

Share price response to the SEC administrative proceedings against Chinese auditors

Share price
response

Guoping Liu

Ted Rogers School of Management, Ryerson University, Toronto, Canada, and

Jerry Sun

Odette School of Business, University of Windsor, Windsor, Canada

1131

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Abstract

Purpose – The purpose of this study is to examine whether clients' share prices responded to three events, including the Securities and Exchange Commission (SEC) launch of administrative proceedings against five Chinese accounting firms on December 3, 2012, for their failure to hand over audit work papers due to conflict of jurisdiction; the issuance of SEC Administrative Law Judge Elliot's ruling on January 22, 2014; and the settlement of the administrative proceedings on February 6, 2015.

Design/methodology/approach – This study uses the Schipper and Thompson approach.

Findings – It is found that share prices responded negatively around December 3, 2012, for USA-listed Chinese companies who were audited by Chinese auditors.

Originality/value – This study provides evidence on how share prices reacted to SEC enforcement actions against an affair of non-audit failure.

Keywords SEC, Administrative proceedings, Chinese auditors, Share price response

Paper type Research paper

1. Introduction

In 2010, accounting scandals and rumors began to swirl about US-listed Chinese companies, which mostly achieved listing on the US stock exchanges through reverse mergers or American Depositary Receipts (ADRs). As a watchdog for protecting investors against corporate fraud, the US Securities and Exchange Commission (SEC) had consequently tightened the screws on Chinese companies. By December 2012, over 45 Chinese companies had been delisted from US stock exchanges due to financial irregularities and other issues, and some Chinese companies had been under SEC investigation for accounting problems (Newman, 2013). Between March 11, 2011 and April 26, 2012, the SEC sent several requests to the Big Four accounting firms' Chinese affiliates and BDO China Dahua CPA Co., Ltd. (Dahua) (i.e. auditors of 10 companies under SEC investigation), calling for their audit work papers and related documents for the SEC's investigations into the alleged clients. However, the SEC's requests were disobeyed because Chinese law prohibits accounting firms from submitting such documents to foreign agencies [Securities and Exchange Commission (SEC), 2014][1].

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Subsequently, the SEC commenced administrative proceedings against these Chinese auditors on December 3, 2012. On January 22, 2014, SEC Administrative Law Judge Cameron Elliot issued an initial decision, censuring and denying these Chinese auditors' privilege of practicing before the SEC for a period of six months (SEC, 2014). On February 6, 2015, the SEC announced that the proceedings had been settled by only imposing financial penalties on these auditors.

Audit work papers of the five Chinese accounting firms could facilitate the SEC to inspect whether these auditors had observed professional conduct in auditing their clients who were under SEC investigation. The auditors' refusal to provide audit work papers not only impeded the SEC's investigations into their audits but also jeopardized the opportunity to attest that they had conducted the audits effectively and ethically. Regardless of whether the five Chinese auditors had wrongdoing in their audits of the alleged clients, the proceedings sent clear messages to investors that these Chinese auditors had not complied with US securities regulations with regard to providing access to their audit documents for the purpose of SEC investigations or Public Company Accounting Oversight Board (PCAOB) inspections. To the extent that PCAOB inspections are perceived as enhancing of audit quality, the launch of the SEC proceedings would likely result in investors' revising down the audit quality (perceived) of these Chinese auditors.

The purpose of this paper is to investigate whether clients' share prices reacted to SEC enforcement actions against the five Chinese auditors. We examine share price response to three events, namely, the launch of the SEC proceedings on December 3, 2012; the issuance of Judge Elliot's initial decision on January 22, 2014; and the settlement of the proceedings on February 6, 2015. We predict a negative market reaction to the commencement of the proceedings because of changes in investors' perception on the audit quality of Chinese auditors. When Judge Elliot ruled his initial decision and intended to impose a six months suspension against the Chinese auditors, investors would, perhaps, also react negatively because of their concerns on the costs of barring Chinese auditors. The proceedings were finally settled without suspension, which would relieve investors' concerns and likely lead to a positive market reaction.

We select a sample of US-listed Chinese companies that were audited by the five Chinese auditors, and a control group of other US-listed Chinese companies audited by non-Chinese auditors. Both groups of auditors were registered with the PCAOB. However, because of conflict of jurisdiction between China and the USA, Chinese auditors did not give the SEC or PCAOB access to their audit documents for investigations or inspections. By using the Schipper and Thompson approach, we document evidence that share prices of clients of Chinese auditors negatively responded to the commencement of SEC proceedings on December 3, 2012, whereas share prices of clients of non-Chinese auditors did not respond significantly on that date. We also find that share prices of Chinese auditors' clients did not significantly react to Judge Elliot's initial decision or the settlement of the proceedings, suggesting that investors were not concerned with the banning of Chinese auditors, and thus, the negative share price response to the launch of the proceedings was unlikely caused by that concern. Taking together, the results suggest that investors did revise their perception of the quality of Chinese auditors when they became first aware both the SEC and PCAOB were denied access to these auditors' work papers. Our findings are consistent with the notion that perceived audit quality is reflected in share prices.

This study contributes to the literature and practices in the following ways. Firstly, our study adds to the research on US regulatory oversight of auditors. Earlier studies in this stream (i.e. [Wilson and Grimlund, 1990](#); [Davis and Simon, 1992](#)) focus on the effects of SEC disciplinary actions on sanctioned auditors' market share and audit fees. Unlike those earlier

studies, our study focuses on share price response to the events of SEC enforcement actions against auditors. Recently, [Dee et al. \(2011\)](#) examine client stock market reaction to the PCAOB's sanctions against Deloitte on December 10, 2007 for its audit failure of Ligand Pharmaceuticals Inc. Our study differs from [Dee et al. \(2011\)](#) in that we investigate client stock market reaction to the SEC enforcement actions against auditors' refusal to hand out audit documents due to conflict of jurisdiction rather than an evident audit failure. We extend [Dee et al. \(2011\)](#) by examining how investors react to a PCAOB sanction against auditors for a non-audit failure related violation.

Secondly, it is worth investigating the SEC proceedings from the regulatory perspective. In defending their proposition, the SEC cited several published research papers ([Fernandes et al., 2010](#); [Kedia and Rajgopal, 2011](#)) to attest that the enforcement of securities regulation would have positive economic impact on investors and the market. Judge Elliot had taken into consideration of theories and findings from those studies when making his ruling decision on the SEC (2014) proceedings, which encourages us to explicitly evaluate the consequences of the proceedings. Our findings indicate that the launch of the SEC proceedings helped investors to become aware that the audit quality of PCAOB-registered Chinese auditors could be less than what was perceived before the proceedings.

The remainder of this paper is organized as follows. Section 2 introduces the background of the SEC proceedings. Section 3 reviews related studies. Section 4 develops hypotheses. Section 5 discusses methodology. Section 6 presents empirical results. Finally, Section 7 concludes.

2. Background

2.1 Audits of clients under Securities and Exchange Commission investigation

The Big Four accounting firms' Chinese affiliates and Dahua were involved in the audits of 10 China-based companies under SEC investigation[2]. According to the SEC's initial decision release dated January 22, 2014, the 10 clients consist of two former clients of Ernst and Young Hua Ming LLP (E&Y), three former clients of KPMG Huazhen (KPMG), one current client and one former client of Deloitte Touche Tohmatsu Certified Public Accountants Ltd. (DTTC), two former clients of PricewaterhouseCoopers Zhong Tian CPAs Limited (PwC), and one former client of Dahua (SEC, 2014)[3]. The initial decision release provides some information about the audits of these alleged clients, as summarized in the following paragraphs of this subsection.

E&Y was subjected to the SEC administrative proceedings for not providing audit work papers on the audits of two former clients. In December 2010, E&Y identified some issues in one client's internal control and communicated its findings to the client's audit committee. In February 2011, a short seller report claimed that the size of the client's operation was considerably overstated. In March 2011, E&Y presented new findings involving possibly illegal acts to the audit committee and recommended an independent investigation. Soon after the client intentionally ignored E&Y's request to include an important statement in its final 8-K form, E&Y resigned as the client's auditor. In about the same way, a short seller report issued in August 2011 alleged that another E&Y's client and its largest customers were all shell companies. E&Y was not allowed to verify the client's primary bank account, even after the client's chairman confessed that \$40m had been transferred out of that account without authorization. E&Y resigned in September 2011 and withdrew its opinion issued previously to the client.

Three of KPMG's former clients were investigated by the SEC. In March 2011, shortly after KPMG issued audit opinion to one client, short seller reports revealed that the client did not possess the amount of cash reported on its balance sheet, did not report an acquisition as

a related party transaction, and overstated revenue of the acquired unit. Accordingly, KPMG requested the client's audit committee to investigate those allegations. As no investigation proceeded, KPMG resigned soon after. During the audits of the other two clients for the fiscal year ended December 2010, KPMG identified and reported several issues to their audit committees for a special investigation. Like the case of the first client, the requested investigations did not proceed. Hence, KPMG resigned without even completing the audits.

The SEC asked DTTC to provide audit work papers related to the audit of a company that was still a client of DTTC at the time of the SEC investigation[4]. The client was alleged to have committed accounting fraud involving revenue recognition for the fiscal years 2008 to 2010[5]. The SEC states that audit work papers could have revealed "whether the auditors opined that the company's conduct was proper, or whether the auditors were complicit in the company's misconduct" (SEC, 2014, p. 32). In March 2010, DTTC was hired to audit another client for the fiscal year ended December 2010, but was not allowed to review the client's bank statements or to verify certain transactions. The client was investigated by the SEC because a Form 8-K filed on September 13, 2010 disclosed that DTTC was dismissed by the client without completing the audit.

PwC was requested by the SEC to produce audit work papers on two former clients. One client terminated PwC as its auditor after it rejected PwC's request to conduct additional audit work for the fiscal year 2010 and an independent investigation into certain matters. The SEC's investigation of the client was triggered by a whistleblower disclosure of accounting fraud in a blog post on February 1, 2011. PwC resigned as the auditor of another client in December 2011 because it had disagreements with the client over the remedy of some issues detected from an internal investigation. PwC sent two letters regarding its resignation to the client's audit committee and forwarded them to the SEC. The allegation against the client included undisclosed related party transactions, accounting irregularities, misappropriation of company assets, and securities manipulation.

Dahua had a former client who was under SEC investigation for a transaction related to the acquisition of another company. The client reported the transaction for \$27m in its Form 8-K/A filed on March 16, 2010; however, it had obtained the acquired company's primary asset for \$8,600 five months before. Dahua did not become the client's auditor until October 2010, although it issued an unqualified audit opinion for the client's fiscal year ended December 31, 2010. The SEC requested Dahua's audit work papers in the belief that those papers may reveal the valuation of the acquired company's principal asset and other facts about the transaction and auditing procedures conducted.

2.2 Securities and Exchange Commission administrative proceedings

The Big Four accounting firms' Chinese affiliates and Dahua are licensed and regulated in China by the Chinese Ministry of Finance (MOF) and the China Securities Regulatory Commission (CSRC) and are also registered in the US with the PCAOB[6]. Under the Chinese state secrets law, auditors are prohibited to directly provide any audit documents to foreign agencies[7]. After being requested to submit audit work papers to the SEC, all five accounting firms had contacted the MOF and CSRC for guidance. These firms were instructed not to directly hand over audit work papers to foreign regulators and that they would be legally penalized if they hand over without permission. They were also told that foreign regulators should directly contact the Chinese regulators to attain access to audit work papers (SEC, 2014). The five accounting firms replied to the SEC accordingly, stating, though willing to do so, they would not be able to provide the required documents because

of prohibitions by Chinese law. Afterward, requests made by the SEC directly to the CSRC seeking documents were also unfruitful.

Continuously frustrated by its inability to obtain related audit documents from the Big Four accounting firms' Chinese affiliates and Dahua, the SEC instituted administrative proceedings against the five accounting firms on December 3, 2012, pursuant to Rule 102(e)(1)(iii) of the commission's rules of practice. The proceedings alleged that the five firms had "willfully refused" to provide their audit work papers and all other documents related to the audit work on the 10 US-listed Chinese companies under SEC investigation into accounting fraud [Securities and Exchange Commission (SEC), 2012, pp. 4-5].

The proceedings have, indeed, motivated both countries' regulators to expend more effort on resolving their regulatory disputes. In May 2013, the PCAOB, MOF and CSRC reached an agreement (i.e. "Memorandum of Understanding on Enforcement Cooperation") by stating that:

The Authorities recognize the importance and desirability of providing mutual assistance and exchanging information for the purpose of enforcing, and securing compliance with, the Laws, rules or regulations applicable in their respective jurisdictions and agree to cooperate towards this end by responding on a timely basis to requests for assistance [Public Company Accounting Oversight Board (PCAOB), 2013, p. 2].

This agreement facilitated the US regulators to seek documents from their Chinese counterparts. Later, audit documents from the five accounting firms had begun to be handed over to the SEC through the CSRC (Whitehouse, 2014). Prior to turning over the documents to the US regulators, the five accounting firms were required by the CSRC to screen their documents for state secrets and other sensitive information with the assistance of an external law firm (SEC, 2014).

Despite the mutual effort to resolve conflict of jurisdiction, on January 22, 2014, SEC Judge Elliot made an initial decision on the proceedings that the five accounting firms should be sanctioned pursuant to SEC Rule of Practice 102(e)(1)(iii) for willfully violating the Sarbanes–Oxley Act of 2002, Section 106 (SEC, 2014). The ruling specifies that the privilege of the Big Four accounting firms' Chinese affiliates to audit companies registered with the PCAOB would be suspended for a six-month period. The ruling did not go into effect immediately as the accounting firms involved had their rights to appeal. Hence, the suspension would only affect the accounting firms' audits in the subsequent year if they were unsuccessful in their appeal. While Dahua was also censured, it had already exited the US auditing market, and thus, its name was not included in the suspension ruling.

In February 2014, the Big Four accounting firms' Chinese affiliates jointly appealed against the six-month suspension to the SEC. They stated in their petition that Judge Elliot mistakenly applied the Sarbanes–Oxley Act and ignored the Chinese regulators' effort in establishing enforcement cooperation with the US regulators (Whitehouse, 2014). They also asserted that the CSRC had provided the SEC with all the requested audit documents from DTTC and some documents from E&Y before Judge Elliot issued his ruling, and that the documents from KPMG and PwC had been submitted to the CSRC, who would hand them over to the US counterparts after the screening procedure. On May 9, 2014, the SEC announced that it had agreed to hear the four affiliates' appeal of Judge Elliot's ruling on the proceedings (Barris, 2014). On February 6, 2015, the SEC announced the settlement of the proceedings by removing the suspension sanction and only penalizing each Big Four Chinese affiliate with a fine of \$500,000 (Cohen, 2015).

3. Related studies

The Enron events have raised concerns about auditor reputation or insurance value. There are several extant studies on stock market reactions to the news of Arthur Andersen's failure in auditing Enron. [Chaney and Philipich \(2002\)](#) investigate Andersen clients' stock price movements surrounding two major dates when negative news about Andersen was announced, including January 10, 2002, when Andersen confessed that a significant number of documents and correspondence related to the Enron engagement had been shredded and discarded by its personnel; and February 2, 2002, when the powers report was released, indicating that Andersen did not carry out the audit of Enron effectively and dutifully. They document evidence that the stock prices of Andersen clients significantly declined around the two event dates, suggesting that Andersen's reputation was substantially damaged by the Enron affair.

However, [Nelson et al. \(2008\)](#) examine whether Andersen clients' more negative abnormal return relative to the Big Four clients' abnormal return around January 10, 2002, was confounded by other business news. By searching several news sources, they identify that some other negative news not related to the Enron event had also occurred in the event window. They find that Andersen clients' more negative abnormal return mainly resulted from share price decline in the energy sector and a disproportionate share of energy companies audited by Andersen. Their findings challenge the notion that Andersen clients' negative abnormal return around the shredding announcement was caused by the damage of Andersen's reputation.

[Krishnamurthy et al. \(2006\)](#) examine stock market reaction to the announcement of Andersen's criminal indictment on March 14, 2002, when Andersen was charged with obstruction of justice by US federal prosecutors. They find that the abnormal stock return around the date of the indictment announcement was significantly negative for Andersen clients. This finding suggests Andersen's reputation or insurance value was smashed by its criminal indictment. They also find that the abnormal stock return was more negative when auditor independence appeared to be lower. In addition, the stock market positively reacted when clients dismissed Andersen and instantly replaced it with a Big Four auditor.

[Doogar et al. \(2007\)](#) consider stock market reactions to 25 events involving bad news on Andersen's audits of Waste Management, Sunbeam, and Enron. They include the Waste Management and Sunbeam events because Anderson's pre-Enron misconduct could have damaged its reputation. They find that the mean abnormal return of Andersen and non-Andersen clients was significantly negative in 12 of the 25 event windows, of which 8 windows preceded October 2001 when Enron's accounting problems began to surface. Their study provides evidence on the spillovers of credibility impairment from Andersen to other auditors. Their study also finds that the reputation damage spillovers could be stronger for other Big Five auditors than for non-Big Five auditors.

[Cahan et al. \(2009\)](#) study international stock market reaction to Andersen's announcement of shredding documents on January 10, 2002, along with Enron's release of the powers report and Andersen's establishment of an independent oversight board on February 4, 2002. They document that the cumulative abnormal return (CAR) over the event windows was significantly negative for Andersen's non-US clients. This indicates that the damage of Andersen's US unit had spilled over to Andersen's non-US units. Moreover, the market reactions were more negative for clients in common law countries and with higher demand for assurance. [Cahan et al. \(2009\)](#) also find a similar CAR for Andersen's non-US and US clients, suggesting that all Andersen's clients were subject to similar assurance effects.

In addition to Andersen-related studies, a few studies address stock market reaction to negative news involving other accounting firms. [Weber et al. \(2008\)](#) examine how the stock market reacted to the news on KPMG's involvement in the accounting scandal of ComROAD, a Germany public company. They find negative and significant market reactions for all KPMG Germany clients around three event dates, including February 19, 2002, when KPMG stated its resignation as the auditor of ComROAD; April 10, 2002, when ComROAD announced that their major Asian customer was fabricated; and April 23-24, 2002, when ComROAD publicized that the majority of its revenues reported in 1998 and 1999 were fake, and KPMG announced that it would re-audit all of its Neuer Market clients. Their findings indicate that the market reaction was driven by the loss of KPMG's reputation rather than investors' insurance consideration, given that the likelihood of being sued by investors is minimal for auditors in Germany.

[Dee et al. \(2011\)](#) investigate the response of stock prices to the news of PCAOB's sanction against Deloitte on December 10, 2007. The PCAOB fined Deloitte \$1m for its failure in auditing Ligand Pharmaceuticals Inc.'s 2003 financial statements and banned the responsible partner from practicing audit. After controlling for cross-sectional dependence that is frequently encountered in event studies, [Dee et al. \(2011\)](#) find negative and significant market reaction for Deloitte clients but insignificant market reaction for non-Deloitte clients; thus, there was no evidence that the effects of the PCAOB sanction against Deloitte had spilled over to the other Big Four auditors.

[Skinner and Srinivasan \(2012\)](#) study auditor reputation by considering the case of ChuoAoyama, PwC's Japanese affiliate, who failed in auditing Kanebo, a Japanese company. They examine 11 significant events that may affect auditor reputation during the period from the dismissal of ChuoAoyama by Kanebo on July 9, 2004, to the suspension of ChuoAoyama's audits on May 10, 2006. They find that the stock market negatively reacted to the event when PwC sent its US and UK auditors to refurbish ChuoAoyama on February 20, 2006, but did not significantly react to the other 10 individual events. In contrast, [Numata and Takeda \(2010\)](#) document significant and negative market reactions to four events on the ChuoAoyama's auditing failure, which had also spilled over to the other Big Four firms' Japanese affiliates. Overall, their findings support the reputation argument because there is no auditor litigation in Japan. [Saito and Takeda \(2014\)](#) further examine whether the impairment of auditor reputation from the audit failure of ChuoAoyama had spilled over to the Big Four firms in the US. They find that the market negatively reacted to the events of ChuoAoyama not only for clients of PwC but also for clients of other US Big Four auditors who were affiliated with the Japanese Big Four auditors.

4. Hypothesis development

To maintain professional reputation and mitigate litigation losses, auditors have incentives to conduct high-quality audits ([DeAngele, 1981](#); [Dye, 1993](#)). Some analytical research indicates that audit quality can be reflected in firm valuation. For instance, [Datar et al. \(1991\)](#) and [Balvers et al. \(1988\)](#) develop theoretical models to shed light on the role of audit quality in the valuation of initial public offering (IPO). Those models propose that IPO price is an increasing function of audit quality, while IPO underpricing is a decreasing function of audit quality. Such propositions are supported by empirical evidence. Using US IPO data, [Feltham et al. \(1991\)](#) find marginal evidence on a positive relation between IPO price and audit quality. [Clarkson and Simunic \(1994\)](#) document strong Canadian evidence on the positive relation. [Balvers et al. \(1988\)](#) and [Beatty \(1989\)](#) also provide evidence that IPO underpricing is lower for new issuers who are clients of high-quality auditors.

Eichenseher *et al.* (1989) find that the stock market positively reacted to the switch from non-Big Eight to Big Eight auditors but negatively reacted to the switch from Big Eight to non-Big Eight auditors. Knechel *et al.* (2007) argue that the stock market would positively react to the new engagement of industry specialist auditors but negatively react to the resignation or dismissal of such auditors if investors can benefit from high-quality audits conducted by industry specialists. Consistent with this argument, they document significant positive abnormal stock returns when firms switched from non-specialist to specialist Big Four auditors, and significant negative abnormal stock returns for the switch from specialist to non-specialist Big Four auditors. They also document stronger negative market reactions to the switch from specialist Big Four to non-Big Four auditors. These studies suggest that information on audit quality has been unmistakably incorporated into stock price.

Chaney and Philipich (2002) and Krishnamurthy *et al.* (2006) find that the stock market negatively reacted to the news of Andersen's fraud in auditing Enron. Weber *et al.* (2008) document negative market reactions to the events related to KPMG's failure in auditing ComROAD. Dee *et al.* (2011) indicate that investors negatively reacted to the PCAOB's sanctions on Deloitte. Skinner and Srinivasan (2012), Numata and Takeda (2010) and Saito and Takeda (2014) all provide evidence on the stock market's negative response to the events of ChuoAoyama. These studies suggest that information with adverse implications for audit quality results in negative impact on stock price.

In this research context, the SEC launched administrative proceedings against the five Chinese auditors because they did not provide audit documents that were important not only for the investigation into the clients' accounting problems but also for the examination of the auditors' audit quality. This is further evident in the initial decision release, which, for example, states that:

The lack of audit work papers hindered the Division's investigation because it prevented review of how the auditors examined Client A's corporate acquisition and the viability of the acquired company, and how they tested the "validity of the business." (SEC, 2014, p. 8)

Then, "additionally, investigators wanted to find out how [the auditor] missed certain things in its audit, which may have resulted in an investigation for improper professional conduct" (SEC, 2014, p. 18). Apparently, the proceedings conveyed to investors that the SEC had concerns about these accounting firms' audits, which might induce investors' doubt on the audit quality of PCAOB-registered Chinese auditors.

Moreover, the launch of the SEC proceedings on December 3, 2012, revealed that both the SEC and PCAOB have been denied access to audit documents or inspections of audits performed by Chinese auditors. Prior literature finds higher audit quality for auditors subject to PCAOB inspection access (Lamoreaux, 2016), suggesting that securities regulators' access to audit documents or inspections may provide certain assurance of audit quality. Hence, investors might react negatively when they realized that the quality of PCAOB-registered Chinese auditors could be impaired by the Chinese law's barring of US regulators' access to these auditors' documents or inspections. Share prices would also negatively respond to the commencement of the proceedings if investors were concerned with the negative effect of possibly banning these Chinese auditors' practices in the US. Taking together, we expect a negative market reaction as noted in *H1*:

H1. Share prices of US-listed Chinese companies that were audited by Chinese auditors negatively responded to the launch of the SEC proceedings.

As discussed above, there exist two explanations for the negative market reaction to the launch of SEC proceedings, of which one is attributed to perceived audit quality and the

other is related to concerns on possible sanctions. We examine the other two critical events along the development of the proceedings, as the findings from these two events may shed light on which explanation is more plausible. According to Judge Elliot's initial decision released on January 22, 2014, the Chinese auditors' privilege of auditing US-listed companies was to be suspended for six months. This event could increase the likelihood of banning Chinese auditors from auditing US-listed companies, which would inevitably result in the cost of switching auditors. Hence, investors would negatively react if Judge Elliot's initial decision amplified their concerns on the prohibition of Chinese auditors. When the final settlement revealed that Chinese auditors were to be exempted from the six months suspension, investors would likely revise their prior expectations so that the negative share responses to the first two events would then be reversed. Therefore, if the launch of the proceedings raised concerns on how Chinese auditors would be sanctioned, such concerns would also be reflected in market reaction to the release of initial decision and final settlement.

5. Methodology

5.1 Sample selection

We start with a list of 278 China-based companies publicly traded in the US, as provided by PHBang Ltd. on the website www.phbang.cn/plus/view.php?aid=835[8]. The website indicates whether a company on the list is publicly traded on the NYSE, NASDAQ, AMEX or OTC. There are 247 companies remaining after excluding 31 OTC companies. By reviewing each company's corporate profile provided on the internet, we identify 217 companies that are headquartered and operate in mainland China. We then check whether each mainland China-based company had filed its annual report on the SEC EDGAR website for the fiscal year of 2012. We could not find annual reports for 77 companies because of delisting or merging. After excluding those companies, we obtain a sample of 140 companies whose annual reports for the fiscal year 2012 can be downloaded from the SEC EDGAR website.

Next, we collect stock return data of our sample from the CRSP database. Because we need to have stock return data for at least 100 trading days over the estimation period ($-260, -10$) of the event on December 3, 2012, the sample size is reduced to 130 companies. We review each company's 2012 annual report to identify the name and location of their auditing firms[9]. We find 81 companies that were audited by the five Chinese auditing firms involved in the SEC administrative proceedings (hereafter "clients of Chinese auditors" or "Chinese auditors' clients")[10]. The rest 49 companies were all audited by non-Chinese auditors who were not involved in the SEC proceedings, but were regularly subject to the PCAOB's inspections (hereafter "clients of non-Chinese auditors" or "non-Chinese auditors' clients")[11].

5.2 Cumulative abnormal return

We examine CAR around three events, namely, the SEC launch of administrative proceedings against the five Chinese accounting firms on December 3, 2012 (hereafter "Event 1"); the issuance of SEC administrative law Judge Elliot's ruling on January 22, 2014 (hereafter "Event 2"); and the settlement of administrative proceedings on February 6, 2015 (hereafter "Event 3"). Like prior research (Chaney and Philipich, 2002; Carcello *et al.*, 2011), we consider CAR for event windows (0, +1), (0, +2), and (0, +3). Following Dee *et al.* (2011), we first estimate the market model for each sample firm over the estimation period ($-260, -10$) of each event[12]:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t} \quad (1)$$

where $R_{i,t}$ is the stock return of firm i at day t , and $R_{m,t}$ is the market return at day t , measured as the return on S&P ADR index.

After estimating parameters α_i and β_i in [equation \(1\)](#) for firm i , we compute abnormal return for each day in the window (0, +3) of each event. Abnormal return for firm i at day t ($AR_{i,t}$) is calculated as follows:

$$AR_{i,t} = R_{i,t} - (\hat{\alpha}_i + \hat{\beta}_i R_{m,t}) \quad (2)$$

where $\hat{\alpha}_i$ and $\hat{\beta}_i$ are estimates of α_i and β_i , respectively. The CAR over windows (0, +1) [i.e. $CAR_i(0, +1)$], (0, +2) [i.e. $CAR_i(0, +2)$] or (0, +3) [i.e. $CAR_i(0, +3)$] for firm i is the sum of abnormal return over each window. We use both parametric and non-parametric tests (i.e. z -tests and generalized sign tests) to examine whether the mean and median CARs around Events 1 and 2 (Event 3) are negative (positive) and significant over each event window ([MacKinlay, 1997](#); [Cowan, 1992](#)).

5.3 Schipper and Thompson approach

To deal with the event date clustering, [Schipper and Thompson \(1983\)](#) have developed a regression model, which is frequently used in event studies. Based on their approach, we run the following regression:

$$R_{p,t} = \alpha + \beta R_{m,t} + \delta EVENT + \xi_t \quad (3)$$

where $R_{p,t}$ is the equally weighted portfolio return of N firms at day t , and $EVENT$ is an indicator variable taking the value of 1 for days in an event window and 0 otherwise. We estimate [equation \(3\)](#) over the period from November 1, 2012 to February 28, 2015, which covers the three events on December 3, 2012, January 22, 2014 and February 6, 2015. In [equation \(3\)](#), the coefficient δ is negative (positive) and significant if client share prices negatively (positively) reacted to Events 1 and 2 (Event 3).

6. Results

[Table 1](#) presents descriptive statistics of CAR for all the U.S-listed Chinese companies in our sample, including both clients of Chinese auditors and clients of non-Chinese auditors [[13](#)]. For Event 1, the launch of the SEC proceedings on December 3, 2012, we find that the mean CARs for clients of Chinese auditors are -1.70 , -2.21 and -2.98 per cent over windows (0, +1), (0, +2) and (0, +3), respectively. The parametric tests indicate that the mean CARs are significant (z -statistics = -2.81 , -2.97 and -3.47 , respectively). We also find that the median CARs for clients of Chinese auditors around this event are -1.60 , -1.64 and -2.80 per cent over windows (0, +1), (0, +2) and (0, +3), respectively, which are significant based on the nonparametric tests (z -statistics = -2.36 , -1.91 and -2.58 , respectively). For clients of non-Chinese auditors, we find that only the mean and median CARs over window (0, +2), namely, -1.24 and -1.27 per cent, are marginally significant. Overall, parametric and non-parametric tests suggest that share prices of Chinese auditors' clients negatively responded to the SEC launch of proceedings on December 3, 2012, whereas share prices of non-Chinese auditors' clients did not strongly respond to that event.

As for Event 2, the issuance of Judge Elliot's initial decision on January 22, 2014, we document that the mean CARs of Chinese auditors' clients are -0.85 , -2.35 and -3.19 per

Variable	Clients of Chinese auditors					Clients of non-Chinese auditors								
	Minimum (%)	Mean (%)	Median (%)	Maximum (%)	SD	Z-test	Sign test	Minimum (%)	Mean (%)	Median (%)	Maximum (%)	SD	Z-test	Sign test
<i>EVENT 1 – launch of SEC administrative proceedings on December 3, 2012</i>														
	N = 81													
CAR (0, +1)	-15.30	-1.70	-1.60	8.56	0.04	-2.81***	-2.36***	-22.45	0.33	-0.14	23.67	0.10	0.29	-0.32
CAR (0, +2)	-20.60	-2.21	-1.64	9.08	0.06	-2.97***	-1.91**	-27.34	-1.24	-1.27	17.34	0.10	-0.89*	-0.90*
CAR (0, +3)	-24.45	-2.98	-2.80	9.34	0.06	-3.47***	-2.58***	-31.98	-1.05	-0.95	13.05	0.09	-0.66	-0.61
<i>EVENT 2 – issuance of Judge Elliot's ruling on January 22, 2014</i>														
	N = 71													
CAR (0, +1)	-15.26	-0.85	-0.62	17.87	0.05	-1.37**	-1.81**	-10.57	-2.08	-2.38	7.60	0.05	-1.56**	-2.07***
CAR (0, +2)	-24.69	-2.35	-1.67	12.62	0.06	-3.11***	-2.29***	-18.17	-5.59	-6.20	7.34	0.06	-3.43***	-2.69***
CAR (0, +3)	-20.14	-3.19	-2.31	28.01	0.08	-3.66***	-1.81**	-25.04	-8.27	-7.80	6.01	0.07	-4.39***	-3.92***
<i>EVENT 3 – settlement of SEC administrative proceedings on February 6, 2015</i>														
	N = 62													
CAR (0, +1)	-16.43	-0.46	0.05	12.42	0.05	-0.83	0.37	-18.28	0.76	0.61	20.54	0.08	0.47	1.31**
CAR (0, +2)	-16.09	-0.84	-0.43	12.16	0.05	-1.24*	-0.14	-19.40	1.31	0.44	27.53	0.09	0.82	0.97*
CAR (0, +3)	-12.90	0.34	0.43	15.89	0.05	0.43	1.14*	-24.74	0.51	-0.90	31.51	0.10	0.28	-0.05

Notes: CAR (0, +1), CAR (0, +2) and CAR (0, +3) are CARs over event windows (0, +1), (0, +2) and (0, +3), respectively. In each event window, "0", "+1", "+2" and "+3" denote the event day, and the first, second and third trading day following the event day, respectively. ***, ** and * significant at the level of 1, 5 and 10 per cent, respectively (one-tailed tests)

Table I.
Descriptive statistics

cent over windows (0, +1), (0, +2) and (0, +3), and are all significant (z -statistics = -1.37 , -3.11 and -3.66 , respectively). These clients' median CARs are -0.62 , -1.67 and -2.31 per cent over windows (0, +1), (0, +2) and (0, +3), and are also significant (z -statistics = -1.81 , -2.29 and -1.81 , respectively). As a comparison, the mean and median CARs of non-Chinese auditors' clients are -2.08 and -2.38 per cent over window (0, +1), -5.59 and -6.20 per cent over window (0, +2), -8.27 and -7.80 per cent over window (0, +3), which are all significant based on both the parametric and nonparametric tests. It appears that all US-listed Chinese companies' share prices showed negative reaction around the date when Judge Elliot released his initial ruling. However, we have identified another news report on January 22, 2014 that Chinese manufacturing activity had contracted (Kazer, 2014), which might have upset the market and resulted in negative price response. Thus, it remains unclear whether and how share prices of Chinese auditors' clients had reacted to the issuance of Judge Elliot's ruling.

In Table I we also provide the mean and median CARs around Event 3, the settlement of the SEC proceedings on February 6, 2015. We find that the mean CAR over window (0, +2) and the median CAR over window (0, +3) for clients of Chinese auditors are marginally significant but are mixed in sign, whereas the mean and median CARs for clients of non-Chinese auditors are mainly positive. The mixed findings for Event 3 can hardly be rationalized by other events that had occurred around the same date and impacted both groups of our sample firms. Next, we estimate a Schipper and Thompson (1983) portfolio regression model to address the effects of event date clustering.

To erase the fear of event date clustering, this study focuses on applying the Schipper and Thompson approach in the tests of hypothesis. In Table II, we use the Schipper and Thompson approach to examine share price response to the launch of proceedings on December 3, 2012 (Event 1). For clients of Chinese auditors, we find that the coefficient on *EVENT* is negative and significant for each of the three windows (t -statistic = -1.51 , -1.65 and -1.92 for window (0, +1), window (0, +2) and window (0, +3), respectively). The results of all three windows are consistent with the notion that share prices of Chinese auditors'

Variable	Predicted sign	Chinese auditors' clients		Non-Chinese auditors' clients	
		Coefficient	t -statistic	Coefficient	t -statistic
<i>Panel A: (0, +1)</i>					
Intercept		0.001	2.62***	0.001	2.24**
$R_{m,t}$	+	0.871	18.63***	0.541	7.99***
<i>EVENT</i>	-	-0.01	-1.51*	-0.000	0.00
<i>Adj. R</i> ²			37.33%		9.59%
<i>Panel B: (0, +2)</i>					
Intercept		0.001	2.65***	0.001	2.30**
$R_{m,t}$	+	0.872	18.66***	0.542	8.01***
<i>EVENT</i>	-	-0.009	-1.65*	-0.006	-0.81
<i>Adj. R</i> ²			37.38%		9.69%
<i>Panel C: (0, +3)</i>					
Intercept		0.001	2.69***	0.001	2.30***
$R_{m,t}$	+	0.872	18.68***	0.872	8.00***
<i>EVENT</i>	-	-0.009	-1.92**	-0.005	-0.70
<i>Adj. R</i> ²			37.48%		9.67%

Table II.
Stock price response
to Event 1: the
launch of SEC
administrative
proceedings

Notes: ***, ** and * significant at the level of 1, 5 and 10 per cent, respectively (one-tailed tests)

clients had negatively responded to the SEC launch of proceedings. An alternative explanation for this finding is that the negative market reaction might be caused by other events that had affected all US-listed Chinese companies. If it was the case, share prices should also have negatively reacted for other US-listed Chinese companies who were audited by non-Chinese auditors. In Table II, we present the results from applying the Schipper and Thompson approach to clients of non-Chinese auditors. The coefficients on *EVENT* are all insignificant for the three windows around Event 1, indicating that no significant price change occurred for those clients. Thus, the negative market reaction around Event 1 for Chinese auditors' clients was not likely caused by other events that could have commonly affected all US-listed Chinese companies. Furthermore, we conduct searches on news sources around Event 1 and find no other events that could have only affected clients of Chinese auditors but not clients of non-Chinese auditors.

We then examine how share prices reacted to the issuance of Judge Elliot's ruling (Event 2) using the Schipper and Thompson approach. Table III reports that for clients of Chinese auditors, all three coefficients on *EVENT*, each corresponding to one of the three windows, are negative; however, only the coefficient for window (0, +3) is significant (*t*-statistic = -1.45). This finding should be cautiously interpreted because these clients' share price responses to Event 2 could be confounded by another negative business news report. It becomes more evident when the results show that the coefficients on *EVENT* for clients of non-Chinese auditors are also negative and significant for window (0, +2) and window (0, +3) (*t*-statistics = -2.26 and -2.93, respectively). Hence, the strong and negative share price response around January 22, 2014 might be caused by the news of contraction in Chinese manufacturing rather than SEC Judge's ruling on the proceedings. One may doubt why clients of non-Chinese auditors exhibited a larger magnitude of negative share price response to the news report than clients of Chinese auditors. It is possible because, on average, non-Chinese auditors' clients have smaller size than Chinese auditors' clients and prior literature suggests investors may have more concerns on those smaller clients' higher vulnerability to economic downturn (Gertler and Gilchrest, 1994)[14]. In addition, there are

Variable	Predicted sign	Chinese auditors' clients		Non-Chinese auditors' clients	
		Coefficient	<i>t</i> -statistic	Coefficient	<i>t</i> -statistic
<i>Panel A: (0, +1)</i>					
Intercept		0.001	2.66***	0.001	2.38***
$R_{m,t}$	+	0.908	18.63***	0.562	8.14***
<i>EVENT</i>	-	-0.003	-0.51	-0.009	-0.96
Adj. R^2			37.26%		10.13%
<i>Panel B: (0, +2)</i>					
Intercept		0.001	2.72***	0.001	2.50***
$R_{m,t}$	+	0.902	18.46***	0.549	7.93***
<i>EVENT</i>	-	-0.007	-1.23	-0.017	-2.26***
Adj. R^2			37.40%		10.77%
<i>Panel C: (0, +3)</i>					
Intercept		0.001	2.75***	0.001	2.59***
$R_{m,t}$	+	0.901	18.42***	0.543	7.86***
<i>EVENT</i>	-	-0.007	-1.45*	-0.007	-2.93***
Adj. R^2			37.46%		11.33%

Notes: ***, ** and * significant at the level of 1, 5 and 10 per cent, respectively (one-tailed tests)

Table III.
Stock price response
to Event 2: the
issuance of Judge
Elliot's ruling

more penny stocks in the group of non-Chinese auditors' clients, which could also result in a larger magnitude of stock price reaction[15]. Overall, we do not document convincing evidence to support any negative stock price response to Judge Elliot's ruling. A plausible explanation for lack of market reaction to Event 2 is that investors had incorporated the information about denying the US regulators' access to Chinese auditors' audit documents or inspections into share prices after the launch of the SEC proceedings, and obtained no new information from Judge Elliot's ruling decision. Moreover, no market reaction to Event 2 indicates that investors had not been concerned with the possible expulsion of Chinese auditors from the US capital markets.

Next, we examine whether clients' share prices responded to the settlement of the proceedings announced on February 6, 2015 (Event 3) by using the Schipper and Thompson approach. The results provided in Table IV show no significant coefficients on *EVENT* for any of the three windows, for clients of Chinese auditors and clients of non-Chinese auditors. We find no evidence to support the notion that share prices of clients of the five Chinese auditors positively reacted to the settlement of the proceedings. This absence of positive share price response to the settlement (Event 3) buttresses our argument that the negative response to the launch of the SEC proceedings (Event 1) was unlikely caused by concerns related to the banning of Chinese auditors and the resultant cost of switching auditors.

The sample size of Chinese (non-Chinese) auditors' clients decreases from 81 (49) for Event 1 to 71 (43) for Event 2, and to 62 (35) for Event 3 because of delisting, merger and acquisition over time, which raises a concern that changes in sample composition might have impacted the results. To eliminate this possibility, we conduct an additional analysis by using the most reduced sample (i.e. 62 clients of Chinese auditors and 35 clients of non-Chinese auditors for Event 3) to re-examine share price response to Events 1 and 2[16]. With respect to Event 1, the coefficients on *EVENT* are all negative and significant (non-tabulated *t*-statistics = -1.42, -1.53 and -1.83, for windows (0, +1), (0, +2) and (0, +3), respectively) for clients of Chinese auditors, but insignificant for clients of non-Chinese auditors. As for share price response to Event 2, the coefficient is negative and only significant for window

Variable	Predicted sign	Chinese auditors' clients		Non-Chinese auditors' clients	
		Coefficient	<i>t</i> -statistic	Coefficient	<i>t</i> -statistic
<i>Panel A: (0, +1)</i>					
Intercept		0.001	2.43***	0.002	2.80***
$R_{m,t}$	+	0.946	18.64***	0.589	8.29***
<i>EVENT</i>	+	-0.003	-0.49	0.002	0.22
Adj. R^2			36.86%		10.26%
<i>Panel B: (0, +2)</i>					
Intercept		0.001	2.45***	0.002	2.79***
$R_{m,t}$	+	0.946	18.48***	0.589	8.29***
<i>EVENT</i>	+	-0.004	-0.68	0.003	0.36
Adj. R^2			36.89%		10.27%
<i>Panel C: (0, +3)</i>					
Intercept		0.001	2.40***	0.002	2.82***
$R_{m,t}$	+	0.947	18.48***	0.589	8.28***
<i>EVENT</i>	+	-0.000	-0.04	-0.000	-0.05
Adj. R^2			36.84%		10.26%

Table IV.
Stock price response
to Event 3: the
settlement of SEC
administrative
proceedings

Notes: ***, ** and * significant at the level of 1, 5 and 10 per cent, respectively (one-tailed tests)

(0, +3) (non-tabulated t -statistic = -1.38) for Chinese auditors' clients, and is negative and significant for windows (0, +2) and (0, +3) (non-tabulated t -statistics = -2.20 and -2.75 , respectively) for non-Chinese auditors' clients. The results based on the reduced sample are consistent with our main results reported in Tables II and III. Thus, it is unlikely that our main results are driven by changes in sample composition.

Last, we conduct a robustness test by excluding penny stocks from the sample of both Chinese and non-Chinese auditors' clients[17]. For Event 1, we still find negative and significant coefficients on *EVENT* for Chinese auditors' clients for all three windows (non-tabulated t -statistics = -1.95 , -1.97 and -2.29 , respectively), and insignificant coefficients for non-Chinese auditors' clients. With regard to Event 2, the coefficients are insignificant for Chinese auditors' clients, but are negative and significant for non-Chinese auditors' clients for windows (0, +2) and (0, +3) (non-tabulated t -statistics = -1.46 and -2.04 , respectively). The analysis for Event 3 indicates that the coefficients are insignificant for all three windows for both Chinese and non-Chinese auditors' clients. Overall, our main results are robust to the exclusion of penny stocks.

7. Conclusion

This study examines whether clients' share prices reacted to the SEC administrative proceedings against the Big Four accounting firms' Chinese affiliates and Dahua during 2012 to 2015. The five accounting firms were subjected to the proceedings because they had to obey Chinese law, and thus, could not provide audit work papers to the SEC for its investigation into 10 US-listed Chinese clients. Based on the Schipper and Thompson approach, we find that share prices of Chinese auditors' clients had negatively reacted to the launch of the SEC proceedings on December 3, 2012, whereas there was no significant share price response to the issuance of Judge Elliot's ruling or the settlement of the proceedings. Our findings suggest that investors perceived the US securities regulators' access to audit documents for investigations or inspections as enhancing audit quality, and therefore, reacted negatively when they became first aware that the US regulators were denied access to Chinese auditors' audit documents. Investors did not react to the issuance of Judge Elliot's initial decision or the settlement of the proceedings because, perhaps, there was no new information in the two events.

There are few studies on the impact of SEC enforcement actions on investors' perception on audit quality. Our study extends this research stream by examining the effect of SEC administrative proceedings that were not caused by an audit failure but by auditors' refusal to furnish audit documents due to conflict of jurisdiction. As an addition to previous academic studies that were cited by the SEC to justify its proceedings, this study attempts to explicitly assess the consequences of the proceedings. Our findings that investors negatively reacted to the SEC proceedings (Event 1) are consistent with views that investors perceive PCAOB inspections or access to inspections as enhancing of audit quality.

Notes

1. Chinese auditors must register with the PCAOB before preparing and issuing auditor reports for US-listed public companies. However, PCAOB is denied access to conduct inspections on PCAOB-registered Chinese auditors because of jurisdiction reason.
2. Dahua had withdrawn from the BDO international network as of April 30, 2013.
3. The SEC has not disclosed the names of these 10 companies.

4. The SEC initial decision release indicates that the company remained a client of DTTC as of April 26, 2013.
5. The SEC initial decision release does not mention how the alleged accounting fraud was brought to light.
6. In response to the proceedings, Dahua had exited the auditing market for companies listed in the USA.
7. The five accounting firms did not sign the "Consent to Cooperate with the Board and Statement of Acceptance of Registration Condition" part when they submitted the PCAOB Form 1 – Application for Registration. Nevertheless, the PCAOB accepted these accounting firms' registration and told them that they were obliged to follow US law.
8. We could not use registration location as the selection criterion to identify US-listed Chinese companies directly from the compustat North America database, because most US-listed Chinese companies are not registered in China although they are headquartered and operate in mainland China.
9. According to some companies' annual report disclosure, their audit report was signed by a Big Four's Hong Kong office, but the Big Four's mainland office was highly involved in the audit of the company.
10. Although the SEC has not publicly disclosed names of the 10 Chinese companies being investigated, its initial decision release indicates that eight of the 10 companies were not traded on NYSE or NASDAQ or AMEX as of December 3, 2012. Thus, the eight companies would not be included in our sample and could not drive our findings in any direction. Relying on company information provided in the SEC's initial decision release and applying Google search, we have identified the other two companies (a former client of Dahua, and a client of DTTC at the time of SEC investigation) that are included in our sample. However, the results are not substantially changed when we rerun our tests excluding the two companies from the sample.
11. Most of the non-Chinese auditors were US auditors and a few of them were from Canada and Singapore.
12. We require stock return data for at least 100 trading days in the estimation period for each sample company.
13. The sample size of Chinese (non-Chinese) auditors' clients decreases from 81 (49) for Event 1 in 2012 to 71 (43) for Event 2 in 2014, and to 62 (35) for Event 3 in 2015 because of delisting, merger and acquisition.
14. The median total assets were valued at US\$455m for Chinese auditors' clients and US\$24m for non-Chinese auditors' clients.
15. The median share price of Chinese vs non-Chinese auditors' clients was \$7.60 vs \$1.44. The results are robust to excluding penny stocks from the analysis.
16. This additional analysis is only for Events 1 and 2 as the most reduced sample has already been used in the main analysis for Event 3 and the results are reported in [Table IV](#).
17. The SEC defines penny stocks as stocks that trade at less than \$5 per share.

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Corresponding author

Guoping Liu can be contacted at: gliu@ryerson.ca

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