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DO FINANCIAL AUDITORS IMPACT SUSTAINABILITY REPORTING? THE EFFECTS OF BIG FOUR FINANCIAL AUDITS ON THE QUALITY OF CSR REPORTS IN CHINA

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Abstract

Purpose. This paper investigates the effect of cross-reporting quality transfer: the association between the merits of the financial auditor and the quality of corporate social responsibility (CSR) reporting. Specifically, we examine whether the effect of Big Four financial audits on the CSR reporting quality of Chinese listed firms differs from that of non-Big Four firms.

Design/methodology/approach. This paper uses archival data and regression analysis from a sample (5257 firm-year observations) of A-share listed firms on the Shanghai and Shenzhen Stock Exchanges from 2009 to 2018.

Findings. The analysis shows that when a company's financial auditor is a Big Four firm, the quality of CSR reports is higher than when it is audited by non-Big Four auditor, which in turn can be explained by differences in cross-reporting quality transfer between Big Four and non-Big Four firms. Moreover, this effect is more pronounced in non-state-owned enterprises (NSOEs) than in state-owned enterprises (SOEs), and among firms residing in high-pressure legal environments as opposed to low-pressure regions. [1]

Originality. This study extends the literature on the quality of CSR reporting based on the type of financial reporting audit provider, thus bridging the gap between financial audit and sustainability reporting practice and elucidating the cross-reporting quality transfer effect.

Practical implications. The paper's findings shed light on the impact that Big Four firms have on the quality of CSR reports through financial audits, thus confirming the cross-reporting quality transfer effect in China. These findings might appeal to political decision-makers, authorities and companies given the notable contribution of CSR disclosure to the decision-making processes of stakeholders.

Keywords: *financial audit, Big Four, assurance, quality of sustainability report, corporate social responsibility, a financial auditor in CSR, sustainable development.*

JEL Classification: *M14, Q56, M42*

Introduction

One of the many non-traditional business activities now trending and gaining traction is corporate social responsibility (CSR) (Chen & Hung, 2021; Larrinaga et al., 2020; Pasko et al., 2022). In fact, in the last few decades, the concept of CSR has consistently expanded in importance, significance and prominence (Ben Fatma & Chouaibi, 2021; Carroll & Shabana, 2010), and has morphed into an indispensable tool through which corporations

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build themselves into the economic and social fabrics by fulfilling their social obligations (Larrinaga et al., 2020; Pasko, Chen, Proskurina, et al., 2021; Porter & Kramer, 2006). Although companies can opt to avoid CSR, this is always a gamble because of the risk of losing legitimacy, which is amplified profoundly in this case (Silva, 2021). Thus, mounting pressure on managers to strengthen and push the company's social standing above what is legally compulsory induces them to engage in socially responsible initiatives adjacent to financial objectives (Muriithi et al., 2021). In 2013, KPMG reported that "the debate on whether companies should report on CR or not is dead and buried" (KPMG, 2013, p. 10), observing in 2020 that the worldwide CSR reporting rate was 96% in large companies and 80% in others (KPMG, 2020, p. 10) and that the "forthcoming years are likely to see further acceleration" (KPMG, 2020, p. 8). However, the usefulness and veracity of CSR disclosure have been widely questioned due to the dearth of "balanced and material information, managerial capture of the reporting process, the absence of stakeholder involvement, and the marketing objectives of the reports" (Boiral & Heras-Saizarbitoria, 2020). It is observed that this makes CSR reports less valuable for stakeholders, and independent sustainability-related assurance has been instituted as a method to reduce the risk of smoke screening in CSR reporting as a result (Ackers, 2015; Birkey et al., 2016; Bollas-Araya et al., 2019; Channuntapipat et al., 2019; Pasko, Balla, et al., 2021).

Although sustainability-related assurance by a third party is believed to bring extra credibility to CSR disclosures (Farooq & de Villiers, 2019b; Zorio et al., 2013), according to KPMG only 71% of the CSR reports of G250 companies go through the scrutiny of an independent third party before being presented to stakeholders and the wider public (KPMG, 2020, p. 23). The evidence collected so far in the scholarly literature indicates that assured CSR reports are of a higher quality (Du & Wu, 2019; Maroun, 2019; Moroney et al., 2012; Pasko, Zhang, Bezverkhyi, et al., 2021). Nevertheless, the debate on which types of assurance providers are in the best position to provide better services and enhance the veracity and credibility of the information supplied by companies is hotly debated, and there are several dichotomies in play: 1) accounting vs. non-accounting assurers (Farooq & de Villiers, 2019b; Hummel et al., 2019; Pasko, Balla, et al., 2021; Pflugrath et al., 2011) and 2) Big Four vs. non-Big Four audit firms (Kalaitzake, 2019; Ngo et al., 2020; Wan-Hussin et al., 2021). Multiple papers have provided evidence suggesting that large professional service firms such as the Big Four deliver audits that are of a higher quality overall when contrasted with non-Big Four firms (Huang & Kung, 2010; Jacob et al., 2019; Jo et al., 2016; Lento & Yeung, 2021; Pflugrath et al., 2011; Sundarasen et al., 2016). However, there is a scarcity of studies investigating what we call cross-reporting quality transfer, suggesting that the quality of Big Four financial audits could be transmitted to CSR reporting through cross-reporting quality transfer.

Several recent studies have investigated the positive effects of a financial audit by a Big Four firm on sustainability disclosure assurance (Fernandez-Feijoo et al., 2018; Sierra et al., 2013) and issuing sustainability reporting (Zorio et al., 2013). Some contributions, however, have gone further, endeavoring to ascertain the effects of large auditing firms on the quality of sustainability reports. Papers investigating quality aspects were produced by Fernandez-Feijoo et al. (2018) and Pucheta-Martínez et al. (2019). More specifically, they assessed the quality of sustainability reporting based on the level of application of GRI (Fernandez-Feijoo et al., 2018) and a CSR index, namely CSR6 (Pucheta-Martínez et al., 2019).

Thus, there is a palpable dearth of research in this direction that would further map the financial auditor–sustainability reporting quality link by including more sophisticated yardsticks for quality and covering more jurisdictions around the globe. One such jurisdiction is China, a country notable for its stunning rise in sustainability reporting practices since 2007 (Lee et al., 2017; Pasko, Chen, Proskurina, et al., 2021) and a jurisdiction that can boast not one but two independent rankings assessing sustainability reporting merits from multiple angles (Zhong et al., 2019). Accounting and reporting practices vary from jurisdiction to jurisdiction, and previous studies related to the topic have mostly covered Spain (Pucheta-Martínez et al., 2019), while only a few (Fernandez-Feijoo et al., 2018) covering international jurisdictions mix in studies dedicated to ascertaining the quality of Big Four financial audits. Therefore, an investigation into the CSR reporting quality link in China, a country with ever-growing importance for the global economy, is needed, as it will shed a light on Asian (a region underrepresented thus far in this respect) perspectives in this regard.

Against this background, this study aims to provide evidence on the quality of CSR reporting based on the type of financial reporting audit providers. Thus, we bridge financial audit and sustainability reporting practice as, we believe, in the course of auditing financial reporting, through the exchange of opinions, debate and consultancy, the auditor inevitably impacts the broader reporting practice of the company as a whole. We call this transfer from financial report audits to CSR disclosures a cross-reporting quality transfer. To the best of our knowledge, this paper is the first peer-reviewed study examining this link in the Chinese institutional setting, which may potentially generate some useful findings and implications for the whole area of CSR disclosure.

Although auditing is technically and intrinsically hard to observe (Power, 2003), we hypothesize that the auditing of financial statements performed by the Big Four leads to a higher quality of CSR reporting. Therefore, we contrast the quality of the CSR reporting of companies whose financial reporting was audited by Big Four audit firms with financial reporting that was performed by non-Big Four audit firms. We resort to reputable and institutionalized (not makeshift) Chinese CSR rankings produced by Rankins (RKS) Inc., which comprehensively cover all aspects of sustainability reporting.

The investigation of cross-reporting quality transfer in the Chinese institutional setting may also be useful in terms of identifying the presence in this jurisdiction of features that prior studies did not take into account (due to their absence in other jurisdictions), such as widespread state-ownership in the economy. Thus, we are also attracted by the idea that Big Four financial audits may trigger diverse responses (i.e., increases) in the quality of CSR reporting in firms with diverse attributes, resulting in variegated CSR strategies. Chinese state-owned enterprises (SOEs) subject to control by central or local governments are unlike non-state-owned enterprises (NSOEs), which are under constant pressure from state authority in the CSR area. Thus, we anticipate that Big Four financial audits instigate larger increases in the quality of CSR reporting in NSOEs as opposed SOEs.

Furthermore, regulatory coercion is an essential component of CSR enforcement (Christensen et al., 2021). Thus, when local governments attach greater importance to issues related to the environmental and social agenda, CSR disclosure is judged as an issue with a high awareness ranking. Consequently, the magnitude of government involvement in environmental and social regulation may impact companies' determinations in respect to CSR disclosure. Accordingly, we further explore whether Big Four financial audits affect the quality of CSR reports differently in regions with higher and lower levels of regulatory pressure. Essentially, in both cases (SOEs vs. NSOEs, and high-pressure vs. low-pressure legal environments), this identifies the base effect, where either the state government (which controls and guides SOEs) or the local government (which creates an atmosphere where local firms have a starting advantage over firms from other regions where local governments are less active) has instilled some basics in the area and pushed firms in the intended direction.

Using a sample of 5,257 firm-year observations from A-share listed companies covering the 2009–2018 period, we found that Big Four financial audits significantly improve the quality of CSR disclosures. These findings hold for a range of robustness checks. Our findings demonstrate that Big Four financial audits are positively associated with CSR reporting quality, implying that Big Four firms are suitable tools to enhance CSR disclosure practices as companies going through a financial audit conducted by them are more likely to strengthen CSR reporting. Thus, in the Chinese institutional setting, Big Four firms perform a major contribution to enhancing the quality of CSR disclosure.

Moreover, we found that Big Four financial audits have more significant effects on the quality of the CSR disclosures of NSOEs (as opposed SOEs). Additionally, compared with companies in regions with low-pressure legal environments, Big Four financial audits have a more obvious effect on improving the quality of CSR disclosure in regions with high levels of governmental pressure.

This study makes several contributions to the literature by complementing and extending preceding papers. First, whereas the majority of previous studies concentrated on CSR reporting assurance per se, we examine the effect of a financial audit conducted by a Big Four firm on CSR reporting quality, thus bridging financial audit and CSR reporting practice in China – a jurisdiction unrepresented so far in terms of financial audit and CSR reporting linkage. This paper addresses these gaps in the literature by exploring cross-reporting quality transfer in China, resorting to the unparalleled (as contrasted with prior investigations) measurement of sustainability reporting quality: respectable and reliable CSR rankings produced by Rankins (RKS) Inc. – one of two institutionalized rankings in China.

Second, our paper, to the best of our knowledge, is the first to investigate cross-reporting quality transfer in the Chinese institutional setting. This inspection is crucial, as China grew in sheer numbers in terms of sustainability reporting from 2007, while the quality aspect was only recently accentuated.

Third, our paper contributes to the debate on CSR disclosures and how CSR reporting practices can be amended in a way that leads to the enhanced quality of CSR reports by financial auditors, where Big Four companies clearly lead the cohort (Fernandez-Feijoo et al., 2018; Pucheta-Martínez et al., 2019; Sierra et al., 2013; Zorio et al., 2013).

In closing, our findings corroborate the contention that the Big Four auditing firms contribute to enhanced CSR reporting quality when conducting financial audits, thus furnishing stakeholders with more balanced, trustworthy and credible financial and non-financial information.

This paper answers the calls from Fernandez-Feijoo et al. (2018), Pucheta-Martínez et al. (2019), and Sierra et al. (2013) regarding the creation of knowledge on the link between Big Four financial auditing and sustainability reporting.

The remainder of the paper is structured as follows. Section 1 surveys the theoretical background, reviews the literature and develops our testable hypotheses. In Section 2, we characterize the sample, data sources, empirical model, and variable definitions. In Section 3, the results of the quantitative analysis are reported. Section 4 checks the paper's findings for robustness. Finally, the paper concludes with a summary and outlines promising paths of inquiry going forward.

1. Theoretical Background, Literature Review and Hypothesis Development

1.1. Theoretical background

We draw on a multi-theoretical approach based on the agency, legitimacy and signaling theories (Ahmed Haji & Anifowose, 2016; Velte, 2021).

Agency theory. Agency theory asserts that due to the dissimilarity of interests between the principal (shareholders, owners) and the agent (management, board of directors), information asymmetries arise among the factions as the former is inclined to entrust some responsibilities to the latter (Jensen & Meckling, 1976). Accordingly, since the shareholders possess incomplete and partial information about the firm and its stewardship, managers have leeway to pursue goals of self-interest which deviate from those of the shareholders (Jensen & Meckling, 1976; Pucheta-Martínez et al., 2019; Velte, 2021). Sensing information asymmetries and admitting that financial statements compiled by managers can be inaccurate, erroneous, vague or intentionally distorted altogether, the shareholders insist that control mechanisms, such as external audits, be put in place to mitigate agency costs (Andon et al., 2015; Carey et al., 2000; Pucheta-Martínez et al., 2019). Agency theory posits that the principal (owners) prefers to hire external auditors with the best reputation, and therefore companies favor the Big Four among others in the audit market, signaling through this appointment their desire to disclose true and transparent information (Farooq & de Villiers, 2019a; Hickman & Cote, 2019; Hodge et al., 2009; Hummel et al., 2019; Pasko, Zhang, Tuzhyk, et al., 2021; Pucheta-Martínez et al., 2019; Simnett & Huggins, 2015).

Legitimacy theory. Legitimacy theory concerns itself with the relations and interconnections between the organization and society at large. Legitimacy theory postulates that a firm "operates in a society via a social contract, expressed or implied" (Shocker & Sethi, 1973, p. 97). This social contract imposes responsibilities on firms to conform to societal expectations and norms (Mio et al., 2020; Velte, 2021). In line with those expectations and under pressure from various stakeholder groups, companies publish CSR reporting (Christensen et al., 2021; Edgley et al., 2010; Pasko, Marenych, Diachenko, et al., 2021; Pisani et al., 2017; Sokil et al., 2020; Uyar et al., 2020). To reduce the risk of greenwashing or smoke screening, stakeholders expect this reporting to be assured by a third party (Ackers, 2017; Boiral, 2013; Channuntapipat et al., 2020; Christensen et al., 2021; Farooq & de Villiers, 2019a). The voluntary adoption of CSR reporting practice, its assurance, and the selection of Big Four companies as assurers should result in better legitimacy for firms (Velte, 2021). Legitimacy theory implies that the assurance of CSR reports may conceivably be employed as a symbolic tool, since "stakeholders cannot distinguish between 'good' and 'bad' corporate citizens" (Mahoney et al., 2013, p. 357). Thus, big names and references to world-renowned firms amplify the effect of legitimacy.

The higher legitimacy of Big Four firms in the eyes of stakeholders can be transferred from financial reporting to CSR. Therefore, the CSR reports of companies whose financial reporting is audited by Big Four firms is perceived to be of higher quality. In turn, stakeholder expectations in regards to quality provide a cornerstone for information quality in relation to the Big Four hypothesis (Azizkhani et al., 2010).

Signaling theory. We then come to the third theoretical lens – signaling theory – which posits the existence of three principal actors in the signaling process: the signaler, the signal itself, and the receiver of the signal (Connelly et al., 2011). Signaling is intended to distinguish either quality, intent or risk issues (Connelly et al., 2011). Therefore, in our case, high-quality or low-risk firms are more likely to signal their characteristics to stakeholders by dint of Big Four assurance (Connelly et al., 2011; Pasko, Zhang, Bezverkhyi, et al., 2021).

It goes without saying that "full transparency regarding firms' social and environmental actions is dependent upon stakeholder pressure" (Mahoney et al., 2013, p. 357); therefore, stakeholder theory underpins all of the three abovementioned theories.

Thus, the mix of rationales behind agency, legitimacy and signaling theories provides a solid foundation for understanding the effect of a Big Four audit.

1.2. A Big Four audit, audit quality and cross-reporting quality transfer

Multiple studies have shown that large professional service firms such as those that constitute the Big Four deliver audits of a higher quality overall, and thus lessen information asymmetry between firm insiders and outside information users in contrast to non-Big Four firms (Huang & Kung, 2010; Jacob et al., 2019; Jo et al., 2016; Lento & Yeung, 2021; Pflugrath et al., 2011; Sundarasen et al., 2016). This is especially accurate in the USA, where auditors are exposed and susceptible to high litigation risks (Kim et al., 2019). Furthermore, as DeFond & Zhang (2014, p. 278) unequivocally stated, "Big N research is one of the most thoroughly researched areas in the literature, and provides a mountain of evidence that Big N auditors deliver higher quality as captured by a long list of proxies that span multiple categories of audit quality." Moreover, numerous papers testify to the fact that outside information users prefer Big Four firms and value them more than their competitors (Azizkhani et al., 2010; DeFond & Zhang, 2014; He et al., 2019).

The extant literature provides several factors that lead to this, which can be summarized into two hypotheses: the information quality hypothesis (perceived quality, firm size) and the insurance hypothesis (firm size, deeper pockets, stronger auditor incentives) (Azizkhani et al., 2010).

The information quality hypothesis is focused on how an audit may straighten out and forthwith boost the quality of the management-generated information used by investors (Azizkhani et al., 2010). Here, firm size and the perceptions of users are to be mentioned as cornerstones of this hypothesis. Users' perceptions of audit quality are of the utmost importance in preserving consistent confidence in the integrity of financial reporting (Azizkhani et al., 2010). The higher the perception of quality in the eyes of investors, the better merits attached to the assured financial statements, and therefore the risk of asymmetry of information is reduced (Azizkhani et al., 2010; DeFond & Zhang, 2014; He et al., 2019). Auditor size is related both to the information quality hypothesis and the insurance hypothesis.

The insurance hypothesis is contingent on the scope of the auditor's liability to investors for financial misstatements (Azizkhani et al., 2010; Jacob et al., 2019). DeFond & Zhang (2014, p. 278) brilliantly outlined this hypothesis as follows: "Auditor size, as captured by Big N membership, is often argued to capture stronger auditor incentives, because reputation costs increase with size, and because larger auditors' 'deep pockets' make them a target for litigation." Choi et al. found that office size has significantly positive relations with audit quality based on USA data. These findings support the view that "large local offices provide higher-quality audits compared with small local offices" (Choi et al., 2010, p. 73). Francis et al. (2013, p. 1626) found that "Big Four office size is associated with fewer client restatements after controlling for innate client characteristics that may affect restatements"; furthermore, a larger office has more in-house experience (Francis & Yu, 2009, p. 1523). Thus, Big Four auditors are also valued for their ability to indemnify losses for a company's stakeholders (Jacob et al., 2019). De Beelde and Tuybens (2015) found that the pressure of media legitimacy leads to the choice of a Big Four firm, and thus the Big Four provide a kind of insurance and protection from vicious media attacks. Moreover, Big Four firms "are less likely to acquiesce to client pressure to not provide accurate, detailed, and comprehensive disclosure" (Barros et al., 2013, p. 565).

Thus, the recognized differences between Big Four and non-Big Four audits relate either to deeper pockets or to audit quality (Azizkhani et al., 2010, p. 745). Although the former (deeper pockets) is also essential, our study is based on the second trait – audit quality. Only recently have scholars begun to scratch the surface on this, finding that "the CSR-recommendation nexus is more pronounced … when a firm is audited by a prominent Big Four auditor" (Wan-Hussin et al., 2021).

The developments of the last few decades also point in the direction of suggesting that Big Four firms have to be more pronounced in their role of advocating for sustainability reporting. In the USA, the narrative of "the social responsibility of the independent auditor" (Carmichael, 2004) emerged after the creation of PCAOB. There is also evidence that the Big Four themselves (as legal and reporting entities) have significantly improved the quality of their CSR reporting (Lister et al., 2020). The Big Four are also instrumental in combating and reducing the decoupling of CSR practices (García-Sánchez, 2021; García-Sánchez et al., 2022; Velte & Stawinoga, 2017).

Moreover, one of the primary functions of auditors is to advocate for the disclosure of social and environmental information and to advise clients to provide it for stakeholders (Pucheta-Martínez et al., 2019). Al-Shaer and Zaman (2018, p. 983) showed that audit committee independence is related to the use of a Big Four audit firm: "audit committees consisting of independent members are associated with the use of a Big Four audit firm." Hummel et al. (2019) found that "poor sustainability performers ask for in-depth assurance services, most likely as a means to enhance their internal sustainability-related processes and systems." Pucheta-Martínez et al. (2019) observed that Big Four auditing firms and the audit and non-audit fees that they receive encourage CSR reporting. Zorio et al. (2013, p. 489) provided evidence from Spain suggesting that resolving the issue of CSR reporting depends on the financial statements of audit providers (Big Four vs. non-Big Four) – firms audited by Big Four firms publish CSR reports in 44–48% of cases, whereas only 9% of those audited by non-Big Four firms do so. Similarly, Fernandez-Feijoo et al. (2018) found "higher levels of disclosure and increased credibility of sustainability reports when the financial auditor is a Big Four [firm]."

Fernandez-Feijoo, Romero and Ruiz (2018) assumed that these findings "may indicate a signal the financial auditor sends among their clients in order to expand their business." In their conclusion, Ball et al. (2012, p. 164) suggested that audited financial reporting and voluntary disclosures are complementary, and found on the basis of an international mixed-country sample that firms issuing voluntary disclosures are therefore more likely to employ Big Four companies. Barros et al. (2013), in a sample of French companies, proved that Big Four audits significantly boost the level of voluntary information disclosure. Lento and Yeung (2021), using archival data covering 2000–2014, testified to higher levels of actual audit quality for Big Four firms in Chinese institutional settings, compared both to large indigenous Chinese companies and the network of the five-largest second-tier international firms.

We summarize the information contained in the main papers concerning the Big Four financial auditor-sustainability reporting nexus and their findings in Table 1.

Table 1. Prior studies on Big Four financial auditors and sustainability reporting quality (practice)

	Authors	Dependent variables	Independent variables	Sample	Main findings
1	Wan-Hussin et al., 2021	Stock recom-mendation	Self-constructed CSR index	Malaysian firms listed on Bursa Malaysia, 738 firm-year observations from 2008 to 2013	"There was a positive and significant relationship between CSR disclosure and analysts' recommen-dations in companies with the Big Four auditors, but there was no significant relationship between CSR disclosure and analysts' recommendations in companies audited by non-Big Four audit firms" (Wan-Hussin et al., 2021, p. 14).
2	Pucheta-Martínez et al., 2019	CSR Index CSR6	Big Four	Spanish non-finan-cial listed firms, 1,312 firm-year observations from 2004 to 2014	"Our findings report that auditing by large audit firms positively influences CSR disclosure practices" (Pucheta-Martínez et al., 2019, p. 54).
3	Fernandez-Feijoo et al., 2018	Disclosure (the level of application of GRI)	FABig4 (financial auditor Big Four)	Global Reporting Initiative (GRI) data-base, 2,751 company-year observations from 2011 to 2013	"Companies report on sustainability with higher levels of disclosure when the financial auditor is a Big4" (Fernandez-Feijoo et al., 2018, p. 218).
		Credibility of SR (the existence of an assurance statement)			"Companies report on sustainability with higher levels of credibility when the financial auditor is a Big Four [firm]" (Fernandez-Feijoo et al., 2018, p. 218).

4	Kend, 2015	Sustainability reporting released	Big Four auditor	Top 200 listed FTSE and ASX (USA, Australia), total population of 400 companies from 2010	"With respect to the decision of producing a standalone sustainability report, larger companies that had a Big Four auditor were more likely to produce such a voluntary sustainability report than smaller companies that have a smaller shareholder base, and a non-Big Four auditor" (Kend, 2015, p. 74).
5	Sierra et al., 2013	Assurance (the sustainability report is being assured / not assured)	Big Four financial auditor	IBEX-35 companies (Spain), 210 observations from 2005 to 2010	"We find conclusive evidence that there is a link between the audit market for financial reports and the market of CSR reporting assurance" (Sierra et al., 2013, p. 366)
6	Zorio et al., 2013	CSR Reporting	Big Four financial auditor	Companies listed on the Bolsa de Madrid (Spain),130 companies from 2005 to 2010	"If the company is audited by a Big-4 firm, in 44–48% of cases companies publish CSR reports, whereas if audited by a non-Big-4 firm the percentage drops to only 9%" (Zorio et al., 2013, p. 489).

Despite the number of papers in Table 1, the closest to the essence and results of our study is that of Pucheta-Martínez, Bel-Oms and Rodrigues (2019), who investigated the quality aspects of sustainability reporting using the CSR6 index as a proxy for quality. The other papers in the table reveal the link between a Big Four financial audit and the probability of a company issuing CSR reports (Kend, 2015; Zorio et al., 2013) or assurance (Fernandez-Feijoo et al., 2018; Sierra et al., 2013).

In this respect, our study stands out in resorting to a more reliable proxy for sustainability reporting quality, with numerous sub-indicators which are specific for the industry that the firm operates in.

Taking all of the above together, we expect the following.

Hypothesis 1: Big Four financial audits significantly improve the quality of CSR reporting.

Next, we put forward two sub-hypotheses related to two instances (SOEs vs. NSOEs and high-pressure vs. low-pressure legal environments) in which we anticipate that Big Four financial audits will have a more pronounced effect on CSR reporting quality in one set of companies than another. In fact, we deal with the base effect in those cases, where either the state (which controls and guides SOEs) or local government (which creates an atmosphere where local firms have a starting advantage over firms from other regions where local governments are less active) has inculcated certain fundamentals in the field and impelled firms to move in the planned direction.

Firstly, we test whether the impact of Big Four financial audits on CSR disclosure varies between SOEs and NSOEs. In China, as a transitional economy, the existence of state ownership is a crucial feature that has huge consequences on the behavior and performance of firms (Lau et al., 2016). In respect to CSR actions, it is presumed that SOEs would engage in more CSR as they are supposed to be role models and have "signaling effects to all other firms in the economy" (Lau et al., 2016). In fact, SOEs alongside multi-national corporations were early CSR adopters in China, as the State Council has encouraged SOEs to issue CSR reports since 2007 (Lau et al., 2016; Zhang & Yang, 2021). Government signaling is indeed an essential force in Chinese firms' CSR reporting (Marquis & Qian, 2014). Therefore, given this schooling for SOEs from the state, it is not surprising that Big Four financial audits have a more pronounced effect on enhancing the quality of NSOEs' (who are not schooled by the state) CSR reporting.

Thus, given the dearth of prior engagement of NSOEs in CSR, our next hypothesis predicts the following.

Hypothesis 2: Big Four financial audits have a more pronounced effect on enhancing the quality of NSOEs' CSR disclosures than those of SOEs.

We apply similar logic to another factor – the regional legal environment. We utilize one component of the China Marketization Index – the development of market intermediary organizations and the legal environment – to differentiate regions based on the strength of environmental regulation, a technique widely used in prior studies on other topics (Li et al., 2020; Zhang & Yang, 2021). We hypothesize that in regions with better legal environments, Big Four financial audits play a greater role in enhancing the quality of the company's CSR disclosure. The rationale behind this is as follows: while companies located in low-pressure and lesser-quality legal environments have to cope with unsupportive conditions and withstand numerous obstacles in their paths, firms from conducive, high-level legal environments have some edge by default, and are always ahead due to the assistance of the regional government. We therefore propose the following hypothesis.

Hypothesis 3: Big Four financial audits have a more obvious effect on improving the quality of CSR disclosure in companies in regions with good legal environments compared to companies in regions with poor legal environments.

Figure 1 outlines the methodological framework of the study, explaining the hypothesized relationships and the research phases implemented.

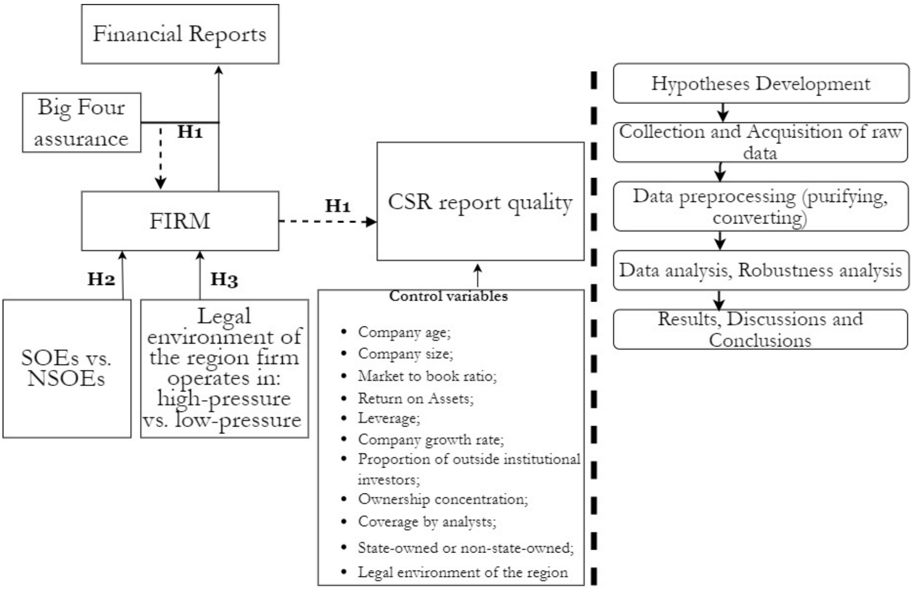

Figure 1. A model of the hypothesized relationships between the study variables (left) and implementation phases of the research process (right).

2. Research Design

2.1. Sample selection

All A-share listed companies from 2009–2018 that disclosed CSR reports were taken as an initial research sample, and this data was then screened as follows: (1) by excluding financial industry companies; (2) by excluding ST and *ST companies; and (3) by excluding companies with missing related variables. After screening, 5,257 firm-year observations were obtained (Table 2).

Table 2. Sample selection procedure

Steps	Explanation	Observations
1	A-share listed companies on China's Shanghai and Shenzhen stock exchanges	11,810

2	Less: financial industry companies	(804)
3	Less: *ST companies	(1,243)
4	Less: ST companies	(757)
5	Less: missing data	(3,749)
6	Final sample	5,257

- "ST" – flagged as "special treatment": a company suffers losses for two consecutive years or its net assets are lower than the par value of the stock.

- "*ST" – "*" is added to indicate that the firm did not recover in the third year after "ST". "*ST" means high delisting risk.

The quality of CSR disclosure was measured using RANKINS CSR RATINGS (RKS); the variable data of institutional investor's shareholding ratio was obtained from WIND; and data on other variables was acquired from the China Stock Market & Accounting Research Database (CSMAR). To eliminate the possible impact of extreme data values on the results of the research, a tailing treatment was carried out for all continuous variables according to the upper and lower 1% in the regression analysis.

2.2. Empirical model and definition of variables

To test whether Big Four financial audits contribute to the higher quality of CSR disclosures, the following model (1) was constructed. Table 3 provides the definitions and details of variables.

$$\text{CORE} = \beta_0 + \beta_1\,\text{BIG4} + \beta_2\,\text{AGE} + \beta_3\,\text{SIZE} + \beta_4\,\text{MB} + \beta_5\,\text{ROA} + \beta_6\,\text{LEV} + \beta_7\,\text{GROWTH} + \beta_8\,\text{INSHOLD} + \beta_9\,\text{SHRCR} + \beta_{10}\,\text{COVERAGE} + \beta_{11}\,\text{SOE} + \beta_{12}\,\text{LEGAL} + \varepsilon \quad (1)$$

Table 3. Definition of variables

Name of variable	Mnemonics	Role	Operationalization	Unit	Source
Quality of CSR reports	SCORE	Dependent	CSR rankings produced by Rankins (RKS) Inc.	Rank	RKS Inc.
Assurance by Big Four	BIG4	Independent	If the company's financial reporting was audited by the Big Four, BIG4 is 1, otherwise 0	dummy variable	CSMAR

Company age	AGE	Control	Natural logarithm of company listing time	number	CSMAR
Company size	SIZE	Control	The company size is equal to the natural logarithm of the company's total assets	number	CSMAR
Market to book ratio	MB	Control	A company's price-to-book ratio is the ratio of its share price to its net assets per share	ratio	CSMAR
Return on assets	ROA	Control	Return on assets is equal to the ratio of net profit to total assets	ratio	CSMAR
Leverage	LEV	Control	The asset-liability ratio of a company is equal to the ratio of total liabilities to total assets	ratio	CSMAR
Company growth	GROWTH	Control	The growth of the company is measured by the growth rate of the business income	ratio	CSMAR
Proportion of outside institutional investors	INSHOLD	Control	Measuring the proportion of outside institutional investors holding the equity of listed companies	percent	WIND
Ownership concentration	SHRCR	Control	The ownership concentration is measured by the proportion of equity held by the largest shareholder of the listed company	percent	CSMAR
Coverage by analysts	COVERAGE	Control	The number of analysts that publish surplus forecast reports on the target company in the same year	number	CSMAR

State-owned firms	SOE	Control	If the listed company is a state-owned enterprise, the value is 1, otherwise 0	dummy variable	CSMAR
Legal environment of the region	LEGAL	Control	The legal environment of the region where the listed company is located. If the index score of the "development of market intermediary organizations and legal system environment" in the region where the listed company is located in the current year is higher than the median of all provinces in the current period, the value is 1, otherwise 0.	dummy variable	CSMAR

Among the variables used, two stand out and need further explanation as they are exceptional for China only. We measured the quality of CSR reports (SCORE) using CSR rankings produced by Rankins (RKS) Inc., using the latest version of the ranking: MCT 2012_1.2i (Pasko, Zhang, Bezverkhyi, et al., 2021; Zhong et al., 2019). This edition of CSR rankings by RKS holistically assesses the quality of CSR reports in four broad indicators: Macrocosm (M), Content (C), Technicality (T), and Industry (I), reflecting performance from all angles (Pasko, Zhang, Bezverkhyi, et al., 2021). Secondly, we measured the legal environment of the region with an inherently Chinese tool. The China Marketization Index database is composed of five aspects reflecting specific areas of marketization. They are: the relationship between the government and the market, the development of the non-state-owned economy, the development of the product market, the development of the factor market, and the development of market intermediary organizations and the legal environment. The latter aspect is utilized in this paper as a proxy for the LEGAL variable. When the region in which the listed company is located in the current year scores higher than the median score of all provinces in the current period, then a high level of government regulation is observed. Accordingly, the company then belongs to LEGAL = 1, whilst all firms outside this category are considered to be operating in an environment with a low level of governmental pressure. Thus, our full sample is segregated into two subgroups along the LEGAL median: companies in regions with high levels of regulation (LEGAL = 1), and those based in regions with low levels of regulation (LEGAL = 0) (Li et al., 2020; Zhang & Yang, 2021).

3. Empirical Results

3.1. Descriptive statistics

Table 4 provides descriptive statistics for each variable. The results show that the average CSR report score is 38.76, where the minimum and maximum are 18.86 and 76.14, respectively. This shows that the level of CSR report disclosure between different listed companies is uneven, and there are big differences between them. Approximately 15.5% of these financial reports were audited by Big Four international accounting firms. The average price-to-book ratio of the sample companies is 2.861, the average debt-to-asset ratio is 49.3%, and the average return on total assets is 4.36%. Among the sample companies, the proportion of SOEs is 64.5%. On average, each institutional investor holds approximately 55.68 company shares. The largest shareholder holds an average of 38.24 company shares. Normally, each report in the sample is followed by approximately 7 securities analysts.

Table 4. Descriptive statistics

VARIABLES	***N***	**Mean**	***SD***	**min**	**max**
SCORE	5,257	38.76	12.22	18.86	76.14
BIG4	5,257	0.155	0.362	0	1
AGE	5,257	2.331	0.696	0	3.219
SIZE	5,257	23.14	1.440	20.37	27.15
MB	5,257	2.861	2.152	0.545	12.45
ROA	5,257	0.0436	0.0492	-0.122	0.206
LEV	5,257	0.493	0.197	0.0690	0.868
GROWTH	5,257	0.145	0.292	-0.469	1.528
INSHOLD	5,257	55.68	21.89	1.517	94.30
SHRCR	5,257	38.24	15.72	9.050	75.84
COVERAGE	5,257	7.410	7.428	0	30
SOE	5,257	0.645	0.479	0	1
LEGAL	5,257	0.576	0.494	0	1

3.2. Difference analysis

According to whether the company's annual financial report was audited by a Big Four accounting firm, the research sample was divided into two groups. The results of univariate analysis are presented in Table 5.

Table 5. *T*-test table

VARNAME	BIG4 = 1		BIG4 = 0		mean-diff	*t*
	N	mean	*N*	mean		
SCORE	815	48.299	4442	37.043	11.256***	25.238

***represents significance at the 1% level

There are significant differences in the quality of CSR disclosures between the two samples. Contrasted with non-Big Four audited companies, the CSR reports of companies where financial reporting was assured by Big Four firms have higher scores. This reveals that Big Four financial audits significantly contributed through the quality transfer process to a higher quality of CSR disclosures. Thus, hypothesis 1 is initially verified.

3.3. Regression results

In multiple regression analysis, we first calculated the Variance Inflation Factor (VIF < 10) to verify that the regression model did not inherently bear serious multicollinearity problems. Table 6 represents the regression results of model (1). The results in column (1) show that when the regression variable contains only the BIG4 variable, the regression coefficient is 11.037, which is significant at the 1% level. This shows that, compared with non-Big Four audits, the quality of CSR disclosures in companies where financial reports are audited by Big Four firms is higher. Therefore, hypothesis 1 is further verified. In column (2), only control variables were included in the regression, and the results show that: the company's age is negatively related to the quality of CSR disclosure (−1.516; $p < 0.01$); larger companies will disclose higher quality CSR (4.527; $p < 0.01$); with an increase in the rate of return on assets (−9.286; $p < 0.01$) and the ratio of assets to liabilities (−9.073; $p < 0.01$), the quality of the company's CSR disclosure gradually decreases; and the higher the company's price-to-book ratio, the higher the quality of its CSR disclosure (0.315; $p < 0.01$).

Table 6. Regression Results

VARIABLES	(1)	(2)	(3)
	SCORE	SCORE	SCORE
BIG4	11.037***		4.384***

	(19.26)		(7.83)
AGE		−1.516***	−1.353***
		(−6.40)	(−5.66)
SIZE		4.527***	3.949***
		(25.95)	(21.66)
MB		0.315***	0.266***
		(4.33)	(3.65)
ROA		−9.286**	−9.462**
		(−2.52)	(−2.57)
LEV		−9.073***	−7.838***
		(−9.39)	(−8.12)
GROWTH		−0.734	−0.567
		(−1.49)	(−1.16)
INSHOLD		0.022**	0.011
		(2.13)	(1.13)
SHRCR		−0.008	−0.005
		(−0.61)	(−0.43)
COVERAGE		0.020	0.025
		(0.73)	(0.94)
SOE		0.680*	0.636*
		(1.91)	(1.81)
LEGAL		4.822***	4.991***
		(14.75)	(15.42)
Constant	37.049***	−62.636***	−50.443***
	(232.86)	(−17.25)	(−13.28)
Observations	5,257	5,257	5,257
R-squared	0.107	0.282	0.295
F test	0	0	0
r2_a	0.107	0.281	0.294
F	371.1	163.0	156.7

Robust t-statistics in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

A high proportion of equity held by external institutions (0.022; $p < 0.05$), a domicile located in a region with high regulatory pressure (4.822; $p < 0.01$), and a company's status as an SOE (0.680; $p < 0.1$) are all conducive to a higher quality of CSR. Column (3) includes all variables, and the findings remain intact: compared with non-Big Four audits, the quality of CSR disclosures in companies where financial reports are audited by Big Four firms is higher (4.384; $p < 0.05$). Hence, hypothesis 1 is further verified

3.4. The effect of property rights and the legal environment

To test whether property rights affect the link between Big Four financial audit and CSR disclosure quality, we put all firm-year observations into two dichotomized groups: SOEs vs. NSOEs and LEGAL = 1 vs LEGAL = 0. We then ran model (1). Columns (1) and (2) of Table 6 present the results of the first dichotomy based on property rights (SOEs vs. NSOEs). The results show that the regression coefficient of BIG4 in column (1) is 3.736, significant at the 1% level, while the regression coefficient of BIG4 in column (2) is 5.659, also significant at the 1% level. We additionally utilized the SUE method to test whether there was a significant difference in the regression coefficients of the two samples, and the test returned an affirmative response: the difference between the two groups is significant at the 1% level.

Table 7. The effect of property rights and the legal environment

VARIABLES	(1) SOE==1	(2) SOE==0	(3) LEGAL==1	(4) LEGAL==0
BIG4	3.736***	5.659***	5.382***	3.003***
	(7.12)	(6.25)	(9.27)	(4.23)
AGE	0.262	−2.062***	−1.265***	−1.351***
	(0.76)	(−6.01)	(−3.39)	(−4.33)
SIZE	4.064***	2.998***	3.606***	4.425***
	(17.98)	(9.25)	(15.50)	(15.72)
MB	0.189*	0.222*	0.280***	0.274**
	(1.69)	(1.96)	(2.70)	(2.13)
ROA	−3.870	−15.416***	−10.373**	−8.774
	(−0.75)	(−2.81)	(−2.18)	(−1.39)
LEV	−6.602***	−7.108***	−6.149***	−10.058***
	(−5.11)	(−4.22)	(−4.75)	(−6.13)
GROWTH	−1.156*	0.242	−0.090	−1.141
	(−1.74)	(0.32)	(−0.14)	(−1.44)
INSHOLD	0.077***	−0.002	0.017	0.006
	(4.64)	(−0.20)	(1.30)	(0.39)

SHRCR	−0.022	−0.031	−0.002	−0.015
	(−1.39)	(−1.62)	(−0.09)	(−0.81)
COVERAGE	−0.026	0.103***	0.087***	−0.041
	(−0.78)	(2.65)	(2.60)	(−1.07)
SOE			1.183**	−0.053
			(2.55)	(−0.10)
LEGAL	4.754***	4.916***		
	(11.54)	(9.73)		
Constant	−59.872***	−26.765***	−39.955***	−58.295***
	(−12.60)	(−4.00)	(−8.01)	(−9.95)
Observations	3,390	1,867	3,028	2,229
R-squared	0.327	0.201	0.270	0.229
F test	0	0	0	0
r2_a	0.325	0.197	0.267	0.225
F	149.2	42.52	101.4	59.91

Robust t-statistics in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Therefore, in simple terms, using Big Four firms as financial auditors contributes to the higher quality of CSR disclosures more in NSOEs than in SOEs. This matches our suggested relationship, as we anticipated that SOEs are already under coercive isomorphic pressure from the state while NSOEs are relieved from tough state scrutiny. Therefore, the expertise imparted onto NSOEs by Big Four partners during financial audits may sometimes be the first time that they have been instructed regarding CSR and reporting. As a rule, NSOEs lack sufficient motivation and appropriate expertise to enhance the value of CSR disclosures to stakeholders – that is, their CSR disclosure levels are low. Therefore, Big Four financial audits have more significant effects on the quality of CSR reports in NSOEs. SOEs also benefit, but to a lesser extent due to their increased maturity in the field, having been schooled by prior government interventions and regulations. Thus, hypothesis 2 is supported.

To test whether the pressure of the legal environment affects the relationship between BIG4 and SCORE, model (1) was tested by grouping according to the legal index score of the region where the company is located. Column (3) of Table 7 shows the companies operating in areas where local governments emphasize the development of intermediary market organizations and the legal environment. Those regions can also be called high regulation, or regions with high-pressure legal institutional environments. Column (4) presents firms located in areas with relatively low pressure from local governments, or low-pressure legal institutional environment areas. The results show that the BIG4 regression coefficient in column (3) is 5.382, which is significant at the 1% level; the BIG4 regression coefficient in column (4) is 3.003, which is also significant at the 1% level. This paper uses the SUE (seemingly unrelated estimation) method to test whether the regression coefficients of the two samples are significantly different. The SUE test verifies that the difference between the two groups is significant at the 1% level. The above findings testify to the fact that in regions with better legal environments, Big Four financial audits play a greater role in enhancing the quality of the company's CSR disclosure. Thus, while companies located in low-pressure and lesser-quality legal environments have to cope with unsupportive conditions and withstand numerous obstacles in their paths, firms from conducive, high-level legal environments have an advantage by default, and remain ahead due to the support that they are surrounded by. This finding fully matches hypothesis 3, which is therefore supported – that is, in regions with better legal environments, Big Four financial audits play a greater role in enhancing the quality of the company's CSR disclosure as opposed to in low legal environment areas.

4. Robustness Check

4.1. Re-detection: CSR disclosures

The research sample was then expanded to include all A-share listed companies in the Shanghai and Shenzhen stock exchanges. For the companies that have not disclosed CSR reports, we defined the value of their SCORE variable as 0. We then regressed (Table 8) model (1) again with new data, and the research findings remained intact: Big Four financial audits can indeed significantly boost the quality of the CSR disclosures of listed companies.

Table 8. Robustness check: using all A-share listed companies as the research sample

VARIABLES	(1) SCORE	(2) SCORE	(3) SCORE
BIG4	24.276***		10.047***
	(31.70)		(15.05)
AGE		0.899***	0.982***
		(6.44)	(7.10)
SIZE		6.917***	6.206***
		(53.40)	(47.32)
MB		0.032***	0.028***
		(3.03)	(3.00)

ROA		−0.674	−0.557
		(−1.22)	(−1.14)
LEV		−11.138***	−10.100***
		(−17.49)	(−16.07)
GROWTH		−0.000***	−0.000***
		(−7.25)	(−7.35)
INSHOLD		0.009	0.001
		(1.61)	(0.22)
SHRCR		−0.024***	−0.026***
		(−2.72)	(−2.97)
COVERAGE		0.190***	0.182***
		(8.75)	(8.44)
SOE		4.261***	4.166***
		(15.56)	(15.31)
LEGAL		−0.122	0.118
		(−0.51)	(0.50)
Constant	8.609***	−142.390***	−127.470***
	(72.25)	(−55.12)	(−48.67)
Observations	20,310	20,310	20,310
R-squared	0.100	0.293	0.307
F test	0	0	0
r2_a	0.0995	0.293	0.307
F	1005	584.6	588.5

Robust t-statistics in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

4.2. Re-detection: accounting firms

According to the domestic comprehensive evaluation disclosed by the Chinese Institute of Certified Public Accountants, this paper defines the accounting firms with the ten highest scores in each year as the Top Ten accounting firms, in a manner analogous to the Big Four. To test whether Top Ten financial audits can improve the quality of CSR disclosure, the the following regression model (2) was constructed:

$$\begin{aligned}\text{SCORE} = \beta_0 &+ \beta_1\,\text{BIG10} + \beta_2\,\text{AGE} + \beta_3\,\text{SIZE} + \beta_4\,\text{MB} + \beta_5\,\text{ROA} + \beta_6\,\text{LEV} \\ &+ \beta_7\,\text{GROWTH} + \beta_8\,\text{INSHOLD} + \beta_9\,\text{SHRCR} + \beta_{10}\,\text{COVERAGE} \\ &+ \beta_{11}\,\text{SOE} + \beta_{12}\,\text{LEGAL} + \varepsilon\end{aligned}$$

Where,
Big10 – an indicator of whether the financial reports of listed companies were audited by the Top Ten accounting firms in a given year. If the financial report of a listed company was audited by a Top Ten accounting firm in that year, the Big10 variable takes the value of 1, otherwise 0.
The definitions of other variables are fully consistent with the model (1).

The regression results of model (2) are shown in Table 9.

Table 9. Robustness check: Top Ten accounting firms

VARIABLES	(1) SCORE	(2) SCORE	(3) SCORE
BIG10	4.860***		1.373***
	(14.39)		(4.77)
AGE		−1.562***	−1.504***
		(−6.53)	(−6.23)
SIZE		4.303***	4.164***
		(28.84)	(27.11)
MB		0.042**	0.040***
		(2.06)	(2.92)
ROA		−7.863**	−7.898***
		(−2.52)	(−2.65)
LEV		−8.800***	−8.502***
		(−9.00)	(−9.14)
GROWTH		−0.407	−0.379
		(−1.33)	(−1.25)
INSHOLD		0.025**	0.024**
		(2.50)	(2.35)
SHRCR		−0.006	−0.006
		(−0.51)	(−0.47)
COVERAGE		0.037	0.038
		(1.53)	(1.49)
SOE		0.557	0.576
		(1.54)	(1.58)
LEGAL		4.998***	4.909***
		(15.45)	(15.03)
Constant	36.070***	−57.187***	−54.951***

	(142.80)	(−19.18)	(−17.98)
Observations	5,257	5,257	5,257
R-squared	0.038	0.285	0.288
F test	0	0	0
r2_a	0.0377	0.284	0.286
F	207.1	190.3	150.7

Robust *t*-statistics in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The quality of the CSR disclosures of companies whose financial statements were assured by Top Ten accounting firms, as ranked by the Chinese Institute of Certified Public Accountants, is significantly higher than those firms who used services of non-Top Ten accounting firms. This further confirms the effect of high-quality financial audits on the quality of CSR reports through the quality transfer effect.

Discussion and Conclusions

This paper aimed to scrutinize the effect of Big Four financial auditing on CSR reporting quality in the Chinese institutional setting. Preceding papers indicated manifold determinants of the quality of CSR reports, while only a few (Fernandez-Feijoo et al., 2018; Pucheta-Martínez et al., 2019) investigated the cross-reporting quality aspects produced by financial auditors, in our case by Big Four firms. This study further expanded this thread of inquiry to the Chinese institutional setting and relied on rankings institutionalized in China, unlike prior papers which used make-shift quality proxies. Using a sample of 5,257 firm-year observations of A-share listed companies from 2009 to 2018, we conclude that Big Four financial auditors significantly improve the quality of CSR reporting. Our results are on par with those of Pucheta-Martínez, Bel-Oms and Rodrigues (2019; Spain) and Fernandez-Feijoo, Romero and Ruiz (2018; international mix). This demonstrates that, irrespective of a weak institutional environment and the fact that they operate in the Chinese context, Big Four financial audits contribute to the higher quality of CSR reporting.

Moreover, this paper probes a new relationship that is untested to date because it is peculiar to China. The few prior studies on the topic have concentrated on Spain or an international mix of countries. We found that Big Four financial audits have more significant effects on the quality of CSR disclosures for NSOEs (as opposed to SOEs). Moreover, compared to companies located in regions that have low-pressure legal environments, Big Four financial audits have a more obvious effect on improving the quality of CSR disclosure in regions with a high level of pressure from the government. Thus, we confirm that the base effect also plays a role, as either the state (SOEs vs. NSOEs) or local government (low pressure vs. high-pressure jurisdictions) coerce or push firms in the intended direction and give them their initial lessons, thereby securing an ongoing advantage over other firms.

This study contributes to the extant literature by illustrating the impact that Big Four firms have on the quality of CSR reports through financial auditing. It also invigorates debates on CSR disclosures and how CSR reporting practices could be amended by financial auditors – i.e., Big Four companies – in a way that leads to the enhanced quality of CSR reports (Fernandez-Feijoo et al., 2018; Pucheta-Martínez et al., 2019; Sierra et al., 2013; Zorio et al., 2013). To the best of our knowledge, ours is the first study investigating cross-reporting quality transfer in a Chinese institutional setting. This inspection is crucial as China has grown in sheer numbers in terms of CSR reporting since 2007, while the quality aspect has only recently been accentuated. Our paper confirms the association between the quality of the financial auditor and the quality of CSR reporting in the Chinese institutional setting. We demonstrate that, ceteris paribus, when the company's financial auditor is a Big Four firm, the quality of CSR reports rises. This, in turn, can be explained by the compelling arguments and pressure foisted by auditors on clients to enhance their environmental and social disclosure. Our study could be of interest to political decision-makers, authorities, standard setters, assurors and companies, as our findings provide evidence of differing cross-reporting quality transfers between Big Four and non-Big Four firms.

We are cognizant of plausible limitations that could impact our findings. First of all, our study, although it operates with a healthy number of firm-year observations and covers a decade-long period, investigates only one country, albeit a large one. Thus, given the peculiarities of China, we urge that these results be used with caution. Secondly, we were unable, due to the large sample size (precluding data collection by hand) and the absence of open data, to verify the level of cross-business (one assurer of both financial and CSR reporting) practice in China, while in Europe there is a large amount of cross-business audit (Sierra et al., 2013). While our robustness test (using the Top Ten audit firms) testifies to the main findings, we urge readers to bear in mind that huge cross-business audit might impact the results. Finally, we limited our sample to non-financial companies only; therefore, our findings cannot be applied to financial companies.

Future research in this field is needed, and one suggested direction would be the study of the interrelationships between actors involved in the assurance practice on both ends of the reporting continuum: financial and non-financial reporting. It might also be interesting to explore the linkage researched in this study while using the second CSR ranking in China (Hexun) as a proxy for quality, and to then contrast these results with those of this paper.

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