of auditors are key factors influencing MAOs in China (Cai et al., 2005). Unlike the other variables, the ST-status is a factor that is available for the A-share companies in China yet is unavailable for the cross-listed Chinese companies in the US.

Also, Chen et al. argued that audit quality in China improved between 2001 and 2005 compared to the audit quality between 1995 and 2000, by demonstrating the finding that between 2001 and 2005, MAOs in China were positively related to client importance. In contrast, between 1995 and 2000, MAOs were negatively related to client importance (Chen et al., 2010). Chen et al. explained this finding by the “increasing legal and regulatory changes in China since 2001”, but they failed to state the specific regulatory changes.

Therefore, I expect the ST regulation to be the factor that reconciles the contradiction between my findings and the audit failure cases in the cross-listed Chinese companies. I added the ST regulation factor to Formula (1) and obtained Formula (2a):

$$\text{MAOs} = a + b_1 * \text{LnAss} + b_2 * \text{TATA} + b_3 * \text{AZbkriptpro} + b_4 * \text{biggestown} + b_5 * \text{AudChg} + b_6 * \text{CI} + c_0 * \text{st} + \varepsilon \quad (2a)$$

Table 3 demonstrates the summary of the ST variable and ST interacted factors, and Table 4(a) demonstrates the empirical results of the regression of Formula (2a).

[Table 3 and table 4(a) should be inserted here.]

I find a positive correlation between the ST regulation and the audit quality parameter MAOs based on the A-share companies' financial data between 2002 and 2011.

My findings align with the previous literature about the economic consequences of the ST regulation, in that the ST regulation improves the audit quality (Cai et al., 2005). However, previous research did not explain how the ST policy improves the audit quality: does the ST regulation improve the auditor competence or independence, or both?

According to my assumption, auditor competence and independence collectively and exhaustively determine audit quality. Therefore, as ST has a positive impact on the audit quality, the ST regulation must have an impact on either the auditor competence or the auditor independence, or both. The answer to this question is vital for two reasons. First, audit failures due to incompetence and audit failures due to client-dependence have different legal consequences. Incompetent auditors are usually deemed less liable, for the absence of bad intention perceived by the public. On the opposite, client-dependent auditors usually bear more criticism because they are perceived to lack "good faith". For instance, the Arthur Andersen and Enron case in 2001 and the New Century and KPMG case in 2007 had entirely different results. In the former, Arthur Andersen was deemed to be client-dependent; in the latter, KPMG was

perceived to be incompetent. Appendix C briefly summarizes the two cases. Second, since the public usually assume that the auditors are competent in the US market, if I prove that the ST regulation improves the auditor competence in China, it might draw the US regulators' attention toward the competence of auditors from the emerging markets.

My second hypothesis addresses the above question. I develop my hypotheses as below, to figure out the impact of the ST regulation.

H2a. ST has an impact on auditor competence.

H2b. ST has an impact on auditor independence.

To test my hypotheses, I create a set of interaction variables between the ST factor and the other independent factors in Formula (1), and form Formula (2b):

$$\begin{aligned} \text{MAOs} = & a + b_1 * \text{LnAss} + b_2 * \text{TATA} + b_3 * \text{AZbkrptpro} + b_4 * \text{biggestown} + b_5 * \text{AudChg} + \\ & b_6 * \text{CI} + c_0 * \text{st} + c_1 * \text{st} * \text{LnAss} + c_2 * \text{st} * \text{TATA} + c_3 * \text{st} * \text{AZbkrptpro} + c_4 * \text{st} * \\ & \text{biggestown} + c_5 * \text{st} * \text{AudChg} + c_6 * \text{st} * \text{CI} + \varepsilon \end{aligned} \quad (2b)$$

I run a logistic regression based on Formula (2b). I hypothesize that the ST regulation has an impact on audit quality, through reinforcing either the competence factors or the independent factors, or reinforcing both of them. I expect that unlike in the result of Formula (2a), c_0 in (2b) should not be statistically significant, and at least one of c_1 to c_6 in (2b) should be statistically significant and deviate from zero.

[Table 4(b) should be inserted here]

The results show significant positive correlations between MAOs and ST*TATA, ST*Size, indicating that auditors are more concerned about clients who have the ST marks, even if these clients are large and conservative. Also, I find that there is no significant relation between MAOs and ST*Auditor_Change and ST*Client_Importance, indicating that the ST regulation has no significant impact on auditor independence. With the above findings, I conclude that ST regulation mainly increases the auditors' competence rather than auditor independence.

I also find a negative correlation between MAOs and ST*Bankruptcy probability, which seems controversial. However, both the ST result and the bankruptcy probability address the insolvency problem of a company: the ST regulation mark reveals two years' continuous losses, which usually implies going-concern issues; and high bankruptcy probability also implies insolvency problems. Therefore, the negative association between MAOs and ST*Bankruptcy probability might arise because of a substitute effect between the two variables.

Thus, Hypothesis (2a) is supported but Hypothesis (2b) is rejected.

The finding is reasonable in that the ST regulation can provide auditors a preliminary judgment about the clients' business and control risks, and thus allows the auditors to better utilize the auditing hours. Consequently, the auditors become more effective and productive in responding to the clients' financial statement errors.

3.3 A Case Study of the Audit Failure of a Cross-listed Company: AUTC

The main evidence of this study is collected from the CSMAR database. Therefore, my conclusion might not hold in the US market. In order to verify my conclusion about the failure

of cross-listed companies in the US, I examine a case of AutoChina International Ltd. (“AUTC”), a company listed in the New York Stock Exchange.

AutoChina International Limited is listed in the US stock market, but its main business is in China. It provides support for commercial vehicle selling, servicing, leasing, and networking. Its headquarters is located in the Shi Jiazhuang city of China. The company offers its services to owners or owner-operators in the transportation industry under the “Kaiyuan Auto” brand name⁴.

The company reported two years of net income during the first two listed years (2006: \$4.8 million net profit; 2007: \$8 million net profit) and started to incur financial losses. In 2008 and 2009, the company had \$53.2 million and \$62.9 million losses incurred, respectively. If the company had been listed in China, according to the ST regulation policy, its stock name would be marked with an “ST” (in other words, it would have been named as “ST AUCT”) in year 2010, for it had two years of continuous losses.

I use the regression result derived from Formula (2b) to calculate the MAO probability of AutoChina for the year 2010, and obtained a projected MAO of 1.26, indicating that it is very likely (because the R square equals to 41%, which means the projection is fairly powerful and convincing) that the auditor would have issued an MAO if the company had been listed in China as an A-share company. However, the company’s auditor issued an unqualified opinion (equal to “clear opinion”) for the year 2010.

Indeed, according to the subsequent disclosures, the company appointed PricewaterhouseCoopers (PWC) as its public auditor in 2010, but then fired PWC in September

⁴ Web. April 7, 2013. <www.autochinaintl.com>.

2011, for the reason that the PWC auditors failed to “come to an agreement on the timing of the completion of the audit” (Michael Rapoport, 2012).

The projection formula is derived from the logistic regression result of Formula (2b):

$$\widehat{\text{MAOs}} = 5.58 + (-1.19) * \text{LnAss} + (-2.91) * \text{TATA} + 4.50 * \text{AZbkrptpro} + 0.00 * \text{biggestown} + 0.32 * \text{AudChg} + 1.27 * \text{CI} + 0.48 * \text{st} * \text{LnAss} + 2.06 * \text{st} * \text{TATA} + (-1.59) * \text{st} * \text{AZbkrptpro} + (-0.02) * \text{st} * \text{biggestown}$$

I obtain all the financial data of AUTC from the Capital IQ website. The *AZbkrptpro* result is 0.48; the TATA result is -0.17; the *LnAss* result is 8.7; the *Biggestown* result is 65%; the *AudChg* result is 1 (because the company changed its auditor from Crowe Horwath LLP to Marcum Bernstein & Pinchuk LLP in 2010); the *CI* result is unavailable, but even if I assume it to be 0 (the least important for its auditor), I will still obtain a projected MAO of 1.26. If *CI* is higher, the projected MAO could be even higher.

On April 11, 2012, the SEC sued AutoChina International (AUTC) and its main investors for stock manipulation. The SEC provided evidence showing that the investors had participated in trading activities that artificially boosted the price of the company’s stock, in order to gain “favorable loan terms” (BBC News, 2012).

This case confirms my conclusion that with the ST regulation, the audit quality of Chinese auditors remains satisfactory; without the ST regulation, the audit quality deteriorates. The case of AutoChina also reinforces my argument that the unavailability of the ST regulation explains the audit failures of cross-listed Chinese companies in the US. In the following section, I will examine whether hiring the “Big Four” (Deloitte, Ernst & Young, KPMG,

PricewaterhouseCoopers) auditing firms instead of hiring the non-“Big Four” accounting firms is sufficient to mitigate the risk of inappropriate audit opinions.

3.4 A Further Study of the Audit Quality of the “Big Four” in China

The market usually expects the “nationally recognized accounting firms” to have better quality (DeAngelo, 1981). Also, Wong et al. found that the earnings response coefficients (ERC) of the “Big Eight” clients are “statistically significantly higher” than those of non-“Big Eight”⁵ clients (Wong et al., 1993). If the perception is also true in China, hiring the “Big Four” might help reduce the audit failures of the cross-listed Chinese companies.

In order to test whether the “Big Four” audit firms have better audit quality in China, I add one more dummy variable “BigFour” to Formula (2b), and form Formula (3):

$$\begin{aligned} \text{MAOs} = & a + b_1 * \text{LnAss} + b_2 * \text{TATA} + b_3 * \text{AZbkrptpro} + b_4 * \text{biggestown} + b_5 * \text{AudChg} + \\ & b_6 * \text{CI} + c_0 * \text{st} + c_1 * \text{st} * \text{LnAss} + c_2 * \text{st} * \text{TATA} + c_3 * \text{st} * \text{AZbkrptpro} + c_4 * \text{st} * \\ & \text{biggestown} + c_5 * \text{st} * \text{AudChg} + c_6 * \text{st} * \text{CI} + d * \text{BigFour} + \varepsilon \end{aligned} \quad (3)$$

I hypothesize that the “Big Four” auditors have better audit quality in China. Therefore, I expect a positive correlation between MAOs and BigFour, which means I predict d in Formula (3) to be significantly positive.

Hypothesis 3. “Big Four” auditors have better audit quality in China.

Table 5 summaries the result of regression analysis of Formula (3).

[Table 5 should be inserted here]

⁵ Please refer to the footnote on Page 13.

The regression result shows that though the correlation between MAOs and the “Big Four” variable is positive, the correlation is not significant. Therefore, my Hypothesis (3) is rejected. The audit quality of the “Big Four” auditing firms is not significantly better than that of their non-“Big Four” peers in China.

4. Limitations and Suggestions for Future Studies

This paper highlights two main aspects through an academic perspective. Firstly, it serves to address the audit failures and issues experienced by Chinese companies traded in the United States. As pointed out, ST regulation is a key factor in maintaining the audit quality of companies in China. Based on the study, I recommend that the CSRC extends ST regulation towards all listed companies that have substantial business operations in China. Secondly, the paper illustrates that ST regulation has significantly improved the audit quality in China by enhancing auditor competence. Since previous research typically places great assumptions that auditors are theoretically competent, foreign scholars often underestimate the degree and level of auditor competency. Hence, my study aims to demonstrate the possible fallacies and associated problems that might arise due to such presumptions existing in emerging markets such as China.

Though the study primarily focuses on the general audit quality landscape in China, it is still susceptible to many limitations. Due to the time constraint and the unavailability of certain sensitive data, further investigation was limiting. Therefore, I recommend potential further studies on the following topics for interested parties.

1) Extending studies on hypothesis testing using alternative dependent variables.

In my current study, I use the auditor's propensity to issue MAOs as the dependent variable. However, there might be other alternative proxies of audit quality. As mentioned under Chapter

3, AWCA (Abnormal Working Capital Accruals) might be a better proxy if examined via the cross-sectional approach. AWCA is defined as the working capital in year t minus the working capital in year $t-1$ adjusted by the sales scale (DeFond and Park, 2001). The fundamental assumption is that companies' working capital accruals are proportional to companies' sales in that year, and the proportion remains the same for each firm over years. Therefore, any drift of working capital accruals without matching to the sales (in year t according to the proportion of year $t-1$) is treated as an "abnormal" working capital accrual. Using such an approach could henceforth help to further explore the specific industries and vintage years auditors are typically less competent or more client-dependent. These results will also give regulators greater clarity and direction for better audit standards and rules.

2) Strengthening explanation power of the model by employing additional factors.

The present model only relates to an estimated 40% of MAOs in China, hence, increased factors will serve to better defend this current version. As such, auditor tenure could be an important correlating factor against audit quality. For instance, in previous scholar work by Carey and Simnet, it was observed that long tenure is associated with lower propensity of issuing a going-concern opinion (Carey and Simnett, 2006), thereby indicating that long audit partner tenure also potentially deteriorates audit quality. Similarly, this argument may also be valid and applicable in China. Nonetheless, for the purposes of my study, this factor could not be selected as an independent variable since the audit firms of A-share companies in mainland China do not disclose their audit partners, but instead, only publically disclose the audit managers. With that in mind, such a factor was omitted to prevent potential data noise due to the rather common potential circumstances under which audit partners remain the same but audit managers have been altered. Though, in comparison with audit partner tenures, the change of audit firms is more

observable with less noise contribution. Therefore, in my case, I choose to focus on the auditor change as an independent variable to minimize data noise. However, if possible, adding the audit partner tenure factor into the model may increase R-square of Formula (2b), and assist to relate towards more of MAOs in China.

3) Substituting Altman Z bankruptcy probability with other financial health ratios.

The Altman Z bankruptcy probability was used as the proxy to assess the clients' financial health condition. However, there are some potential risks associated with this approach since the Altman Z bankruptcy ratio was derived from an empirical study in the United States by Edward Altman in the 1980s (Altman 1986). Particularly, the coefficient of the factors might have changed with time, possibly failing to accurately reflect the latest key financial risks and market trends. Optimistically, even if the coefficients still prove to be effective, an American-based theory model might not fit suitably into the context of China firms. As such, though the Altman Z bankruptcy probability reflects the financial conditions of Chinese companies in a straightforward method, my study is still subjected and limited from the perspectives of timeliness and applicability. Therefore, if further scholars could conduct the research through a set of alternative independent variables, such as combining financial leverages, current ratios, asset complexities and interest coverage rate, the explanation power of the model may also increase.

4) Examining internal control mechanisms to facilitate structure and regulation.

Companies with diversified ownership tend to have relatively weak internal control mechanisms and hence less supervision, since they lack majority representation from a core parent company group and/or large institutional investor(s). Previous scholars have known to detect a "tunneling effect" in firms of emerging markets like China. The phenomenon involves major owners of a

company transferring out company resources without notifying creditors and/or minority shareholders (Johnson et al., 2000). T.J. Wong et al. also found evidence showing that the large shareholders of Chinese listed companies have used related party transactions such as inter-company/subsidiary borrowings, receivables, sales, and/or other mechanisms to tunnel listed company assets and profits (Wong et al., 2003). As such, the ownership concentration ratio in China might not be linear with the internal control weakness (*ICW*). It is possible that there is a “U-shape” relation between the *ICW* and the ownership concentration issues, which is not addressed by my studies. In addition, extended studies could address the problem by setting two thresholds: a lower threshold below which will indicate a weak control (shirking), and an upper threshold above which will also indicate a weak control (tunneling). However, this method might prove to be challenging as the threshold choice is highly subjective. Moreover, if the U-shape does indeed prove to exist, it might also be beneficial to the affected Chinese firms to identify an “optimal governance structure” as well as assist regulators in setting necessary monitoring emphases.

5. Summary and Recommendations

In essence, while there continues to be public skepticism on the audit quality of Chinese firms traded in the US due to recent audit scandals and increased scrutiny, this paper examines the competence and independence of Chinese auditors. I identify significant correlations between the modified audit opinions (MAOs) of China A-share companies from 2002 to 2011 and the parameters of clients’ company-level control risks, auditor changes, and relative client importance. The findings indicate that Chinese auditors generally illustrate competence and independence, with satisfactory audit quality.

The findings of Section 3.1 and Section 3.2 seem to contradict with the general sentiment towards Chinese auditors and respective audit failures. Hence, I reiterate that the ST regulation governed by CSRC plays a crucial role in maintaining the Chinese audit quality standing. I concur that the ST regulation has ensured that the overall audit quality of Chinese auditors remains at a satisfactory level. I predict that in the absence of the current ST regulation, audit quality of Chinese auditors will also deteriorate. Nonetheless, regulators should continue to strive for an overall audit quality of Chinese auditors on the compliance with international auditing standards.

Furthermore, regression evidence was collected to substantiate that audit failures of cross-listed Chinese companies occur due to the unavailability of “Special Treatment” (ST) regulation. In other words, the ST regulation helps to improve auditor competence in China. Finally, I also analyze the audit quality of the “Big Four” international audit firms based in China, and find that the “Big Four” in China do not exhibit better audit quality than their non-“Big Four” peers in China.

Based on my findings, I recommend that the CSRC apply the ST regulation to all the listed companies that have key operations in China (regardless of the companies’ listing domains), and publicly release the “ST” results to regulators in other jurisdictions. I also recommend regulators such as the US SEC pay more attention to cross-listed companies from emerging markets, especially companies that have suffered from continuous losses or have been red-flagged by regulators in their country of origin.

Table 1. Summary of Variables

Variable	Observations	Mean	Std. Dev.	Min	Max
MAOs	16197	0.08	0.27	0	1
AZbkrtpro	15906	0.34	0.27	0	1
TATA	15807	-0.02	0.11	-0.99	1.00
LnAss	15907	9.31	0.59	4.71	13.19
Biggestown	14680	37.86	16.80	0.00	99.32
AudChg	13643	0.19	0.40	0	1
CI	14140	0.05	0.09	0.019%	100%

	MAOs	AZbkrtpro	TATA	LnAss	Biggestown	AudChg	CI
MAOs	1.0000						
AZbkrtpro	0.3121 (0.0000)	1.0000					
TATA	-0.136 (0.0000)	-0.2258 (0.0000)	1.0000				
LnAss	-0.2373 (0.0000)	0.0294 (0.0025)	0.0504 (0.0000)	1.0000			
Biggestown	-0.1286 (0.0000)	-0.1347 (0.0000)	0.0140 (0.1502)	0.2001 (0.0000)	1.0000		
AudChg	0.0501 (0.0000)	0.0210 (0.0309)	-0.0175 (0.0715)	-0.0386 (0.0001)	-0.0114 (0.2395)	1.0000	
CI	0.0458 (0.0000)	0.1447 (0.0000)	-0.1104 (0.0000)	0.088 (0.0000)	0.0129 (0.1836)	-0.0844 (0.0000)	1.0000

MAOs: dummy variable. If a firm is issued MAOs in that year, MAOs=1, otherwise=0

Azbkrtpro: Altman Z(1986) bankruptcy probability calculation.

TATA: total accruals in the year deflated by year-end total assets, eliminate extreme observations smaller than -10 or larger than +10 (include the boundaries)

LnAss: log of year-end asset

Biggestown: ownership percentage of the largest shareholders, multiple by 100.

AudChg: dummy variable. If a firm's auditor this year is different (including the situation an auditor is merged with other auditors) from its auditor in last year, then AudChg=1, otherwise=0.

CI: client fee importance. Calculated by the fee income from a client divided by the total fee of the auditor in that year.

The correlation table demonstrates spearman correlations, and the number in brackets indicates significance levels.

Table 2. Summary of Regression Analysis, Formula (1)

		Number	of obs =	10562
		LR chi	2(6) =	2050.27
Logistic regression		Prob >	chi2 =	0.0000
Log likelihood	-1681.3	Pseudo	R2 =	38%
MAOs	Coef.	Std. Err.	z	P> z
AZbkriptpro	4.90	0.20	24.62	0.000
TATA	-1.32	0.31	-4.20	0.000
LnAss	-1.44	0.10	-14.04	0.000
Biggestown	-0.01	0.00	-3.51	0.000
AudChg	8.30	0.97	8.59	0.000
CI	0.39	0.11	3.57	0.000
Constant	1.84	0.45	4.09	0.000

Table 3. Summary of Additional Variables

Variable	Observations	Mean	Std. Dev.	Min	Max
ST	16197	0.0842	0.2776	0	1
ST*AZbkrtpro	16197	0.0572	0.2122	0	1
ST*TATA	16197	-0.0051	0.0638	-0.9925	0.9972
ST*LnAss	16197	0.7079	2.3864	0	10.8574
ST*Biggestown	16197	2.3666	9.1920	0	89.41
ST*AudChg	16197	0.0206	0.1419	0	1
ST*CI	16197	0.0039	0.0341	0	1

ST: dummy variable. If a firm is marked special treatment by CSRC, then equal to 1, otherwise equal to 0.

Table 4a. Summary of Regression Analysis, Formula (2a)

Logistic regression		Number	of obs =	10562
		LR chi	2(7) =	2178.16
		Prob >	chi2 =	0
Log likelihood	-1617.34	Pseudo	R2 =	0.4024
MAOs	Coef.	Std. Err.	z	P> z
ST	1.37	0.12	11.56	0.000
AZbkrptpro	3.99	0.21	19.2	0.000
TATA	-1.73	0.33	-5.27	0.000
LnAss	-1.06	0.15	-10.13	0.000
Biggestown	-0.01	0.00	-3.12	0.002
AudChg	0.38	0.11	3.34	0.001
CI	1.69	0.46	3.65	0.000
Constants	4.95	0.98	5.05	0.000

	MAOs	ST	AZbkrptpro	TATA	LnAss	Biggestown	AudChg	CI
MAOs	1							
ST	0.4649 0.000	1						
AZbkrptpro	0.3121 0.000	0.3051 0.000	1					
TATA	-0.136 0.000	-0.0744 0.000	-0.2258 0.000	1				
LnAss	-0.2373 0.000	-0.3008 0.000	0.0294 0.0025	0.0504 0.000	1			
Biggestown	-0.1286 0.000	-0.1272 0.000	-0.1347 0.000	0.014 0.1502	0.2001 0.000	1		
AudChg	0.0501 0.000	0.0446 0.000	0.021 0.0309	-0.0175 0.0715	-0.0386 0.0001	-0.0114 0.2395	1	
CI	0.0458 0.000	0.0208 0.0326	0.1447 0.000	-0.1104 0.000	0.088 0.000	0.0129 0.1836	-0.0844 0.000	1

Table 4b. Summary of Regression Analysis, Formula (2)

Log likelihood	-1591.22	Pseudo	R2 =	0.4121
MAOs	Coef.	Std. Err.	z	P> z
ST	-0.99	2.00	-0.49	0.621
ST*AZbkprptpro	-1.59	0.42	-3.79	0.000
ST*TATA	2.06	0.68	3.03	0.002
ST*LnAss	0.48	0.22	2.19	0.029
ST*Biggestown	-0.02	0.01	-3.26	0.001
ST*AudChg	0.02	0.23	0.07	0.940
ST*CI	1.20	1.08	1.11	0.267
AZbkprptpro	4.50	0.28	16.23	0.000
TATA	-2.91	0.57	-5.15	0.000
LnAss	-1.19	0.13	-8.85	0.000
Biggestown	-0.00	0.00	-0.84	0.399
AudChg	0.32	0.14	2.22	0.027
CI	1.27	0.64	1.98	0.047
Constants	5.58	1.25	4.45	0.000

Table 5. Summary of Regression Analysis, Formula (3)

Variable	Observations	Mean	Std. Dev.	Min	Max
BigFour	14817	0.0711	0.2571	0	1
BigFour: dummy variable, if the auditor is one of the big four auditors, equal to 1; otherwise equal to 0.					
Logistic regression		Number of obs		=	10562
		LR chi2 (14)		=	2232.48
		Prob >chi2		=	0
Log likelihood	-1590.19	Pseudo R2		=	0.4124
MAOs	Coef.	Std. Err.		z	P> z
BigFour	0.44	0.30		1.49	0.135
ST	-1.32	2.00		-0.66	0.510
ST*AZbkrptpro	-1.60	0.42		-3.81	0.000
ST*TATA	2.05	0.68		3.00	0.003
ST*LnAss	0.51	0.22		2.36	0.018
ST*Biggestown	-0.02	0.01		-3.25	0.001
ST*AudChg	0.02	0.23		0.07	0.948
ST*CI	1.16	1.08		1.08	0.281
AZbkrptpro	0.32	0.14		2.24	0.025
TATA	1.33	0.64		2.09	0.037
LnAss	4.51	0.28		16.26	0.000
Biggestown	-2.90	0.57		-5.11	0.000
AudChg	-1.24	0.14		-9.02	0.000
CI	-0.00	0.00		-0.88	0.38
Constants	6.02	1.28		4.71	0.000

Appendix A. Examples of the Cross-listed Chinese Companies Charged by the US SEC

In May 2011, the investors of the Longtop Financial Technologies Ltd. (LFT), a Hong-Kong based software provider, sued the company and its top executives, alleging that the company had overstated profit margins and concealed adverse facts. Longtop went public in 2007, and since then, the company hired Deloitte as its public auditor. In the communication letter with Longtop, Deloitte mentioned “very serious defects” including significant differences between deposit and loan balances at banks and the reported management numbers. However, the Deloitte auditors have issued clean opinions to Longtop in 2010 and only withdrew its audit opinion upon Deloitte’s resignation in May 2011(Gough, 2012).

In February 2012, the US Securities and Exchange Commission (SEC) sued two top executives at Puda Coal Inc., alleging that they arranged to secretly transfer the company’s main assets to Mr. Zhao Ming, the chairman of Puda Coal Inc, in 2009. Then, Mr. Zhao sold a large proportion of the stake to a Chinese private equity fund, Shanxi Puda Coal, to Citic Trust Co., and thus left the US shareholders with “an empty shell” that has no ongoing business opportunities. Puda Coal was listed in New York Stock Exchange (NYSE) before it was delisted in August 2011. The company’s auditor, Moore Stephens, resigned in July 2012, and the auditor warned that audit reports for fiscal years 2009 and 2010 should no longer be relied upon (Rapoport, 2012).

On April 6, 2012, the SEC sued Zhongpin Inc. (HOGS), a Chinese pork processor, for insider trading. CEO and Chairman Mr. Zhang Xiafu, the largest shareholder of the company, together with another six top executives, were charged for reaping more than \$9 million by buying more than \$20 million in Zhongpin equity just before the announcement of its management buy-out offer. In July 2011, the company’s public auditor, BDO Li Xin Da Hua, issued a clean opinion

toward the Company's financial statements as of 2011, and for two most recent fiscal years ending December 31, 2010, and 2009 (Lamar, 2012).

In April 11, 2012, the SEC sued AutoChina International (AUTC) and its main investors for stock manipulation. The SEC raised evidence showing that the investors have participated in trading activities that artificially boosted the price of the company's stock in order to gain "favorable loan terms". The company appointed PricewaterhouseCoopers (PWC) as its public auditor in 2010, but then fired PWC in September 2011, for the reason that AUTC and PWC fail to "come to an agreement on the timing of the completion of the audit" (BBC News, 2012; BuyersStrike, 2011).

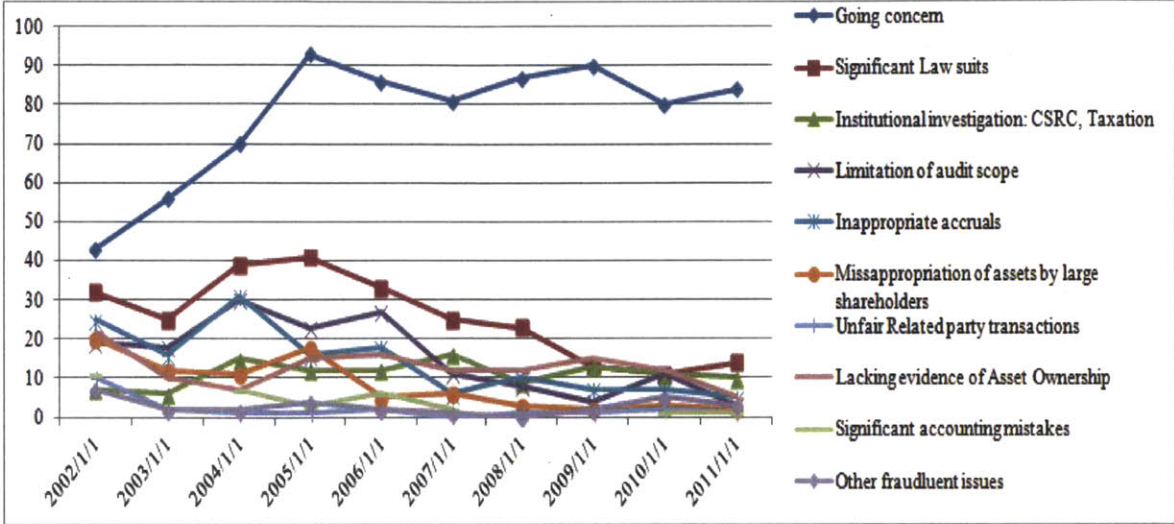
In April 24, 2012, SEC sued SinoTech Energy of China and its top executives for accounting fraud. The SEC published a statement on its website stating that the company and its top executives have been "involved in a scheme to intentionally mislead investors about the value of its assets and its use of \$120 million in IPO proceeds." The SEC also charged Chairman Mr. Liu Qingzeng for misappropriating \$40 million from the company's bank account in 2011. The theft action was detected by the board of the company but no public disclosure was made. SinoTech went public in an IPO on November 3, 2010, and was listed in NASDAQ before being delisted in January 2012. In September 2011, the company's auditor, Ernst & Young, resigned and withdrew its unqualified (clean) audit opinion for SinoTech's September 30, 2010 financial statements (Mu, 2012; Rapoport, 2012).

In Nov 2012, the SEC sued the executives of China North East Petroleum Holdings Ltd (CNEP) for transferring funds (raised by initial public offerings in the US with "corporate purposes") to the chief executive's family Baker Tilly Hong Kong Limited, the company's public auditor,

issued an unqualified opinion to the company for financial statements in 2010 and 2011 (Rosenblatt, 2012).

Most of the above companies have entered the US markets via a “reverse merger”, by merging with a shell company in the US, and thus went public without rigorous scrutiny.

Appendix B. Reasons for MAOs in China



This chart is derived by a manual classification of the reasons of MAOs, with a content-based analysis on the full audit reports in the CSMAR database between 2002 and 2011.

While reviewing the reasons for MAOs in China between 2002 and 2011, I find that MAOs in China are mainly issued by auditors for going-concern issues (47%), significant lawsuits (14%), inappropriate accruals (8%), limitation of audit scopes (8%), insufficient evidence of asset ownership (7.4%), institutional investigations for the breach of security and tax laws (7%), and misappropriation of assets by large shareholders (5%).

Appendix C. Enron and Arthur Andersen versus New Century and KPMG

Enron was formed in 1985. The company failed because one of its former executives, Jeffrey Skilling, used accounting loopholes to set many special purpose entities and hide billions of dollars in debt from failed deals and projects. The auditor of Enron, the now-defunct auditing firm Arthur Andersen, failed to report the Enron fraud.

Enron once had a stock price as high as \$90 per share in the mid-2000's, yet share price dropped to less than \$1 by the end of November 2001. In December 2001, Enron filed for bankruptcy under Chapter 11 of the United States Bankruptcy Law. Many executives at Enron were sentenced to prison (Healy 2013).

Enron's auditor, Arthur Andersen, was found guilty in a United States District Court and was subsequently dismissed because the company lost too many clients and had an irreparable reputation. This scandal triggered the issuance of the Sarbanes-Oxley Act, which aimed to increase the accountability of auditing firms to remain unbiased and independent of their clients.

New Century Financial Corporation was founded in 1995. It was a real estate investment trust that originated mortgage loans in the United States through its operating subsidiaries. As of January 1, 2007, New Century had a market capitalization of \$1.75 billion. New Century was listed on the New York Stock Exchange before, but was delisted in 2007 by the New York Stock Exchange because the company's assets shrunk dramatically due to the wide involvement in subprime loans. New Century went bankruptcy on April 2007.

After New Century's bankruptcy, its former investors sued the company's ex-executives, auditors, and underwriters. The judge finally approved a \$125 million class-action lawsuit settlement, asking its former New Century directors and officers to pay \$65.1 million, auditor

KPMG LLP to pay \$44.75 million, and investment banking underwriters to pay \$15 million.

KPMG agreed to pay \$24 million as part of that settlement (Stempel and Anantharaman, 2010).

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