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Securities Class Actions in the U. S. and Canada against Chinese Companies and their Auditors: An Empirical Investigation

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Introduction

Prior research on Chinese[1] companies' securities class actions in the U.S. and Canada has generally been limited to anecdotal evidence. This article discloses the determinants and outcomes of these class actions against Chinese companies and, in particular, their auditors, based on empirical evidence.

Analysis of these securities class actions provides insight into many controversial issues. Investors in the U.S. and Canada that invested in Chinese companies have sometimes felt that they were treated unfairly because they were forced to rely upon poor accounting and auditing, which was enabled by regulators and a legal system that have been unable to effectively cope with these problems. Conversely, the Chinese government and companies have sometimes felt these criticisms to be less than fully justified, and that their economic and political needs, including respect for their sovereignty, must not be ignored.

Examination of these securities class actions is also helpful in gaining insight regarding how Chinese companies become public companies in the U.S. or Canada. Many of them have used what is called a reverse merger (RM) transaction as a method of becoming public, rather than utilizing an initial public offering (IPO). Some believe that there is no problem with Chinese companies' accounting and auditing, and that the problem is confined to companies (not necessarily Chinese) that utilize an RM transaction. Our inclusion in the study of all Chinese companies, whether they went public via an RM, via an IPO, or via another method, provides insight into this aspect of the controversy.

Our investigation of lawsuits against Chinese companies showed that auditor litigation is positively associated with a U.S. or Canadian small CPA firm auditor, fraud, and reverse mergers. Company size was negatively associated with auditor litigation. However, bankruptcy is not associated with auditor litigation.

Furthermore, we performed an even more detailed analysis of the Chinese companies' settlements, examining additional variables and distinguishing between mainland China auditors versus Hong Kong auditors. Our results show that aggregate settlements are positively associated with the occurrence of an auditor settlement, the class period length, and the company having become public via a reverse merger. Auditor settlements are positively associated with fraud, class period length, the company letting a default judgment be taken against it, and the use of a large CPA firm in the U.S. or Canada. Auditor settlements are negatively associated with the use of a CPA firm from the mainland of China—such auditors have never paid to settle a securities class action filed in the U.S. or Canada. Auditor settlements are also negatively associated with the use of a small CPA firm from the U.S. or Canada.

The rest of this article is organized as follows. The following section discusses background information and the related literature: auditors in securities class actions, audit quality, RM's, and transnational litigation in U.S. courts. The third section presents our research questions and methodologies. The next two sections describe data and present our findings. In the last section, we discuss our conclusions and their implications for future research. The article ends with an Appendix detailing the empirical analysis.

[1] In this paper, we use interchangeably the terms Chinese, China, mainland China and the PRC. We use the term Hong Kong to refer to the Hong Kong Special Administrative Region of China. Hong Kong is part of China.

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Background and Prior Literature

Auditors in Securities Class Actions

A private securities class action is typically multi-defendant litigation, with auditors being named defendants only in a minority of the lawsuits. Typical defendants are companies, management, and members of the board of directors. Other defendants may include underwriters, law firms, and auditors. The fate of the auditor (whether he will be named a defendant and, if so, how bad an outcome he will experience so far as related government prosecutions and/or payments required to settle the class action) partly hinges on the strength of the evidence presented on two issues. First, was the accounting of the company in its financial statements legally deficient? If there is a lack of strong evidence that the accounting was legally deficient, then the nature of the auditing is irrelevant. Otherwise, the second issue becomes important: was the auditing performed by the CPA firm legally deficient?

The "accounting" of the company and the "auditing" of the auditor are constructs. The necessarily imperfect measures of these constructs are the following. A restatement is when a company disavows its previously issued financial statements and then republishes them, by filing them with the securities regulator (for example, the SEC in the U.S., or the Ontario Securities Commission in Ontario, Canada), replacing the prior financial statements. This process has been regarded as an operationalization, when it occurs, of legally deficient accounting. A limitation of this measure is that sometimes companies whose financial reporting is materially incorrect deregister or for other reasons never actually restate their financial statements. For instance, Srinivasan et al. (2015) find that the restatement rate of U.S.-listed foreign firms from weak rule of law countries (for example, China) is lower than that of comparable U.S. firms. They find that this fact is not due to higher quality financial reporting but instead due to *lower* quality financial reporting. U.S.-listed foreign firms from weak rule of law countries more frequently fail to report restatements in situations where they should have reported a restatement.

When annual financial statements are restated, it has additionally been regarded as an operationalization of legally deficient auditing, since annual financial statements are audited by auditors. However, management of the company are primarily responsible for the company's financial reporting. The auditor's only responsibility is to perform an audit that is not legally deficient. An audit only provides reasonable assurance that the financial statements are materially correct. Nevertheless, restatements of audited annual financial statements have almost always been found in prior research to be positively associated with auditor litigation (Habib et al., 2014).

Another measure of legally deficient accounting is class period length. This length is the period during which allegedly legally deficient accounting was relied upon by users of the financial reporting of the company, causing losses to the investors. Class period length can be unilaterally alleged by the plaintiff in some lawsuits while collaboratively agreed upon, for settlement purposes, by the plaintiffs and the defendants in others. Thus, this difference could lead to some inconsistency in this measurement. Nevertheless, class period length is a measure of legally deficient accounting because, all else being equal, the longer the duration of the allegedly legally deficient accounting, the more likely it actually was legally deficient accounting that economically damaged the investors. Also, the longer the duration of the allegedly legally deficient accounting, the more likely legally deficient auditing occurred. Thus, class period length, like restatement of annual financial statements, is a measure of both legally deficient accounting and legally deficient auditing. Class period length has almost always been found in prior research to be positively associated with auditor litigation (Habib et al., 2014).

An additional measure of legally deficient accounting is what is generally termed "fraud" in the auditor litigation literature: the occurrence of a related government enforcement action against the company, management or anyone else who was involved with the financial reporting of the company. Evidence of fraud could be a civil prosecution by the Public Company Accounting Oversight Board (PCAOB), SEC, Ontario Securities Commission or another regulator, or a criminal prosecution by the U.S. Department of Justice or another criminal prosecutor in another country. A limitation of this measure is that investigations by the PCAOB often originate with information obtained through the PCAOB inspection program (PCAOB 2016a). Only some of the small CPA firms in Hong Kong, and no CPA firms in mainland China, participate in the PCAOB inspection program. Thus, the operationalization for fraud may relatively understate the presence of fraud among the CPA firms in mainland China and relatively overstate the presence of fraud among the other CPA firms.

Fraud is a measure of legally deficient accounting because governmental attorneys usually initiate prosecutions only when the evidence is so overwhelming that they will probably prevail. They leave the less clear and easy cases for the private securities class action attorneys.

Fraud is also a measure of legally deficient auditing because if a case is characterized by overwhelming evidence that legally deficient accounting occurred, it is unlikely that an auditor can be excused for not detecting and reporting it. Fraud has almost always been found in prior research to be positively associated with auditor litigation (Habib et al., 2014).

Bankruptcy is a measure of the unavailability of assets of the company to contribute to a settlement of a private securities class action, and a concomitant increase in motivation based on "deep pockets" to extract assets from the auditor. In prior research, before Chinese companies' (that listed in the U.S. or Canada) data were available, the assumption was that only financial distress, measured by a bankruptcy, could cause the unavailability of assets of the company to contribute to a settlement of a private securities class action. In prior research, bankruptcy has almost always been found to be positively associated with auditor litigation (Habib et al., 2014).

Audit Quality

The immediately preceding section noted that in prior research, annual restatements, class period length, fraud, and bankruptcy have been positively associated with auditor litigation. The construct of audit quality, another measure relating to audit litigation, is now discussed. If a CPA firm provides a high-quality audit, a legally deficient auditing is less likely to have occurred, and auditor litigation is less likely to occur. Thus, the use of a large CPA firm auditor, the measure for audit quality used in most prior research, has almost always been found to be either negatively associated with auditor litigation, or has been found to have no significant association (Habib et al., 2014). Audit quality has been thought to be comprised of competence and independence, and the large CPA firms have more independence because they do not economically depend on any one audit client (DeAngelo, 1981a; DeAngelo, 1981b; Watts and Zimmerman, 1981).

However, prior empirical research on private securities class actions has not focused on China. A binary large vs. small auditor type classification now needs to be more finely detailed to consider the differences in country level audit quality (Brown et al., 2014). The audit quality of CPA firm audit engagement teams with offices in the U.S. and Canada is higher than that of CPA firm audit engagement teams with offices in China (Brown et al., 2014). Foreign auditors subject to PCAOB inspections (the only major country where the government prohibits PCAOB inspections is China[2]) provide higher quality audits than auditors in foreign countries where the government prohibits PCAOB inspections (Lamoreaux, 2016).[3]

Following Carcello et al. (2014), we use a similar auditor type classification: the eight largest CPA firms (the only ones which are all annually inspected by the PCAOB[4]) with audit engagement teams based in offices located in the U.S. or Canada, the eight largest CPA firms with audit engagement teams based in China, the smaller CPA firms with audit engagement teams based in offices located in the U.S. or Canada, and the smaller CPA firms with audit engagement teams based in offices located in China. We expect the highest audit quality auditors to be the eight largest CPA firms (the only ones which are all annually inspected by the PCAOB) with audit engagement teams based in offices located in the U.S. or Canada.[5]

Reverse Mergers

The two most common methods for a privately held company to become public are IPO's and RM's. An RM is a stock swap technique through which a privately held company is acquired by a publicly held company. The name "reverse" comes from the fact that it is the privately held company which survives. There have been some successful companies such as Berkshire Hathaway, Texas Instruments, and Occidental Petroleum that became public via an RM (Feldman and Dresner,

[2] China prohibits PCAOB inspections of auditors located in mainland China. China allows PCAOB inspections of auditors located in Hong Kong, unless the audit work relates to operations in mainland China (PCAOB 2015).

[3] Krishnan et al. (2017) find evidence that foreign auditors that are inspected by the PCAOB have lower abnormal accruals in the post-inspection period, and greater value relevance of accounting numbers in the post-report period for clients of the inspected auditors, compared with non-cross-listed clients or clients of non-inspected auditors within the inspected countries.

[4] The 8 CPA firms that were consistently annually inspected from 2004 to the present are BDO (aka BDO Seidman), Crowe Horwath, Deloitte & Touche, Ernst & Young, Grant Thornton, KPMG, PricewaterhouseCoopers and RSM (aka McGladrey & Pullen) (PCAOB 2008, 2016).

[5] Our categorization of the auditor types becomes more refined after Table 4b, when it became clear that we needed to empirically account for One Country Two Systems, which results in Hong Kong and mainland China having very different legal systems, and a consequent profound impact on the auditor settlement payments. Auditors – whether large or small – paid substantial settlement amounts if their engagement office was located in the U.S., Canada or Hong Kong. Conversely, auditors with an engagement team office located on the mainland of China never made any settlement payments.

2009). On the other hand, since many of the Chinese companies that chose to list in the U.S. or Canada have been alleged to be characterized by poor accounting and/or auditing, and many (a majority of the companies in this study) became publicly held via an RM, researchers have begun to examine RMs.

Companies, regardless of their nationality, that become public via an RM rather than via an IPO are riskier and have worse financial reporting than the companies that list in the U.S. via an IPO (Givoly et al., 2012; Jindra et al., 2015; He et al., 2012). This problem is due to the following three reasons. First, RM companies do not have an underwriter and generally use lower quality transaction attorneys and auditors. Second, the financial reporting disclosure surrounding an RM is limited to the issuance of an 8K, which is far less than an IPO's registration statement and prospectus. Third, the auditors that have the largest share (experts) of the Chinese RM segment of the auditing services market are—in contrast to most of the experts either in the overall auditing services market or one of its segments—not associated with higher quality financial reporting (Mao and Yin, 2017).

Almost all prior research on RM's, with the exception of Chen et al. (2016) does not take into account the length of time from the RM transaction to the event of interest. Logically, the negative impact of an RM should dissipate over time as the periodic financial reporting of the company (10Ks, 10Qs, 20Fs, 6Ks, etc.) becomes more relevant than the manner in which the company went public. Chen et al. (2016) found limited evidence (based on twenty-one Chinese RM companies) supporting this logic. In our research, we not only document for each company whether it went public via an RM, but also keep track of the length of time from the RM transaction date to the lawsuit commencement date.

Ghosh and Peltier (2015) attribute the perception of poor accounting and auditing of the Chinese companies that list in the U.S. and Canada solely to the Chinese RMs. However, Baker et al. (2018) find that Chinese RMs report ineffective internal controls and also underreport the existence of ineffective internal controls more frequently than U.S. RMs. Baker et al. (2018) also report the same findings when they compare Chinese IPOs to U.S. IPOs. Also, the disclosure of fraudulent financial reporting by Chinese companies, the PCAOB's inability to inspect Chinese auditors, and the inability of the SEC to obtain audit documentation directly from Chinese auditors, all precipitated negative stock market reactions among Chinese IPOs as well as Chinese RMs (Darrough et al., 2015; Carcello et al., 2014).[6]

Non-U.S. Defendants in U.S. Courts

Non-U.S. defendant companies, CPA firms, and individuals pose greater difficulties for the plaintiffs than U.S. defendant companies, CPA firms, and individuals. These difficulties are due to the following reasons. Non-U.S. defendants may be more difficult to serve process on. Without service of process, a plaintiff cannot motivate a defendant to participate in the litigation by responding to the complaint, or by responding to requests for documentary or oral evidence. Problems with service of process on non-U.S. defendants and obtaining evidence from them vary depending upon the citizenship or residency of the non-U.S. defendant, despite the existence of the Hague Service Convention and the Hague Evidence Convention. Although most countries are signatories, some opt out of provisions which they do not want to comply with.

Since 1997. Hong Kong has maintained a system of law for purposes of transnational litigation that has been described as similar to that of the United Kingdom (Lukken, 2017). In contrast, the mainland of China is the most difficult jurisdiction for transnational plaintiffs with regard to service of process and obtaining evidence from defendants.[7] U.S. courts have the authority and sometimes use it to allow a mode of service of process that China disapproves of, such as via postal mail, email, private process server, or by service on the U.S. law firm of the defendant. Mainland Chinese companies can easily be served process because they must appoint an agent in the U.S. for service of process. Sometimes U.S. courts will service of other defendants by service on this agent. However, this allowance of the U.S. courts does not often help the plaintiffs.

If obtained, judgments of U.S. courts are more difficult to enforce (in other words, actually collect the money) against non-U.S. defendants, especially if the plaintiffs did not use the method of service of process clearly authorized by the Hague

[6] While the majority of articles present a negative view of Chinese RMs, Lee et al. (2015) present a positive view of Chinese RMs, reporting that they outperform U.S. RMs.

[7] China has made declarations regarding how transnational service of process may be affected and how evidence may be obtained from defendants. In Hong Kong, service by the Other Authority (Chief Secretary for Administration of the Hong Kong Special Administrative Region Government), by mail, or by personal service, is authorized. It is routine to obtain judicial assistance to compel the acquisition of evidence. In mainland China, service by the Central Authority (Ministry of Justice in Beijing) is usually the only authorized method of transnational service of process, and it is almost impossible to acquire judicial assistance to compel the obtaining of evidence (Hague Service Convention and Hague Evidence Convention).

Service Convention. If the non-U.S. defendants do not have assets in the U.S., the assets must be pursued abroad. China, Hungary, Sweden, Turkey, and the United Arab Emirates, among others, do not enforce tort judgments of U.S. courts (Practical Law, 2014). Many other countries will not enforce default judgments, which is what is deemed to have occurred in a U.S. court when a defendant takes no affirmative step in his or her defense. As a practical matter, it is seldom possible to enforce a U.S. court judgment other than in the U.S., the U.K., South Korea or Canada (Harris, 2010).

Indirectly, it is also more difficult for plaintiffs to prevail against some non-U.S. defendants because the plaintiffs are unable to take advantage of PCAOB inspections and SEC enforcement actions. China is the only major country that disallows PCAOB inspections of its CPA firm auditors (if they are on the mainland or audited a company with operations on the mainland). PCAOB inspections may lead to SEC investigations (PCAOB, 2016a). China also is the only major country that purportedly directs its CPA firm auditors not to release audit documentation and testimony directly to the SEC, obstructing its investigations (SEC, 2015; *Wall Street Journal,* 2015).[8] The evidence obtained by the SEC may subsequently be acquired by the plaintiffs via discovery in a private securities lawsuit (*D'Addario v. Geller,* 129 Fed. Appx. 1,7 4th Cir. 2005).

Research Questions and Methodologies

Based on our discussion in the preceding section, our first research question (RQ1) is: What is the nature of auditor litigation risk associated with Chinese companies coming to the U.S. and Canada to list? We expect the smaller CPA firm auditors with audit engagement team offices in the U.S. to be positively associated with auditor litigation because they have sometimes rubber stamped the audit procedures performed by Chinese auditors residing in China, failing to (as auditing standards require) carefully supervise the work performed (Carcello et al., 2014; Koep, 2012; *Journal of Accountancy,* 2011). However, we do not expect bankruptcy to be significantly correlated with auditor litigation because mainland Chinese companies, members of the management team, and members of the board of directors are often able, without filing for bankruptcy, to keep their assets from being available to the plaintiffs. They are able to do this because of China's less favorable (to plaintiffs) position on service of process, obtaining of evidence, and enforcement of judgment issues, with regard to mainland China defendants.

To test RQ1, we use the auditor type constructs that we described earlier. In addition, we include the four variables almost invariably found in prior research to be positively associated with auditor litigation: bankruptcy, class (period length), fraud, and restatement (of annual financial statements). We also include a variable for company size to standardize the observations, as this has been done in almost all prior research. Finally, we include a variable for a company going public via a reverse merger (instead of an IPO), since substantial research indicates reverse merger companies are associated with inferior financial, accounting. and auditing quality, compared to IPO companies.

Our next two research questions focus on the settlements of the private securities class actions involving the Chinese companies. RQ2: What factors explain the aggregate (by all the defendants) settlements of the Chinese company securities class actions? We expect a positive association between settlements and Class period (Starykh and Boettrich, 2016). We also expect Fraud and the natural log of total assets to be positively associated with aggregate settlements (Palmrose and Scholz, 2004).

To test RQ2, we extend the list of variables by including those related to service of process and default judgments because these hindrances to the success of the plaintiffs may provide incremental explanations for the settlements. However, due to the small sample size (reduced to 131, as twelve observations lack company defendants needed for the service of process and default judgment variables required for the analysis), we limit the variables to those that occur with at least double-digit frequency and with correlation no greater than 0.75. We also add the presence of an auditor settlement as a variable because it was reported to be positively associated with aggregate settlements (Bulan et al., 2014). Finally, because of the one country, two systems nature of the law governing transnational litigation in Hong Kong, we divide the Chinese auditor types into mainland China and Hong Kong for settlement analysis.[9]

[8] Campbell and Campbell (2016) assert that sometimes Chinese defendants incorrectly claim that the Chinese government or Chinese law prohibits the submission of certain evidence (usually because the evidence is purportedly "state secrets") to private plaintiffs or to the SEC when in fact they do not. Campbell and Campbell (2016) cite as one of their examples the SEC demand that Deloitte Touche Tohmatsu produce audit work papers and other documentation to assist in its Longtop Financial Technologies Limited investigation of financial reporting fraud (SEC 2014).

[9] Hong Kong's autonomy with regard to its law is provided for in the Hong Kong Basic Law, Hong Kong's mini constitution, which was written in the context of the former colony's return from the United Kingdom to China in 1997. It provides for an independent

Our third research question (RQ3) is: What factors explain the auditor settlements? We expect that the mainland China auditors will use their advantages in service of process and withholding of evidence, relative to the large CPA firm auditors with engagement team offices located elsewhere and thus will be negatively associated with the auditor settlements. We also expect company default judgments to be positively associated with the auditor settlements, as they are in the Chinese company context analogous to bankruptcy of the company defendant in prior auditor litigation research. To test RQ3, we use the same variables (except for the auditor settlement variable) in the auditor settlement logistic[10] and multiple linear regressions as those in the aggregate settlement multiple linear regressions.

Data Sources

From Securities Class Action Services (SCAS), we obtained most of the sample of 143 securities-related financial reporting lawsuits filed against Chinese companies from 2001 through 2014. We then searched Audit Analytics to determine which lawsuits had related restatements (correction of an error or a fraud). Bankruptcy data was collected from Audit Analytics and LexisNexis. Fraud data was obtained from LexisNexis and websites, including those of the SEC, the PCAOB, and the U.S. Department of Justice. We gathered total assets data from Audit Analytics, the SEC, company websites and, for companies registered in Canada but not the U.S., the System for Electronic Document Analysis and Retrieval (SEDAR).

Our data on the settlements of the Chinese companies was gathered from SCAS, and data on auditor inspections was from the PCAOB. We obtained our data on service of process and default judgments from the docket sheets and litigation documents posted to Public Access to Court Electronic Records for the U.S. lawsuits and from the associated lawyers for the Canadian lawsuits.

The main data source for companies that became public via an RM was PrivateRaise. Also, we used the RM data of Darrough et al. (2015) and Siegel and Wang (2013). Then, for companies which had not yet been identified as having gone public via an RM, we searched the SEC filings of our litigation observation companies in Audit Analytics to find evidence of an IPO. If we found no IPO, we then searched for a description of how the company became public and identified additional companies that became public via an RM. For RM companies, we obtained from their SEC filings the date of the RM transaction. For RM companies that registered in Canada but not the U.S., we obtained this data from SEDAR.

Results

Table 1 depicts the trends numerically of the 143 lawsuits commenced from 2001 to 2014 against Chinese companies, with 2011 as the peak year (fifty-six). Table 2 lists variable definitions.

Descriptive statistics (including univariate analysis) for the Chinese companies (n=143) are provided in Table 3. The first five variables correspond to the five types of auditors in the analyses of the settlements of the 131 Chinese companies (for which we have the requisite data) in Tables 7, 8, 13, 14 and 15. Small CPA firm auditors with engagement team offices in the U.S. or Canada (AuNB8USCan) are positively associated with being named defendants and experiencing an adverse outcome in the lawsuits. Conversely, large CPA firm auditors with engagement team offices in the mainland of China (AuB8ChinaM) are negatively associated (at a one percent level of significance) with being named defendants and experiencing an adverse outcome in the lawsuits. Also, large CPA firm auditors with engagement team offices in Hong Kong (AuB8HKSAR) are negatively associated (at a five percent level of significance) with being named defendants and experiencing an adverse outcome in the lawsuits.

Near the bottom of Table 3 are shown the six places of incorporation of the Chinese companies. Consistent with prior research, Chinese companies that become public company registrants in the U.S. occasionally are incorporated in the Mainland of China (China Life Insurance Co., Ltd. and PetroChina Company Limited) or in Hong Kong (CNOOC Limited). However, they usually choose other places to incorporate. If the company becomes a US registrant via a reverse merger, it

judiciary and a legal system similar to what existed in 1997. The Basic Law of Hong Kong also focuses on preserving Hong Kong's existing system of capitalism in place before the handover in 1997. Hence, it has a requirement to provide an appropriate economic and legal environment for the maintenance of the status of Hong Kong as an international financial center.

[10] Both modes of regression analyze settlements, but in different ways. Multiple linear regression has the dollar amount (zero if there was no settlement) as a continuous dependent variable and the results are influenced by the size of the settlement. Logistic regression has a binary dependent variable where 1=settlement occurred and 0=settlement did not occur. The size of the settlement has no impact on the result. Although zero being the value of many of the auditor settlement observations (and thus the dependent variable lacks a normal distribution) does not invalidate the use of linear regression, the use of an additional mode of regression may be advisable.

usually turns into a company with U.S. incorporation (eighty companies in our study) since most companies available for executing a reverse merger with are incorporated in the U.S. If the company becomes a U.S. or Canadian registrant via an IPO, it usually chooses to incorporate in the Cayman Islands (thirty-six companies in our study) or in the British Virgin Islands (fifteen companies in our study). Thus, prior research uses where the majority of business operations occur instead of the place of incorporation to determine if a company should be categorized as Chinese.

A reverse merger (RM) is positively associated with auditors being named defendants and experiencing an adverse outcome in the lawsuits. As we noted above, a Chinese company that uses a reverse merger to go public in the U.S., usually coincidentally becomes incorporated in the U.S. Thus, if a researcher encounters multicollinearity issues and cannot include in multivariate analysis both reverse mergers and place of incorporation as variables, the choice is clear. Reverse merger must be retained as a variable and place of incorporation must be jettisoned. In the China company (n=143) data set, a reverse merger (RM) and U.S. place of incorporation (Inc.US) are almost coterminous. Among the eighty RM observations, seventy-four (ninety-three percent) are Inc.U.S. Among the eighty Inc.U.S. observations, seventy-four (ninety-three percent) are RM. Conversely, a reverse merger (RM) and Cayman Islands (Inc.Cayman) are almost non-coterminous. Among the eighty RM observations, one (one percent) is Inc.Cayman. Among the thirty-six Inc.Cayman observations, one (three percent) is RM.

Table 4A presents the twenty-one largest ($4,500,000 and up) aggregate settlements in the Chinese companies' securities class actions. The filing date column shows the date of commencement of the lawsuit. The court column reports the most prominent court, if the lawsuit proceeded in multiple courts. The last column shows the amount paid by all of the defendants, in the aggregate. In five of the twenty-one class actions shown in Table 4A, one or more CPA firms paid to settle (in other words, they contributed to the aggregate settlement), which are shown in Table 4B.

Next, Table 5 shows detailed analysis of the payments made to settle the Chinese companies' securities class actions. This sample consists of 131 observations, reduced by twelve because of a lack of the necessary co-defendants (in addition to the auditor). Table 5 presents descriptive statistics on the aggregate settlements, which are the total amounts paid by all of the defendants to settle the lawsuit. The average aggregate settlement was $5,023,743.

Aggregate settlement varies by auditor type.[11] As shown in Table 5, the average aggregate settlement when the company was audited by a large CPA firm with the audit engagement team located on the mainland of China was $2,801,725. The amount was larger ($9,825,591) when the company was audited by a large CPA firm with the audit engagement team located in Hong Kong. The amount was largest ($17,088,282) when the company was audited by a large CPA firm with the audit engagement team located in the in the U.S. or Canada.

No CPA firms with the audit engagement team located on the mainland of China were inspected by the PCAOB. No large CPA firms with the audit engagement team located in Hong Kong were inspected by the PCAOB. All the CPA firms with the audit engagement team located in the U.S. or Canada were inspected by the PCAOB. Half (five) of the small CPA firms with the audit engagement team located in Hong Kong were inspected by the PCAOB.

The results also show that if an auditor settlement occurs, the average aggregate settlement more than triples, to $16,231,176. Bankruptcy is also associated with a large increase in the aggregate settlement amount; no definite inference can be drawn because there are only six lawsuits with a related bankruptcy.[12] A class period longer than the median is associated with almost a tripling of the aggregate settlement amount.

Reverse mergers are associated with a smaller than average aggregate settlement amount, partly because they are smaller companies than IPO companies or companies that went public long ago. However, Table 5 shows a strict monotonic decrease in the aggregate settlement as a function of the length of the window for a reverse merger being coded as present. Figure 1 depicts this monotonic trend visually. The evidence lends further support to Chen et al. (2016) and the intuition

[11] They are AuB8ChinaM (large CPA firms based in mainland China), AuB8HKSAR (large CPA firms based in Hong Kong), AuB8USCan (large CPA firms based in the U.S. or Canada), AuNB8HKSAR (small CPA firms based in Hong Kong), and AuNB8USCan (small CPA firms based in the U.S. or Canada). There are no small CPA firms based in mainland China among the 131 sample observations. We group together the U.S. and Canada CPA firms for three reasons. There is a scarcity of observations of large CPA firms based in the U.S. or Canada, they have similar country level audit quality per Brown et al. (2014), and they have similar relevant legal environments (they are by far the two most active venues for private securities class actions in the world).

[12] Bankruptcy occurs less frequently (5%) here than in the total (n=2,254) data set (10%).

that the negative impact of an RM gradually declines as the periodic financial reporting of the company becomes more relevant than how the company went public.

Table 5 also provides five litigation data items at the bottom. A lack of service of process on the auditor, as well as an auditor default judgment, seem to be rare events.[13] However, a lack of service of process on one or more members of management or the board of directors occurs in sixty-seven percent of the lawsuits against Chinese companies, which results in a puzzling increase in the average aggregate settlement amount by a million dollars, to $6,060,529. After all, if fewer defendants are served, they cannot be required to participate in the litigation and cannot be forced to provide evidence or make payments to the plaintiffs. However, this is a complex phenomenon. In some lawsuits, it matters a great deal if certain defendants are not served, but in others it matters less. For example, in an IPO lawsuit, the plaintiffs may be able to get a large payment from the underwriter and thus the other defendants are less important. Also, sometimes a company has liability insurance that covers the company only, the management and the board of directors only, all the above, or none of the above, possibly motivating different kinds of defendant litigation behavior.

Also, we are not able to distinguish between failures to effect service of process that were routine versus those critical to the success of the plaintiffs. At times a plaintiff will name some defendants in an initial complaint, not serve all of them, and then when an amended complaint is filed, not continue naming some of them as defendants because new information suggests a lack of provable liability on the part of some former defendants.

Anecdotal evidence shows plaintiffs in some cases unsuccessfully attempting service of process on individual defendants in mainland China for several years. On the other hand, authorities describe the service of process problem in mainland China as less severe than the anecdotal evidence. Lukken (2017) states that "[i]t may take a while—likely nine months from submission to return of proof, if not more. The folks in Beijing get the job done; it just takes a while." Harris (2014) states that "[y]ou should figure on service taking three to six months." Lukken (2017) states in Hong Kong it takes "likely three or four months from submission to return of proof [of service of process]."

When there was a default judgment taken against the company, or against a member of the management or board of directors, the aggregate settlement was about half the average. Attorneys experienced in lawsuits against Chinese companies believe it is a waste of time to obtain a default judgment from a U.S. court (Harris, 2009; Davis, 2015). It will not be enforced in mainland China (Harris, 2010). There are a few countries where a judgment of a U.S. court may be enforced, but usually only litigated (not default) judgments. Also, there would need to be defendant assets located in that country. We are unaware of enforcement of any of the fifteen default judgments against companies or seven default judgments against individuals (see Table 5).

Table 6 presents descriptive statistics on the payments made specifically by the auditors to settle the lawsuits. The average auditor payment was $1,179,490. The median auditor payment was $0 because often the auditor paid nothing to settle the lawsuit. The details of the largest auditor payments are presented in Table 4B. Six payments by auditors were $2,000,000 or higher. Five auditor payments ranged from $1,250,000 to $1,950,000. Thirteen auditor payments ranged from $7,500 to $850,000.

When the company was audited by a CPA firm with the audit engagement team located on the mainland of China, the auditor never paid any money in any of the twenty-nine observations to settle the securities class action. Conversely, each of the other four auditor types made substantial payments (for example, the large Hong Kong auditors paid an average of $937,962 and the large U.S. and Canadian auditors paid an average of $9,965,319) to settle securities class actions. Empirically, the mainland China auditors have been unaccountable to the users of audited financial statements.

Bankruptcy seems to be associated with a very large increase in the auditor payment but no definite conclusions can be drawn because there are only six lawsuits with a related bankruptcy. A class period longer than the median is associated with a seventy-four percent increase in the auditor payment. Fraud is associated with almost a quadrupling of the average auditor payment. Company size is positively associated with the auditor payment. If the total assets are above the median, the auditor payment is on average five times larger than if total assets are below the median.

Restatements of annual financial statements occur less frequently (thirteen percent) in the Chinese company sample than in the overall sample (twenty-eight percent), consistent with the findings of Srinivasan et al. (2015). Their finding that weak rule of law country (for example, China) companies underreport restatements more than strong rule of law country

[13] A lack of service of process on the defendant company is even rarer. It did not occur even once in our data set of 131 observations.

companies helps to explain the unprecedented (in prior auditor litigation research) finding that the occurrence of a restatement is associated with a smaller than average auditor payment of $167,059, one-seventh the average payment amount of $1,179,490.

Reverse mergers are associated with a similar average auditor payment compared to the overall average payment of $1,129,672, when RM2 is the specification for coding a reverse merger as being present. Thereafter, similar to Table 5, there is a strict monotonic decrease in the auditor payment to settle the litigation as the length of a reverse merger being present increases. Figure 1 depicts this trend. This trend (like that of Table 5) again supports the intuition of a gradual eclipse in the importance of how the company went public, with regard to the financial reporting of the company, as reported by Chen et al. (2016).

The bottom of Table 6 provides litigation data. We omit discussion of the events that occur in only single digit frequency. Company default judgments appear to be associated with a slight increase in the average auditor payment, compared to the overall average auditor payment. A lack of service of process on one or more members of management or the board of directors is associated with a forty-four percent increase in the average auditor payment to $1,702,707. If fewer defendants are served, they cannot be required to make payments to the plaintiffs. The remaining defendants (often solely the auditor) that have available assets become even more a focus for the plaintiffs in the litigation.

Conclusions, Implications, and Suggestions for Future Research

We found that the factors associated with the auditor being named a defendant and experiencing an adverse litigation outcome are different for Chinese companies, compared to prior research (which did not focus on Chinese companies). A restatement was not positively associated with the auditor being named a defendant and experiencing an adverse litigation outcome. Bankruptcy was not a significant factor, which is unsurprising given that the nature of transnational litigation against companies and individuals from China make it easy to make assets unavailable to plaintiffs. Reverse mergers are positively associated with the auditor being named a defendant.

Transnational litigation, when it is against companies and individuals from China, is complex. Why have the mainland China auditors (they are all large CPA firms) never paid any money to settle a securities class action filed in the U.S. or Canada? All the other auditor types (large CPA firms in Hong Kong, large CPA firms in the U.S. or Canada, small CPA firms in Hong Kong, small CPA firms in the U.S. or Canada) have paid large sums to settle such lawsuits. Possible explanations for this phenomenon are as follows:

From a negative perspective, the declarations under the Hague Service Convention and the Hague Evidence Convention (the declarations are very different for Hong Kong) by mainland China are so biased in favor of defendants and against plaintiffs with regard to service of process and, especially, compelling the taking of pretrial evidence from defendants, that defendant auditors are almost immune from accountability to plaintiff investors. In addition, the lack of PCAOB inspections (since these may lead to SEC investigations and the filing of securities class actions and make available evidence for both) of large CPA firms both in mainland China and in Hong Kong indirectly hinders the plaintiffs. An additional indirect obstacle is that CPA firms in mainland China and CPA firms in Hong Kong that audit operations in mainland China refuse to directly provide evidence to the SEC, obstructing SEC investigations. Finally, mainland China courts do not enforce U.S. court judgments, whether default or litigated.

From a positive perspective, mainland China CPA firms are more selective about which companies they take on as audit clients. Only three percent of their audit clients let a default judgment be taken against them. This compares to thirty percent of the small Hong Kong CPA firms, seventeen percent of the large U.S. and Canadian CPA firms, 12.5% of the small U.S. and Canadian CPA firms, and eight percent of the large Hong Kong CPA firms. Only ten percent of their audit clients became public via a reverse merger. This compares to eighty-six percent of the small U.S. and Canadian CPA firms, seventy percent of the small Hong Kong CPA firms, forty-two percent of the large Hong Kong CPA firms, and seventeen percent of the large U.S. CPA firms.

Further research is needed to investigate why the CPA firms in mainland China have dominated the market for audit clients that become public via an IPO. They have an advantage that helps them to underbid the other CPA firms in this segment (Chinese companies that list in the U.S. or Canada) of the auditing services market because they have lower costs related to private securities class actions, PCAOB inspections, PCAOB enforcement actions, SEC enforcement actions, and DOJ criminal prosecutions. Further research would be helpful in suggesting an appropriate regulatory response. However, given that Krishnan et al. (2017) have shown that an increase in audit quality occurs when an auditor in a foreign country is

inspected by the PCAOB—compared to non-inspected auditors in that same foreign country—it is difficult to justify the continued non-inspection of the mainland China auditors.

Further research also is needed due to the limitations of our research. Regression shows association but does not prove causation. Also, our sample sizes are relatively small, which may limit the generalization of our results. Finally, there is the possibility that we have not identified all the situational factors and thus have an omitted correlated variable issue.

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Table 1: Frequencies of Lawsuits in the U.S. and Canada Against Chinese Companies

Year	Number of Lawsuits
2001	2
2002	0
2003	1
2004	3
2005	3
2006	2
2007	10
2008	6
2009	1
2010	15
2011	56
2012	19
2013	11
2014	14
Total	143

Table 2: Variable Definitions

Dependent Variable	
AggSettlement	= A continuous variable used in multiple linear regression. It is the total dollar amount paid by all the defendants to the plaintiffs in the lawsuit
AudSettlement	= A continuous variable used in multiple linear regression. It is the dollar amount paid by the auditor to the plaintiffs in the lawsuit
Outcome	= An indicator variable used in polytomous regression. It is set to 1 if the auditor was named a defendant; 2 if the auditor was forced to pay to settle private litigation; 3 if the auditor was a defendant in a government civil litigation or administrative proceeding; 4 if the auditor was criminally prosecuted; 0 otherwise (i.e. the auditor was not even named a defendant in private litigation)
Independent Variables (in Alphabetical Order)	
AuB8ChinaM	= An indicator variable that is set to 1 if the auditor is a Big 8 CPA firm with the office of the audit engagement team on the mainland of China; 0 otherwise
AuB8HKSAR	= An indicator variable that is set to 1 if the auditor is a Big 8 CPA firm with the office of the audit engagement team in the Special Administrative Region of China; 0 otherwise
AuB8USCan	= An indicator variable that is set to 1 if the auditor is a Big 8 CPA firm with the office of the audit engagement team in the U.S. or Canada; 0 otherwise
AudSettle	= An indicator variable that is set to 1 if the auditor paid to settle the lawsuit (also used as a dependent variable in Tables 13A and 13B); 0 otherwise
AuNB8HKSAR	= An indicator variable that is set to 1 if the auditor is a non-Big 8 CPA firm with the office of the audit engagement team in the Special Administrative Region of China; 0 otherwise
AuNB8USCan	= An indicator variable that is set to 1 if the auditor is a Big 8 CPA firm with the office of the audit engagement team in the U.S. or Canada; 0 otherwise
Bankrupt	= An indicator variable that is set to 1 if the company filed for bankruptcy within 1 year of the filing of the litigation; 0 otherwise
Class	= The class period, in months, of the plaintiff investors
DefaultCom	= An indicator variable that is set to 1 if the company let a default judgment be taken against it in the lawsuit; 0 otherwise

Fraud	= An indicator variable that is set to 1 if the company or its senior executives are alleged to have committed financial reporting fraud per a government enforcement action or lawsuit; 0 otherwise
Inc.BVI	= An indicator variable that is set to 1 if a Chinese company is incorporated in the British Virgin Islands; 0 otherwise
Inc.Canada	= An indicator variable that is set to 1 if a Chinese company is incorporated in Canada; 0 otherwise
Inc.Cayman	= An indicator variable that is set to 1 if a Chinese company is incorporated in the Cayman Islands; 0 otherwise
Inc.ChinaM	= An indicator variable that is set to 1 if a Chinese company is incorporated on the Mainland of the PRC; 0 otherwise
Inc.HKSAR	= An indicator variable that is set to 1 if a Chinese company is incorporated in Hong Kong; 0 otherwise
Inc.US	= An indicator variable that is set to 1 if a Chinese company is incorporated in the United States; 0 otherwise
LnTA	= The natural log of the company's total assets in thousands of U.S. dollars
NoServeMgt	= An indicator variable that is set to 1 if the plaintiffs were unable in the lawsuit to serve 1 or more members of the company's management or board of directors
Restate	= An indicator variable that is set to 1 if the company restated its annual financial statements; 0 otherwise
RM	= An indicator variable, set to 1 if the company became public via a reverse merger transaction; 0 otherwise
RM2	= An indicator variable, set to 1 if the company became public via a reverse merger transaction a maximum of 2 years before the filing of the litigation; 0 otherwise
RM4	= An indicator variable, set to 1 if the company became public via a reverse merger transaction a maximum of 4 years before the filing of the litigation; 0 otherwise
RM6	= An indicator variable, set to 1 if the company became public via a reverse merger transaction a maximum of 6 years before the filing of the litigation; 0 otherwise
RM8	= An indicator variable, set to 1 if the company became public via a reverse merger transaction a maximum of 8 years before the filing of the litigation; 0 otherwise
RM10	= An indicator variable, set to 1 if the company became public via a reverse merger transaction a maximum of 10 years before the filing of the litigation; 0 otherwise
RM12	= An indicator variable, set to 1 if the company became public via a reverse merger transaction a maximum of 12 years before the filing of the litigation; 0 otherwise

Table 3: Descriptive Statistics for the Full China Sample (N=143)

AuB8ChinaM**$^{(-)}$	Frequency	29
	Percent	20%
AuB8HKSAR*$^{(-)}$	Frequency	24
	Percent	17%
AuB8USCan	Frequency	12
	Percent	8%
AuNB8HKSAR	Frequency	10
	Percent	7%
AuNB8USCan**$^{(+)}$	Frequency	68
	Percent	48%

Bankrupt	Frequency	7
	Percent	5%
Class*(+)	Mean (months)	46
	Standard deviation	37
	Median	40
Fraud**(+)	Frequency	41
	Percent	29%
Inc.BVI	Frequency	15
	Percent	10%
Inc.Canada	Frequency	9
	Percent	6%
Inc.Cayman**(-)	Frequency	36
	Percent	25%
Inc.ChinaM	Frequency	2
	Percent	1%
Inc.HKSAR	Frequency	1
	Percent	1%
Inc.US**(+)	Frequency	80
	Percent	56%
LnTA**(-)	Mean (Ln of $thousands)	11.9
	Standard deviation	1.6
	Median	12
Restate*(+)	Frequency	21
	Percent	15%
RM**(+)	Frequency	80
	Percent	56%

**(+/-) denotes the association with OUTCOME is significant at the 0.01 level.
*(+/-) denotes the association with OUTCOME is significant at the 0.05 level

Table 4A: Largest Aggregate Settlements in the Chinese Companies' Securities Class Actions

Company	Filing date	Court	Amount
Sino-Forest Corporation	6/15/11	ON Superior	$154,564,182
SinoTech Energy Limited	8/19/11	NYSD	$20,000,000
LDK Solar Co., Ltd.	10/9/07	CAND	$16,000,000
Tommy Hilfiger Corp.	9/28/04	NYSD	$16,000,000
Silvercorp Metals, Inc.	12/28/12	NYSD	$14,000,000
Giant Interactive Group, Inc.	11/26/07	NYSD	$13,000,000
China MediaExpress Holdings, Inc.	2/4/11	NYSD	$12,000,000
Zungui Haixi Corporation	10/3/11	ON Superior	$10,750,000
Puda Coal, Inc.	4/15/11	NYSD	$8,825,000
RINO International Corporation	11/12/10	CACD	$8,685,000
Fuqi International, Inc.	3/19/10	NYSD	$8,600,000
Montage Technology Group Limited	2/7/14	CAND	$7,250,000
AgFeed Industries, Inc.	10/18/11	TNMD	$7,000,000
CNinsure Inc.	10/17/11	NYSD	$6,625,000
Duoyuan Printing, Inc.	9/20/10	NYSD	$6,193,750
Duoyuan Global Water, Inc.	9/20/10	NYSD	$5,150,000
NQ Mobile Inc.	10/28/13	NYSD	$5,100,000
JinkoSolar Holding Co. Ltd.	10/11/11	NYSD	$5,050,000
Suntech Power Holdings Co., Ltd.	8/2/12	CAND	$5,000,000
New Oriental Education & Technology Group	7/23/12	NYSD	$4,750,000
JA Solar Holdings Co. Ltd.	12/3/08	NYSD	$4,500,000

Table 4B: Auditor Contributions to the Largest Aggregate Settlements

Company	Auditor	Amount Paid by Auditor by Auditor
Sino-Forest Corporation	Ernst & Young (Toronto)	$117,583,830
Sino-Forest Corporation	BDO Limited (Hong Kong)	$6,361,080
China MediaExpress Holdings, Inc.	Deloitte & Touche (Hong Kong) Kong)	$12,000,000
Zungui Haixi Corporation	Ernst & Young (Vancouver)	$2,000,000
Puda Coal, Inc.	Moore Stephens (Hong Kong)	$125,000
RINO International, Inc.	Frazer Frost (Los Angeles)	$1,685,000

Table 5: Aggregate Payments in 131 Chinese Companies' Securities Class Actions

	Average	Median		
Overall aggregate settlement	$5,023,743	$1,550,000		
inspected (n=73)	$4,533,509	$1,500,000		
uninspected (n=58)	$5,640,762	$1,650,000		
Characteristic	Average	Median	Frequency	% or mean
Auditor characteristics				
AuB8ChinaM	$2,801,725	$1,550,000	29	22%
AuB8HKSAR	$9,825,591	$2,062,500	24	18%
AuB8USCan	$17,663,682	$3,125,000	12	9%
AuNB8HKSAR	$2,612,500	$1,300,000	10	8%
inspected (n=5)	$3,205,000	$3,000,000		
uninspected (n=5)	$2,020,000	$600,000		
AuNB8USCan (inspected)	$1,838,517	$1,345,000	56	43%
General litigation research characteristics				
Auditor settlement	$16,231,176	$3,100,000	21	16%
Bankruptcy	$52,982,228	$3,575,000	6	5%
Class period in months				49 (mean)
If Class >= median	$7,188,017			42 (median)
If Class period < median	$2,758,019			
Fraud	$8,425,082	$2,300,000	29	22%
Restatement (annual)	$1,750,883	$1,700,000	17	13%
Total Assets in $millions				1125 (mean)
If Total Assets >= to median	$7,242,097			178 (median)
If Total Assets < median	$2,771,261			
Reverse merger: 2, 4, 6, 8, 10 and 12 year windows (from date of RM to date of litigation)				
RM2	$3,187,350	$789,167	12	9%
RM4	$2,870,514	$2,000,000	33	25%
RM6	$2,440,699	$1,850,000	60	46%
RM8	$2,344,015	$1,600,000	64	49%
RM10	$2,281,352	$1,557,500	68	52%
RM12	$2,216,171	$1,500,000	70	53%
Service of process failures and default judgments				

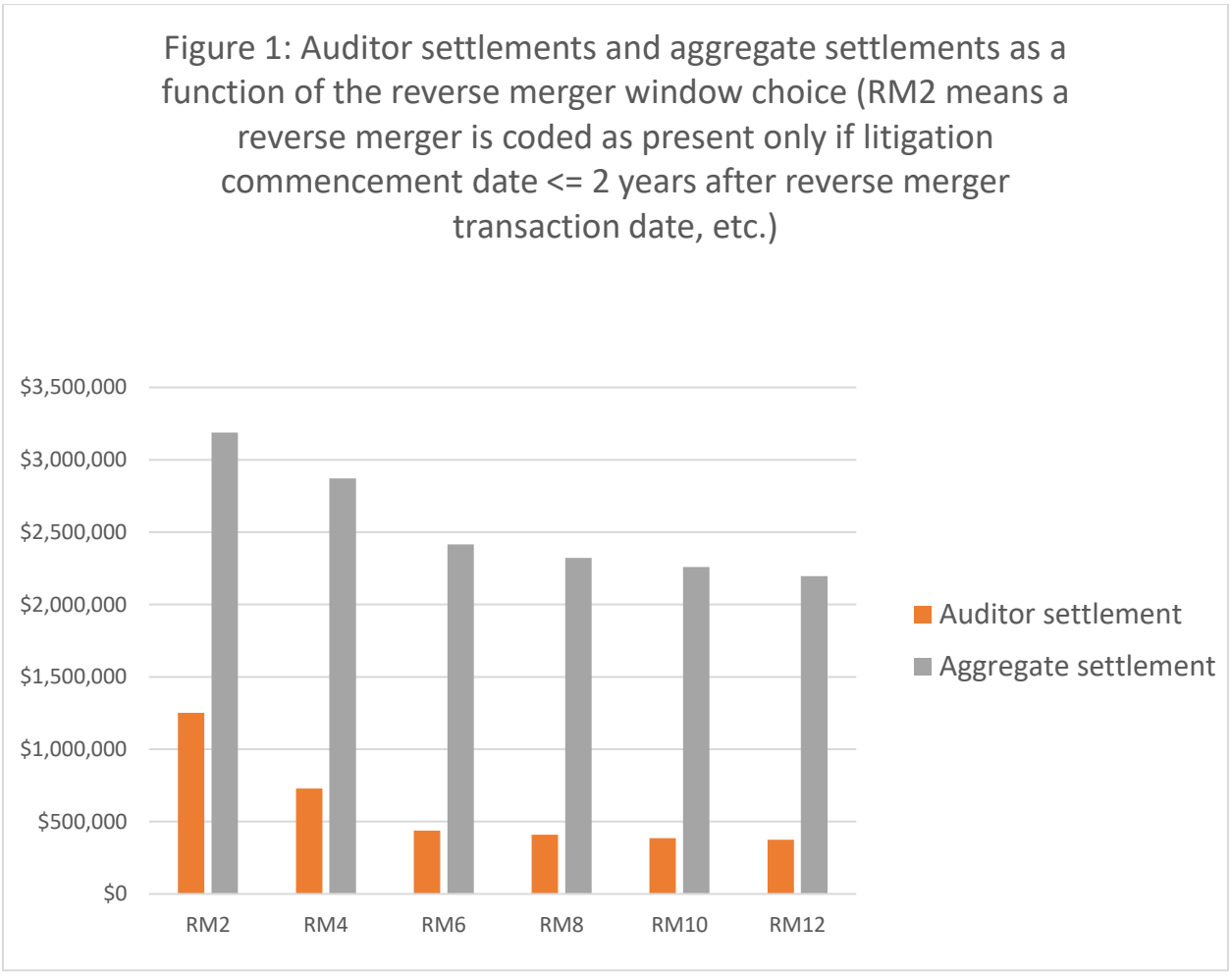
Auditor not served	$9,033,333	$5,100,000	3	2%
Mgt or BOD not served	$6,060,529	$1,725,000	88	67%
Auditor default judgment	$2,000,000	$2,000,000	1	1%
Company default judgment	$3,317,325	$1,340,000	15	11%
Mgt or BOD default judgment	$2,283,125	$1,820,000	8	6%
Place of incorporation				
Inc.BVI	$2,707,143	$2,037,143	14	11%
Inc.Canada	$37,308,707	$1,900,000	9	7%
Inc.Cayman	$3,754,286	$2,000,000	35	27%
Inc.ChinaM	$0	$0	2	1%
Inc.HKSAR	$0	$0	1	1%
Inc.US	$2,186,171	$1,500,000	70	53%

Table 6: Auditor Payments in 131 Chinese Companies' Securities Class Actions

	Average	Median		
Overall auditor payment	$1,179,490	$0		
inspected (n=73)	$1,804,138	$0		
uninspected (n=58)	$393,294	$0		
Characteristic	Average	Median	Frequency	% or mean
Auditor characteristics				
AuB8ChinaM	$0	$0	29	22%
AuB8HKSAR	$937,962	$0	24	18%
AuB8USCan	$9,965,319	$0	12	9%
AuNB8HKSAR	$237,500	$0	10	8%
inspected (n=5)	$415,000	$0		
uninspected (n=5)	$60,000	$0		
AuNB8USCan (inspected)	$179,344	$0	56	43%
General litigation research characteristics				
Bankruptcy	$20,974,152	$950,000	6	5%
Class period in months				49 (mean)
If Class >= median	$2,057,237			42 (median)
If Class period < median	$260,598			
Fraud	$4,632,946	$0	29	22%
Restatement (annual)	$167,059	$0	17	13%
Total Assets in $millions				1125 (mean)
If Total Assets >= to median	$1,981,363			178 (median)
If Total Assets < median	$365,281			
Reverse merger: 2, 4, 6, 8, 10 and 12 year windows (from date of RM to date of litigation)				
RM2	$1,252,356	$262,917	12	9%
RM4	$728,129	$0	33	25%
RM6	$439,888	$0	60	46%
RM8	$412,395	$0	64	49%
RM10	$388,136	$0	68	52%
RM12	$377,047	$0	70	53%
Service of process failures and default judgments				
Auditor not served	$0	$0	3	2%

Mgt or BOD not served	$1,702,707	$0	88	67%
Auditor default judgment	$0	$0	1	1%
Company default judgment	$1,299,329	$40,000	15	11%
Mgt or BOD default judgment	$20,625	$0	7	5%
Place of incorporation				
Inc.BVI	$155,357	$0	14	11%
Inc.Canada	$13,993,879	$0	9	7%
Inc.Cayman	$0	$0	35	27%
Inc.ChinaM	$0	$0	2	1%
Inc.HKSAR	$0	$0	1	1%
Inc.US	$377,047	$0	70	53%

Figure 1: Auditor Settlements and Aggregate Settlements as a Function of the Reverse Merger Window Choice



Appendix

Table 7 presents the results of the polytomous regression on Outcome for the Chinese companies (n=143). The results for the Chinese companies are mostly inconsistent with prior research. Bankrupt, Class, and Restate are not associated with Outcome. The lack of significance on the bankruptcy variable is unsurprising as we discussed earlier. Consistent with prior research, Fraud has a positive association with Outcome and the natural log of total assets has a negative association with Outcome.

Consistent with prior research, small CPA firms with audit engagement teams located in the U.S. or Canada (AuNB8USCan) are positively associated with Outcome. However, small CPA firms with audit engagement teams located in China (AuNB8China) are not associated with Outcome. There is no clear explanation for the disparate fate of small CPA firm auditors depending on where the engagement team is located. On the one hand, the Chinese small CPA firm auditors have an advantage compared to U.S. small CPA firm auditors with regard to service of process, obtaining of evidence, and enforcement of judgments. On the other hand, the violation of auditing standards requiring the careful monitoring of delegated audit procedures, by some of the U.S. small CPA firm auditors, could explain these results.

We performed the regression analysis six times, each with a different specification for when to code a reverse merger being present. RM4 and RM6 (the specification shown in Table 7) are positively associated with Outcome. There is no association when using reverse merger specifications RM2, RM8, RM10 or RM12. The results of all other variables are not influenced by the choice of which reverse merger specification is used. Logically, the negative impact of an RM gradually dissipates as the periodic financial reporting of the company supersedes the relevance with regard to how the company went public. Our results using RM4, RM6, RM8, RM10 and RM12 support Chen et al. (2016) except for the lack of significance on the RM2 specification.

Table 8 shows the correlations among the independent variables used in the regressions in Tables 9 and 10. Other than the auditor types with each other, there are five high correlations with a significance of five percent or better. Small CPA firms that have their audit engagement teams in the U.S. or Canada (AuNB8USCan) are positively correlated with reverse mergers at 0.44 and negatively correlated with natural log of total assets (LnTA) at -0.39. An auditor settlement (AudSettle) is positively correlated with a company default judgment (DefaultCom) at 0.39 and with reverse mergers at 0.32. A failure of service of process on managers or directors (NoServeMgt) is positively correlated with reverse mergers at 0.35. We used RM6 to construct Table 8 but the results are similar if one of the other reverse merger window specifications is used. We are not overly concerned with multicollinearity in the regressions in Tables 9 and 10 since the variance inflation factors and the condition indexes are all under five.

The multiple linear regressions on the aggregate payments to settle the securities class action lawsuits are shown in Tables 9A (AuB8ChinaM is the reference for auditor type and thus is not displayed) and 9B (AuB8USCan is the reference for auditor type and thus is not shown). Six columns of results are displayed showing slightly different results depending on the choice of reverse merger window specification. We regard the clearly significant results as those at five percent or better (two or three asterisks) with a majority of the window specifications for a reverse merger. In Table 9A, the presence of an auditor settlement (AudSettle) and the length of the class period (Class) are positively associated with the amount of the aggregate payment to settle the securities class action lawsuit. Reverse mergers are negatively associated with the amount of the aggregate payment to settle the securities class action lawsuit. In Table 9B, the results are the same as those in Table 9A.[14]

Multiple logistic regressions with a binary dependent variable being 1 if an auditor settlement payment occurs and 0 otherwise, are presented in Tables 10A (AuB8ChinaM is the reference for auditor type and thus is not displayed) and 10B (AuB8USCan is the reference for auditor type and thus is not shown). In Table 10A, a default judgment taken against the company is positively associated with the occurrence of an auditor settlement payment. In Table 10B, the results are the same as those in Table 10A.

The multiple linear regressions on the auditor payments contributing to the settlement of the securities class action lawsuits are presented in Tables 10C (AuB8ChinaM is the reference for auditor type and thus is not displayed) and 10D (AuB8USCan is the reference for auditor type and thus is not shown). In Table 10C, three factors are positively associated with the amount

[14] We also performed multiple logistic regression, with a binary dependent variable being 1 if an aggregate settlement occurs and 0 otherwise. The same independent variables were used. No independent variable was significant at $p<.05$.

of the auditor payment: the use of an auditor that is a large CPA firm with the audit engagement team located in the U.S. or Canada, the length of the class period, and the presence of fraud. In Table 10D, two factors are negatively associated with the amount of the auditor payment: the use of an auditor that is a large CPA firm with the audit engagement team located on the mainland of China, and the use of an auditor that is a small CPA firm with the audit engagement team located in the U.S. or Canada. The presence of fraud and the length of the class period are positively associated with the amount of the auditor payment.

Table 7: Polytomous Results—Full China Model (n=143)

Independent Variables	Expected Sign	Coefficient	Wald Chi-Square	p-value
Intercept1		3.880	3.671	0.055
Intercept2		2.134	1.133	0.288
Intercept3		0.928	0.216	0.643
AuB8USCan	?	0.617	0.526	0.469
AuNB8China	?	0.736	0.932	0.336
AuNB8USCan	+	**1.508**	**8.841**	**0.003**
BANKRUPT	**?**	1.019	0.996	0.317
CLASS	**+**	0.010	3.036	0.082
FRAUD	**+**	**2.441**	**30.852**	**0.000**
LnTA	?	**-0.525**	**9.601**	**0.002**
Restate	**?**	-0.089	0.031	0.860
RM6	+	**0.890**	**4.678**	**0.030**
R-square		53.05%		
Max-rescaled R square		58.12%		
Proportional odds Chi-square		**41.592**		
		(p = 0.001)		
Wald Chi-square		**67.775**		
		(p < 0.001)		

Coefficients of variables with *p*-value < 0.05 are in bold.

Table 8. Correlation Matrix of Independent Variables Used in Aggregate (Total) Settlement Models or Auditor Settlement Models (N=131)

	AuB8ChinaM	AuB8HKSAR	AuB8USCan	AudSettle	AuNB8HKSAR	AuNB8USCan	Class
AuB8ChinaM	1.000						
AuB8HKSAR	***-0.253	1.000					
AuB8USCan	*-0.169	*-0.150	1.000				
AudSettle	***-0.253	-0.020	-0.014	1.000			
AuNB8HKSAR	*-0.153	-0.136	-0.091	0.087	1.000		
AuNB8USCan	***-0.461	***-0.409	**-0.274	**0.189	***-0.248	1.000	
Class	-0.051	-0.132	*0.171	0.084	0.019	0.035	1.000
DefaultCom	-0.134	-0.046	0.052	***0.387	*0.167	0.028	-0.070
Fraud	*-0.151	**-0.205	0.022	**0.175	-0.015	***0.283	0.084
LNTA	*0.168	**0.195	0.140	-0.132	0.035	***-0.394	***0.323
NoServeMgt	-0.097	0.079	*-0.173	*0.163	0.140	0.045	0.072
Restate	-0.096	-0.065	-0.044	0.111	***0.231	0.034	0.047
RM6	-0.416	-0.039	**-0.186	***0.317	0.082	***0.444	0.002

	DefaultCom	Fraud	LNTA	NoServeMgt	Restate	RM6
DefaultCom	1.000					
Fraud	**0.212	1.000				
LNTA	**-0.182	-0.097	1.000			
NoServeMgt	*0.149	0.059	0.008	1.000		
Restate	-0.068	0.013	-0.121	0.125	1.000	
RM6	*0.151	***0.285	***-0.285	***0.349	0.055	1.000

*, **, *** Correlations are significant at the 0.1, 0.05, and 0.01 levels respectively.

Table 9A: Multiple Linear Regressions on Aggregate (Total) Private Securities Class Action Settlement Amount (N=131).

Variable	RM2 Model	RM4 Model	RM6 Model	RM8 Model	RM10 Model	RM12 Model
	Coefficient (t-statistics)	Coefficient (t-statistics)	Coefficient (t-statistics)	Coefficient (t-statistics)	Coefficient (t-statistics)	Coefficient (t-statistics)
AuB8HKSAR	5379395	5398833	*7866981	*7985870	*8053193	*7788559
	(1.17)	(1.16)	(1.7)	(1.72)	(1.72)	(1.67)
AuB8USCan	9237059	9173170	*10113679	*10049163	*10026982	*9546262
	(1.59)	(1.58)	(1.78)	(1.77)	(1.76)	(1.68)
AudSettle	***16391274	***17034091	***18617245	***18222179	***17652646	***17247039
	(3.84)	(3.81)	(4.46)	(4.38)	(4.26)	(4.17)
AuNB8HKSAR	-2075709	-2632018	821726	1178652	1023734	1278064
	(-0.32)	(-0.41)	(0.13)	(0.18)	(0.16)	(0.2)
AuNB8USCan	-4742441	-4195010	-231865	728631	1450874	963915
	(-1.12)	(-0.95)	(-0.05)	(0.16)	(0.3)	(0.2)
Class	***150859	***144164	***145072	***148947	***149894	***152672
	(3.44)	(3.26)	(3.44)	(3.52)	(3.54)	(3.59)
DefaultCom	*-9913958	*-8816586	*-9591017	*-9443929	*-9255325	*-8567018
	(-1.83)	(-1.69)	(-1.88)	(-1.85)	(-1.81)	(-1.67)
Fraud	4641409	4871251	*6462471	5890819	5755311	5956717
	(1.25)	(1.31)	(1.75)	(1.61)	(1.57)	(1.62)
LNTA	*2155453	2053755	1614647	1685724	1759231	1767922
	(1.73)	(1.64)	(1.31)	(1.38)	(1.43)	(1.44)
NoServeMgt	1872187	2159451	4668194	4130428	3830480	3550429
	(0.58)	(0.67)	(1.4)	(1.27)	(1.18)	(1.1)
Restate	-5344953	-5231130	-6063273	-6295207	-5285647	-4839074

	(-1.18)	(-1.15)	(-1.36)	(-1.41)	(-1.19)	(-1.09)
RM	4287913	-323281	**-8616713	**-8581227	**-8463330	**-8219863
	(0.71)	(-0.08)	(-2.33)	(-2.31)	(-2.17)	(-2.13)
Intercept	**-32129570	**-30779666	*-26251441	*-26941312	*-27804441	*-27686107
	(-2.08)	(-1.97)	(-1.73)	(-1.78)	(-1.83)	(-1.82)
F-Value	5.03	4.96	5.65	5.63	5.55	5.53
R-Square	33.83%	33.55%	36.48%	36.42%	36.09%	36.01%

*, **, *** Significant at the 0.1, 0.05, and 0.01 levels respectively.

Table 9B: Multiple Linear Regressions on Aggregate (Total) Private Securities Class Action Settlement Amount (N=131).

Variable	RM2 Model Coefficient (t-statistics)	RM4 Model Coefficient (t-statistics)	RM6 Model Coefficient (t-statistics)	RM8 Model Coefficient (t-statistics)	RM10 Model Coefficient (t-statistics)	RM12 Model Coefficient (t-statistics)
AuB8ChinaM	-9237059	-9173170	*-10113679	*-10049163	*-10026982	*-9546262
	(-1.59)	(-1.58)	(-1.78)	(-1.77)	(-1.76)	(-1.68)
AuB8HKSAR	-3857664	-3774337	-2246697	-2063293	-1973789	-1757704
	(-0.63)	(-0.61)	(-0.37)	(-0.34)	(-0.33)	(-0.29)
AudSettle	***16391274	***17034091	***18617245	***18222179	***17652646	***17247039
	(3.84)	(3.81)	(4.46)	(4.38)	(4.26)	(4.17)
AuNB8HKSAR	-11312767	-11805189	-9291953	-8870511	-9003249	-8268199
	(-1.53)	(-1.6)	(-1.28)	(-1.21)	(-1.23)	(-1.12)
AuNB8USCan	**-13979500	**-13368181	*-10345544	-9320532	-8576108	-8582348
	(-2.5)	(-2.33)	(-1.85)	(-1.63)	(-1.46)	(-1.45)
Class	***150859	***144164	***145072	***148947	***149894	***152672
	(3.44)	(3.26)	(3.44)	(3.52)	(3.54)	(3.59)
DefaultCom	*-9913958	*-8816586	*-9591017	*-9443929	*-9255325	*-8567018
	(-1.83)	(-1.69)	(-1.88)	(-1.85)	(-1.81)	(-1.67)
Fraud	4641409	4871251	*6462471	5890819	5755311	5956717
	(1.25)	(1.31)	(1.75)	(1.61)	(1.57)	(1.62)
LNTA	*2155453	2053755	1614647	1685724	1759231	1767922
	(1.73)	(1.64)	(1.31)	(1.38)	(1.43)	(1.44)
NoServeMgt	1872187	2159451	4668194	4130428	3830480	3550429
	(0.58)	(0.67)	(1.4)	(1.27)	(1.18)	(1.1)
Restate	-5344953	-5231130	-6063273	-6295207	-5285647	-4839074

	(-1.18)	(-1.15)	(-1.36)	(-1.41)	(-1.19)	(-1.09)
RM	4287913	-323281	**-8616713	**-8581227	**-8463330	**-8219863
	(0.71)	(-0.08)	(-2.33)	(-2.31)	(-2.17)	(-2.13)
Intercept	-22892511	-21606496	-16137762	-16892149	-17777459	-18139845
	(-1.43)	(-1.34)	(-1.02)	(-1.07)	(-1.13)	(-1.15)
F-Value	5.03	4.96	5.65	5.63	5.55	5.53
R-Square	33.83%	33.55%	36.48%	36.42%	36.09%	36.01%

*, **, *** Significant at the 0.1, 0.05, and 0.01 levels respectively.

Table 10A: Logistic Regressions on Auditor Private Securities Class Action Settlements (N=131)

Variable	RM2 Model Coefficient (Wald Chi-sq.)	RM4 Model Coefficient (Wald Chi-sq.)	RM6 Model Coefficient (Wald Chi-sq.)	RM8 Model Coefficient (Wald Chi-sq.)	RM10 Model Coefficient (Wald Chi-sq.)	RM12 Model Coefficient (Wald Chi-sq.)
AuB8HKSAR	12.188	11.472	11.633	11.726	11.905	12.125
	(-0.010)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
AuB8USCan	11.620	11.376	11.502	11.548	11.607	11.666
	(0.000)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
AuNB8HKSAR	12.073	11.404	11.149	11.226	11.466	11.707
	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.005)
AuNB8USCan	12.427	11.903	12.018	12.020	12.156	12.450
	(0.005)	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)
Class	*0.014	**0.024	0.012	0.012	0.011	0.011
	(3.114)	(6.377)	(2.358)	(2.161)	(2.122)	(2.115)
DefaultCom	***2.212	***2.774	***2.788	***2.703	***2.607	***2.534
	(7.700)	(9.914)	(11.288)	(11.126)	(10.925)	(10.728)
Fraud	0.311	0.196	0.123	0.244	0.300	0.348
	(0.256)	(0.091)	(0.040)	(0.163)	(0.248)	(0.323)
LNTA	0.076	0.359	0.160	0.117	0.070	0.040
	(0.091)	(1.469)	(0.314)	(0.176)	(0.068)	(0.024)
NoServeMgt	0.275	0.564	-0.074	0.135	0.275	0.353
	(0.159)	(0.578)	(0.010)	(0.036)	(0.158)	(0.264)
Restate	0.917	*1.561	1.177	1.166	1.014	0.980
	(1.629)	(3.488)	(2.553)	(2.508)	(2.029)	(1.887)
RM	1.313	***2.852	*1.462	1.153	0.746	0.299

	(2.423)	(11.226)	(3.618)	(2.352)	(0.948)	(0.156)
Intercept	-16.159	-21.069	-17.244	-16.717	-16.089	-15.698
	(0.009)	(0.018)	(0.010)	(0.010)	(0.009)	(0.008)
Wald Chi-Square	16.840	19.221	16.752	16.348	15.954	15.707
R-Square	23.69%	30.64%	24.71%	23.84%	22.89%	22.39%
Maxrescaled R-Square	38.57%	49.89%	40.24%	38.81%	37.27%	36.46%

*, **, *** Significant at the 0.1, 0.05, and 0.01 levels respectively.

Table 10B: Logistic Regressions on Auditor Private Securities Class Action Settlements (N=131)

Variable	RM2 Model	RM4 Model	RM6 Model	RM8 Model	RM10 Model	RM12 Model
	Coefficient (Wald Chi-sq.)	Coefficient (Wald Chi-sq.)	Coefficient (Wald Chi-sq.)	Coefficient (Wald Chi-sq.)	Coefficient (Wald Chi-sq.)	Coefficient (Wald Chi-sq.)
AuB8ChinaM	-11.620	-12.376	-12.502	-11.548	-11.607	-11.666
	(0.005)	(0.002)	(0.002)	(0.005)	(0.005)	(0.005)
AuB8HKSAR	0.569	0.096	0.132	0.179	0.299	0.459
	(0.249)	(0.005)	(0.013)	(0.023)	(0.065)	(0.154)
AuNB8HKSAR	0.454	0.027	-0.353	-0.322	-0.141	0.040
	(0.130)	(0.000)	(0.074)	(0.060)	(0.012)	(0.001)
AuNB8USCan	(0.807)	0.527	0.516	0.473	0.550	0.784
	(0.577)	(0.187)	(0.221)	(0.185)	(0.240)	(0.479)
Class	*0.014	**0.024	0.012	0.012	0.011	0.011
	(3.114)	(6.377)	(2.358)	(2.161)	(2.122)	(2.115)
DefaultCom	***2.212	***2.774	***2.788	***2.703	***2.607	***2.534
	(7.700)	(9.914)	(11.288)	(11.126)	(10.925)	(10.728)
Fraud	0.311	0.196	0.123	0.244	0.300	0.348
	(0.256)	(0.091)	(0.040)	(0.163)	(0.248)	(0.323)
LNTA	0.076	0.359	0.160	0.117	0.070	0.040
	(0.091)	(1.469)	(0.314)	(0.176)	(0.068)	(0.024)
NoServeMgt	0.275	0.564	-0.074	0.135	0.275	0.353
	(0.159)	(0.578)	(0.010)	(0.036)	(0.158)	(0.264)
Restate	0.917	*1.561	1.177	1.166	1.014	0.980
	(1.629)	(3.488)	(2.553)	(2.508)	(2.029)	(1.887)
RM	1.313	***2.852	*1.4617	1.153	0.746	0.299
	(2.423)	(11.226)	(3.618)	(2.352)	(0.948)	(0.156)

Intercept	-4.539	**-9.693	-5.742	-5.169	-4.483	-4.032
	(1.713)	(4.726)	(2.119)	(1.809)	(1.488)	(1.300)
Wald Chi-Square	16.840	19.218	16.750	16.348	15.954	15.707
R-Square	23.69%	30.64%	24.71%	23.84%	22.89%	22.39%
Maxrescaled R-Square	38.57%	49.89%	40.24%	38.81%	37.27%	36.46%

*, **, *** Significant at the 0.1, 0.05, and 0.01 levels respectively.

Table 10C: Multiple Linear Regressions on Auditor Private Securities Class Action Settlement Amounts (N=131)

Variable	RM2 Model	RM4 Model	RM6 Model	RM8 Model	RM10 Model	RM12 Model
	Coefficient (t-statistics)	Coefficient (t-statistics)	Coefficient (t-statistics)	Coefficient (t-statistics)	Coefficient (t-statistics)	Coefficient (t-statistics)
AuB8HKSAR	1832990	688842	1832990	1817486	1866015	1850315
	(0.65)	(0.25)	(0.65)	(0.65)	(0.66)	(0.66)
AuB8USCan	**8649946	**8353483	**8649946	**8616091	**8616862	**8500606
	(2.5)	(2.43)	(2.5)	(2.49)	(2.5)	(2.47)
AuNB8HKSAR	477216	-771486	477216	508604	528706	681729
	(0.12)	(-0.2)	(0.12)	(0.13)	(0.13)	(0.17)
AuNB8USCan	602107	-1414064	602107	756078	1004519	1002787
	(0.22)	(-0.54)	(0.22)	(0.27)	(0.34)	(0.35)
Class	**53130	**57412	**53130	**53891	**54074	**54857
	(2.08)	(2.22)	(2.08)	(2.11)	(2.11)	(2.14)
DefaultCom	-832044	-1355607	-832044	-837860	-853586	-717936
	(-0.29)	(-0.46)	(-0.29)	(-0.29)	(-0.29)	(-0.25)
Fraud	**4956702	*4356301	**4956702	**4805664	**4787105	**4861187
	(2.21)	(1.97)	(2.21)	(2.16)	(2.15)	(2.18)
LNTA	714235	937525	714235	736003	747846	743013

	(0.96)	(1.26)	(0.96)	(0.99)	(-1.01)	(1)
NoServeMgt	2691558	2042632	2691558	2537342	2494254	2456412
	(1.33)	(1.07)	(1.33)	(1.28)	(1.27)	(1.26)
Restate	-1167167	-877214	-1167167	-1223457	-1010134	-902332
	(-0.44)	(-0.33)	(-0.44)	(-0.46)	(-0.38)	(-0.34)
RM	-2044337	2507324	-2044337	-1944564	-2074832	-2225835
	(-0.93)	(1.06)	(-0.93)	(-0.87)	(-0.88)	(-0.95)
Intercept	-13272352	*-15980031	-13272352	-13478071	-13613574	-13499140
	(-1.44)	(-1.73)	(-1.44)	(-1.46)	(-1.48)	(-1.47)
F-Value	2.53	2.56	2.53	2.52	2.52	2.53
R-Square	18.95%	19.13%	18.95%	18.88%	18.89%	18.98%

*, **, *** Significant at the 0.1, 0.05, and 0.01 levels respectively.

Table 10D: China Companies: Multiple Linear Regressions on Auditor Private Securities Class Action Settlement Amounts (N=131)

	RM2 Model	RM4 Model	RM6 Model	RM8 Model	RM10 Model	RM12 Model
Variable	Coefficient (t-statistics)	Coefficient (t-statistics)	Coefficient (t-statistics)	Coefficient (t-statistics)	Coefficient (t-statistics)	Coefficient (t-statistics)
AuB8ChinaM	**-8403784	**-8353483	**-8649946	**-8616091	**-8616862	**-8500606
	(-2.44)	(-2.43)	(-2.50)	(-2.49)	(-2.50)	(-2.47)
AuB8HKSAR	**-7264906	**-7664642	*-6816956	*-6798604	*-6750847	*-6650291
	(-2.00)	(-2.10)	(-1.87)	(-1.86)	(-1.84)	(-1.81)
AuNB8HKSAR	*-8388474	**-9124970	*-8172730	*-8107487	*-8088156	*-7818876
	(-1.91)	(-2.09)	(-1.85)	(-1.83)	(-1.82)	(-1.74)
AuNB8USCan	***-9264868	***-9767548	**-8047839	**-7860013	**-7612343	**-7497819
	(-2.79)	(-2.87)	(-2.37)	(-2.26)	(-2.13)	(-2.1)
Class	**56843	**57412	**53130	**53891	**54074	**54857

	(2.19)	(2.22)	(2.08)	(2.11)	(2.11)	(2.14)
DefaultCom	-1847310	-1355607	-832044	-837860	-853586	-717936
	(-0.60)	(-0.46)	(-0.29)	(-0.29)	(-0.29)	(-0.25)
Fraud	*4379565	*4356301	**4956702	**4805664	**4787105	**4861187
	(1.98)	(1.97)	(2.21)	(2.16)	(2.15)	(2.18)
LNTA	896365	937525	714235	736003	747846	743013
	(1.21)	(1.26)	(0.96)	(0.99)	(1.01)	(1.00)
NoServeMgt	1829585	2042632	2691558	2537342	2494254	2456412
	(0.95)	(1.07)	(1.33)	(1.28)	(1.27)	(1.26)
Restate	-1172408	-877214	-1167167	-1223457	-1010134	-902332
	(-0.44)	(-0.33)	(-0.44)	(-0.46)	(-0.38)	(-0.34)
RM	3328691	2507324	-2044337	-1944564	-2074832	-2225835
	(0.94)	(1.06)	(0.93)	(0.87)	(-0.88)	(-0.95)
Intercept	-6872236	-7626548	-4622406	-4861980	-4996711	-4998534
	(-0.72)	(-0.80)	(-0.48)	(-0.51)	(-0.52)	(-0.53)
F-Value	2.53	2.56	2.53	2.52	2.52	2.53
R-Square	18.96%	19.13%	18.95%	18.88%	18.89%	18.98%

*, **, *** Significant at the 0.1, 0.05, and 0.01 levels respectively.