當　代　會　計
第十九卷第二期
民國一○七年十一月
頁 175-211

Journal of Contemporary Accounting
Vol. 19 No. 2, November 2018
PP.175-211

財務報導品質與自律監管執法有關嗎?證券交易所角色之檢驗

鍾宇軒[*]　邱安安[**]　黃劭彥[***]

摘要：證券交易所的監管執法為對上市公司監督之第一道防線，本文乃透過中國深圳交易所的誠信檔案中對於上市公司監管的處罰與處分公告，探討證券交易所自律監管與企業財務報導品質之關聯性。實證結果發現企業前一年度的較低財務報導品質容易影響增加證券交易所紀律處分的可能性。再者，當企業受到證券交易所的紀律處分後，將會於後續次一年度即改善企業的財務報導品質。

關鍵詞：證券交易所、自律監管執法、財務報導品質

[*] 國立中正大學會計與資訊科技學系助理教授（通訊作者）
[**] 逢甲大學國際經營與貿易學系助理教授
[***] 國立中正大學會計與資訊科技學系教授

作者由衷的感謝戚務君教授（領域主編）及潘建民教授（評論人）與 2018 當代會計研討會參與學者提供之寶貴意見，並特別感謝二位匿名審查委員的建議，使得本研究能夠更臻完備。

107 年 05 月收稿
107 年 10 月接受
三審接受
DOI: 10.6675/JCA.201811_19(2).03

Journal of Contemporary Accounting
Vol. 19 No. 2, November 2018
PP.175-211

How does Financial Reporting Quality Relate to Self-Regulatory Enforcement? An Examination of the Role of the Stock Exchange

Yu-Hsuan Chung* **An-An Chiu**** **Shaio Yan Huang*****

Abstract: It is the first defensive line that regulatory enforcement by the stock exchange plays the monitoring role in supervising listed companies. This study, thus, investigates the association between stock exchange self-regulatory enforcement and firms' financial reporting quality. The study is conducted by using the sanction and penalty pronouncements regarding supervision of listed companies in the Shenzhen Stock Exchange of China. The results find that the likelihood of sanctions by the stock exchange would increase for firms with the lower reporting quality in the previous year. In addition, the sanctioned firms will improve the accruals quality of its financial reports in the next year.

Keywords: stock exchange, self-regulatory enforcement, financial reporting quality

* Assistant Professor, Department of Accounting and Information Technology, National Chung Cheng University (Corresponding author)
** Assistant Professor, Department of International Business, Feng Chia University
*** Professor, Department of Accounting and Information Technology, National Chung Cheng University
We gratefully acknowledge the comments and suggestions of Wuchun Chi (Area Editor), Chien-min Pan (discussant) and participants at the 2018 Journal of Contemporary Accounting conference. Special thanks also go to the anonymous referee of this paper.

Submitted May 2018
Accepted October 2018
After 3 rounds of review
DOI: 10.6675/JCA.201811_19(2).03

I. Introduction

One of the most important functions of corporate governance is to ensure the quality of financial reporting. High-quality financial reports can enhance stakeholders' monitoring of companies (Whittington, 1993)and provide information for decision making (Dechow, Ge, and Schrand, 2010). Rezaee (2005) points out that the principles of corporate governance established by stock exchanges can enhance corporate governance, internal controls, and the quality of financial reports of listed companies. Thus, an enforcement function of a stock exchange contributes to the prevention of fraud and other abusive practices (Christiansen and Koldertsova, 2009) and its efficiency goes beyond information efficiency (Hassan, 2018). As such the stock exchange is the first line of supervision of listed companies and requires firms with high financial reporting quality, it remains questions whether poor financial reporting quality of companies increases their likelihood of facing stock exchange self-regulatory enforcements, and whether enforcements enhance companies' reporting quality.

The stock exchange is the first line of supervision of listed companies and the stock market itself through the exchange's self-regulatory activities, most importantly its daily trading and timely disclosures about the listed companies.[1] Christiansen and Koldertsova (2009) point out that stock exchanges establish themselves as a source of corporate governance-related regulations and have the role of *monitoring compliance* with legislation and subsidiary securities regulations. Hassan (2018) suggests stock exchange efficiency as an external monitor mechanism that stock exchanges can stringent financial and governance rules to improve the efficiency in monitoring listed firms. Stock exchanges contribute significantly to the prevention of fraud and other abusive practices because they are committed to reporting breaches of market integrity or disclosure rules. Some researchers suggest that stock exchanges are the most effective regulators of stock market disclosure and corporate governance, because the exchange can establish requirements that meet investors' demands (Mahoney, 1997) and can quickly and accurately identify potential problems (Coglianese, Healey, Keating, and Michael, 2004). The aim of this study is to examine the stock exchange functions in monitoring role particular reflected in companies' reporting quality.

In 1998, China passed the Securities Law, which in article 95 defines a stock exchange as a non-profit organization for centralized trading of securities, with the status

[1] Carson (2011) defines a securities exchange as the most common form of formal self-regulatory organization.

of a legal person. Article 102 of its revised Securities Law of 2005 defines a stock exchange as a legal person performing *self-regulatory governance* and providing the premises and facilities for the centralized trading and supervision of securities. Under the authority of the China Securities Regulatory Commission (CSRC), the exchange has powers to regulate firms under their jurisdiction and to establish relevant laws and rules. This research concentrates on China's capital market, as China is at present a major global economy and the most important developing nation in Asia. By shedding light on the effectiveness of self-regulation in China's stock exchanges, it provides important information for investors, both those within China's borders and those abroad.

Because China's economy was influenced by the global financial crisis in 2008, which resulted in a lack of confidence on the part of investors and a downturn in the economy. To stabilize its capital market and restore confidence in it, the CSRC prohibited disclosure of false information, insider trading, and market manipulation. In particular, the CSRC announced the launch of the *credibility record system* of securities and futures markets, a system that provides an important platform for securities and futures markets to play their disciplinary role for market participants and achieve effective supervision. The resulting Credit Record Files (CRF) database, which records penalties and sanctions, is the major source of the data used in this study. We use hand-collected the CRF from 2008 to 2012 and examine whether financial reporting quality affects the likelihood that companies will be sanctioned, and further investigates the impact of on firms' financial reporting quality by applying both difference-in-differences (DID) and propensity-score matching (PSM) approaches. Our empirical results show that low financial reporting quality in the previous year motivates the Shenzhen stock exchange to issue disciplinary sanctions[2], and that sanctioned firms subsequently improve their financial reporting quality. Our results thus support the assertion that stock exchanges exhibit such effectiveness, because to them poor reporting quality is a red flag that correlates to sanctions, after which reporting quality improves.

The issue of the impact of the stock exchange on financial reporting quality is important because, to the best of our knowledge, except for Frost, Racca, and Stanford (2017) and Liebman and Milhaupt (2008), only Hassan (2018) has examined the *relevant effectiveness* of the stock exchange. Our paper differs from that of Frost et al. (2017), who find that the stock market responds negatively to the disclosure of enforcement actions by NASDAQ due to corporate governance deficiencies. Their findings indicate that capital market participants attend sanctions from the stock exchanges. Similarly, using the

[2] This paper uses the term "sanction" and "criticism" interchangeably. Refer to Section 2 (background) for an explanation of the term "criticism" in this study.

Shanghai and Shenzhen stock exchanges' public criticism of listed firms on China's stock exchanges, Liebman and Milhaupt (2008) obtain comparable findings. In short, these studies investigate how *firm value* is affected by sanctions from stock exchanges. Our paper, unlike Hassan (2018) focus on the macro-level comprehensive proxy (i.e., economic growth) for stock exchange efficiency, uses the micro-level self-regulatory enforcements to provides evidence of the effectiveness of stock exchanges in improving *reporting quality*.

This paper makes the following contributes to the literature in the following ways. First, it furthers the line of investigation by Kothari (2000), who finds that the quality of reported financial information is influenced not simply by the quality of accounting standards, but also by other institutional factors, such as corporate governance, the legal system, and the existence and enforcement of laws governing investor protection and disclosure standards, which affect the demand for and the supply of financial information. Prior studies have documented that enforcement actions only pursue cases involving the most significant and blatant incidences of earnings manipulation (Dechow, Sloan, and Sweeney, 1996) and finds a positive association between earnings quality and SEC enforcement action (Beneish, 1999). Furthermore, according to the Ethical Investment Research Service (2009), stock exchanges play a key role in fostering market confidence and promoting good governance and disclosure to encourage better risk management and transparency. To our knowledge, Hassan (2018) finds that stock exchange efficiency is positively associated with the quality of reported earnings. This paper advances the literature by focusing on financial reporting quality can be enhanced by the disciplinary sanctions of stock exchanges.

Second, most previous studies (Feroz, Park, and Pastena, 1991; Nourayi, 1994; Dechow et al. 1996; Bonner, Palmrose, and Young, 1998; Beneish, 1999; Firth, Mo, and Wong, 2005; Chen, Firth, Gao, and Rui, 2005, 2006; Jia, Ding, Li, and Wu, 2009) focus mainly on administrative enforcement by analyzing the impact of the U.S. Securities and Exchange Commission (SEC) enforcement actions, Accounting and auditing enforcement releases (AAERs), or the administrative penalties of China Securities Regulatory Commission (CSRC). However, compared to enforcement by the CSRC takes over and investigates further, the stock exchanges enforcement actions are mild. In particular, minor and/or less severe violations go to the stock exchanges and the CSRC is responsible for punishing more severe fraudulent activities (Jia et al., 2009). Since stock exchanges are the first line of supervision of listed companies and the stock market itself, the stock exchange monitoring mechanisms and its effectiveness should be against the violations of regulation and rule in the capital market. This study documents a new piece

of evidence concerning how the importance of the effectiveness of stock exchanges to improve reporting quality.

Third, this study sheds light on the role of the stock exchange on external monitoring mechanisms in the capital market. Although the listed firms can be punished by the courts in China, the CSRC has taken the crucial role in enforcement actions. The court civil lawsuits are rare and do not consider any such cases until the CSRC has completed its investigations and taken effective enforcement actions. Thus, powerful government agencies may not necessarily reduce fraud in time and it appears that legal approach has failed to address the widespread problems in China's capital market (Liebman and Milhaupt, 2008; Jia et al., 2009). On the other hand, the stock exchange may simply warn companies in any wrongdoing and take enforcement action to condemn them. in particular, however, the stock exchanges are the most effective regulators of stock market disclosure and behavior to adopt rules that meet the needs of investors (Liebman and Milhaupt, 2008). Adding to this stream literature, given the stock exchange should carry out real-time monitoring of securities trading and supervise the information disclosed by listed companies, this study supports the view that the stock exchange is not only an important part of the regulatory framework, but a highly effective enforcer and complement the role of other regulators.

This paper proceeds as follows. The next section describes the background of stock exchange self-regulatory enforcement in China. Section 3 reviews related research and develops the hypothesis. Section 4 discusses the empirical methodology, including the sample selection and estimation equations. Section 5 presents our empirical results, and Section 6 discusses robustness tests. Section 7 summarizes and concludes the paper.

II. Background

There are three important areas to clarify at the outset: (a) legal framework of corporate governance in China, (b) the effective self-regulation is in China's stock exchange, and (c) the nature and source of the sanction data analyzed in this paper.

According to the OECD (2011), China's legal framework of corporate governance for list firms comprises four levels: basic laws, administrative regulations, regulatory provisions, and self-disciplinary rules. Specifically, the first level comprises fundamental laws formulated by the National People's Congress or its Standing Committee. The second level includes State Council administrative regulations approval by the CSRC, which performs a unified regulatory function over China's securities and futures markets. The third involves the ministries, the commissions, the People's Bank of China, the

Auditing Administration, and other agencies with administrative jurisdiction directly under the State Council. The fourth consists of self-disciplinary rules, including rules on listing stocks and trading rules made by the stock exchanges themselves. The stock exchanges, including the Shanghai and Shenzhen exchanges, are independent legal entities directly governed by the CSRC. Stock exchanges in China organize, supervise, and provide venues and facilities for centralized securities trading, and exercise self-regulatory management.

In 1998, China passed the Securities Law. Article 102 of its revised Securities Law of 2005 defines a stock exchange as a legal person performing self-regulatory governance and providing the premises and facilities for the centralized trading and supervision of securities. Under the authority of the China Securities Regulatory Commission (CSRC), the exchange has powers to regulate firms under its jurisdiction and to establish relevant laws and rules.

China's stock exchange is typical of a developing economy, and thus can be considered representative as a research sample. Pistor and Xu (2005) point out that, due to reactive law enforcement by courts (i.e., the above level one) and the lack of proactive law enforcement by regulators (i.e., the above level two) in countries in emerging markets or transition economies, these two levels of legal governance mechanisms cannot be enforced in the short to medium term. In such economies, incomplete coverage by existing laws negates law's power as a deterrent to misbehavior by listed companies; as a result, firm-specific information is distorted, so there is a lack of reliable information. Although China does not lack basic laws, low levels of enforcement by the court system, the lack of an independent judiciary, and the fact that courts do not and cannot serve as the ultimate arbiter in legal disputes, collectively challenge the effectiveness of the court system (Wong, 2014). Accordingly, the demand for strong securities regulation is high. However, Wong (2014) also points out that, due to the lack of manpower and high information costs, the CSRC relies on "bright line rules" (simple, black-and-white, hard-and-fast rules) to manage listed companies, including initial public offerings, seasoned equity offerings, maintenance of listed status, etc. Such rules make it possible to game the system, so the misallocation of resources and acute earnings manipulation are common in China. Because the legal approach has failed to address the widespread problems in China's capital market, Liebman and Milhaupt (2008) argue, China's stock exchange may be well placed to provide investor protections.

Since 2005, the revision of the securities law in China has given the stock exchanges the power to perform a self-regulatory role, and the exchanges can operate with a degree

of autonomy. With the enforcement role delegated to them by the CSRC, stock exchanges in China can be treated as part of the regulatory strategy to maximize sanctioning capacity and improve compliance with disclosure obligations. Unlike the CSRC, which imposes sanctions two or more years after wrongdoing occurs, the exchanges generally take action within a few months against companies that violate the listing rules, or within a few days of discovering misconduct. Therefore, compared with those of the CSRC, sanctions from the stock exchanges are more timely.

As listed companies or relevant personnel violate rules, regulations, or commitments, the stock exchange can impose *notices of criticism* (which are circulated among the affected parties themselves) or *public criticism* (which consists of public condemnation and reprimands), according to the review opinions of the disciplinary sanctions committee and the severity of violations. In cases of *public criticism*, the affected companies are punished through the mandatory public declaration of their violations by officially-designated major media outlets in China; cases of notices of criticism, on the other hand, are generally not made public. Both kinds of criticism are recorded in the CRF and thus can provide warning information to market participants.

III. Related research and hypothesis development

Extending the series studies of La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998, 2000), a number of accounting and finance studies examine the effects of legal and regulatory systems, enforcement actions, or high-quality regulations. For instance, companies with low earnings quality are more likely to face enforcement actions of regulators (Feroz et al., 1991; Dechow et al., 1996; Beneish, 1999). Leuz, Nanda, and Wysocki (2003) find evidence that companies in developed equity markets, with dispersed ownership structures, strong investor rights, and strong legal enforcement have better financial reporting quality. Brown, Preiato, and Tarca (2014) further find evidence of a global link between the quality of financial reports and the legal setting and enforcement in the location where the reports are made.

Although stock exchanges have limited investigative powers and do not have the power to impose criminal penalties, they have the authority to impose significant threats or criticisms by expelling or delisting firms (Leuz, 2010). DeMarzo, Fishman, and Hagerty (2005) demonstrate that stock exchanges have market power through their enforcement policies, disciplinary proceedings, or the imposition of criticism. Using firms listed in the Frankfurt Stock Exchange as their sample, Gros and Wallek (2015) find that

companies that voluntarily obey transparency standards that exceed the legal requirements have a lower tendency to be sanctioned for errors.

Based on these findings, we hypothesize that, given this effectiveness of stock exchanges, lower reporting quality could be a red flag that invites further scrutiny of a firm by the stock exchanges, and thus there will be a correlation between low reporting quality and sanctions. In other words, we expect that a stock exchange's self-regulatory practices play an important monitoring and enforcement role, and thus are relevant to investor protection. In addition, tighter transparency requirements, resulting in higher accounting quality, will make it less likely that firms will commit errors and thus possibly face sanctions. The above discussion leads to our first hypothesis:

H1: The likelihood that a firm receives disciplinary criticism from the stock exchange is positively associated with its lower financial reporting quality in the previous year.

Next we discuss the subsequent effects on reporting quality of receiving criticism from the stock exchange. Prior studies have found that investors respond to criticism from the stock exchanges (Frost et al., 2017; Liebman and Milhaupt, 2008). Hassan (2018) used macroeconomic factors as a determinist of stock exchanges efficiency and provided evidence that a negative association between stock exchange efficiency and the absolute value of abnormal accruals. Specially, negative abnormal stock price returns occur in response to corporate disclosure of underlying misconduct that results in criticism from the stock exchange. Due to the market reaction and the role of stock exchanges in China, we further expect that companies have incentives to improve reporting quality after receiving criticism from the stock exchanges, because doing so can reduce the likelihood of subsequent criticism. Thus, we hypothesize that companies receiving disciplinary criticism from the stock exchange will improve *ex post* financial reporting quality. We state our second hypothesis below:

H2: Firms receiving disciplinary criticism are associated with subsequently higher financial reporting quality.

IV. Research Method

Sample selection

This study selects listed companies with CRF in the Shenzhen Stock Exchange from 2008 to 2012, hand-collected from the yearly "penalties and sanction records."[3] The

[3] According to ruling No. 80 of the CSRC on July 25, 2012, Chapter 3 "Credit Information Disclosure and

research period starts from 2008, when the CSRC announced the launch of the credibility record system of securities and futures markets that provides an important platform for securities and futures markets to play their disciplinary role for market players and achieve effective supervision. These files record violations by market institutions or personnel resulting in disciplinary sanctions from 2008 and onward. Thus, our data is mainly based on that of the Shenzhen Stock Exchange and the completely disclosed CRF. We collect a sample spanning years 2008 to 2012 to clearly capture the effect of the adjusted self-regulatory monitoring mechanism of the stock exchange.

During the five years of the research period, 200 listed companies received disciplinary sanctions of stock exchange. Relevant corporate governance variables are collected from China Stock Market and Accounting Research (CSMAR), and the company characteristic control variables from Taiwan Economic Journal (TEJ). Panel A of Table 1 displays the total number of companies sanctioned in each year: 39 in 2008; 42 in 2009; 41 in 2010; 41 in 2011; and 37 in 2012.

The mission of the Shenzhen Stock Exchange is to build multi-level capital market entities in China. After the establishment of the Shenzhen Main Board in 1990, to support the financing and development of high-growth SMEs, emerging businesses, and high-tech industries, the Small and Medium Enterprise Board (SME Board) was launched in May 2004, while the ChiNext Market (also known as Growth Enterprise Market, GEM) was subsequently launched in October 2009. Panel B of Table 1 displays the number of listed companies receiving stock exchange disciplinary sanctions during the research period: 110 Mainboard companies; 83 SEM Board companies; and 7 ChiNext companies.

Panel C of Table 1 displays the distribution by industry of companies that received disciplinary sanctions. During the research period, the following industries showed a high percentage of companies that received sanctions: mining, food and beverage, and miscellaneous (conglomerates). The percentages of the companies in these industries sanctioned, against the total number of listed companies within each industry, are 7.87%, 6.64%, and 6.45%, respectively. No companies in other manufacturing industries, communications industries, or cultural industries received sanctions during the research period. This study further applies chi-square testing to detect the industrial distribution of stock exchange disciplinary sanctions. The result χ^2=253.611(p=0.2324) of the test fails to reach statistical significance, indicating that disciplinary sanctions are evenly distributed among various industries.

Inquiry" of "Interim Measures for the Supervision and Administration of Integrity in the Securities and Futures Markets" mandates that the disciplinary sanction measures of laws, administrative regulations, and rules of the securities and futures market industrial organizations (Section 6, Article 8), the administrative sanctions of the CSRC and its agencies, market entry ban, and regulatory management measures (Section 5, Article 8) should be disclosed to the public.

Table 1 Sample

Panel A: Year

Year	Number of sanctioned firms (A)		The total number of listed companies (B)		Percentage (A÷B)×100%
2008	39	(19.50%)	740	(13.01%)	5.27%
2009	42	(21.00%)	830	(14.59%)	5.06%
2010	41	(20.50%)	1169	(20.54%)	3.51%
2011	41	(20.50%)	1411	(24.80%)	2.91%
2012	37	(18.50%)	1540	(27.07%)	2.40%
Total	200	(100.00%)	5690	(100.00%)	

Panel B: Board[1]

Year	Number of sanctioned firms (C)		The total number of listed companies on various boards in the period of 2008-2012 (D)		Percentage (C÷D)×100%
Main Board	110	(55.00%)	2387	(41.95%)	4.61%
SEM Board	83	(41.50%)	2478	(43.55%)	3.35%
ChiNext	7	(3.50%)	825	(14.50%)	0.85%
Total	200	(100.00%)	5690	(100.00%)	

Panel C: Industry[2]

Industry	Code	Number of sanctioned firms (E)		The total number of listed companies by industry (F)		Percentage (E÷F)×100%
Agriculture	A	6	(3.00%)	112	(1.97%)	5.36%
Mining	B	7	(3.50%)	89	(1.56%)	7.87%
Food & Beverage	C0	14	(7.00%)	211	(3.71%)	6.64%
Textiles & Apparel	C1	9	(4.50%)	207	(3.64%)	4.35%
Timber & Furnishings	C2	2	(1.00%)	33	(0.58%)	6.06%
Paper & Printing	C3	3	(1.50%	124	(2.18%)	2.42%
Petrochemicals	C4	27	(13.50%)	689	(12.11%)	3.92%
Electronics	C5	13	(6.50%)	407	(7.15%)	3.19%
Metals & Non -metals	C6	18	(9.00%)	482	(8.47%)	3.70%
Machinery	C7	29	(14.50%)	1163	(20.44%)	2.49%
Pharmaceuticals	C8	12	(6.00%)	344	(6.05%)	3.53%
Other Manufactures	C9	0	(0.00%)	88	(1.55%)	0.00%

Table 1 Sample (Continued)

Industry	Code	Number of sanctioned firms (E)		The total number of listed companies by industry (F)		Percentage (E÷F)×100%
Utilities	D	2	(1.00%)	124	(2.18%)	1.61%
Construction	E	4	(2.00%	96	(1.69%)	4.17%
Transportation	F	7	(3.50%)	112	(1.97%)	6.25%
IT	G	10	(5.00%)	512	(9.00%)	1.95%
Wholesale & Retail	H	10	(5.00%)	229	(4.02%)	4.37%
Financial & Insurance	I	2	(1.00%)	44	(0.77%)	4.55%
Real Estate	J	9	(4.50%)	237	(4.17%)	3.80%
Social Services	K	8	(4.00%)	207	(3.64%)	3.86%
Media	L	0	(0.00%)	56	(0.98%)	0.00%
Conglomerates	M	8	(4.00%)	124	(2.18%)	6.45%
Total		200	(100%)	5690	(100%)	

1. Since the mission of the Shenzhen Stock Exchange is to build multi-level capital market entities in China, after the establishment of the Shenzhen Main Board in 1990, and to support the financing and development of high-growth SMEs, emerging businesses, and high-tech industries, the Small and Medium Enterprise Board (SEM Board) was launched in May 2004, and the ChiNext Market (also known as the Growth Enterprise Market, GEM)" was further launched in October 2009.
2. In this study, industrial classification was mainly based on the CSRC "Guidance on the Classification of Listed Companies" (2001 version), companies of C category belong to "the manufacturing industry". In addition, in 2012, the CSRC re-classified and adjusted the industrial categories of the listed companies according to the "National Industrial Classification", as published by the National Bureau of the Statistics in 2011.

Table 2 illustrates the sample selection procedure. It begins with 200 firm-year observations of disciplinary sanctions of stock exchange from 2008 to 2012. Financial and insurance companies in China, for different operating items, are additionally subject to the relevant governance measures and regulatory systems of the China Banking Regulatory Commission (CBRC) and the China Insurance Regulatory Commission (CIRC). Therefore, this study excludes two firm-year observations in the financial and insurance industries. There are eight firm-year observations without the data required for the governance mechanism variables and characteristic control variables, and two firm-year observations without data available to measure financial reporting quality, all of which have been removed. Also deleted are 26 observations without the previous-year data needed to analyze the effect on financial reporting quality. Our final sample contains 162 firm-year observations of disciplinary sanctions.

Table 2 Sample selection

Year	2008	2009	2010	2011	2012	Total
Number of firms receiving Shenzhen Stock Exchange disciplinary sanctions with records in credit record files	39	42	41	41	37	200
Exclusion Criteria						
Number of in financial and insurance industries	(1)	(1)	(0)	(0)	(0)	(2)
Number of firms lacking or missing control variables (including internal and external mechanisms and characteristic variables)	(2)	(1)	(2)	(1)	(2)	(8)
Number of firms lacking or missing date for calculating financial reporting quality	(0)	(0)	(2)	(0)	(0)	(2)
Number of firms lacking in previous year's data for analysis	(5)	(7)	(3)	(7)	(4)	(26)
Final sample size	31	33	34	33	31	162

Research Model

Past financial reporting quality and current-year disciplinary sanctions of stock exchange

This study examines whether, for listed companies, the receipt of stock exchange disciplinary sanctions is related to lower financial reporting quality in the previous year. It controls firm characteristic variables and governance mechanism variables to capture what motivates the stock exchange disciplinary sanctions. The approach employs a measure of earnings quality (i.e. absolute value of abnormal accruals) derived in the Modified Jones model (Dechow, Sloan, and Sweeney, 1995) as the proxy for financial reporting quality. The probit regression model is specified as follows:

$$\begin{aligned}\Pr(SR_{i,t}=1) = {} & \beta_0 + \beta_1 ABSACC_{i,t-1} + \beta_2 GOV_{i,t-1} + \beta_3 SHARE_{i,t-1} + \beta_4 BIG_{i,t-1} \\ & + \beta_5 AUDOPIN_{i,t-1} + \beta_6 BSIZE_{i,t-1} + \beta_7 INDOPIN_{i,t-1} + \beta_8 DUA_{i,t-1} \\ & + \beta_9 BMEET_{i,t-1} + \beta_{10} POLICON_{i,t-1} + \beta_{11} COMPET_{i,t-1} + \beta_{12} SIZE_{i,t-1} \\ & + \beta_{13} ROA_{i,t-1} + \beta_{14} LEV_{i,t-1} + \beta_{15} GROW_{i,t-1} + \beta_{16} M/B\ RATIO_{i,t-1} \\ & + \beta_{17} BOARD_{i,t-1} + \sum INDUSTRY\ \&\ YEAR\ Indicators \end{aligned} \quad (1)$$

The effect of disciplinary sanctions on financial reporting quality

This study predicts that companies that receive disciplinary sanctions of stock exchange subsequently improve the financial reporting quality of financial reports. We also take a difference-in-differences approach (Bertrand and Mullainathan, 2003; Li, 2010; Jayaraman, 2012) by using the propensity-score matching procedure to examine the hypotheses. Our procedures include several stages. In the first stage, we adopt a probit regression in model (1). Using the propensity scores from the probit regression, we employ one-to-one matching, and each SR_{it}= 1 observation is matched to an SR_{it} = 0 control firm-year observation. We require the propensity scores for the treatment and control observations to be within a distance of 0.1. The matching procedure finally yields 131 pairs. Then we define *SR*, a dummy, to separate these 131 pairs (i.e., *SR* = 1 for the SR_{it}= 1 and *SR* = 0 for the SR_{it}= 0). We set up a new dummy, *POST*, with a value equal to one for all pairs. Finally, for these pairs, we further collect their lag control variables, and use *POST* = 0 to indicate the observations in the lag period. The regression model is

$$\begin{aligned} ABSACC_{i,t} = {} & \beta_0 + \beta_1 SR_i + \beta_2 POST_t + \beta_3 SR_i \times POST_t \\ & + \beta_4 GOV_{i,t} + \beta_5 SHARE_{i,t} + \beta_6 BIG_{i,t} + \beta_7 AUDOPIN_{i,t} \\ & + \beta_8 BSIZE_{i,t} + \beta_9 INDOPIN_{i,t} + \beta_{10} DUA_{i,t} + \beta_{11} BMEET_{i,t} \\ & + \beta_{12} POLICON_{i,t} + \beta_{13} COMPET_{i,t} + \beta_{14} SIZE_{i,t} + \beta_{15} ROA_{i,t} \\ & + \beta_{16} LEV_{i,t} + \beta_{17} GROW_{i,t} + \beta_{18} M/B\ RATIO_{i,t} + \beta_{19} BOARD_{i,t} \\ & + \sum INDUSTRY\ \&\ YEAR\ Indicators + \varepsilon_{i,t} \end{aligned} \quad (2)$$

Given the importance of controlling shareholders in the capital market of China, we include two variables, government as the largest shareholder (*GOV*) and the top ten shareholders' degree of ownership concentration (*SHARE*). Firth, Fung, and Rui (2007) argue that government agencies have better accounting information to help them make decisions, since they pressure the company to obtain better financial reporting information. Liu and Lu (2007) argue that, when the government is its main controlling shareholder, a listed company is required to achieve policy objectives rather than emphasize shareholder interests. Huyghebaert and Wang (2012) indicate that controlling

shareholders in China have the ability and incentive to engage in self-interested behaviors to maximize private interests or political benefits. Therefore, this study uses the variable of government as the largest shareholder (*GOV*) to capture whether government shareholders have the ability to supervise and control companies (Jia et al., 2009; Tang, Du, and Hou, 2013).

On the other hand, Fan and Wong (2002) point out that the equity of firms in East Asia is usually concentrated in the hands of controlling shareholders. Firth et al. (2007) argue that the ownership concentration of a company with few investors will result in financial statement distortion. Gul, Kim, and Qiu (2010) indicate that corporate ownership structure in emerging markets is concentrated ownership by founding family members or government. In the managerial entrenchment perspective, the controlling shareholders have incentives to withhold value-relevant and private information to outside investors to conceal their self-serving behaviors (Fan and Wong, 2005). In the incentive alignment perspective, ownership concentration can facilitate the alignment of interests between controlling and minority shareholders which encourages the controlling shareholders to voluntarily disclose more firm-specific information. Therefore, this study uses the top ten shareholders' degree of ownership concentration (*SHARE*) to explore whether companies with more concentrated ownership can avoid stock exchange disciplinary sanctions (Chen et al., 2006; Liu and Lu, 2007).

To control the effects of audit quality on financial reporting quality, we include two indicator variables: audit firm size (*BIG*) and audit opinion (*AUDOPIN*). DeAngelo (1981) defines audit quality as an accountant's ability to identify whether company independence of the accountant, while complete reporting depends upon his or her expertise. Chen et al. (2006) argue that auditing personnel have an impact on company fraud detection and correction. Larger or international accounting firms have better auditing quality, which reduces fraud. Chen, Su, and Zhao (2000) find that investors interpret the non-standard opinions (audit opinions other than standard unqualified opinions) of accountants as bad news, and respond negatively. Therefore, this study assumes that accountants have certain supervisory responsibilities over the internal control and information reporting of the company audited. The audit firm size (*BIG*) (Ajinkya, Bhojraj, and Sengupta, 2005; Chen et al., 2006; Firth et al., 2007) and accountant's previous year audit opinion (*AUDOPIN*) (Chen et al., 2000; Tang et al., 2013) are used as variables to measure the impact of auditing quality.

To further control variations in governance mechanism factors, we include variables to capture external and internal governance effects. Cheng (2008) points out that the

board size affects the performance of a company. When a board is larger, communication/coordination agency problems will be more serious, and corporate performance poorer. Karamanou and Vafeas (2005) argue that board size and board performance are correlated. When the number of directors increases, the board's knowledge base may be enhanced. However, when the board is large, it will be relatively less efficient, and thus company operations will not be effectively supervised (Firth et al., 2007; Firth, Rui, and Wu, 2011). Conversely, Kanagaretnam, Lobo, and Whalen (2007) argue that the supervisory effect in the case of larger board size is positive and can reduce the information asymmetry of earnings disclosure. Thus, this study uses the variable board size (*BSIZE*) to capture the efficiency of the board of directors' supervision.

Fama and Jensen (1983) conclude that independent directors can supervise and control the opportunistic behaviors of management, and thus reduce agency costs. Karamanou and Vafeas (2005) point out that independent external directors are less likely to be affected by management. They can better ensure that complete and quality financial information is transmitted to the shareholders (Ajinkya et al., 2005; Firth et al., 2007). Fich and Shivdasani (2007), and Ertimur, Ferri, and Maber (2012) believe that external directors are responsible for the losses of a company and are less tolerant of reputational costs. When external directors have less supervision of fraud or management salary, it may result in reputation penalties, which will affect the seats of company directors. Tang et al. (2013) use the compulsory disclosure of independent director opinion (*INDOPIN*) as the variable to measure whether external directors can effectively supervise a company.

Chen et al. (2006) show that the overall supervisory effectiveness of the board will be reduced when a director holds the dual role of board chairman and general manager, because the director simultaneously serves as the decision-maker and the supervisor (Firth et al., 2007; Firth et al., 2011). Dual positions not only cause failure in the internal control system but also generate self-interested motivations (Jensen, 1993), resulting in a higher degree of fraud (Dechow et al., 1996). This study argues that the dual role of board chairperson and general manager (*DUA*) results in a lack of independence of the board of directors and causes self-interested behaviors among managers. This will weaken the ability of the board of directors to supervise information. Chen et al. (2006) emphasize that when the board of directors holds meetings more frequently, they can communicate the potential problems of the company. Namely, the company can solve problems related to fraud through meetings. Vafeas (1999) also points out that director meetings increase when company performance is poor. This study argues that more frequent board meetings *(BMEET*) may lead to more violations rather than to better supervision of the company (Jia et al., 2009).

Shleifer and Vishny (1998) suggest that politicians use resources from the listed state-owned firms under their control to fulfill specific objectives. Fan, Wong, and Zhang (2007) indicate that firms led by politically connected CEOs show low degrees of professionalism and are poorly related with accounting and stock return performance. This study argues that the political connectedness (*POLICON*) of firms is an important determinant of financial reporting quality (Chaney, Faccio, and Parsley, 2011), while Shleifer and Vishny (1998) suggest that market competition is probably the most powerful force towards economic efficiency. Fan et al. (2007) argue that the NERI index could assess relative market development achievements in China, including market competition, which plays a dominant role in industry and trade. This study uses a marketization index *(COMPET)* to control for market competition.

We also control for some company characteristic variables introduced by prior literature discussing Chinese regulatory enforcement activities (Chen et al., 2005; Chen et al., 2006; Firth et al., 2007; Liu and Lu, 2007; Jia et al., 2009; Firth et al., 2011; Huyghebaert and Wang, 2012; Tang et al., 2013). Company size (*SIZE*) captures the firm-specific environment, and large firms usually have greater negotiating power. Returns on assets (*ROA*) captures profitability, and leverage (*LEV*) captures the sustainable levels of capital structure and risk related with levels of debt. Sales growth (*GROW*) and market-to-book value ratio (*M/B RATIO*) are used to measure the actual profit growth and future growth opportunities of the company, respectively. Listing boards (*Board*) captures the specific rules and information disclosure requirement for different boards.

V. Empirical Results

Descriptive statistics and correlation analysis of the differences between sanctioned and non-sanctioned companies

Table 3 shows the descriptive statistics for regulator governance mechanisms of sanctioned (*SR_firm*) and non-sanctioned firms (*NONSR_firm*). The mean difference comparative analysis suggests that companies with the largest shareholder are non-government (*GOV*), top ten shareholders' degree of ownership concentration (*SHARE*) is low, audit opinions (*AUDOPIN*) from the previous year are non-standard unqualified opinions, and independent directors with opinions (*INDOPIN*) contrary to ones in the previous year are more vulnerable to disciplinary sanctions. As for company characteristic control variables, the table shows that sanctioned enterprises are of smaller company size (*SIZE*), lower returns on assets (*ROA*), greater leverage (*LEV*), lower profit growth (*GROW*), and greater company growth opportunities (*M/B RATIO*).

Table 4 reports the Pearson correlation coefficient matrix for the variables of sanctioned and non-sanctioned companies (including 162 sanctioned observations and 3,375 non-sanctioned observations). The correlation between most variables is below 0.4, suggesting that co-linearity of variables is not serious.

Past financial reporting quality and disciplinary sanctions of stock exchange

Table 5 investigates the relationship between financial reporting quality in the previous period and disciplinary sanctions of stock exchange. We use the absolute value of discretionary accruals as a measure of financial reporting quality, which captures the combined effect of income-increasing and income-decreasing earnings management decisions (Warfield, Wild, and Wild, 1995; Myers, Myers, and Omer, 2003). The result shows that Pseudo R^2 in the total sample regression equation is 0.09 (χ^2 statistic is 117.74, which is significant), suggesting that the regression model fitness is good, and has explanatory power.

Based on the empirical results of the model, abnormal accrual and current year disciplinary sanctions are positively related. Companies with lower financial reporting quality in the previous year are more likely to receive disciplinary sanctions. The results also prove that when companies have government as the largest shareholders (*GOV*) and a higher degree of ownership concentration by top ten shareholders (*SHARE*), they are less likely to receive such disciplinary sanctions. According to the above results, following Wu, Wu, and Rui (2012) indicate that government ownership represents a much more direct tie with the government and state-owned enterprises (*SOEs*) have the incentive to perform the form of pursuing political and social objectives. When the government is the major controlling shareholder (*GOV*), government agencies pressure the company to have better accounting information to help them make decisions (Firth et al., 2007), although the entrenchment effect of ownership concentration on earnings management is more serious (Ding, Zhang, and Zhang, 2007) Thus, Hou and Moore (2010) suggest that companies with larger state ownership are associated with a lower incidence of enforcement actions which is attributed to the mutual political affiliation of the fraudulent SOEs and the regulatory commission. In addition, companies with a higher degree of ownership concentration (*SHARE*) can facilitate the alignment of interests between controlling and minority shareholders (Gul et al., 2010). Regarding characteristic control variables, companies of smaller company size (*SIZE*), and with lower returns on assets (*ROA*) are more vulnerable to stock exchange disciplinary sanctions.

Table 3 Descriptive statistics for the comparison of sanctioned companies and non-sanctioned companies

	Sanctioned *(SR_firm)*					Non-sanctioned *(NONSR_firm)*					(*SR_firm-NONSR_firm*)	
	Mean	SD	Q25	Median	Q75	Mean	SD	Q25	Median	Q75	Mean difference	Median difference
Supervision and Governance variables												
GOV	0.2222	0.4170	0.0000	0.0000	0.0000	0.3484	0.4765	0.0000	0.0000	1.0000	-0.1262***	0.0000***
SHARE	0.1186	0.0909	0.0510	0.0903	0.1596	0.1707	0.1153	0.0781	0.1453	0.2372	-0.0521***	-0.0550***
BIG	0.0185	0.1352	0.0000	0.0000	0.0000	0.0439	0.2048	0.0000	0.0000	0.0000	-0.0254	0.0000
AUDOPIN	0.1358	0.3436	0.0000	0.0000	0.0000	0.0361	0.1867	0.0000	0.0000	0.0000	0.0997***	0.0000***
BSIZE	2.1587	0.1984	2.0794	2.1972	2.1972	2.1788	0.1951	2.0794	2.1972	2.1972	-0.0201	0.0000
INDOPIN	0.0741	0.2627	0.0000	0.0000	0.0000	0.0373	0.1896	0.0000	0.0000	0.0000	0.0368**	0.0000**
DUA	0.2716	0.4462	0.0000	0.0000	1.0000	0.2305	0.4212	0.0000	0.0000	0.0000	0.0411	0.0000
BMEET	9.2654	3.1893	7.0000	9.0000	11.0000	9.2370	3.1421	7.0000	9.0000	11.0000	0.0284	0.0000
POLICON	0.7963	0.4040	1.0000	1.0000	1.0000	0.7859	0.4102	1.0000	1.0000	1.0000	0.0104	0.0000
COMPET	8.9930	2.2792	7.5600	9.7250	10.4200	9.1290	1.9177	7.6500	9.4300	10.4200	-0.1360	0.2950
Characteristic control variables												
SIZE	14.1134	0.9934	13.4248	14.0145	14.7401	14.5759	1.1071	13.7963	14.4448	15.2063	-0.4625***	-0.4303***
ROA(%)	2.0639	9.3304	-0.1400	3.2200	6.5600	5.5465	6.0080	2.7500	5.0900	8.1600	-3.4826***	-1.8700***
LEV (%)	53.9898	32.2763	35.2300	50.5150	65.0300	45.9190	24.3250	28.8000	45.5000	61.5000	8.0708***	5.0150
GROW(%)	14.0393	56.4757	-7.3900	8.2200	23.4600	25.7944	56.6531	2.2600	17.0200	35.4400	-11.7551***	-8.8000***
M/B RATIO	4.6748	4.0682	1.8622	3.8506	6.6033	4.0003	3.1353	1.9797	3.1960	5.0066	0.6745***	0.6546 *
BOARD	0.4136	0.4940	0.0000	0.0000	1.0000	0.4326	0.4955	0.0000	0.0000	1.0000	-0.0190	0.0000
Sample size			162					3375			3537	

1. This table presents the summary statistics for variables.
2. The *t*-statistic (*z*-statistics) of differences in mean (median) value refer to two-sample (sanctioned firms and non-sanctioned firms) tests, where *, **, and ***denoted significant at the 0.10, 0.05, and 0.01 levels, respectively.
3. See Appendix for variable definitions.

Table 4 Variable correlation analysis of sanctioned companies and non-sanctioned companies

	GOV	*SHARE*	*BIG*	*AUDOPIN*	*BSIZE*	*INDOPIN*	*DUA*	*BMEET*	*POLICON*	*COMPET*	*SIZE*	*ROA(%)*	*LEV (%)*	*GROW(%)*	*M/B RATIO*	*BOARD*
GOV		0.0980***	0.0256	-0.0017	0.1794***	0.0626***	-0.2260***	-0.0354**	-0.0026	-0.2436***	0.2122***	-0.1202***	0.185^{0}***	0.0030	0.0098	-0.3938***
SHARE	0.0464		0.0496***	-0.0918***	-0.0056	-0.0211	-0.0046	0.0382**	0.0280	0.0660***	0.1771***	0.1068***	-0.0180	0.0298*	-0.0129	0.1061***
BIG	0.0367	0.1860**		-0.0260	0.1429***	0.0113	-0.0554***	0.0732***	0.0306*	0.0636***	0.2858***	0.0363**	0.0563***	-0.0247	-0.0653***	-0.0877***
AUDOPIN	-0.1252	-0.0492	-0.0545		-0.0398**	0.0205	0.0108	-0.0298*	-0.0073	-0.0501***	-0.1976***	-0.1981***	0.3054***	-0.0101	0.0494***	-0.1210***
BSIZE	0.0651	0.0036	0.0732	-0.1373*		0.0141	-0.1554***	0.0074	0.1184***	-0.0442**	0.2954***	0.0310*	0.0896***	-0.0149	-0.0614***	-0.0897***
INDOPIN	0.1323*	0.1166	-0.0389	0.0943	0.0630		-0.0113	0.0100	-0.0315*	-0.0388**	-0.0381**	0.0140	0.0246	0.0374**	0.1171***	-0.0268
DUA	-0.1261	0.1081	0.0191	-0.1205	-0.0868	-0.0137		-0.0391**	-0.0162	0.1608***	-0.1822***	0.0548***	-0.1507***	-0.0113	0.0363**	0.2392***
BMEET	-0.1147	0.0461	0.0317	0.1143	-0.1610**	-0.0533	0.0581		0.0590***	0.0490***	0.2170***	-0.0134	0.0898***	0.0589***	-0.0518***	-0.0480***
POLICON	-0.0614	-0.0296	0.0695	-0.0232	0.1850**	-0.0910	-0.0702	0.0470		-0.0389**	0.0953***	0.0195	0.0184	0.0130	-0.0490***	0.0285*
COMPET	-0.1537*	0.1291	0.0528	0.0077	-0.0667	0.0243	0.1898**	0.1246	-0.1276		-0.0509***	0.0785***	-0.1116***	-0.0038	-0.0845***	0.2787***
SIZE	0.1790**	0.1190	0.1992**	-0.1932**	0.3749***	-0.0566	-0.0389	0.1739**	0.2274***	0.0381		0.0768***	0.2943***	0.1168***	-0.2803***	-0.3076***
ROA(%)	-0.1030	0.0202	0.0785	-0.3710***	0.1347*	0.0082	0.0716	-0.0855	0.0304	0.1129	0.2149***		-0.3127***	0.2585***	0.1171***	0.2084***
LEV (%)	0.1104	-0.1547**	0.0085	0.3975***	0.0040	0.1290	-0.0930	-0.0130	-0.0249	0.0197	-0.1152	-0.3541***		0.0363**	-0.0509***	-0.4015***
GROW(%)	0.0051	-0.0599	0.0642	-0.1289	0.0222	-0.0289	0.0298	-0.0473	0.0794	0.0447	0.1910**	0.2591***	-0.2664***		0.0256	0.0241
M/BRATIO	0.1337*	-0.1174	-0.0780	-0.1795**	-0.1357*	0.0129	0.0626	-0.0287	-0.0378	-0.0967	-0.2294***	0.1606**	-0.2224***	0.0681		0.0134
BOARD	-0.2378***	0.3003***	-0.0224	-0.0402	0.0892	0.1454*	0.1353*	0.0915	0.1758**	0.2482***	-0.0298	0.1073	-0.2935***	0.0365	0.0611	

1. This table presents sample Pearson correlation.
2. The left lower part is the variable correlation coefficient of the sanctioned companies (162 observations), the right top part is the variable correlation coefficient of the non-sanctioned companies (3375 observations).
3. Correlations that are significantly at *, **, and *** denoted significant at the 0.10, 0.05, and 0.01 levels, respectively.
4. See Appendix for variable definitions.

Table 5 Past financial reporting quality and current-year disciplinary sanctions

	Dependent variable: Pr $(SR_{i,t}=1)$			
	Coefficient	p value	Coefficient	p value
INTERCEPT	0.2768	0.6972	-0.7243	0.3938
Absolute Abnormal accruals				
ABSACC (t-1)	1.0945***	0.0095	1.1290***	0.0093
Supervision and Governance variables				
GOV			-0.2886***	0.0032
SHARE			-1.6768***	0.0002
BIG			-0.1923	0.4657
AUDOPIN			-0.0429	0.8235
BSIZE			0.1107	0.6110
INDOPIN			-0.0108	0.9484
DUA			-0.1223	0.1894
BMEET			0.0134	0.3289
POLICON			-0.0302	0.7498
COMPET			0.0055	0.8077
Characteristic control variables				
SIZE	-0.1582***	0.0006	-0.1007*	0.0610
ROA(%)	-0.0179***	0.0047	-0.0185***	0.0050
LEV (%)	0.0031*	0.0655	0.0029	0.1164
GROW(%)	0.0004	0.5561	0.0004	0.5565
M/B RATIO	0.0099	0.4191	0.0111	0.3748
BOARD	0.1191	0.2155	0.1026	0.3410
YEAR indicators	Included		Included	
INDUSTRY Indicators	Included		Included	
Sample size	3537		3537	
χ^2	82.2966***		117.7403***	
	(0.000)		(0.000)	
Pseudo R^2	0.0629		0.0900	

1. This table reports the estimated coefficients in probit regression model and the corresponding p value from the z statistics, where *, **, and *** denoted significant at the 0.10, 0.05, and 0.01 levels, respectively.
2. See Appendix for variable definitions.

The impact of stock exchange regulatory disciplinary sanctions on financial reporting quality

Table 6 illustrates the impact of stock exchange regulatory disciplinary sanctions on financial reporting quality. We conduct a difference-in-differences approach by using the propensity-score matching procedure to examine the hypotheses. The matching procedure yields 524 observations (131 sanctioned and matched companies in the sanction year and the year before the event, a total of [(131×2) ×2 years] sample companies). The findings suggest that the F-testing results of the total company sample regression model (model explanatory power's Adjusted R^2 is 0.2145), is significant, indicating that the regression model fitness is good and the model has good explanatory power.

The results show that the variable *SR×Post* in the total company sample (-0.0178) is significant. This proves that the sanctioned companies would reduce the use of abnormal accruals and improve financial reporting quality. In the intra-group time difference of observations of total company sample model, the previous year estimation coefficient of the sanctioned companies is $\beta_0+\beta_1$=0.2331 (0.2191+0.0140), while the current year estimated coefficient of disciplinary sanctions is $\beta_0+\beta_1+\beta_2+\beta_3$=0.2175 (0.2191+0.0140 +0.0022 -0.0178). Therefore, the gap between the current year and the previous year of disciplinary sanctions is $\beta_2+\beta_3$=-0.0156 (0.0022 -0.0178). For the unsanctioned companies, the previous year's estimated coefficient is β_0=0.2191, and the current year's estimated value is $\beta 0+\beta 2$=0.2213 (0.2191 +0.0022). The gap between the current year and the previous year of sanction is β_2=0.0022. On the other hand, from the inter-group observation differences, it can be found that the difference in coefficients of sanctioned and non-sanctioned companies in the previous year is β_1=0.0140, and the current year gap of the two groups in the year of sanction is $\beta_1+\beta_3$=-0.0038 (0.0140-0.0178). Therefore, the difference-in-differences estimated coefficient is β_3=-0.0178, suggesting that the sanctioned companies will actually reduce the use of abnormal accruals, thus enhancing the quality of information reporting.

Moreover, the results show that being audited by a Big 4 (*BIG*) accounting firm can spur a company's financial reporting quality. On the other hand, the financial reporting quality of the company receiving an opposing opinion of the independent director *(INDOPIN*) and a non-standard without reservation audit opinion (*AUDOPIN*) is lower. In addition, regarding characteristic control variables, it can be seen that companies of relatively larger size (*SIZE*), with lower leverage (*LEV*), with smaller actual sales profit growth (*GROW*), and on the SME board or ChiNext (*BOARD*) have better financial reporting quality.

Table 6 The effect of disciplinary sanctions on the financial reporting quality

	Dependent variable: Absolute abnormal accruals	
	Coefficient	p value
INTERCEPT	0.2191***	0.0000
Event variables		
SR	0.0140***	0.0073
POST	0.0022	0.7585
SR×POST	-0.0178**	0.0429
Supervision and Governance variables		
GOV	0.0140	0.2150
SHARE	0.0743***	0.0093
BIG	-0.0375***	0.0032
AUDOPIN	0.0142	0.3601
BSIZE	-0.0120	0.5876
INDOPIN	0.0341***	0.0000
DUA	0.0074	0.3871
BMEET	0.0027*	0.0665
POLICON	0.0082	0.2461
COMPET	0.0008	0.7424
Characteristic control variables		
SIZE	-0.0190***	0.0003
ROA(%)	-0.0007	0.1312
LEV (%)	0.0006**	0.0112
GROW(%)	0.0000**	0.0420
M/B RATIO	-0.0007	0.4105
BOARD	-0.0230***	0.0016
Sample size	524	
F- statistic	4.9434***	
	(0.000)	
Adjusted R^2	0.2145	

1. This table reports the estimated coefficients in ordinary least squares (OLS) with two-way cluster-robust standard errors by clustering on both firm and year, and presents the corresponding p value from the *t* statistics, where *, **, and ***denoted significant at the 0.10, 0.05, and 0.01 levels, respectively.
2. See Appendix for variable definitions.

VI. Robustness analyses

In this section, we report results of additional robustness tests. For brevity, this study do not tabulate the supervision and governance variables and characteristic control variables when reporting the regression results.

Alternative measures of accruals on financial reporting quality

This research uses Jones model (Jones, 1991), performance matched Jones model (Kothari, Leone, and Wasley, 2005), performance adjusted model (Kothari et al., 2005), and Dechow and Dichev model (Dechow and Dichev, 2002) to ensure the robustness of its measurement. Table 7 presents the F-testing results of the Jones model (model explanatory power's Adjusted R^2 is 0.2221), performance-matched Jones model (model explanatory power's Adjusted R^2 is 0.2103), performance-adjusted model (model explanatory power's Adjusted R^2 is 0.1621), and Dechow and Dichev model (model explanatory power's Adjusted R^2 is 0.2406), all of which are significant. Thus, the regression model fitness is good and has explanatory power. The effects of disciplinary sanctions on financial reporting quality in the Jones model (*SR×Post* = -0.0202), performance-matched model (*SR×Post* = -0.0178), performance-adjusted model (*SR×Post* = -0.0101), and Dechow and Dichev model (*SR×Post* = -0.0258) are all significant. Overall, the evidence from the Jones model, performance-matched model, performance-adjusted model, and Dechow and Dichev model all indicate that sanctioned companies will enhance financial reporting quality, which is consistent with our main analysis.

In Table 7, the results for the Jones model and performance-matched model show that when companies have a lower degree of ownership concentration by top ten shareholders (*SHARE*), the financial reporting quality improves. Moreover, financial reporting quality of companies not audited by a Big 4 (*BIG*) firm and receiving an opposing opinion of the independent director (*INDOPIN*) decreases in the Jones model, performance-matched model, and performance-adjusted accruals model. In addition, the characteristic control variables indicate that companies of relatively larger size (*SIZE*), larger returns on assets (*ROA*), with lower leverage (*LEV*), with smaller actual sales profit growth (*GROW*), and on the SME board or ChiNext have better financial reporting quality.

Benchmark earnings targets test

Prior studies show that firms have an incentive to manage accounting earnings to avoid showing a small decrease in their earnings (Burgstahler and Dichev, 1997). Thus, if we take their previous year's earnings as a benchmark, firms with a small increase in earnings, are normally seen as having poor earnings quality. To examine whether sanctions enhance companies' reporting quality, we hypothesize that firms that have received disciplinary sanctions from the stock exchange are less likely to meet the benchmark target. Specially, we first set an indicator variable (*BSEI*) equal to 1 if a firm reports a small earnings increase as the change of firm's net income deflated by lagged total assets between 0 and 0.5 percent, and 0 otherwise. Then, we use a probit model to examine the association between BSEI and SR.

Table 7 The effect of disciplinary sanctions on other accruals on financial reporting quality model

	Jones (1991) model		Performance Matched model (Kothari et al. 2005)		Performance Adjusted model (Kothari et al. 2005)		Dechow and Dichev (2002) model	
	Coefficient	p value	Coefficient	p value	Coefficient	p value	Coefficient	p value
INTERCEPT	0.2946***	0.0000	0.3069***	0.0001	0.2358***	0.0000	0.2702***	0.0000
Event variables								
SR	0.0136**	0.0204	0.0153**	0.0222	0.0129***	0.0055	0.0141***	0.0095
POST	0.0025	0.7273	0.0017	0.7770	-0.0016	0.8377	0.0031	0.7250
SR×POST	-0.0202**	0.0172	-0.0178**	0.0497	-0.0101**	0.0361	-0.0258**	0.0386
Supervision and Governance variables	Included		Included		Included		Included	
Characteristic control variables	Included		Included		Included		Included	
Sample size	524		524		524		524	
F-statistic	5.2845*** (0.000)		4.9188*** (0.000)		3.4649*** (0.000)		4.9078*** (0.000)	
Adjusted R^2	0.2221		0.2103		0.1621		0.2406	

1. This table reports the estimated coefficients in ordinary least squares (OLS) with two-way cluster-robust standard errors by clustering on both firm and year, and presents the corresponding p value from the *t* statistics, where *, **, and *** denoted significant at the 0.10, 0.05, and 0.01 levels, respectively.
2. See Appendix for variable definitions.

In Table 8, the coefficient of *SR×POST* in the first model is -1.0058 (p=0.0336) and is significant. The coefficient of *SR×POST* in the second model, including governance mechanism variables and characteristics control variables, is -0.9714 (p=0.0444) and is significant.[4] These findings support the contention that firms that have received disciplinary sanctions are less likely to conduct earnings management because the likelihood of showing a small increase in reported earnings is decreased.

Table 8 The effect of disciplinary sanctions on benchmark earnings targets

	Dependent variable: Pr($BSEI_{i,t}$=1)			
	Coefficient	p value	Coefficient	p value
INTERCEPT	-4.7178**	0.0249	-3.8207*	0.0987
Event variables				
SR	0.9869***	0.0078	1.0029***	0.0088
POST	0.8220**	0.0336	0.8216**	0.0395
SR×POST	-1.0058**	0.0336	-0.9714**	0.0444
Supervision and Governance variables	-		Included	
Characteristic control variables	Included		Included	
Sample size	524		524	
χ^2	36.1566***		42.6204***	
	(0.000)		(0.000)	
Pseudo R^2	0.1682		0.1983	

1. This table reports the estimated coefficients in probit regression model and the corresponding *p* value from *z* statistics, where *, **, and *** denoted significant at the 0.10, 0.05, and 0.01 levels, respectively.
2. The dependent variable *BSEI* is benchmark of small earnings increases is indicator variable equal to 1 if current period returns on assets minus previous period return on assets, and divided by previous return on assets is between 0 and 0.5 percent, and 0 otherwise.
3. See Appendix for variable definitions.

Disciplinary sanction tools and financial reporting quality

The listed companies are required to abide by relevant regulations and listing rules and perform their functions. In case of violation of certain rules and regulations, the stock exchange may take disciplinary sanctions to companies such as making notices of criticism and public criticism. Liebman and Milhaupt (2008) mention that the severity level of public criticisms is higher than notices of criticisms. Notices of criticism are more serious, and are one step short of a public criticism. Thus, this paper separates the sample based on the two public disciplinary sanction tools to estimate the regressions separately.

[4] We exclude *BigN* and *AUDOPIN* because neither of these equals one in observations when a firm reports a small earnings increase

In Table 9, Panel A presents descriptive statistics for the financial reporting variable between notices of criticism sample and public criticism sample in the previous year and current year. The average (median) of the absolute value of abnormal accruals of public criticism sample in the previous period is 0.1212 (0.0690) compared to 0.0996 (0.0557) in the current year. The average (median) of the absolute value of abnormal accruals is also lower for the notices of criticism sample in the current period compared to the previous period. Consistent with expectations, the sanctioned companies might improve financial reporting quality. With respect to sanction tools, although the table reveals that the financial reporting quality of the notices of criticism is lower than the public criticism sample in both previous and current periods, all of the differences are not statistically significant in untabulated results.

Table 9 Disciplinary sanction tools on financial reporting quality

Panel A: Descriptive statistics for financial reporting quality between public criticism sample and notices of criticism sample

	Public criticism			Notices of criticism		
Variable	*Mean*	*Median*	*SD.*	*Mean*	*Median*	*SD.*
$ABSACC_{pre}$	0.1212	0.0690 *(n=21)*	0.1081	0.0922	0.0645 *(n=123)*	0.0838
$ABSACC_{post}$	0.0996	0.0557 *(n=21)*	0.1038	0.0785	0.0517 *(n=123)*	0.0775

Panel B: The effect of disciplinary sanction tools on financial reporting quality

	Public criticism		Notices of criticism	
	Coefficient	p value	Coefficient	p value
INTERCEPT	0.0855	0.4299	0.3241***	0.0000
Event variables				
SR	0.0030	0.9565	0.0119***	0.0015
POST	-0.0125	0.7483	0.0031	0.6525
SR×POST	-0.0298	0.5752	-0.0159**	0.0277
Supervision and Governance variables	Included		Included	
Characteristic control variables	Included		Included	
Sample size	84 (21pair)		492 (123 pair)	
F-statistic	7.2321*** (0.000)		4.3903*** (0.000)	
Adjusted R^2	0.2861		0.2081	

1. This table reports the estimated coefficients in ordinary least squares (OLS) with two-way cluster-robust standard errors by clustering on both firm and year, and presents the corresponding p value from the *t* statistics, where *, **, and *** denoted significant at the 0.10, 0.05, and 0.01 levels, respectively.
2. See Appendix for variable definitions.

Panel B presents the results of estimating the effects of disciplinary sanction tools on financial reporting quality. Consistent with the previous test, the results reveal that the variable *SR×Post* in the notices of criticism sample is negative and significant. This result complement and strengthen the conclusions that stock exchange sanctions may be effective in improving the companies' financial reporting quality. However, the variable *SR×Post* of public criticism sample has a negative estimated coefficient but is not statistically significantly related to the financial reporting quality. This finding is not surprising as public criticism sample is small. When the stock exchange publicly censures companies, it is likely that companies improved the quality of financial reporting has not been completely and timely addressed.

Disciplinary sanction reasons and financial reporting quality

The quality of reported financial information is influenced not only by the quality of accounting standards, but the demand for and the supply of financial information. The salient institutional factors include the nature of corporate governance, the legal system, and the existence and enforcement of laws governing investor protection and disclosure standards (Kothari, 2000). For sanctions issued by the stock exchange observed in the Shenzhen stock exchange self-regulatory report are three main reasons, including (1) failure information disclosure, (2) violation of securities trading, and (3) weak corporate governance mechanism, and other compliance problems. Given that many sanctioned companies for multiple reasons of misconduct, the stock exchange issues the majority sanction to companies is failure information disclosure (about 44% of the frequency of total sanction reasons between 2008 to 2012). In the other hand, to mitigate measurement error in a small number of other sanction reasons, this study aggregates the sanction reasons for violation of securities trading, weak corporate governance mechanism and other compliance problems into other sanctions sample. Thus, the further analysis provides evidence separately for the information disclosure sanction sample and other sanctions sample.

In Table 10, Panel A reports the summary statistics for the financial reporting variable between information disclosure sanctions sample and other sanctions sample. The average (median) of the absolute value of abnormal accruals for information disclosure sanctions in the previous period is 0.0969 (0.0750) compared to 0.0873 (0.0517) in the current year. The average (median) value of absolute abnormal accruals for the other sanctions in the current period is also lower than the previous period. These results are consistent with prior expectations; the sanctioned companies would enhance financial reporting quality. However, all of the differences between information

disclosure sanction sample and other sanctions sample are not statistically significant in untabulated results.

Table 10 Disciplinary sanction reasons and financial reporting quality

Panel A: Descriptive statistics for financial reporting quality between the information disclosure sanctions sample and other sanctions sample

	Information disclosure sanctions			other sanctions		
Variable	*Mean*	*Median*	*SD.*	*Mean*	*Median*	*SD.*
$ABSACC_{pre}$	0.0969	0.0750	0.0843	0.0910	0.0560	0.0850
		(n=67)			*(n=86)*	
$ABSACC_{post}$	0.0873	0.0517	0.0898	0.0750	0.0535	0.0728
		(n=67)			*(n=86)*	

Panel B: The effect of disciplinary sanction reasons on financial reporting quality

	Information disclosure sanctions		other sanctions	
	Coefficient	p value	Coefficient	p value
INTERCEPT	0.2630***	0.0073	0.3216***	0.0004
Event variables				
SR	0.0155	0.2915	0.0103***	0.0023
POST	-0.0017	0.8879	0.0019	0.8676
SR×POST	-0.0117	0.5085	-0.0204*	0.0853
Supervision and Governance variables	Included		Included	
Characteristic control variables	Included		Included	
Sample size	268 (67pair)		344 (86 pair)	
F-statistic	2.7245*** (0.000)		4.8456*** (0.000)	
Adjusted R^2	0.2097		0.2632	

1. This table reports the estimated coefficients in ordinary least squares (OLS) with two-way cluster-robust standard errors by clustering on both firm and year, and presents the corresponding p value from the *t* statistics, where *, **, and *** denoted significant at the 0.10, 0.05, and 0.01 levels, respectively.
2. See Appendix for variable definitions.

Panel B illustrates a statistically negative significant of the variable *SR×Post* in relation to absolute abnormal accruals for the other sanctions. This suggests that sanctioned companies have incrementally higher financial reporting quality. However, we observe the coefficient on the variable *SR×Post* for the information disclosure sanction

sample is negative but not statistically significantly related to the financial reporting quality. This result is interesting because the other sanctions are arguably more stringent influence for listed companies. In this sense, one might expect that sanctioned companies have the incentive to improve the greater quality of their financial reporting, specifically, because of receiving related information disclosure sanctions. The observe evidence in this study only captures a slight improvement of financial reporting quality.

VII. Conclusions

High financial reporting quality could provide relevance financial information for evaluating firm performance and making management decisions (Dechow et al., 2010). Rezaee (2005) and Christiansen and Koldertsova (2009) argue that stock exchanges play the role in building corporate governance and guarding financial reporting quality in the stock market. This argument suggests that the stock exchange is the first defense of the regulatory system when it comes to supervising the daily trading and information reporting of listed companies in real time. This paper documents the relationship between stock exchange sanctions and financial reporting quality. Our empirical results show that stock exchanges are attentive to the reporting quality of companies because the likelihood of their imposing sanctions is greater for companies with poor reporting quality. In addition, the reporting quality of sanctioned companies improves after sanctions.

Although stock exchange disciplinary sanctions are only one kind of reputational sanction, they serve to inform market participants and help protect investors. Our empirical results are consistent with our predictions and imply that stock exchange is not a “toothless tiger”. The stock exchange is charged with an enforcement function for the prevention of fraud and other abusive practices (Christiansen and Koldertsova, 2009). However, this study has the following limitations. First, other than stock exchange self-regulatory enforcement, the regulatory system is subject to both law enforcement and administrative enforcement. This study does not take into consideration the potential mutual influences of other regulatory measures. Second, this study mainly extends the analysis and observation of Liebman and Milhaupt (2008) to explore the impact of stock exchange regulations on the capital market. To make up for a lack of studies on stock exchange regulations, this study infers the effect of stock exchange reputational sanctions from an information warning perspective. Future studies may explore the impact of stock exchange regulations from the basis of different theories and viewpoints (e.g., fraud or internal control deficiency). Third, this study analyzes only Shenzhen Stock Exchange disciplinary sanctions because of the limits of our data sources. More comprehensive data

on China's stock exchange regulatory system should be analyzed in further research for a wider research sample and more comprehensive empirical evidence. This study focuses on China's market as an imperfect legal environment to highlight the importance of stock exchange regulation. Future studies may use multi-national data to conduct more in-depth inquiries of self-regulatory enforcement measures in different legal environments.

Finally, market participants are more concerned about the sanctions of administrative enforcement than stock exchange regulations. Thus, stock exchange regulatory measures often go overlooked. However, stock exchange regulatory disciplinary sanctions provide the market with important warning signals that allow investors to re-evaluate and adjust their investment strategies. Therefore, continued discussion on stock exchange regulations, especially considering the legal and practical aspects, is important.

Reference

Ajinkya, B., S. Bhojraj, and P. Sengupta. 2005. The association between outside directors, institutional investors and the properties of management earnings forecasts. *Journal of Accounting Research* 43 (3): 343-376.

Beneish. M. D. 1999. Incentives and penalties related to earnings overstatements that violate GAAP. *The Accounting Review* 74 (4): 425-457.

Bertrand, M., and S. Mullainathan. 2003. Enjoying the quiet life? Corporate governance and managerial preferences. *Journal of Political Economy* 111 (5): 1043-1075.

Bonner, S. E., Z. V. Palmrose, and S. M. Young. 1998. Fraud type and auditor litigation: An analysis of SEC accounting and auditing enforcement releases. *The Accounting Review* 73 (4): 503-532.

Brown, P., J. Preiato, and A. Tarca. 2014. Measuring country differences in enforcement of accounting standards: An audit and enforcement proxy. *Journal of Business Finance and Accounting* 41 (1-2): 1-52.

Burgstahler, D. C., and I. D. Dichev. 1997. Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economic*s 24 (1): 99-126.

Carson, J. 2011. Self-regulation in securities markets. Working paper for The World Bank Financial Sector Policy Group.

Chaney, P. K., M. Faccio, and D. Parsley. 2011. The quality of accounting information in politically connected firms. *Journal of Accounting and Economics* 51 (1-2): 58-76.

Chen, G., M. Firth, D. N. Gao, and O. M. Rui. 2005. Is China's securities regulatory agency a toothless tiger? Evidence form enforcement actions. *Journal of Accounting and Public Policy* 24 (6): 451-488.

Chen, G., M. Firth, D. N. Gao, and O. M. Rui. 2006. Ownership structure, corporate governance, and fraud: Evidence from China. *Journal of Corporate Finance* 12 (3): 424-448.

Chen, C. J. P., X. Su, and R. Zhao. 2000. An emerging market's reaction to initial modified audit opinions: Evidence form the Shanghai stock exchange. *Contemporary Accounting Research* 17 (3): 429-455.

Cheng, S. 2008. Board size and the variability of corporate performance. *Journal of Financial Economics* 87 (1): 157-176.

Coglianese, C., T. J. Healey, E. K. Keating, and M. L. Michael. 2004. The role of government in corporate governance. Regulatory Policy Program Report RPP-08, Cambridge, MA: Center for Business and Government, John F. Kennedy School of

Government, Harvard University.

Christiansen, H., and A. Koldertsova. 2009. The role of stock exchanges in corporate governance. *OECD Journal: Financial Market Trends* 2009 (1): 209-238.

DeAngelo, L. E. 1981. Auditor size and audit quality. *Journal of Accounting and Economics* 3 (3): 183-199.

Dechow, P. M., and I. D. Dichev. 2002. The quality of accruals and earnings: The role of accrual estimation errors. *The Accounting Review* 77 (Supplement): 35-59.

Dechow, P. M., W. Ge, and C. Schrand. 2010. Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics* 50 (2-3): 344-401.

Dechow, P. M., R. G. Sloan, and A. P. Sweeney. 1995. Detecting earnings management. *The Accounting Review* 70 (2): 193-225.

Dechow, P. M., R. G. Sloan, and A. P. Sweeney. 1996. Cases and consequences of earnings manipulations: An analysis of firms subject to enforcement actions by the SEC. *Contemporary Accounting Research* 13 (1): 1-36.

DeMarzo, P. M., M. J. Fishman, and K. M. Hagerty. 2005. Self-regulation and government oversight. *Review of Economic Studies* 72 (3): 687-706.

Ding, Y., H. Zhang, and J. Zhang. 2007 Private vs state ownership and earnings management: Evidence from Chinese listed companies. *Corporate Governance: An International Review* 15 (2): 223-238.

Ethical Investment Research Service (EIRIS). 2009. Taking stock: How leading stock exchanges are addressing ESG issues and the role they can play in enhancing ESG disclosure. November. *EIRIS*. UK.

Ertimur, Y., F. Ferri, and D. A. Maber. 2012. Reputation penalties for poor monitoring of executive pay: Evidence from option backdating. *Journal of Financial Economics* 104 (1): 118-144.

Fama, E. F., and M. C. Jensen. 1983. Separation of ownership and control. *Journal of Law and Economics* 26 (2): 301-325.

Fan, G., X. L. Wang, and H. P. Zhu. 2007. NERI Index of Marketisation for China's Provinces: 2006 report, BJ: The Economic Science Press (in Chinese).

Fan, J. P. H., and T. J. Wong. 2002. Corporate ownership structure and the informativeness of accounting earnings in East Asia. *Journal of Accounting and Economics* 33 (3): 401-425.

Fan, J. P. H., and T. J. Wong, 2005. Do external auditors perform a corporate governance role in emerging markets? Evidence from East Asia. *Journal of Accounting Research* 43 (1): 35-72.

Fan, J. P. H., T. J. Wong, and T. Zhang. 2007. Politically connected CEOs, corporate governance, and Post-IPO performance of China's newly partially privatized firms. *Journal of Financial Economics* 84 (2): 330-357.

Feroz, E. H., K. Park, and V. S. Pastena. 1991. The financial and market effects of the SEC's accounting and auditing enforcement releases. *Journal of Accounting Research* 29 (Supplement): 107-142.

Fich, E. M., and A. Shivdasani. 2007. Financial fraud, director reputation, and shareholder wealth. *Journal of Financial Economics* 86 (2): 306-336.

Firth, M., P. M. Y. Fung, and O. M. Rui. 2007. Ownership, two-tier board structure, and the informativenss of earnings-Evidence from China. *Journal of Accounting and Public Policy* 26 (4): 463-496.

Firth, M., P. L. L. Mo, and R. M. K. Wong. 2005. Financial statement frauds and auditor sanctions: An analysis of enforcement actions in China. *Journal of Business Ethics* 62 (4): 367-381.

Firth, M., O. M. Rui, and W. Wu. 2011. Cooking the books: Recipes and costs of falsified financial statements in China. *Journal of Corporate Finance* 17 (2): 371-390.

Frost, C. A., J. C. Racca, and M. H. Stanford. 2017. Shareholder wealth effects of corporate governance deficiencies on Nasdaq. *SSRN* Working paper.

Gul, F. A., J. B. Kim, and A. A. Qiu. 2010. Ownership concentration, foreign shareholding, audit quality, and stock price synchronicity: Evidence from China. *Journal of Financial Economics* 95 (3): 425-442.

Gros, M., and C. Wallek. 2015. Are different stock market transparency requirements associated with different accounting quality levels? An analysis of bonding effects on the German stock market. *Journal of Business Economics* 85 (6): 597-633.

Hassan. E. A. 2018. The role of stock exchange efficiency in earnings quality: Evidence from the MENA region. *Research in International Business and Finance* 44: 285-296.

Hou, W., and G. Moore. 2010. Player and referee roles held jointly: The effect of state ownership on China's regulatory enforcement against fraud. *Journal of Business Ethics* 95 (2): 317-335.

Huyghebaert, N., and L. Wang. 2012. Expropriation of minority investors in Chinese listed firms: The role of internal and external corporate governance mechanisms. *Corporate Governance An International Review* 20 (3): 308-332.

Jayaraman, S. 2012. The effect of enforcement on timely loss recognition: Evidence from insider trading laws. *Journal of Accounting and Economics* 53 (1-2): 77-97.

Jensen, M. C. 1993. The modern industrial revolution, exit, and the failure of internal

control systems. *Journal of Finance* 48 (3): 831-880.

Jia, C., S. Ding, Y. Li, and Z. Wu. 2009. Fraud, enforcement action, and the role of corporate governance: Evidence from China. *Journal of Business Ethics* 90 (4): 561-576.

Jones, J. J. 1991. Earnings management during import relief investigations. *Journal of Accounting Research* 29 (2): 193-228.

Kanagaretnam, K., G. J. Lobo, and D. J. Whalen. 2007. Does good corporate governance reduce information asymmetry around quarterly earnings announcements? *Journal of Accounting and Public Policy* 26 (4): 497-522.

Karamanou, I., and N. Vafeas. 2005. The association between corporate boards, audit committees, and management earnings forecasts: An empirical analysis. *Journal of Accounting Research* 43 (3): 453-486.

Kothari, S. P. 2000. The role of financial reporting in reducing financial risks in the market. *Conference Series, Federal Reserve Bank of Boston* 44: 89-112.

Kothari, S. P., A. J. Leone, and C. E. Wasley. 2005. Performance matched discretionary accrual measures. *Journal of Accounting and Economics* 39 (1): 163-197.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. W. Vishny. 1997. Legal determinants of external finance. *Journal of Finance* 52 (3): 1131-1150.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. W. Vishny. 1998. Law and finance. *Journal of Political Economy* 106 (6): 1113-1155.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. W. Vishny. 2000, Investor protection and corporate governance. *Journal of Financial Economics* 58 (1-2): 3-27.

Liebman, B. L., and C. J. Milhaupt. 2008. Reputational sanctions in China's securities market. *Columbia Law Review* 108 (4): 929-983.

Li, S. 2010. Does mandatory adoption of international financial reporting standards in the European Union reduce the cost of equity capital? *The Accounting Review* 85 (2): 607-636.

Liu, Q., and Z. Lu. 2007. Corporate governance and earnings management in the Chinese listed companies: A tunneling perspective. *Journal of Corporate Finance* 13 (5): 881-906.

Leuz, C., D. Nanda, and P. D. Wysocki. 2003. Earnings management and investor protection: An international comparison. *Journal of Financial Economics* 69 (3): 505-527.

Leuz, C. 2010. Different approaches to corporate reporting regulation: How jurisdictions differ and why. *Accounting and Business Research* 40 (3): 229-256.

Mahoney, P. G. 1997. The exchange as regulator. *Virginia Law Review* 83 (7): 1453-1500.

Myers, J. N., L. A. Myers, and T. C. Omer. 2003. Exploring the term of the auditor-client relationship and the quality of earnings: A case for mandatory auditor rotation? *The Accounting Review* 78 (3): 779-799.

Nourayi, M. N. 1994. Stock price responses to the SEC's enforcement actions. *Journal of Accounting and Public Policy* 13 (4): 333-347.

Organization for Economic Co-operation and Development (OECD). 2011. Corporate governance of listed companies in China: Self-assessment by the China Securities Regulatory Commission. OECD Publishing.

Pistor, K., and C. Xu. 2005. Governing emerging stock markets: Legal vs administrative governance. *Corporate Governance An International Review* 13 (1): 5-10.

Rezaee, Z. 2005. Causes, consequences, and deterrence of financial statement fraud. *Critical Perspectives on Accounting* 16 (3): 277-298.

Shleifer, A., and R. W. Vishny. 1998. The grabbing hand: Government pathologies and their cures. MA: Cambridge. Harvard University Press.

Tang, X., J. Du, and Q. Hou. 2013. The effectivenessof the mandatory disclosure of independent directors' opinions: Empirical evidence from China. *Journal of Accounting Public Policy* 32 (3): 89-125.

Vafeas, N. 1999. Board meeting frequency and firm performance. *Journal of Financial Economics* 53 (1): 113-142.

Warfield, T. D., J. J. Wild, and K. L. Wild. 1995. Managerial ownership, accounting choices, and informativeness of earnings. *Journal of Accounting and Economics* 20 (1): 61-91.

Whittington, G. 1993. Corporate governance and the regulation of financial reporting. *Accounting and Business Research* 23 (91A): 311-319.

Wong, T. J. 2014. Corporate governance research on listed firms in China: Institution, governance and accountability. *Foundations and Trends in Accounting* 9 (4): 259-326.

Wu, W., C. Wu, and O. M. Rui. 2012. Ownership and the value of political connections: Evidence from China. *European Financial Management* 18 (4): 695-729.

Appendix Definition of Variable

$SR_{i,t}$	=	equal to 1 if the firm received stock exchange regulatory disciplinary sanctions, and 0 otherwise.
SR	=	equal to 1 for the SR_{it}= 1 and *SR* = 0 for the SR_{it}= 0 on separate pairs after using the propensity scores from the probit regression and employ one-to-one matching where each SR_{it}= 1 observation is matched to a SR_{it} = 0.
POST	=	equal to 1 for current period, and 0 to indicate the observations in the lag period.
ABSACC	=	absolute value of abnormal accruals, estimated as the residuals from modified Jones model (Dechow et al. 1995).
GOV	=	equal to 1 if the largest shareholder of firm in is the government, and 0 otherwise.
SHARE	=	the degree of ownership concentration (Herfindahl index)of the top ten shareholders.
BIG	=	equal to 1 if the firm was audited by an international Big4 auditing firm, and 0 otherwise.
AUDOPIN	=	indicator variable equal to 1 if the firm received a non-standard audit report, and 0 otherwise.
BSIZE	=	the natural logarithm of the number of board directors.
INDOPIN	=	equal to 1 if the independent director issued opposite independent opinions, and 0 otherwise.
DUA	=	equal to 1 if the firm has CEO-chairman duality, and 0 otherwise.
BMEET	=	the number of meetings held by the board for fiscal year.
POLICON	=	equal to 1 if the directors have working experience and/or currently sits in the government, and 0 otherwise.
COMPET	=	the marketization index is a comprehensive index that captures aspects of regional market development, including market competition components.
SIZE	=	the natural logarithm of total assets.
ROA	=	returns on assets equals net income before taxes and extraordinary items scaled by beginning total assets.
LEV	=	the debt ratio equals total liabilities divided by total assets.
GROW	=	current growth in net sales equals current period net sales minus previous period net sales, and divided by previous net sales.
M/B RATIO	=	market to book value ratio equals the firm market value divided by its book value.
BOARD	=	equal to 1 if firms are on the SME (small and medium enterprise)board or ChiNext, and 0 otherwise.