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Implications of the Joint Provision of CSR Assurance and Financial Audit for Auditors' Assessment of Going-Concern Risk

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# Implications of the Joint Provision of CSR Assurance and Financial Audit for Auditors' Assessment of Going Concern Risk

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# Implications of the Joint Provision of CSR Assurance and Financial Audit for Auditors' Assessment of Going Concern Risk

## *ABSTRACT*

We examine whether the joint provision of corporate social responsibility (CSR) assurance services and financial audit by the same audit firm influences auditors' assessment of going concern risk. We predict that the provision of CSR assurance and financial audit by the same audit firm creates CSR-related knowledge spillovers from the CSR assurance team to the financial audit engagement team, which help in the auditor's assessment of going concern risk. Using more than 28,000 firm-year observations from 55 countries, we document that, relative to audit firms that provide only the financial audit, audit firms that provide both CSR assurance and financial audit for the same client (1) issue more frequent going concern opinions and have lower Type-II going concern errors, (2) have clients that book larger environmental and litigation provisions, (3) report earnings that are more persistent and value relevant and are less likely to book income-decreasing earnings restatements, and (4) do not charge higher audit fees or total fees. Our results are important especially because of firms' increasing exposure to CSR risks and the growing number of countries that require assurance of CSR reports.

**Keywords:** CSR Assurance, CSR Risks, Going Concern Opinion, Knowledge Spillover, Non-Audit Services

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## 1. Introduction

The stakeholder view of the firm (Freeman 1984; Magill, Quinzii, and Rochet 2015; Hawn, Chatterji, and Mitchell 2018) has gained considerable momentum over the past two decades and seems to have won the “battle of ideas” (Economist 2005) over the shareholder view of the firm (Friedman 1962). Under the stakeholder view, firms are responsible for an array of activities such as preventing environmental externalities, producing safe and healthy products, ensuring the human development of their employees, contributing to government spending by paying taxes, and finding suppliers that respect regulations and ethical principles; in other words, firms are responsible for more than just maximizing shareholder value. This shift to the stakeholder view is evident as more and more firms respond to stakeholders’ demand for non-financial information by issuing CSR reports in an attempt to provide information about non-financial performance and the associated risks regarding issues such as environmental performance, social performance, and corporate governance (Cahan, De Villiers, Jeter, Naiker, and Van Staden 2015; Chen, Hung, and Wang 2018; Stolowy and Paugam 2018). Firms’ rising exposure to CSR risks such as environmental and social risks could conceivably cause going concern issues. In this study, we investigate whether audit firms that provide both assurance services for CSR reports and financial statement audits for the same client are better able to assess their client’s going concern risk.

An increasing number of traditional investors (i.e., investors that do not specifically follow a CSR-related investment strategy) integrate CSR performance into their stock and bond selection decisions (CFA Institute 2017; Durand, Paugam, and Stolowy 2019). One reason is that firms are being held accountable for the negative impact of their activities, including tax evasion, environmental externalities, unsafe or unhealthy products, and improper practices with regard to

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labor, on various stakeholders. Therefore, CSR performance has important financial consequences that affect a firm's disclosures, stock price and investment strategy (Kim, Park, and Benson 2012).

CSR reports help outsiders to assess the extent of risks associated with CSR performance (Steinmeier and Stich 2019). These reports are frequently verified by assurance providers to enhance their credibility (Pflugrath, Roebuck, and Simnett 2011; Cohen and Simnett 2015; Peters and Romi 2015; Ballou, Chen, Grenier, and Heitger 2018; Steinmeier and Stich 2019). By assuring this information, auditors may gain knowledge about new types of risks that are becoming more important as the regulatory environment is increasingly influenced by the stakeholder view of the firm in matters such as environmental regulation, firm legal responsibilities, and rules with regard to labor and the safety of products. Obtaining such knowledge is part of the auditor's mission according to international auditing standards (ISA 250).<sup>1</sup> Because CSR risks have implications for financial statements, auditors, regardless of whether they also provide CSR assurance, must obtain knowledge about CSR risks to conduct the financial audit per international auditing standards. Although auditors do not verify all their clients' accounts, they must employ reasonable means (e.g., sampling) to ensure that the financial statements give a true and fair view of the firm's financial position and performance for the period. Auditors may overlook relevant information related to CSR risks, especially if their audit firm does not provide CSR assurance services. We reason that audit firms that provide both CSR assurance and financial audit to the same client could obtain additional information about CSR risks compared to audit firms that perform only the financial audit.

CSR assurance stands apart from other non-audit services for at least two reasons. First, unlike other types of non-audit services, which focus on specific matters such as tax, information technology,

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<sup>1</sup> ISA 250, Consideration of Laws and Regulations in an Audit of Financial Statements. The International Federation of Accountants, through the International Auditing and Assurance Standards Board (IAASB), issues International Standards on Auditing (ISAs). The use of ISAs is quite widespread internationally. According to IAASB (2016), 111 countries adopted ISAs as of December 31, 2015. Some jurisdictions have been using ISAs for a long period. Since 2006, all European countries must use ISAs for statutory audits (The Audit Directive of May 17, 2006).

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and certain transactions, the assurance of CSR reports can provide firm-wide CSR-specific knowledge to auditors. Second, CSR assurance is different because regulators are likely to require assurance of CSR reports in the near future (High-Level Expert Group on Sustainable Finance 2018) and have already done so in some jurisdictions.<sup>2</sup> It is therefore important for clients to understand the implications for auditors' assessment of going concern risk of CSR assurance services provided by the same audit firm or by a different assurance provider because firms have to decide whether to retain their audit firm to provide CSR assurance. Policy makers must also decide whether to permit financial auditors to also provide CSR assurance services to their audit clients. Should CSR assurance be viewed as a natural extension of the statutory financial audit in the era of non-financial reporting? Or, should it be treated as other non-audit services? Non-audit services will continue to be voluntary and based on firm-specific needs, so their implications for auditors are different from a regulatory perspective.

Specific knowledge about CSR performance can create valuable information for auditors to more accurately assess firm-specific CSR risks. For instance, failure to apply laws or regulations, firm activities such as those involving pollution of water or soils and conflicts with employees, the use of hazardous substances, and dependence on a major customer or supplier exposed to CSR risks such as human rights abuse can have material consequences for financial statements (Barth and McNichols 1994). Failure to comply with the regulatory environment leads to fines, penalties, litigation and, sometimes, to going concern risk. Valuable knowledge about such risks could be gained if the audit firm also provides assurance services for the client's CSR report. Information transfers from the CSR assurance team to the financial audit team could lead to better assessment of CSR risks. If the financial

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<sup>2</sup> For example, in France, the Grenelle II law of 2010 and the Warsmann 4 law of 2012 already require public firms to use a third party to verify CSR information that is included in the management report (*rapport de gestion*) (see article 225-102-1 of the French Code of Commerce). CSR assurance is also *de facto* mandatory in South Africa per the 2009 King Code of Governance for South Africa (King III) (Ackers, Eccles, and Parker 2015).

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audit team has access to information from the CSR assurance team, it could be more efficient in collecting audit evidence for assessing whether a client's financial statements fairly represent its financial performance, financial position, and cash flows. Information from the CSR assurance team could help auditors target which accounts or information systems to investigate based on issues detected by the CSR assurance team, thus leading to more efficient and effective audits. A better understanding of CSR risks could also facilitate understanding of the firms' environmental and social risks that could cause going concern issues.

We predict that because of information transfers from the CSR assurance team, audit firms that also provide CSR assurance services for their clients exhibit more frequent going concern opinions because they are better able to assess CSR risks. This argument is analogous to the knowledge spillover argument, which suggests that non-audit services facilitate the creation and dissemination among financial auditors of client-specific knowledge that helps in conducting the financial audit (Simunic 1984; Beck, Frecka, and Solomon 1988; Antle and Demski 1991; Wu 2006). It suggests a positive relation between non-audit services and financial audit quality. Some studies corroborate the knowledge spillover argument for catch-all categories of non-audit services or for specific services such as tax and information technology (Kinney, Palmrose, and Scholz 2004; Antle, Gordon, Narayanamoorthy, and Zhou 2006; Knechel and Sharma 2012; Knechel, Sharma, and Sharma 2012; Koh, Rajgopal, and Srinivasan 2013; Bell, Causholli, and Knechel 2015).<sup>3</sup> However, except for of Lu, Simnett, and Zhou (2019), to date no empirical study has investigated the implications of the joint provision of CSR assurance services and financial audit by the same audit firm. Lu et al. (2019) find a negative association between the joint provision of CSR assurance services and financial audit by

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<sup>3</sup> To date, the empirical research on the relation between non-audit services and financial audit quality remains inconclusive (Habib 2012). For example, DeFond, Raghunandan, and Subramanyam (2002) and Ashbaugh, LaFond, and Mayhew (2003) find no association between non-audit services and audit quality, Frankel, Johnson, and Nelson (2002) document a negative association, and Davis, Soo, and Trompeter (2009) and Bell et al. (2015) report a positive association.

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the same audit firm and signed discretionary accruals, a positive association with going concern opinion, and no association with audit fees. Our study differs in several important ways from Lu et al. (2019). First, we focus on auditors' assessment of going concern risk, Type I and Type II going concern opinion errors, and implications for environmental and litigation provisions. Second, using cross-sectional differences based on industry and firm characteristics, we document variations in the association between the joint CSR assurance and financial audit by the same audit firm and going concern opinions. Third, we present evidence on earnings restatements and the consequence for earnings properties (i.e., persistence and value relevance) of using the same audit firm for CSR assurance and financial audit.

Given that the focus and nature of CSR assurance services differs markedly from that of other non-audit services such as tax and information technology, it is unclear whether the joint provision of CSR assurance and financial audit will have different or similar implications for going concern opinions. Unlike tax, transaction, and information technology services, CSR assurance services involve verification of (non-financial) information similar to financial audits in order to ensure that firms disclose credible and reliable CSR reports. These activities could therefore result in synergies between CSR assurance and financial audits. Additionally, CSR assurance services are relevant for understanding CSR risks, which are becoming more important and have implications for material accounts requiring estimates, such as provisions.

However, it is not clear ex ante whether the provision of CSR assurance services by the same audit firm would necessarily improve auditors' assessment of CSR risks. First, it is possible that financial audit firms that do not provide CSR assurance for their clients also benefit from relevant information related to CSR risks either from existing CSR reports or from communication with the CSR assurance engagement team. There may be communication between financial auditors and CSR assurance providers from a different firm that both perform fieldwork for the same client. Second,

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CSR assurance may create a financial dependence between the auditor and the client. Non-audit services are high-margin activities for audit firms relative to low-margin statutory audits (Chung and Kallapur 2003). Based on the non-audit services literature, and assuming CSR assurance is a high-margin activity, CSR assurance could impair the auditor's independence because the revenues received from the client create economic incentives to maintain a profitable relationship. This, in turn, could lead the auditor to avoid reporting discovered misstatements in financial audits (or to respond positively to the financial reporting demands of the client) (Frankel et al. 2002). This economic bonding argument suggests a negative relationship between non-audit services and going concern opinions.<sup>4</sup>

We examine the implications for going concern opinions of the joint provision of CSR assurance and financial audit by the same (Big 4) audit firm for an international sample of more than 28,000 firm-year observations from 55 countries. We control the variation in going concern opinions that may result from differences in auditor type by excluding firms that have non-Big 4 audit firms, while allowing the CSR assurance provider type to vary. We use an international sample because the increasing firm exposure to CSR risks is a global phenomenon. Additionally, an international sample improves the generalizability of our findings relative to a single-country setting and includes considerable variation in economic and business environment conditions that are likely to influence information spillovers from the CSR assurance team to the financial audit engagement team (see online Appendix Table OA1 for a review of local CSR mandatory reporting regulations by country) and to increase the power of our tests.

We find that the joint provision of CSR assurance services and financial audit by the same (Big 4) audit firm is positively associated with the frequency of going concern opinions. We document

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<sup>4</sup> We do not have data on CSR assurance fees. However, Casey and Grenier (2015) report that CSR assurance fees represent 5 percent to 10 percent of financial statement audit fees in the US.

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that the provision of both CSR assurance and financial audit by the same Big 4 audit firm is associated with more frequent going concern opinions (the economic magnitude ranges between +2.6 percent and +8.3percent) than the use of a CSR assurance provider different from the Big 4 audit firm. Our findings hold after we control for several other factors that prior research has identified are related to going concern opinions. Because the choice of auditor and CSR assurance provider are managerial decisions, our findings may be affected by endogeneity due to omitted variables or sample heterogeneity (DeFond and Zhang 2014). Although we cannot completely rule out this important concern, we use several statistical techniques to alleviate it. First, we include firm fixed effects, which control for time-invariant unobservable omitted factors, in our main tests (Nikolaev and Van Lent 2005). Second, we corroborate our main results by using alternative techniques such as propensity score matching (Lawrence, Minutti-Meza, and Ping 2011; Shipman, Swanquist, and Whited 2017) and coarsened exact matching (DeFond, Erkens, and Zhang 2016) that relax assumptions about the functional form of variable relations, and two-stage least squares regression using instruments that influence firms' choice of CSR assurance provider but are exogenous to firms' innate characteristics (Larcker and Rusticus 2010).

In further analyses, we find that the joint provision of CSR assurance and financial audit is positively associated with various proxies for Type-I going concern opinion error (i.e., issuing a qualified audit report when, in fact, there is no going concern risk), which indicates a more prudent audit. Conversely, we find a negative association between the joint provision of CSR assurance and financial audit and various proxies for Type-II going concern opinion error (i.e., failure to detect a firm with significant going concern risk), which is evidence that audit firms that perform both CSR assurance and financial audit for a client assess going concern risks better than do audit firms that perform only financial audit. This evidence is consistent with the knowledge spillover argument between the CSR assurance team and the audit engagement team. We also find that the superior

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assessment of CSR risks influences financial statements. Provisions reflect managers' expectations about probable future negative events. By decreasing current earnings, provisions for environmental and litigation risk allow firms to anticipate these future negative events associated with CSR risks (e.g., lawsuits, depollution costs, rehabilitation, fines). Audit firms that provide CSR assurance and financial audit to the same client can ensure that managers book adequate provisions for CSR risks. We find that firms that use the same audit firm for financial audit and assurance of CSR reports book larger provisions for environmental and for litigation risks than firms that use a different CSR assurance provider from their financial audit firm. We do not find similar evidence for operating provisions, which reflect recurring expenses that are less affected by CSR risks.

We conduct four types of additional analyses. First, we find that firms that rely on their financial audit firm to also provide CSR assurance are less likely to subsequently book income-decreasing earnings restatements than firms that rely on a different assurance provider. Second, in cross-sectional tests based on industry and firm characteristics, we find that the joint provision of CSR assurance and financial audit is associated with more frequent going concern opinions in environmentally sensitive industries and for firms for which knowledge spillover effects are more likely because of their stakeholder-orientation. These results confirm that knowledge spillovers depend on industry characteristics and firm characteristics. Third, we find that audit fees and total fees are not higher when a client relies on the same Big 4 audit firm to provide CSR assurance services and financial audit than when a client uses a different provider for CSR assurance and financial audit. This result indicates that the better assessment of CSR risks comes at no greater cost to the client. Fourth, we find that the earnings of firms that use the same audit firm for CSR assurance and financial audit are more persistent and value relevant than the earnings of firms that use a different assurance provider from their financial audit firm. The earnings of firms that use the same audit firm for CSR assurance

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are less likely to reflect large transitory items such as expenses related to litigation due to CSR risks that were not provisioned.

Our study makes several contributions to the literature. Prior research on non-audit services shows that some services, such as tax-related non-audit services, actually improve financial audits (Kinney et al. 2004). We contribute to this line of research by exploring an under-researched, specific type of non-audit service, CSR assurance, that relates to risks that have increased over time with the importance of the stakeholder view of the firm. CSR assurance is markedly different from other non-audit services and hence the findings from the non-audit services literature cannot be easily generalized to this type of service. Although prior studies explore the implications of the type of CSR assurance provider for CSR assurance quality (Pflugrath et al. 2011; Ballou et al. 2018), they do not examine whether CSR assurance relates to the auditors' assessment of going concern risks. Our study has important implications as the 2008-09 financial crisis raised concerns about the quality of auditors' work and whether auditors were sufficiently independent to report accounting misstatements (ACCA 2011). Responding to these concerns, several jurisdictions issued regulations in an attempt to strengthen financial auditor independence, including limiting certain forms of non-audit services (e.g., European Commission 2011b, 2011a; European Parliament and Council of the European Union 2014).<sup>5</sup> Our findings suggest that the joint provision of CSR assurance and financial audit can provide valuable knowledge spillovers that lead to improved assessment of the financial implications of CSR risks.

The rest of this paper is organized as follows. We review the literature on CSR assurance and provide institutional details in Section 2, develop our hypotheses in Section 3, describe the sample

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<sup>5</sup> In the UK, regulators are considering breaking up the Big 4 audit firms to separate auditing from consulting activities (see, e.g., <https://www.ft.com/content/e0cdfc4c-57b6-11e9-a3db-1fe89bedc16e>)

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selection and research design in Section 4, report the main results in Section 5, discuss the results of several additional tests in Section 6, and conclude the study in Section 7.

## **2. Background on CSR assurance**

### ***Prior studies***

Firms that disclose CSR information may voluntarily rely on assurance services from a third party to enhance the credibility of the reported information (Simnett, Nugent, and Huggins 2009a; Brown-Liburd and Zamora 2015). In the last few years, an increasing number of firms, especially larger ones, have begun issuing assured CSR reports (O'Dwyer and Owen 2007; KPMG 2013; Ernst & Young and Global Reporting Initiative 2014). This is evident from the percentage of the top 250 global firms that issued an assured CSR report, which increased from 46 percent in 2011 to 59 percent in 2013 (KPMG 2013). Of these large global firms, approximately two thirds that issued assured CSR reports used the services of a Big 4 audit firm (KPMG 2013). Simnett, Vanstraelen, and Chua (2009b) investigate the determinants of CSR assurance for an international sample of firms. They find a positive association between firms looking to enhance the credibility of CSR reports and increase their reputation and the use of external CSR assurance. Using a sample of European public firms, Fuhrmann, Ott, Looks, and Guenther (2017) show that issuers of assured CSR reports with a high level of assurance exhibit lower bid-ask spread than matched firms that issue unassured CSR reports. Michelon, Patten, and Romi (2018) find that the provision of CSR assurance is positively associated with CSR report restatements.

CSR assurance also relates to another important question: are audit firms, in particular Big 4 firms, able to deliver superior CSR assurance relative to other CSR assurance providers such as CSR specialists like Bureau Veritas, Lloyd's, DNV, and ERM? DeFond and Zhang (2014) argue that the

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expansion of audit firms to sustainability assurance services raises the question of whether auditors' incentives and skills transfer to the verification of non-financial information. CSR specialists maintain that they have superior industry expertise regarding CSR activities and are therefore better equipped to provide assurance services than are audit firms. Conversely, Big 4 audit firms claim that they can deliver better quality CSR report assurance because they can benefit from their unique skills and the methodologies used in financial audits. Big 4 audit firms argue that their reputation and geographical networks are important for providing high quality CSR assurance for large clients. These audit firms can acquire or develop internal expertise related to CSR activities.

Pflugrath et al. (2011), in an experimental setting, examine whether assurance enhances the credibility of CSR reports for financial analysts and test whether the type of assurance provider (i.e., professional accountant or CSR specialist) matters. The results show that participants view CSR reports assured by professional accountants as more credible than unassured CSR reports. Simnett et al. (2009b) find that firms located in stakeholder-oriented countries tend to choose assurance providers from the accounting profession. Ballou et al. (2018) show that auditors identify inaccuracies in CSR reports earlier and prevent future CSR reporting inaccuracies better than do other types of CSR assurance providers.

Our study contributes to this line of research by investigating the interactions between the provision of CSR assurance and financial audit by the same firm or by two different firms and its implications for the perception of CSR risks by the audit firm. Except for Lu et al. (2019), this question has not been addressed in the literature.

### ***CSR reporting, CSR Assurance, and Knowledge Spillovers***

According to Morimoto, Ash, and Hope (2005), based on interviews with individuals from the government, the private sector, academia and NGOs, CSR reports allow stakeholders to obtain

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information about the following six important factors of a successful CSR strategy: (1) how the firm conducts stakeholder management; (2) how the firm benefits from good corporate leadership; (3) how the firm gives priority to CSR at the board level; (4) how the firm integrates CSR into corporate policy at all levels and in all business units; (5) how the firm understands and manages national and international CSR regulations across its activities, and (6) how the firm is active and coordinated with government, NGOs and civil society. By reviewing the accuracy and completeness of such CSR information, audit firms that provide CSR assurance services can obtain knowledge about how the firm addresses CSR risks.

According to GRI (2013), external assurance of CSR reports covers three phases: planning, execution, and reporting and feedback. Planning is done at the start of the process, but also needs to be done on an iterative basis throughout the engagement as issues appear and the fieldwork needs to be adjusted. During the execution phase, the CSR assurance team can have access to evidence such as inventory records, personnel data, supplier details and interviews with managers or board members (GRI 2013). Once the execution is completed, the CSR assurance provider issues a report (often signed) that is usually an integral part of CSR reporting. This report often includes the following information: the intended audience, the scope of disclosures covered, the level of assurance, the assurance standards used, the limitations of the assurance, activities performed, and conclusions.

It is quite likely that during these three phases, the work conducted by the CSR assurance team overlaps with the work of the audit engagement team, especially for large listed firms for which financial auditors are often working at the client's office at several times during the fiscal year. The audit engagement team is often present during the pre-closing period, the closing period before the issuance of the annual report, and sometimes during interim reviews. Annual CSR reports are often published around the same time as the annual financial reports (sometimes in a single document), which makes it likely that the two teams exchange information. In addition, working for the same

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audit firm, partners or senior managers in charge of CSR assurance and financial audit could exchange relevant information using the internal communication channels of their audit firm.

### 3. Hypothesis

Prior literature that focuses on non-audit services such as tax consulting, management advisory services, public securities offering, or information systems consulting argues that non-audit services may generate valuable knowledge spillovers for financial audits (Koh et al. 2013; Svanström 2013; Bell et al. 2015). Similarly, CSR assurance services provided by the same audit firm may facilitate information transfer between the CSR assurance team and the financial audit engagement team.<sup>6</sup> The provision of sustainability assurance could help auditors identify risks related to CSR activities (O'Dwyer, Owen, and Unerman 2011).

Steinmeier and Stich (2019) argue that CSR assurance improves sustainability investment decisions because it increases the set of information available for managerial decision making and thus leads to improved investment efficiency. In addition, Steinmeier and Stich (2019) find that CSR assurance reduces information asymmetry between managers and investors, which in turn facilitates monitoring of sustainability investment decisions. The authors also report some evidence of a stronger effect when the audit firm also provides CSR assurance. If credible CSR information generates valuable information for managers and investors, then auditors who review and verify CSR information may also be able to obtain a richer set of information about their client using first-hand knowledge that leads to a better and more efficient financial audit.

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<sup>6</sup> An interview with a manager at an audit firm that provides CSR assurance services indicates that these knowledge spillovers exist. For instance, the manager talked about the inadequate information system of a listed firm's subsidiary that the CSR assurance team uncovered while reviewing employee information. The information was passed on to the financial audit engagement team.

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Financial audit teams collect audit evidence to assess whether the financial statements give a true and fair view of the firm's performance and financial position. If auditors have access to information from the CSR assurance team, they may be able to work more efficiently to collect audit evidence by reallocating resources based on information gained from the CSR assurance team. If the audit engagement team already has information about potential CSR risks, then it can more efficiently allocate its costly, scarce resources. For instance, the CSR assurance team may review a client's payroll and staff numbers to assess the accuracy of the social dimension of reported CSR information such as gender pay gap and find problems in the internal information system, which it could share with the audit engagement team. The auditors could then directly focus on the implications for the financial audit of the discovered problems in the client's information system instead of investigating the origin of the problem. Similarly, the CSR assurance team could share information with the audit engagement team on environmental matters such as carbon emission that may have implications for financial statements by potentially affecting litigation costs and environmental liabilities such as provisions for environmental risk and participation in carbon emission trading schemes.

Some CSR issues give rise to the risk of a material omission or misstated financial statements. For instance, failure to apply specific laws or regulations, firm activities such as those involving pollution of soil, groundwater or air, use of hazardous substances, or dependence on a major customer affected by CSR risks can have important consequences for financial statements. Failure to comply with the regulatory environment leads to fines, penalties, litigation and, sometimes, to going concern risk. Hence, obtaining a general understanding of the legal and regulatory framework applicable to the entity and how the entity is complying with that framework is part of international auditing

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standards (ISA 250).<sup>7</sup> Performing both CSR assurance and financial audit for the same client facilitates obtaining a better understanding of such risks.

However, the existence of knowledge spillovers for audit firms that perform CSR assurance and financial audit jointly is not straightforward. First, audit firms that do not provide CSR assurance may benefit from knowledge spillovers from reviewing existing CSR reports. Auditors could, at a minimum, look at prior years' CSR reports to obtain information about CSR risks faced by their client. There could also be communications between the CSR assurance firm and the audit firm especially if the teams are doing fieldwork at the same time. Relevant information could also be exchanged between different assurance providers and audit firms via management and/or the audit committee. Second, CSR assurance providers often provide only limited assurance, which can reduce the extent to which such services reveal meaningful information to auditors about CSR risks even if an audit firm performs both CSR assurance and financial audit (O'Dwyer and Owen 2005, 2007). Third, because non-audit services are high-margin activities (Chung and Kallapur 2003), the non-audit services literature suggests that such services may create economic bonding between the auditor and the client, which could ultimately lead to inferior audit quality because the auditor has pressure to accept client demands (Simunic 1984; Beck et al. 1988). Economic bonding is more likely if the client has weak corporate governance (Larcker and Richardson 2004) or if the client is a high-growth firm (Reynolds, Deis, and Francis 2004). Causholli, Chambers, and Payne (2014) suggest that future non-audit services fees impair current audit quality because, prior to SOX, auditors had an incentive to compromise current audit quality to sell more non-audit services in future years. This is so because their compensation package is structured to reward non-audit services revenue. It is therefore also

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<sup>7</sup> ISA 250 (Revised), Consideration of Laws and Regulations in an Audit of Financial Statements.

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possible that CSR assurance services create an economic bond between the auditor and the client and thus impair audit quality.

Given these competing arguments, we state the following hypothesis in its null form:

*HYPOTHESIS 1: The joint provision of CSR assurance services and financial audit by the same audit firm is unrelated to the auditor's assessment of CSR risks.*

#### **4. Data and research design**

##### ***Sample***

We obtain data on CSR reporting and assurance from Thomson Reuters Asset 4, CSR assurance provider names, financial auditor names, data on earnings restatements and auditors' opinions from Thomson Reuters Eikon, and firm-specific variables from Datastream. Our sample selection process starts with all firms covered by Thomson Reuters Asset 4 from 2002 to 2017 that have available data on CSR reporting and CSR assurance. We begin our sample period in 2002 because Thomson Reuters Asset 4 initiated coverage in 2002.

Table 1 summarizes the sample selection process. Importantly, we restrict the analysis to publicly listed companies that use Big 4 audit firms (i.e., Deloitte, Ernst & Young, KPMG, and PwC) for their financial statements to better isolate the effect of variation in the assurance of CSR reports and financial audit by the same Big 4 audit firm (Lim and Tan 2008). Including non-Big 4 audit firms would lead to greater heterogeneity in financial audit quality and client characteristics, which would decrease the reliability of the analysis. Our sample selection starts with 37,420 firm-year observations with available data on CSR reporting, CSR assurance, CSR assurance provider, and financial auditor.

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We delete 8,751 observations with missing data on firm characteristics<sup>8</sup> in Datastream and 8 firm-year observations with missing data on auditor opinion. The final sample includes 28,661 firm-year observations (5,218 unique firms) from 55 countries.

[Insert Table 1 About Here]

Table OA2 in the online Appendix shows the sample distribution by industry, country, and year. Panel A indicates that the US has the largest number of observations (10,108), followed by Japan (2,840), the UK (2,507), Australia (1,938), Canada (1,920), and Hong Kong (1,002). Panel B presents the distribution of observations across Industry Classification Benchmark (ICB) industries and year. Industrials (5,947), Consumer Services (4,380), and Financials (3,384) have the highest number of observations.

### ***Joint provision of CSR assurance and financial audit***

Our sample comprises four groups: (1) firms that do not issue a CSR report, (2) firms that issue an unassured CSR report, (3) firms that issue a CSR report assured by an assurance provider that is different from their financial auditor, and (4) firms that issue a CSR report assured by an assurance provider that is also the financial auditor.

We include firms that do not issue a CSR report for two reasons. First, we note that a firm's classification may differ over time if the firm changes its CSR reporting practices. When we include firm fixed effects, we capture within-firm variation in use of CSR assurance, use of the same, or of a different CSR assurance provider. Some firms change their CSR reporting practice from not issuing a CSR report in one year to issuing an assured CSR report in another year. By including firms that do not issue a CSR report, we can capture these effects and thus conduct more powerful tests. The second

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<sup>8</sup> We include financial firms in our sample because, unlike for discretionary accruals, financial institutions' going concern opinions are not industry specific. In addition, CSR risks also affect financial institutions, which face material litigation costs such as money laundering scandals and corruption. We also find more frequent going concern opinions for firms that use the same audit firm for CSR assurance and financial audit if we exclude financial institutions from the sample.

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reason for including firms that do not issue a CSR report is that we can capture differences across all four groups (i.e., no CSR report, unassured CSR report, assured CSR report by a different firm, and assured CSR report by the same audit firm), thus providing a complete description of CSR reporting practices.

Firms in Group (1) that do not disclose CSR information serve as the benchmark group. By including firms in Group (2) that issue an unassured CSR report, we can isolate and control the effect of issuing a CSR report regardless of the decision to use assurance services. To test our hypothesis, we examine the difference between firm-year observations classified in Group (3) that issue a CSR report assured by an assurance provider different from the financial audit firm and firm-year observations classified in Group (4) that issue a CSR report that is assured by the same financial audit firm.

To identify whether a firm uses the same audit firm for CSR assurance and financial audit, we obtain the code of the financial statement auditor for each firm-year observation from Eikon. Because the auditor code is standardized in two to four alphabetical characters, we match the auditor code with the auditor's full name provided by Eikon. We use a computer-based procedure to identify Big 4 auditors that provide the financial audit and manually check the resulting classification.<sup>9</sup> We obtain the full name of the CSR assurance provider for each firm-year observation from Eikon and, using the same procedure described for audit firms, identify Big 4 firms that provide CSR assurance services. We classify all non-Big 4 CSR assurance providers in the "Others" category.<sup>10</sup> We then

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<sup>9</sup> The computer-based procedure identifies whether the auditor's full name contains the following substrings: ERNST, E&Y, YOUNG, KPMG, PRICE, PwC, DELOITTE, TOUCHE. If one or more of these substrings occurs, the procedure classifies the observation under the appropriate Big 4. To correctly identify observations indicating EY as the CSR assurance provider, we isolate observations containing the substring EY in the *Others* category and manually check the resulting classification.

<sup>10</sup> The "Others" category includes either non-Big 4 audit firms or CSR specialists. To ensure that our results are not driven by the potentially lower CSR assurance quality associated with other CSR assurance providers, in online Appendix Table OA11, we distinguish between observations with a different Big 4 CSR assurance provider from the financial auditor and

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create auditor and CSR report assurance provider pairs by identifying the CSR assurance provider and the financial audit firm for each firm-year observation.<sup>11</sup>

Figure 1 presents the distribution of the sample across the four groups based on their CSR reporting practice.

[Insert Figure 1 About Here]

Panel A of Table 2 reports the distribution across the four groups based on CSR information level by year. It indicates an increasing trend in the percentage of firms that issued a CSR report. Whereas only 5.9 percent of firms issued a CSR report in 2002, the percentage increased to 34.8 percent in 2017. Regarding CSR assurance, the number of firms that issued an assured CSR report increased from only two in 2002 (one with a different assurance provider from its audit firm and one with the same assurance provider as its audit firm) to 765 firms in 2017 (462 firms with a different assurance provider from its audit firm and 303 with the same assurance provider as its audit firm). In 2017, firms that issued an assured CSR report account for 26.9 percent ( $= 765 / 2,841$ ) of all firms in the sample that year.

Among firms that use a CSR assurance provider, we find a positive trend in the use of the same Big 4 audit firm for CSR assurance. In 2007 (when the number of firms that use CSR assurance starts to increase), 25.6 percent of firms ( $= 60 / (60 + 174)$ ) used their Big 4 audit firm to assure their CSR

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observations with a non-Big 4 CSR assurance provider or a CSR specialist. In multivariate tests, we find that firms using the same Big 4 audit firm for financial audit and CSR assurance exhibit more frequent going concern opinions than *both* firms that use a non-Big 4 assurance provider or a different Big 4 assurance provider. The difference between use of the same assurance provider and use of a non-Big 4 assurance provider is greater than that between use of the same assurance provider and use of a different Big 4 assurance.

<sup>11</sup> When identifying firms that use their financial auditor to assure their CSR report, we find that Asset 4 either incorrectly or incompletely classifies some firm-year observations. For example, Asset 4 classifies some firms as using CSR report assurance services despite them being coded as not issuing a CSR report (408 observations), and Eikon does not (does) contain the name of the CSR assurance provider for some firm-year observations that are classified in Asset 4 as using (not using) assurance services for their CSR report (795 observations). We delete these observations from the sample.

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report whereas 15 years later, in 2017, 39.6 percent of firms ( $= 303 / (303 + 462)$ ) used their Big 4 audit firm to assure their CSR report.<sup>12</sup>

[Insert Table 2 About Here]

### ***Going concern opinions***

We focus on going concern opinions in our main tests because potential issues associated with CSR risks can have a material effect on financial statements (Barth and McNichols 1994) and on the ability of the firm to operate as a going concern. This is true especially considering society's increasing expectations about firms' CSR. Going concern opinions have been used in past research as a measure of audit quality. Higher audit quality is generally associated with higher likelihood of a going concern opinion being issued by auditors because such a qualified audit report demonstrates the auditor's ability to detect problems and independence to report them (Bills, Swanquist, and Whited 2016; Hardies, Breesch, and Branson 2016; Lamoreaux 2016; Pincus, Tian, Wellmeyer, and Xu 2017).<sup>13</sup> Compared to other measures of audit quality such as abnormal accruals, going concern opinion is a more direct measure of audit quality that is less subject to measurement error, which is of particular concern in an international setting.

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<sup>12</sup> Panel B of Table 2 shows the sample distribution based on the providers of financial audits and CSR assurance. Of the 6,468 observations that issue an assured CSR report, 3,202 (49.5 percent) are assured by a non-Big 4 assurance provider or a CSR specialist, and 3,266 (50.5 percent) by a Big 4 audit firm. The Big 4 audit firm market shares for CSR report assurance services range from 10.2 percent for Deloitte to 14.9 percent for PwC. Firms that use a Big 4 audit firm to provide CSR assurance services are more likely to use their Big 4 audit firm than a different Big 4 audit firm to provide these services. This is evident from the number of observations in the diagonal of Table 2 panel B, which is larger than the numbers in the off-diagonals.

<sup>13</sup> We also consider two alternate measures of audit quality: discretionary accruals (Dechow and Dichev 2002; Kothari, Leone, and Wasley 2005) and small profit (Aobdia 2018). We find no association between using the same Big 4 audit firm to provide CSR assurance and financial audit and these two alternative measures of audit quality. These results are not surprising because discretionary accruals and small profits use management's reported earnings that derive from the application of flexible financial reporting standards (Causholli et al. 2014). As such, these measures are designed to capture subtle changes in the quality of audits (Bell et al. 2015). Conversely, going-concern opinions are significant events that attract attention and signal that reputation concerns override economic incentives (Causholli et al. 2014). The effect of knowledge gained by auditors performing both CSR assurance and financial audit is less likely to be captured by measures of audit quality such as accruals and small profit.

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We also examine Type-I and Type-II going concern opinion errors. Type-I error (false positive) relates to issuing a qualified audit report when, in fact, the firm does not face difficulties in the future. Type-II error (false negative) relates to issuing a clean audit opinion when, in fact, the firm faces difficulties in the future. The costs of Type I and Type II going concern opinion errors are asymmetrical for auditors. If an auditor does not issue a going concern opinion and the client fails or faces important difficulties (Type-II going concern opinion error), the auditor generally incurs substantial costs related to litigation and loss of reputation (Carson, Fargher, Geiger, Lennox, Raghunandan, and Willekens 2013). On the other hand, if the auditor issues a going concern opinion and the client does not fail (Type-I error), it is also costly for the auditor but the cost relates to upsetting the client, which could lead to a loss of audit revenue. The costs associated with Type-I going concern opinion errors are lower for more independent and more prudent auditors.

### ***Empirical models***

We employ the following model, commonly used in the auditing literature (DeFond and Zhang 2014, p. 290), to test the association between going concern opinions and the joint provision of CSR assurance and financial audit by the same (Big 4) audit firm:<sup>14</sup>

$$GCOPINION_t = b_0 + b_1 UNASSURED_t + b_2 ASSURED\_DIFF_t + b_3 ASSURED\_SAME_t + Controls + Fixed Effects + \varepsilon_t \quad (1)$$

All variables are defined in Appendix A.

<sup>14</sup> Although the dependent variable is binary, we use an OLS model instead of a logistic model in our main analysis because our model includes several fixed effects, which are difficult to interpret in a logistic model. In addition, according to Wooldridge (2006, p. 454) “the LPM [linear probability model] should be seen as a convenient approximation to the underlying response probability”. By using OLS, we can directly estimate the effect of the independent variables on the probability of a going concern opinion. Another advantage of the OLS model over the logistic model is that it facilitates a more direct comparison of coefficients. Nevertheless, we also use a logistic model to assess the robustness of our findings (see Table 4, column (8)).

Prior auditing literature suggests the inclusion of several control variables that are associated with audit quality (Ashbaugh et al. 2003; Butler, Leone, and Willenborg 2004; Gul, Fung, and Jaggi 2009; Lennox and Li 2012; Prawitt, Sharp, and Wood 2012; DeFond and Zhang 2014). Specifically, we control for firm age (*AGE*), merger and acquisition activity (*M&A*), level of inventory and accounts receivable (*RECINV*), client size (*SIZE*), the extent to which the business model depends on intangible assets (*INT*), the risk of bankruptcy (negative earnings: *LOSS*, financial leverage: *LEV*), sales growth (*SALESG*), growth options (*MTB*), liquidity (*CFO*), business risk (*SDEAR*), tangibility (*FIX*), ownership structure (*CLOSELY*), business complexity measured as the number of business segments (*GEOC*), firm performance (*ROA*), and auditor tenure (*TENURE*). We also control for firm stakeholder orientation using social and environmental scores (*STAKE*) and strength of corporate governance (*GOV*).

In our base model specification, we include year, industry and country fixed effects. A concern in our setting is that firms with different innate characteristics may retain their Big 4 audit firms to also provide assurance for their CSR report. Unobserved characteristics of these firms may be systematically associated with the likelihood of a going concern opinion being issued. If this is the case, then we would not be able to attribute more frequent going concern opinions to the joint provision of financial audit and CSR assurance by the same audit firm. To mitigate this concern and concerns related to omitted variables, we include firm fixed effects (instead of industry and country fixed effects), which control for time-invariant firm characteristics, in an alternative specification. Doing so reduces, though not necessarily eliminates, concerns related to omitted variables such as different innate characteristics of firms (Nikolaev and Van Lent 2005).<sup>15</sup>

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<sup>15</sup> In additional analyses reported in the online Appendix, we also use matched samples to relax assumptions about the functional relation between the variables, as well as instrumental variable estimation to alleviate endogeneity concerns (see online Appendix OA5).

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In model (1), the benchmark group includes firm-year observations with no CSR report issued.  $b_1$  indicates the difference in the likelihood of a going concern opinion between firm-year observations with an unassured CSR report and the benchmark group,  $b_2$  indicates the difference in the likelihood of a going concern opinion between firm-year observations with a CSR report that is assured by a provider other than the financial audit firm and the benchmark group, and  $b_3$  indicates the difference in the likelihood of a going concern opinion between firm-year observations with a CSR report that is assured by the same provider as the financial audit firm and the benchmark group.

Although we do not present formal hypotheses comparing the likelihood of a going concern opinion among the different groups of observations, model (1) facilitates such comparisons. Thus, model (1) facilitates testing the relative implications of the likelihood of a going concern opinion for firms with assured or unassured CSR reports and, conditional on providing assured CSR reports, the relative implications of having the same or a different provider of CSR assurance as the audit firm. Hypothesis 1 predicts no difference in the likelihood of a going concern opinion between firm-year observations with CSR reports that are assured by the same provider as the financial audit firm and firm-year observations with CSR reports that are assured by a different provider from the financial audit firm. If financial audit firms that also provide CSR report assurance to their clients benefit from knowledge spillovers to assess CSR risks, we expect that  $b_3 > b_2$ .

## 5. Empirical results

### *Joint Provision of CSR Assurance and Financial Audit and Frequency of Going Concern Opinions*

Table 3 presents the descriptive statistics for each group of firm-year observations (i.e., no CSR report, unassured CSR report, assured CSR report by a different assurance provider, and assured CSR

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report by the same audit firm). Table 3 indicates that firms using the same assurance provider as their financial audit firm are larger, older, and exhibit lower growth than firms in any of the other three groups. Firms that use the same assurance provider as their financial auditor also tend to exhibit slightly less frequent going concern opinions than the other three groups (11.4 percent for firms that use the same assurance provider compared to between 12.3 percent and 12.6 percent for the other groups). These univariate comparisons of going concern opinions across groups must be interpreted with care because they do not control for differences in firm characteristics. Online Appendix Table OA3 presents correlations between the main variables.

[Insert Table 3 About Here]

Table 4 reports the estimation results for eight different specifications of model (1). Column (1) presents the base OLS model, which includes the independent variables of interest, firm-specific control variables, year, industry, and country fixed effects. Specifications in columns (2) to (8) differ in the use of control variables. Column (2) includes country-specific CSR disclosure scores, column (3) includes going concern opinions in  $t-1$ , column (4) includes only firms that issue a CSR report, column (5) includes only observations over the period 2005 to 2017,<sup>16</sup> column (6) uses only distressed firms,<sup>17</sup> column (7) uses firm fixed effects instead of industry and country fixed effects, and column (8) uses logistic regression.

We find that clients of a Big 4 audit firm that also provides CSR assurance are more likely to receive a going concern opinion. The test indicates that  $b_3 > b_2$ ,  $p\text{-value} < 0.01$ , in all eight model

<sup>16</sup> We examine whether our results are driven by the earlier sample period because, after the Enron collapse in 2001, many countries made major regulatory and enforcement changes such as increasing the responsibilities of top management, stronger internal control, and reduction of auditors' conflicts of interest. For instance, the US adopted the Sarbanes-Oxley Act in 2002, France enacted the Financial Security Law ("Loi de Sécurité Financière") in 2003, Germany adopted a new corporate governance code in 2002 and auditor oversight laws in 2004, and the UK adopted the Companies (Audit, Investigation and Community Enterprises) Bill in 2004. Other initiatives occurred in Canada, Japan and Australia (source: <https://www.sec.gov/news/speech/2006/spch091106et.htm>).

<sup>17</sup> We define distressed firms as firms with negative equity or negative earnings or negative cash from operations (Aobdia 2018).

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specifications. Firms with the same financial auditor and CSR assurance provider are between 2.6 percent ( $= (0.0153 - (-0.0104)) \times 100$  in column (3)), and 8.3 percent ( $= (0.0706 - (-0.0125)) \times 100$  in column (6)) more likely to receive a going concern opinion in any given year than firms that have a different financial audit firm and CSR assurance provider. We obtain similar results using the logistic estimation method. The marginal effects in brackets in column (8) indicate that firms with the same financial audit firm and CSR assurance provider are 3.8 percent more likely to receive a going concern opinion in any given year than firms that have a different financial audit firm and CSR assurance provider (3.8 percent  $= (0.0379 - 0.000) \times 100$ , p-value  $< 0.01$ ). These results indicate that the joint provision of financial audit and CSR assurance by the same audit firm is associated with a better assessment of CSR risks and are consistent with CSR assurance provided by the same audit firm leading to knowledge spillovers related to CSR risks. These knowledge spillovers from the CSR assurance team to the audit engagement team are likely to enhance the ability of the auditor to detect potential going concern issues and to issue a going concern opinion. Based on these findings, we reject Hypothesis 1.

[Insert Table 4 About Here]

In the online Appendix OA1 and related Tables OA4 to OA7, we examine whether the finding of more frequent going concern opinions for firms that rely on their audit firm for CSR assurance is robust to the following techniques to address endogeneity or functional relations between dependent and independent variables: (1) matched samples using propensity score matching and coarsened exact matching to eliminate or reduce observable differences between treated and control firms (online Appendix Table OA5); (2) two-stage least squares regression to exploit exogenous variation in *ASSURED\_SAME* (online Appendix Table OA6); (3) adding the inverse Mills ratio to control for self-selection (online Appendix Table OA7). Using all of these techniques, we find more frequent going concern opinions for firms that use their audit firms to assure their CSR reports. Overall,

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although we cannot entirely rule out that endogeneity explains the positive association between the use of the same assurance provider and the frequency of going concern opinions, the consistent evidence across these different empirical strategies significantly alleviates this concern.

### ***Joint Provision of CSR Assurance and Financial Audit and Accuracy of Going Concern Opinion***

Auditors may issue inaccurate going concern opinions if they fail to adequately assess CSR risks. One approach to examine the accuracy of going concern opinions is to focus on Type-I and Type-II going concern opinion errors.<sup>18</sup>

We rely on several proxies to examine the accuracy of going concern opinions. Although bankruptcy is the most direct outcome variable to assess the accuracy of going concern opinions, it is a relatively rare event for the large public firms comprising our sample (Lennox 1999; Francis 2011). Carson et al. (2013) and Nogler (1995) argue that bankruptcy is only one of the possible outcomes for a firm receiving a going concern opinion. Other outcomes may include reorganization, takeover, merger, or delisting. According to Francis (2011), auditors are not responsible for predicting client business failure. Auditors are sued only 50 percent of the time after a business failure (Palmrose 1987; Carcello and Palmrose 1994). Carson et al. (2013) encourage investigating alternative definitions of the meaning and accuracy of going concern opinions. Accordingly, we use the following four different proxies for Type-I and Type-II going concern opinion errors.

First, we use both future bankruptcies and financial distress to examine the accuracy of going concern opinions. We compute *TYPE1\_BANKRUPT* (*TYPE2\_BANKRUPT*) = 1 if a firm has a going concern opinion (clean opinion) in year  $t$  and does not fail (fails) by the end of year  $t + 2$ , 0 otherwise. We define failed firms as firms that enter bankruptcy or receivership, are delisted from their stock exchange, or are acquired by another firm while in distress (Masli, Porter, and Scholz 2018). Because

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<sup>18</sup> We thank the Editor for this suggestion.

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there are only a limited number of firms entering bankruptcy, we limit our analysis to firms in financial distress. We define distressed firms as firms with negative equity or negative earnings or negative cash from operations (Aobdia 2018). Second, we examine whether the firm ceases to exist in the following two years (Hardies et al. 2016; Masli et al. 2018). We define *TYPE1\_CEASED* (*TYPE2\_CEASED*) = 1 if a firm receives a going concern opinion (clean opinion) and does not cease to exist (ceases to exist) in the following two years, 0 otherwise. Third, we use accounting controversies in the following year (adapted from He, Pittman, Rui, and Wu 2017). We define *TYPE1\_ACCCTR* (*TYPE2\_ACCCTR*) = 1 if a firm receives a going concern opinion (clean opinion) and does not incur (does incur) one or more accounting controversies the following year, 0 otherwise. Fourth, we use default risk implied from credit ratings. We define *TYPE1\_RATING* (*TYPE2\_RATING*) = 1 if a firm receives a going concern opinion (a clean opinion) and is not downgraded (is downgraded) below the investment grade category (BBB-) according to Fitch Ratings the following year, 0 otherwise (see online Appendix Table OA4 for descriptive statistics of these going concern accuracy variables).

We include these variables as dependent variables in our base model (1) and report the estimation results in Table 5 (we also control for default risk with the Altman Z-score). The sample size varies across the different columns of Table 5 depending on data availability.

[Insert Table 5 About Here]

Panel A of Table 5 indicates that, relative to auditors that do not provide CSR assurance, audit firms that also provide CSR assurance to their clients are between 3.1 percent and 7.7 percent more likely to make a Type-I going concern opinion error, depending on the definition of accuracy (+3.1 percent =  $(0.0198 - (-0.011)) \times 100$  in column (4) for downgrades and +7.7 percent =  $(0.0699 - (-0.0074)) \times 100$  in column (1) for bankruptcies and financial distress). Panel B of Table 5 shows that, relative to audit firms that do not provide CSR assurance to their clients, audit firms that also provide

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CSR assurance are between 2.1 percent and 0.9 percent less likely to make a Type-II going concern opinion error ( $-2.1 \text{ percent} = (-0.0323 - (-0.0111)) \times 100$  in column (1) for bankruptcies and financial distress, and  $-0.9 \text{ percent} = (-0.0190 - (-0.0091)) \times 100$  in column (3) for accounting controversies). We do not find evidence of differences between *ASSURED\_SAME* and *ASSURED\_DIFF* for Type II opinion errors when we use rating downgrades.

These findings are consistent with our argument that audit firms that provide both financial audit and CSR assurance services to their clients are better able to assess going concern risks and issue appropriate audit opinions. They also suggest more prudent auditing by audit firms that also provide CSR assurance to their clients, likely because they are better able to understand and assess CSR risks.

### ***Joint Provision of CSR Assurance and Financial Audit and Provisions for CSR Risks***

If audit firms that perform both CSR assurance and financial audit benefit from knowledge spillovers related to CSR risks, they should be able to ensure that managers book adequate provisions reflecting these CSR risks. Provisions for environmental and litigation risks require estimates that may be better audited if the same audit firm both performs the financial audit and provides the CSR assurance. By decreasing current earnings, provisions for environmental and litigation risk allow firms to anticipate future negative events associated with CSR risks such as lawsuits, depollution costs, and rehabilitation costs.

To show that this effect is specific to CSR risks and to rule out the alternative explanation that firms that use their audit firm as the CSR assurance provider have a different policy for provisions, we perform a falsification test using other operating provisions instead of environmental or litigation provisions. Operating provisions, which relate to recurring events such as maintenance costs, are less likely to be affected by CSR risks than are provisions for environmental and litigation risks. We estimate the following model:

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$$PROV_t = b_0 + b_1 UNASSURED_t + b_2 ASSURED\_DIFF_t + b_3 ASSURED\_SAME_t + Controls + Fixed\ Effects + \varepsilon_t \quad (2)$$

where: *PROV* is the amount of environmental provision (*ENVPROV*), litigation provision (*LTGPROV*), or operating provision (*OPTPROV*), each divided by total assets (see online Appendix Table OA4 for descriptive statistics for the provision variables). We estimate model (2) for firms with non-missing provision data. In an alternative specification, we replace missing provision values by zero and include an indicator variable for missing data (i.e., *MISS\_ENVPROV*, *MISS\_LTGPROV* and *MISS\_OPTPROV*). We control for the following firm characteristics: firm size (*SIZE*), negative earnings (*LOSS*), leverage (*LEV*), market-to-book (*MTB*), sales growth (*SALESG*), firm performance (*ROA*), stakeholder orientation (*STAKE*), and governance (*GOV*).<sup>19</sup> We present estimation results in Table 6.

[Insert Table 6 About Here]

We present the results for all observations with non-missing provision data in columns (1) to (3) of Table 6 and the results for the full sample after including an indicator variable for missing provision data in columns (4) to (6). The results suggest that firms using their audit firm as the assurance provider book larger environmental provisions (column (1)) and larger litigation provisions (column (2)) than firms that use a different assurance provider (see tests for  $b_2 = b_3$ , which indicate that  $b_3 > b_2$ , significant at less than 5 percent). The results show that firms using the same assurance provider as their financial auditor have approximately 0.6 percent and 0.3 percent larger provisions for environmental risks and litigation risks, respectively (+0.6 percent =  $(0.0064 - 0.0008) \times 100$  in column (1); +0.3 percent =  $(0.0018 - (-0.0011)) \times 100$  in column (2)). Using all observations and controlling for missing provision data in columns (4) to (6) also indicates that firms using the same

<sup>19</sup> Including the full set of control variables as in model (1) does not alter the sign of estimated coefficients or the inferences from the model (3) estimates.

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assurance provider as their financial auditor exhibit larger provisions for environmental risks and litigation risks (see tests indicating that  $b_3 > b_2$  in columns (4) and (5), significant at less than 0.10 and 0.05, respectively). The economic magnitude of these larger provisions is 0.08 percent for environmental provisions and 0.06 percent for litigation provisions.

Because provisions for environmental risks and litigation risks are accounts that reflect CSR risks in financial statements, these results are consistent with our core argument that providing both CSR assurance and financial audit helps auditors to assess going concern risks. Importantly, we do not find similar evidence for operating provisions, for which there is no reliable difference between *ASSURED\_DIFF* and *ASSURED\_SAME* (see the insignificant t-statistics for  $b_2 = b_3$  in column (3) and column (6)). Operating provisions capture routine expenses and are less affected by CSR risks. This result indicates that it is unlikely we are capturing a systematic difference in policy about provisions booked by firms using the same assurance provider for CSR report as their audit firm.

## 6. Additional Analyses

### *Joint Provision of CSR Assurance and Financial Audit and Earnings Misstatements*

Higher audit quality is generally associated with fewer earnings restatements (Bills et al. 2016; Hardies et al. 2016; Lamoreaux 2016; Pincus et al. 2017). Restatements show that the auditor signed off on misstated financial statements (Francis, Michas, and Seavey 2013). We examine whether firms that rely on their audit firm to also provide CSR assurance are less likely to restate their earnings, and in particular, whether they are less likely to recognize income-decreasing earnings restatements.

To identify the sign, timing and materiality of earnings misstatements, we use Thomson Reuters data items “*Net Income Available to Common Shareholders – Restated*” and “*Net Income Available to Common Shareholders*”. Thomson Reuters identifies eight types of restatements: (1) Accounting

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policy change at item level; (2) Acquisition/Mergers; (3) Change in GAAP followed; (4) Change in GAAP followed plus other events; (5) Discontinued Operations, Spin-offs or de-mergers; (6) Multiple events; (7) Other; (8) Reclassified. We define  $MISSTAT = 1$  for firm-year observations for which earnings were misstated and the reason for earnings restatements is “Other”, 0 otherwise.<sup>20</sup> We define  $MISSTAT\_POS = 1$  for income-increasing restatements and  $MISSTAT\_NEG = 1$  for income-decreasing restatements. We focus on the year of the misstatement, not the year of the restatement. In Table 7, we report estimation results of model (1) using  $MISSTAT$ ,  $MISSTAT\_POS$  and  $MISSTAT\_NEG$  as dependent variables (see online Appendix Table OA4 for descriptive statistics of misstatements variables).

[Insert Table 7 About Here]

Columns (1) to (3) of Table 7 present the results for all restatements and columns (4) to (6) show the results for material restatements only, defined as restatements with absolute value greater than 5 percent of pre-restated earnings. The results in columns (1) to (3) indicate that firms with the same financial audit firm as their CSR assurance provider are 0.9 percent less likely to have an income-decreasing earnings restatement than firms that use a different CSR assurance provider from their audit firm (-0.9 percent =  $(-0.0068 - 0.0019) \times 100$  in column (3),  $p\text{-value} < 0.05$ ). We do not find similar evidence for income-increasing earnings restatements, consistent with the argument that audit firms that also provide CSR assurance to their clients better reflect CSR risks in earnings, for instance by booking adequate provisions. Columns (4) to (6) provide similar evidence for income-decreasing material earnings restatements (see test in column (6) indicating that  $b_3 < b_2$ ,  $p\text{-value} < 0.01$ ). The economic effect is slightly smaller (-0.6 percent).

<sup>20</sup> Auditors are more likely to be involved in earnings restatements classified in the “Other” category. Indeed, the earnings restatements in the remaining seven categories (e.g., change in GAAP, acquisitions/mergers, discontinued operations, reclassifications) are events due to external circumstances that are unlikely to be related to auditors.

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These results indicate that the joint provision of financial audit and CSR assurance by the same audit firm is associated with higher audit quality, which is consistent with rejection of Hypothesis 1.

### ***Joint Provision of CSR Assurance and Financial Audit and Audit Pricing***

If information collected during the CSR assurance process is relevant to the financial audit and helps the financial auditors better focus their audit efforts, it may facilitate more cost-effective financial audits. If so, auditors could provide higher financial audit quality at no greater or perhaps at even lower cost. We examine the cost to the client of the improved audit quality documented above by analyzing audit fees.

In addition, CSR assurance services could be used as a loss-leader to sell additional high-margin non-audit services. Audit firms that provide both audit and CSR assurance services to a client are also more likely to also provide that client with other non-audit services than audit firms that provide only audit service. This is another reason to examine differences in fees across firms that use the same CSR assurance provider as their auditor and firms that use a different CSR assurance provider. Therefore, we focus on audit fees and total fees (which include audit and non-audit fees).

We obtain audit fee data from Thomson Reuters Eikon, which contains data on audit fees, audit-related fees, and non-audit fees. Audit fees include amounts paid for the provision of the audit of financial statements, audit-related fees comprise services related to the main mission of audit of the financial statements (e.g., due diligence missions reasonably related to the financial audit), and non-audit fees are fees paid for other services (e.g., consulting services, tax services, transaction services, CSR assurance). We divide fees by total assets. One potential concern is that auditors may cross-subsidize their services if they provide both auditing services and CSR assurance by reducing or leaving audit fees unchanged while increasing non-audit fees relative to “normal” non-audit fees. If that is the case, auditors performing both financial audit and CSR assurance may exert more audit

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effort and charge higher non-audit fees, which will also lead to higher audit quality. To rule out this alternative explanation, we replicate our analysis after replacing audit fees with total fees (i.e., the sum of audit fees, audit-related fees, and non-audit fees). In these tests, the sample is reduced to 11,046 observations due to the additional data requirements (see online Appendix Table OA4 for descriptive statistics of fee variables).

We test the association between audit fees (total fees) and the joint provision of CSR assurance and financial audit by estimating the following OLS models (3a) and (3b):

$$AUDITFEES_t = b_0 + b_1 UNASSURED_t + b_2 ASSURED\_DIFF_t + b_3 ASSURED\_SAME_t + Controls + Fixed Effects + \varepsilon_t \quad (3a)$$

$$TOTALFEES_t = b_0 + b_1 UNASSURED_t + b_2 ASSURED\_DIFF_t + b_3 ASSURED\_SAME_t + Controls + Fixed Effects + \varepsilon_t \quad (3b)$$

where:

*AUDITFEES* is audit fees divided by total assets and *TOTALFEES* is the sum of audit fees, audit related fees, and non-audit fees divided by total assets. All the other variables are defined in Appendix A.

In both models (3a) and (3b), we include the same firm-specific factors and fixed effects as in model (1) that are likely to explain the amount of audit fees. To investigate the effect of the joint provision of CSR assurance and financial audit, we examine the difference between  $b_2$  and  $b_3$  in models (3a) and (3b). If Big 4 audit firms that also provide CSR report assurance services benefit from knowledge spillovers from the CSR assurance team and conduct more efficient (i.e., lower cost) financial audits, we expect that  $b_3 \leq b_2$ .

[Insert Table 8 About Here]

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Table 8 presents the estimation results of models (3a) and (3b). Firms for which the financial audit firm also performs CSR assurance do not exhibit higher audit fees or total fees than firms that use a different CSR assurance provider (see the tests in columns (1) and (2) of Table 8, which indicate that  $b_3$  is not statistically different from  $b_2$ ,  $p\text{-value} > 0.10$ ). Given that higher audit fees are likely to accompany increased audit effort, these results suggest that the higher frequency of going concern opinions documented for clients of audit firms that provide both financial audit and CSR assurance services is unlikely to be driven by higher audit effort. This result supports the argument that knowledge spillovers from the CSR assurance team to the audit engagement team help the auditor to conduct more cost-effective financial audits. CSR assurance and audit engagement teams have different objectives but focus on the same firms and rely on the same information system and, therefore, are likely to communicate and exchange information.

#### ***Implications of Industry and Firm Characteristics for Knowledge Spillovers***

The importance of information about CSR risks for auditors' assessment of going concern risk is likely to depend on the industry in which the firm operates. Firms operating in environmentally-sensitive industries are more likely to be subject to risks related to CSR because policy makers issue specific regulations for these firms and regulators such as environmental agencies monitor them (e.g., to prevent negative externalities related to pollution). We examine potential differences in the importance of knowledge spillovers across industries by dividing our sample into two groups: environmentally-sensitive industries (defined as firms with the two digit industry codes: 13, 26, 28, 29, 33 (Peters and Romi 2014)) and all the other firms. We then estimate model (1) separately for the environmentally-sensitive industries and all the other industries and compare the difference between  $b_2$  and  $b_3$  in model (1) across these two subsamples.

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The importance of knowledge spillovers from the CSR assurance team is also likely to vary with firm-specific factors. Firms that are more engaged with stakeholders bear higher CSR risks because their actions are more visible. The CSR assurance team can obtain useful information for the audit engagement team for firms that are more involved with their stakeholders. We examine potential differences in the importance of knowledge spillovers across these two groups of firms by dividing our sample into two groups: more stakeholder-oriented firms and less stakeholder-oriented firms. We measure firm stakeholder orientation as the sum of the social score and the environmental score from Asset4 and classify firms into High Stakeholder and Low Stakeholder groups based on the industry-country-year mean value of the sum of scores. We then estimate model (1) separately for the High Stakeholder firms and the Low Stakeholder firms and compare the difference between  $b_2$  and  $b_3$  across these two subsamples.

In online Appendix Table OA8, we report the cross-sectional variation in the relationship between the joint provision of financial audit and CSR assurance and the auditor's assessment of going concern risks based on the extent of potential knowledge spillovers related to industry characteristics (columns (1) and (2)), and firm characteristics (columns (3) and (4)).

In columns (1) and (2), we find that the association between the joint provision of CSR assurance and financial audit by the same audit firm and going concern opinions is larger for firms operating in environmentally-sensitive industries than for firms operating in other industries. Auditors are 10.5 percent more likely to issue a going concern opinion in environmentally sensitive industries if the audit firm also provides CSR assurance than for firms that do not use the same assurance provider (10.5 percent =  $0.0709 - (-0.0338)$  in column (2);  $b_3 > b_2$ , p-value < 0.01). Conversely, auditors are only 2.5 percent more likely to issue a going concern opinion in non-environmentally sensitive industries if the audit firm also provides CSR assurance than for firms that do not use the same assurance provider (2.5 percent =  $0.0349 - (-0.010)$  in column (1);  $b_3 > b_2$ , p-value < 0.05). The

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difference across the two industry groups of the differences between  $b_3$  and  $b_2$  is statistically significant (p-value < 0.01, untabulated).

In columns (3) and (4), we find that the association between the joint provision of CSR assurance and financial audit and going concern opinions is larger for high stakeholder-oriented firms than for low stakeholder-oriented firms. Auditors are 5.3 percent more likely to issue a going concern opinion for a firm with high stakeholder orientation if the audit firm also provides CSR assurance than for firms that do not use the same assurance provider (5.3 percent =  $0.0442 - (-0.0083)$  in column (4);  $b_3 > b_2$ , p-value < 0.01). Conversely, auditors are not more likely to issue a going concern opinion for firms that are less stakeholder oriented if the audit firm also provides CSR assurance than for firms that do not use the same assurance provider (see insignificant difference between  $b_2$  and  $b_3$  in column (3), p-value > 0.10). The difference across the two groups of firms based on their stakeholder orientation of the differences between  $b_3$  and  $b_2$  is statistically significant (p-value < 0.01, untabulated).

Overall, the cross-sectional analyses based on industry and firm characteristics presented in online Appendix Table OA8 indicate that, when potential knowledge spillovers are higher, the effect of the joint provision of financial audit and CSR assurance services by the same audit firm on the likelihood of going concern opinions is more positive than when potential knowledge spillovers are lower. These cross-sectional results are consistent with our core argument that auditors can better assess CSR risks when their audit firm also provides CSR assurance to the client.

### ***Joint Provision of CSR Assurance and Financial Audit and Earnings Properties***

We examine whether the auditors' better assessment of CSR risks for firms that use the same assurance provider as their financial audit firm is associated with specific earnings properties. We focus on two earnings properties: persistence and value relevance of earnings. An audit firm that

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performs both the financial audit and the CSR assurance may be better able to reflect CSR risks in financial statements, for instance, by booking adequate provisions and thus improving the accuracy of material accounting estimates. If this is the case, earnings are likely to exhibit greater persistence and be more value relevant for firms that use the same assurance provider as their financial auditor than for firms that use a different assurance provider. Indeed, firms that use the same audit firm for CSR assurance and financial audit are less likely to book transitory material items in earnings, thus improving earnings persistence. In addition, actual CSR risks are likely to be better reflected in earnings, thus improving the association between market values and earnings (i.e., the value relevance of earnings).

Drawing on past research that examines the persistence of earnings (Dichev and Tang 2009; Frankel and Litov 2009; Atwood, Drake, and Myers 2010), we test differences in earnings persistence between *ASSURED\_SAME* and *ASSURED\_DIFF* using the following model (4):

$$\begin{aligned}
 ROA_{t+1} = & b_0 + b_1 ROA_t + b_2 UNASSURED_t + b_3 ASSURED\_DIFF_t + b_4 ASSURED\_SAME_t \\
 & + b_5 UNASSURED_t \times ROA_t + b_6 ASSURED\_DIFF_t \times ROA_t + b_7 ASSURED\_SAME_t \times ROA_t \\
 & + Controls + Fixed\ effects + \varepsilon_t
 \end{aligned} \tag{4}$$

where  $ROA_{t+1}$  is net income in year  $t+1$  divided by total assets in year  $t+1$  (see online Appendix Table OA4 for descriptive statistics for  $ROA_{t+1}$ ). All the other variables are defined in Appendix A.

In model (4), we focus on the difference between  $b_7$  and  $b_6$ . If  $b_7 - b_6$  is positive, it indicates that earnings are more persistent for firms that use the same assurance provider as their financial auditor than for firms that use a different assurance provider.

To test the incremental value relevance of earnings for *ASSURED\_DIFF* and *ASSURED\_SAME*, we estimate the following model (5):

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$$\begin{aligned}
MV_t = & b_0 + b_1 BV_t + b_2 NI_t + b_3 UNASSURED_t + b_4 ASSURED\_DIFF_t + b_5 ASSURED\_SAME_t \\
& + b_6 UNASSURED_t \times NI_t + b_7 ASSURED\_DIFF_t \times NI_t + b_8 ASSURED\_SAME_t \times NI_t \\
& + Controls + Fixed Effects + \varepsilon_t
\end{aligned} \tag{5}$$

where  $MV_t$  is market value of equity divided by total assets,  $BV_t$  is the book value of equity divided by total assets, and  $NI_t$  is net income divided by total assets (see online Appendix Table OA4 for descriptive statistics for these variables). All the other variables are defined in Appendix A.

We use a price-level specification to test the value relevance of earnings because, as explained by Barth and Clinch (2009), the price specification performs better when the research question relates to whether accounting information does not represent new information during a specific time interval. Indeed, we examine whether earnings better reflect general CSR risk for firms that use the same assurance provider as their financial auditor.

In model (5), we focus on the difference between  $b_8$  and  $b_7$ . If  $b_8 - b_7$  is positive it indicates that earnings are more value relevant for firms that use the same assurance provider as their financial auditor than for firms that use a different assurance provider.

Panels A and B of online Appendix Table OA9 present the estimation results of model (4) and model (5), respectively. Panel A shows that earnings of firms that use the same assurance provider as their financial audit firm are approximately 31 percent more persistent than earnings of firms that use a different assurance provider (41 percent =  $((0.5445 + 0.0853) / (0.5445 - 0.0982)) - 1$ ,  $b_7 > b_6$ ,  $p$ -value  $< 0.01$ ). This result is consistent with the argument that, because they include adequate provisions (see Table 6), earnings of firms that use the same assurance provider as their financial audit firm do not include large infrequent adjustments such as expenses caused by CSR risks and, as a result, exhibit earnings that are more persistent.

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Panel B shows that earnings of firms that use the same assurance provider as their financial auditor are 33 percent more value relevant than earnings of firms that use a different assurance provider (34 percent =  $((2.705 + 2.262) / (2.705 + 1.005)) - 1$ ,  $b_8 > b_7$ , p-value < 0.10). This finding corroborates the argument that firms relying on the same CSR assurance provider as their financial audit firm have earnings that better reflect CSR risks incorporated in the stock price, thus leading to a more positive association between earnings and stock price.

Overall, the findings in online Appendix Table OA9 indicate that firms that use the same audit firm to provide CSR assurance and financial audit have more persistent earnings and earnings that better reflect economic performance.

### ***Sensitivity tests***

We perform additional sensitivity tests to assess the robustness of our main result that an audit firm better assesses going concern risk if it provides both CSR assurance and financial audit to the same client.

First, we examine whether our results are limited to Big 4 audit firms or can be generalized to smaller audit firms. We examine Big 7 audit firms instead of Big 4 audit firms, by also including BDO, Grant Thornton, and Mazars. We find a similar effect of more frequent going concern opinions for firms that also use their Big 7 audit firm as a CSR assurance provider than for firms that use a different assurance provider (see column (1) of online Appendix Table OA10). Next, to test whether we can generalize our results to other smaller audit firms, we do not restrict the financial auditor to Big 4 or Big 7 audit firms and compute  $ASSURED\_SAME = 1$  for all audit firms that provide both financial audit and CSR assurance.<sup>21</sup> Using this more inclusive measure of  $ASSURED\_SAME$ , we

<sup>21</sup> To do so, we use the *ustrdist* command in Stata, which implements distance calculation between two strings of variables. We define  $ASSURED\_SAME = 1$  (and  $ASSURED\_DIFF = 0$ ) as firms that are below the fifth percentile of the Levenshtein distance, and vice versa. We perform this test on the entire sample.

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find evidence of more frequent going concern opinions for firms that rely on the same assurance provider as their auditor (see column (2) of online Appendix Table OA10). This evidence indicates that our results are generalizable to smaller of audit firms.

We also test whether our results are sensitive to including observations from countries with a large representation (or a small representation) in our sample. After dropping observations from countries with more than 3,000 observations or less than 500 observations, we find evidence of more frequent going concern opinions for firms that use the same assurance provider as their financial audit firm, consistent with the results reported in Table 4. Because firms located in France and Denmark can use joint auditors for financial statements (this is mandatory in France and optional in Denmark since 2005), we also delete observations from these two countries and obtain consistent findings.

## 7. Conclusion

Assurance of CSR reports has become more common in recent years (KPMG 2013; Ernst & Young and Global Reporting Initiative 2014). This phenomenon results from the increasing importance of CSR activities to stakeholders and the pressure for management to increase the credibility of CSR disclosures. As more and more firms use assurance services for their CSR reports, a key decision is whether to use a CSR assurance provider that is also the financial audit firm or to use a different CSR assurance provider. In this study, we examine the implications for auditors' assessment of going concern risk of using the same (Big 4) audit firm for both the financial audit and the CSR assurance. We argue that auditors could better assess CSR risks if their audit firm also provides CSR assurance because the audit engagement team may benefit from knowledge spillovers from the CSR assurance team.

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Using an international sample of firms from 55 countries, we find evidence that firms that use the same Big 4 audit firm for the financial audit and the provision of CSR assurance exhibit more frequent going concern opinions than firms that use a different CSR assurance provider. This finding is robust to several statistical techniques for addressing concerns about sample heterogeneity, functional relations between variables, and endogeneity. Our evidence also indicates that auditors that also provide CSR assurance to their clients make more frequent Type-I going concern opinion errors, less frequent Type-II going concern opinion errors, and have clients that book larger environmental and litigation provisions than auditors that do not provide CSR assurance to their clients.

Additional analyses show that income-decreasing restatements are less likely for firms that rely on their financial audit firm to also provide CSR assurance than for firms that use a different assurance provider. The frequency of going concern opinion issuance is higher for firms that are more stakeholder-oriented and for firms operating in environmentally sensitive industries if they use the same audit firm for CSR assurance and financial audit. We also show that the improved assessment of CSR risks by auditors that jointly provide financial audit and CSR report assurance is not associated with audit fees or total fees paid by the client. This finding corroborates the argument of information sharing and potential operating synergies between the CSR assurance team and the audit engagement team. We find that the superior assessment of CSR risks stemming from the joint provision of CSR assurance and financial audit is associated with more persistent and more value relevant earnings.

Our findings have important implications for managers because regulators are considering making assurance of CSR reports mandatory. Our findings could help managers in deciding which assurance provider to retain because they show better assessment of CSR risks and no greater cost for firms that also use their Big 4 financial audit firm for CSR assurance. Our study is also important

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for regulators who are considering restricting auditors from providing some types of non-audit services.

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## Appendix A. Definition of variables

### Panel A: Variables used in the going concern tests

Name	Description	Source
<i>GCOPINION</i> (Going Concern Opinion)	1 if the client firm receives a qualified audit opinion, 0 otherwise. Due to different reporting requirements in international jurisdictions, qualified audit reports are typically used as an alternative to audit reports that specifically identify a going concern issue (Chan and Wu 2011; DeFond and Zhang 2014).	EIKON: TR.BSAuditorOpinionCode.
CSR Sustainability Reporting ( <i>CSRreport</i> )	1 if the client firm issues a separate CSR report or includes a section on CSR in its annual report, 0 otherwise.	Datastream: CGVSDP026.
CSR Report not assured ( <i>UNASSURED</i> )	1 if the client firm issues a CSR report that is not assured, 0 otherwise.	Datastream: CGVSDP026, CGVSDP030.
Different Assurance Provider ( <i>ASSURED_DIFF</i> )	1 if the client firm issues a CSR report that is assured by a different firm from its financial audit firm, 0 otherwise.	EIKON: CSR reporting assurer (TR.CSRReportingExternalAuditName), Annual Report Auditor (TR.BSAuditorCode).
Same Assurance Provider ( <i>ASSURED_SAME</i> )	1 if the client firm issues a CSR report that is assured by the same firm as its financial audit firm, 0 otherwise.	EIKON: CSR reporting Assurer (TR.CSRReportingExternalAuditName), Annual Report Auditor (TR.BSAuditorCode).
Country CSR Regulation ( <i>CSRREG</i> )	Country-year specific score of mandatory disclosures based on local regulations related to ESG disclosures. We distinguish between reporting requirements for environmental, social and corporate governance disclosures (ESG factors) and attribute one point per mandatory disclosure (the score ranges from 0 to 3). When we could not find the exact year when a given regulation became effective, we used the next calendar year as the first effective year of the mandatory CSR disclosures. The main data source is the Carrot &	Online Appendix OA1.

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	Sticks study's website: <a href="https://www.carrotsandsticks.net/regulations/">https://www.carrotsandsticks.net/regulations/</a> . Additional sources are identified in online Appendix OA1.	
Age ( <i>AGE</i> )	Client firm age measured as the difference between the fiscal year and the first year when the firm is included in Datastream.	Datastream: BASEDATE.
M&A activity ( <i>M&amp;A</i> )	1 if the change in total assets is above +20 percent or below -20 percent, 0 otherwise.	Datastream: WC02999.
Receivables and Inventories ( <i>RECINV</i> )	Receivables plus inventories divided by total assets at fiscal year-end.	Datastream: WC02051, WC02101, WC02999.
Size ( <i>SIZE</i> )	Natural logarithm of market value of equity (in US dollars).	Datastream: WC08002USD.
Loss ( <i>LOSS</i> )	1 if the client firm reports negative net income, 0 otherwise.	Datastream: WC01706.
Leverage ( <i>LEV</i> )	Debt divided by total assets at fiscal year-end.	Datastream: WC03255, WC02999.
Sales growth ( <i>SALESG</i> )	Year-over-year change in sales.	Datastream: WC01001.
Market to book value ( <i>MTB</i> )	Market value of equity divided by book value of equity at fiscal year-end.	Datastream: WC08002, WC03501.
Intangibles ( <i>INT</i> )	Intangibles divided by total assets at fiscal year-end.	Datastream: WC02649, WC02999.
Return on assets ( <i>ROA</i> )	Net income divided by total assets at fiscal year-end.	Datastream: WC01706, WC02999.
Cash flow ( <i>CFO</i> )	Cash flow from operations divided by total assets at fiscal year-end.	Datastream: WC04201, WC02999.
Variance of Earnings ( <i>SDEAR</i> )	Natural logarithm of the standard deviation of net income estimated over the period $[t-4, t]$ .	Datastream: WC01706.
Fixed Asset ( <i>FIX</i> )	Property plant and equipment (net) divided by total assets at fiscal year-end.	Datastream: WC02501, WC02999.
Closely Held Shares ( <i>CLOSELY</i> )	Shares held by insiders divided by total common shares outstanding.	Datastream: WC08021.
Stakeholder Orientation ( <i>STAKE</i> )	We measure firm level stakeholder orientation using the sum of the social and environmental performance scores from Asset4. The social pillar “measures a company's capacity to generate trust and loyalty with its workforce, customers and society, through its use of best management practices. It reflects the company's reputation and the health of its license to operate, which are key factors in determining its ability to generate long term shareholder value” (Asset4 Glossary). The environmental pillar “measures a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems. It reflects how well a company uses	Datastream: SOCSCORE; ENVSCORE.

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	best management practices to avoid environmental risks and capitalize on environmental opportunities in order to generate long term shareholder value” (Asset4 Glossary).	
Governance (GOV)	We measure corporate governance using the corporate governance performance score from Asset4. Accordingly, this pillar “measures a company's systems and processes, which ensure that its board members and executives act in the best interests of its long-term shareholders. It reflects a company's capacity, through its use of best management practices, to direct and control its rights and responsibilities through the creation of incentives, as well as checks and balances in order to generate long term shareholder value” (Asset4 Glossary).	Datastream: CGVSCORE.
Geographic Complexity (GEOC)	Number of geographic segments in which a client firm operates.	Datastream: WC19603, WC19613, WC19623, WC19633, WC19643, WC19653, WC19663, WC19673, WC19683, WC19593.
Auditor Tenure (TENURE)	Number of consecutive years an audit firm was appointed as the financial auditor during the period $[t-4, t]$ .	EIKON: Annual Report Auditor (TR.BSAuditorCode).

**Panel B:** Variables used in additional tests.

Name	Description	Source
Type I Going Concern Opinion Error (TYPE1_BANKRUPT)	1 if a client firm receives a going concern opinion in year $t$ and does not fail or become distressed by year $t+2$ , 0 otherwise. Failed firms are defined as firms that enter bankruptcy or receivership, are delisted from stock exchange, or are acquired by another firm while in distress (Masli et al. 2018). Distressed firms are defined as firms with negative equity or negative earnings or negative cash from operations (Aobdia 2018).	EIKON: TR.BSAuditorOpinionCode. Orbis: Last avail. year, Status, Status date, Status updated date, Listing Status Datastream: WC01551, WC03501, WC04201.

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Type I Going Concern Opinion Error ( <i>TYPE1_CEASED</i> )	1 if a client firm receives a going concern opinion in year $t$ and has a share price available in year $t+2$ , 0 otherwise.	EIKON: TR.BSAuditorOpinionCode. Datastream: LASTDATE.
Type I Going Concern Opinion Error ( <i>TYPE1_ACCCTR</i> )	1 if a client firm receives a going concern opinion in year $t$ and does not experience an accounting controversy in year $t+1$ , 0 otherwise.	EIKON: TR.BSAuditorOpinionCode. Datastream: ECSLDP067.
Type I Going Concern Opinion Error ( <i>TYPE1_RATING</i> )	1 if a client firm receives a going concern opinion in year $t$ and is not downgraded below the investment grade of BBB- according to Fitch Ratings in year $t+1$ , 0 otherwise.	EIKON: TR.BSAuditorOpinionCode. Datastream: ECSLO05V.
Type II Going Concern Opinion Error ( <i>TYPE2_BANKRUPT</i> )	1 if a client firm does not receive a going concern opinion in year $t$ and fails or becomes distressed by year $t+2$ , 0 otherwise. Failed firms are defined as firms that enter bankruptcy or receivership, are delisted from stock exchange, or are acquired by another firm while in distress (Masli et al. 2018). Distressed firms are defined as firms with negative equity or negative earnings or negative cash from operations (Aobdia 2018).	EIKON: TR.BSAuditorOpinionCode. Orbis: Last avail. year, Status, Status date, Status updated date, Listing Status Datastream: WC01551, WC03501, WC04201.
Type II Going Concern Opinion Error ( <i>TYPE2_CEASED</i> )	1 if a client firm does not receive a going concern opinion in year $t$ and does not have a share price available in year $t+2$ , 0 otherwise.	EIKON: TR.BSAuditorOpinionCode. Datastream: LASTDATE.
Type II Error Going Concern Opinion Error ( <i>TYPE2_ACCCTR</i> )	1 if a client firm does not receive a going concern opinion in year $t$ and experiences one or more accounting controversies in year $t+1$ , 0 otherwise.	EIKON: TR.BSAuditorOpinionCode. Datastream: ECSLDP067.
Type II Going Concern Opinion Error ( <i>TYPE2_RATING</i> )	1 if a client firm does not receive a going concern opinion in year $t$ and is downgraded below the investment grade of BBB- according to Fitch credit ratings in year $t+1$ , 0 otherwise.	EIKON: TR.BSAuditorOpinionCode. Datastream: ECSLO05V.
Altman's bankruptcy Z-Score ( <i>ZSCORE</i> )	Altman's bankruptcy Z-Score, calculated as $0.012 \cdot X1 + 0.014 \cdot X2 + 0.033 \cdot X3 + 0.006 \cdot X4 + 0.999 \cdot X5$ , where $X1 = \text{Working Capital} / \text{Total Assets}$ ; $X2 = \text{Earnings} / \text{Total Assets}$ ; $X3 = \text{Earnings before Interest and Taxes} / \text{Total Assets}$ ; $X4 = \text{Market Value of Equity} / \text{Book Value of Total Liabilities}$ ; $X5 = \text{Sales} / \text{Total Assets}$ .	Datastream: WC02201, WC03101, WC02999, WC01751, WC18191, WC08002, WC03255, WC01001.
<i>PROVISIONS</i>	<i>ENVPROV</i> , <i>LTGPROV</i> , <i>OPTPROV</i> , <i>ENVPROV2</i> , <i>LTGPROV2</i> or <i>OPTPROV2</i>	
Environmental Provisions ( <i>ENVPROV</i> )	Environmental provisions divided by total assets at fiscal year-end.	Datastream: ENERDP092, WC02999.
Litigation Provisions ( <i>LTGPROV</i> )	Litigation provisions divided by total assets at fiscal year-end.	Datastream: ECSLDP070, WC02999.
Operating Provisions ( <i>OPTPROV</i> )	Operating provisions divided by total assets at fiscal year-end.	Datastream: WC01302, WC02999.

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Environmental Provisions ( <i>ENVPROV2</i> )	Environmental provisions divided by total assets at fiscal year-end. Missing values are replaced with zero.	Datastream: ENERDP092, WC02999.
Litigation Provisions ( <i>LTGPROV2</i> )	Litigation provisions divided by total assets at fiscal year-end. Missing values are replaced with zero.	Datastream: ECSLDP070, WC02999.
Operating Provisions ( <i>OPTPROV2</i> )	Operating provisions divided by total assets at fiscal year-end. Missing values are replaced with zero.	Datastream: WC01302, WC02999.
Missing Environmental Provisions ( <i>MISS_ENVPROV</i> )	1 if environmental provisions are missing, 0 otherwise.	Datastream: ENERDP092.
Missing Litigation Provisions ( <i>MISS_LTGPROV</i> )	1 if litigation provisions are missing, 0 otherwise.	Datastream: ECSLDP070.
Missing Operating Provisions ( <i>MISS_OPTPROV</i> )	1 if operating provisions are missing, 0 otherwise.	Datastream: WC01302.
Earnings Misstatements ( <i>MISSTAT</i> )	1 if Datastream contains restated data for net income and the motivation for restatement is classified as 'Other', 0 otherwise.	Datastream: WC11559R, WC01751, WC01751R.
Positive Earnings Misstatements ( <i>MISSTAT_POS</i> )	1 if Datastream contains positively restated data for net income and the motivation for restatement is classified as 'Other', 0 otherwise.	Datastream: WC11559R, WC01751, WC01751R.
Negative Earnings Misstatements ( <i>MISSTAT_NEG</i> )	1 if Datastream contains negatively restated data for net income and the motivation for restatement is classified as 'Other', 0 otherwise.	Datastream: WC11559R, WC01751, WC01751R.
Audit fees ( <i>AUDITFEES</i> )	Audit fees divided by total assets at fiscal year-end.	EIKON: TR.AuditFees, TR.AuditRelatedFees, TR.AllOtherFees.
Non-audit fees ( <i>TOTALFEES</i> )	Sum of audit fees audit-related fees and non-audit fees divided by total assets at fiscal year-end.	EIKON: TR.AuditFees, TR.AuditRelatedFees, TR.AllOtherFees.

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**Figure 1** Sample distribution by type of CSR reporting

	CSR Reporting YES	CSR Reporting NO
CSR Assurance YES	<b>CSR Report assured by the same <i>Big 4</i> auditor</b> <i>Group 4: 2,049 Obs.</i>	<b>CSR Report not issued</b> <i>Group 1: Obs. 18,209</i>
	<b>CSR Report assured by a <i>different auditor</i></b> <i>Group 3: 4,419 Obs.</i> [Different Big 4 = 1,217 Obs. and Other provider = 3,202 Obs.]	
CSR Assurance NO	<b>CSR Report not assured</b> <i>Group 2: Obs. 3,984</i>	

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TABLE 1

## Sample selection

	Sample
Observations for firms with a Big 4 financial auditor and availability of CSR reporting, CSR assurance, and CSR assurance provider name in Eikon and in Asset 4 from 2002 through 2017	37,420
Reason for dropping	Obs. dropped
Missing data from Datastream	8,751
Missing data on Going Concern Opinion	8
	<b>28,661</b>
<b>Final sample</b>	[ <i>t</i> = 2002, 2017] [firms = 5,218] [countries = 55]

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TABLE 2

Sample distribution by type of CSR reporting, financial auditor, and CSR assurance provider

**Panel A:** Distribution type of CSR reporting

Year	No CSR report	CSR report not assured	CSR report assured, different assurer	CSR report assured, same provider	Total
2002	128 (94.12%)	6 (4.41%)	1 (0.74%)	1 (0.74%)	136
2003	493 (88.04%)	48 (8.57%)	13 (2.32%)	6 (1.07%)	560
2004	941 (89.36%)	80 (7.6%)	18 (1.71%)	14 (1.33%)	1,053
2005	1,124 (85.09%)	138 (10.45%)	42 (3.18%)	17 (1.29%)	1,321
2006	1,137 (83.3%)	164 (12.01%)	45 (3.3%)	19 (1.39%)	1,365
2007	923 (63.52%)	296 (20.37%)	174 (11.98%)	60 (4.13%)	1,453
2008	1,156 (59.53%)	457 (23.53%)	253 (13.03%)	76 (3.91%)	1,942
2009	1,265 (56.32%)	570 (25.38%)	302 (13.45%)	109 (4.85%)	2,246
2010	1,272 (53.04%)	608 (25.35%)	389 (16.22%)	129 (5.38%)	2,398
2011	1,242 (53.4%)	451 (19.39%)	454 (19.52%)	179 (7.7%)	2,326
2012	1,140 (57.32%)	182 (9.15%)	471 (23.68%)	196 (9.85%)	1,989
2013	1,005 (57.17%)	164 (9.33%)	394 (22.41%)	195 (11.09%)	1,758
2014	1,107 (56.34%)	176 (8.96%)	473 (24.07%)	209 (10.64%)	1,965
2015	1,458 (61.91%)	198 (8.41%)	449 (19.07%)	250 (10.62%)	2,355
2016	1,965 (66.54%)	223 (7.55%)	479 (16.22%)	286 (9.69%)	2,953
2017	1,853 (65.22%)	223 (7.85%)	462 (16.26%)	303 (10.67%)	2,841
<i>Total</i>	<i>18,209 (63.53%)</i>	<i>3,984 (13.9%)</i>	<i>4,419 (15.42%)</i>	<i>2,049 (7.15%)</i>	<i>28,661</i>

**Panel B:** Distribution by financial auditor and CSR assurance provider

CSR report assurer						
	DELOITTE	EY	KPMG	PwC	Other Providers	Total
DELOITTE	459 (7.1%)	126 (1.95%)	153 (2.37%)	134 (2.07%)	757 (11.7%)	1,629 (25.19%)

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<b>Financial report auditor</b>	EY	57 (0.88%)	450 (6.96%)	94 (1.45%)	105 (1.62%)	751 (11.61%)	1,457 (22.53%)
	KPMG	71 (1.1%)	79 (1.22%)	537 (8.3%)	122 (1.89%)	833 (12.88%)	1,642 (25.39%)
	PwC	75 (1.16%)	100 (1.55%)	101 (1.56%)	603 (9.32%)	861 (13.31%)	1,740 (26.9%)
	<i>Total</i>	<i>662 (10.24%)</i>	<i>755 (11.67%)</i>	<i>885 (13.68%)</i>	<i>964 (14.9%)</i>	<i>3,202 (49.51%)</i>	<i>6,468 (100%)</i>

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TABLE 3

Descriptive statistics (by type of CSR reporting)

	No CSR Report (1)			CSR Report Not Assured (2)			CSR Report Assured, Different Assurer (3)			CSR Report Assured, Same Assurer (4)		
	Obs.	Mean	Median	Obs.	Mean	Median	Obs.	Mean	Median	Obs.	Mean	Median
<i>GCOPINION</i>	18,209	0.1226	0	3,984	0.1230	0	4,419	0.1260	0	2,049	0.1142	0
<i>UNASSURED</i>	18,209	0	0	3,984	1	1	4,419	0	0	2,049	0	0
<i>ASSURED_DIFF</i>	18,209	0	0	3,984	0	0	4,419	1	1	2,049	0	0
<i>ASSURED_SAME</i>	18,209	0	0	3,984	0	0	4,419	0	0	2,049	1	1
<i>CSRREG</i>	18,209	1.4667	1	3,984	1.3602	1	4,419	1.6802	2	2,049	1.9107	2
<i>GCOPINION<sub>t-1</sub></i>	16,865	0.1325	0	3,811	0.1267	0	4,194	0.1381	0	1,947	0.1130	0
<i>AGE</i>	18,209	18.2684	16	3,984	22.6202	21	4,419	26.3908	26	2,049	25.3934	24
<i>M&amp;A</i>	18,209	0.2515	0	3,984	0.1739	0	4,419	0.1349	0	2,049	0.1152	0
<i>RECINV</i>	18,209	0.2098	0.1709	3,984	0.2441	0.2304	4,419	0.2280	0.2121	2,049	0.2257	0.2020
<i>SIZE</i>	18,209	14.7810	14.8386	3,984	15.4327	15.4375	4,419	15.8826	15.8416	2,049	16.0704	16.0985
<i>LOSS</i>	18,209	0.1745	0	3,984	0.1240	0	4,419	0.1109	0	2,049	0.1264	0
<i>LEV</i>	18,209	0.2617	0.2434	3,984	0.2526	0.2430	4,419	0.2718	0.2653	2,049	0.2724	0.2548
<i>SALESG</i>	18,209	0.1217	0.0705	3,984	0.0705	0.0541	4,419	0.0577	0.0419	2,049	0.0407	0.0357
<i>MTB</i>	18,209	3.1431	2.1674	3,984	2.8419	2.0845	4,419	2.4939	1.5828	2,049	2.5491	1.6918
<i>INT</i>	18,209	0.1830	0.0915	3,984	0.1734	0.1010	4,419	0.1412	0.0630	2,049	0.1891	0.1251
<i>ROA</i>	18,209	0.0380	0.0447	3,984	0.0514	0.0496	4,419	0.0476	0.0427	2,049	0.0440	0.0404
<i>CFO</i>	18,209	0.0973	0.0908	3,984	0.1059	0.0961	4,419	0.0965	0.0851	2,049	0.0942	0.0851
<i>SDEAR</i>	18,209	11.9201	11.5341	3,984	12.7487	12.3830	4,419	14.1507	13.7676	2,049	13.5141	13.2634
<i>FIX</i>	18,209	0.3163	0.2283	3,984	0.3409	0.2901	4,419	0.3638	0.3288	2,049	0.3501	0.3006
<i>CLOSELY</i>	18,209	22.5239	14.3400	3,984	22.7567	14.9200	4,419	23.7706	15.7300	2,049	26.5128	20.5000
<i>STAKE</i>	18,209	62.3205	48.3000	3,984	144.1092	154.7600	4,419	166.9600	175.9000	2,049	169.3025	178.7700
<i>GOV</i>	18,209	50.0086	56.5700	3,984	62.9194	74.0400	4,419	57.3648	66.3100	2,049	61.3622	67.5200
<i>GEOC</i>	18,209	2.2084	2	3,984	2.8888	3	4,419	2.9556	3	2,049	3.2875	3
<i>TENURE</i>	18,209	3.9565	5	3,984	4.1850	5	4,419	4.0715	5	2,049	4.0361	5

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Variable definitions are in Appendix A. Table 3 presents the descriptive statistics of variables used in the main tests. Descriptive statistics for variables used in additional tests are presented in online Appendix Table OA4.

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TABLE 4

Relation between going concern opinion and CSR assurance and financial audit provision

$$GCOPINION = b_0 + b_1 UNASSURED + b_2 ASSURED\_DIFF + b_3 ASSURED\_SAME + Controls + Fixed Effects + \varepsilon$$

	Column (1) Full sample (OLS)	Column (2) Full sample (OLS)	Column (3) Full sample (OLS)	Column (4) CSRreport=1 (OLS)	Column (5) 2005-2017 (OLS)	Column (6) Distressed=1 (OLS)	Column (7) Full sample (OLS)	Column (8) Full sample (Logit)
Constant	0.2593*** (4.57)	0.2548*** (4.50)	0.2549*** (5.54)	0.2525 (1.42)	-0.0076 (-0.18)	0.4214*** (3.74)	0.5589*** (4.42)	0.0585 (0.05)
<i>UNASSURED</i>	<b>-0.0037</b> <b>(-0.43)</b>	<b>-0.0040</b> <b>(-0.46)</b>	<b>-0.0021</b> <b>(-0.33)</b>		<b>-0.0069</b> <b>(-0.79)</b>	<b>-0.0164</b> <b>(-0.79)</b>	<b>-0.0163</b> <b>(-1.36)</b>	<b>-0.1152</b> <b>(-1.19)</b> [-1.00%]
<i>ASSURED_DIFF</i>	<b>-0.0008</b> <b>(-0.07)</b>	<b>-0.0024</b> <b>(-0.23)</b>	<b>-0.0104</b> <b>(-1.41)</b>	<b>-0.0149</b> <b>(-1.48)</b>	<b>-0.0155</b> <b>(-1.48)</b>	<b>-0.0125</b> <b>(-0.50)</b>	<b>-0.0025</b> <b>(-0.16)</b>	<b>0.0013</b> <b>(0.01)</b> [+0.00%]
<i>ASSURED_SAME</i>	<b>0.0406***</b> <b>(3.34)</b>	<b>0.0383***</b> <b>(3.16)</b>	<b>0.0153*</b> <b>(1.81)</b>	<b>0.0202*</b> <b>(1.75)</b>	<b>0.0175</b> <b>(1.46)</b>	<b>0.0706**</b> <b>(2.24)</b>	<b>0.0529***</b> <b>(3.04)</b>	<b>0.4369***</b> <b>(2.92)</b> [+3.79%]***
<i>t(z)-stat for (b<sub>3</sub> - b<sub>2</sub> = 0)</i>	<b>(3.95)</b>	<b>(3.89)</b>	<b>(3.48)</b>	<b>(3.38)</b>	<b>(3.18)</b>	<b>(2.7)</b>	<b>(3.93)</b>	<b>(3.33)</b>
<i>p-value</i>	<b>0.0001</b>	<b>0.0001</b>	<b>0.0005</b>	<b>0.0007</b>	<b>0.0015</b>	<b>0.0070</b>	<b>0.0001</b>	<b>0.0009</b>
<i>CSRREG</i>		0.0146*** (4.25)						
<i>GCOPINION<sub>t-1</sub></i>			0.4396*** (43.54)					
<i>AGE</i>	-0.0001 (-0.27)	-0.0001 (-0.33)	-0.0001 (-0.94)	-0.0005 (-1.44)	-0.0001 (-0.40)	-0.0003 (-0.74)	-0.0175*** (-5.22)	-0.0007 (-0.24)
<i>M&amp;A</i>	-0.0019 (-0.41)	-0.0009 (-0.20)	0.0008 (0.19)	-0.0175** (-2.15)	-0.0041 (-0.91)	0.0198* (1.84)	-0.0020 (-0.37)	-0.0181 (-0.31)
<i>RECINV</i>	-0.0534***	-0.0516**	-0.0271**	-0.0442	-0.0496**	-0.1291***	-0.0162	-0.7457***

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	(-2.61)	(-2.53)	(-2.05)	(-1.10)	(-2.43)	(-3.12)	(-0.33)	(-2.90)
<i>SIZE</i>	-0.0138***	-0.0137***	-0.0087***	-0.0085*	-0.0145***	-0.0247***	-0.0153**	-0.1405***
	(-4.58)	(-4.55)	(-4.26)	(-1.68)	(-4.88)	(-4.85)	(-2.42)	(-3.72)
<i>LOSS</i>	-0.0004	-0.0007	0.0002	0.0285*	-0.0049	-0.0118	0.0053	-0.0663
	(-0.05)	(-0.09)	(0.04)	(1.95)	(-0.61)	(-0.66)	(0.57)	(-0.74)
<i>LEV</i>	0.0355**	0.0364**	0.0271***	0.0332	0.0404***	0.0640**	-0.0326	0.4494**
	(2.28)	(2.34)	(2.71)	(1.10)	(2.64)	(2.49)	(-1.01)	(2.48)
<i>SALESG</i>	0.0056	0.0059	0.0029	0.0364**	0.0030	-0.0058	0.0191***	0.0497
	(0.98)	(1.03)	(0.58)	(2.23)	(0.54)	(-0.71)	(2.74)	(0.62)
<i>MTB</i>	0.0007	0.0008	0.0007*	0.0002	0.0007	0.0004	0.0012	0.0057
	(1.27)	(1.30)	(1.69)	(0.21)	(1.35)	(0.41)	(1.59)	(0.72)
<i>INT</i>	0.0222	0.0224	0.0053	-0.0041	0.0144	0.0097	0.0587	0.1645
	(1.27)	(1.27)	(0.49)	(-0.12)	(0.84)	(0.33)	(1.40)	(0.74)
<i>ROA</i>	-0.0225	-0.0263	-0.0185	0.0391	-0.0522	-0.0139	-0.0600	-0.4715
	(-0.64)	(-0.75)	(-0.66)	(0.59)	(-1.45)	(-0.32)	(-1.47)	(-1.14)
<i>CFO</i>	-0.0877**	-0.0870**	-0.0406	-0.1735**	-0.0605	-0.1213**	-0.0870	-1.1588**
	(-2.26)	(-2.24)	(-1.43)	(-2.16)	(-1.56)	(-1.98)	(-1.46)	(-2.29)
<i>SDEAR</i>	0.0167***	0.0164***	0.0090***	0.0145***	0.0164***	0.0143***	0.0098**	0.1760***
	(6.65)	(6.52)	(5.24)	(3.29)	(6.40)	(2.90)	(2.28)	(5.93)
<i>FIX</i>	-0.0204	-0.0196	-0.0087	-0.0797***	-0.0202	-0.0640**	-0.0485	-0.2346
	(-1.31)	(-1.26)	(-0.88)	(-2.84)	(-1.32)	(-2.03)	(-1.54)	(-1.13)
<i>CLOSELY</i>	0.0002	0.0001	0.0001	0.0000	0.0000	-0.0001	0.0003	0.0013
	(1.20)	(0.98)	(0.67)	(0.10)	(0.27)	(-0.40)	(1.35)	(0.76)
<i>STAKE</i>	-0.0001	-0.0001	0.0000	0.0002*	0.0001	-0.0000	-0.0001	-0.0004
	(-1.00)	(-0.94)	(0.16)	(1.81)	(0.67)	(-0.09)	(-0.65)	(-0.48)
<i>GOV</i>	0.0009***	0.0009***	0.0004***	0.0003	0.0005***	0.0007**	0.0015***	0.0091***
	(6.95)	(6.60)	(3.90)	(1.29)	(3.87)	(2.34)	(7.05)	(4.92)
<i>GEOC</i>	0.0005	0.0003	0.0010	0.0005	0.0007	0.0030	0.0028	0.0058
	(0.38)	(0.27)	(1.19)	(0.26)	(0.53)	(1.04)	(1.48)	(0.39)
<i>TENURE</i>	-0.0023	-0.0026	-0.0023	-0.0087***	-0.0023	0.0011	-0.0020	-0.0362*
	(-1.36)	(-1.50)	(-1.49)	(-2.98)	(-1.39)	(0.33)	(-0.85)	(-1.78)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes

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Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Firm Fixed Effects	No	No	No	No	No	No	Yes	No
Observations	28,661	28,661	26,817	10,452	26,912	5,050	28,661	28,271
N of <i>GCOPINION</i> = 1	3,514	3,514	3,220	1,281	3,016	648	3,514	3,514
Adjusted (Pseudo) $R^2$	0.174	0.175	0.338	0.191	0.166	0.201	0.311	0.236
F	96.7877	89.8207	335.3786	3.6808	129.7205	248.8615	12.1626	-

Variable definitions are in Appendix A. \*, \*\*, and \*\*\* indicate statistical significance at the 0.10, 0.05, and 0.01 levels (two-tailed), respectively. t-statistics (or z-statistics in column (8)) are presented in parentheses and are based on standard errors clustered at the firm level. In column (8), marginal effects are presented in brackets.

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TABLE 5

Relation between the accuracy of going concern opinions and CSR assurance and financial audit provision

**Panel A:** Type I going concern opinion error

$$TYPE1ERROR = b_0 + b_1UNASSURED + b_2ASSURED\_DIFF + b_3ASSURED\_SAME + Controls + Fixed\ Effects + \varepsilon$$

	Column (1) Bankrupt & distressed <i>TYPE1_BANKRUPT</i>	Column (2) Ceased to exist <i>TYPE1_CEASED</i>	Column (3) Accounting controversies <i>TYPE1_ACCCTR</i>	Column (4) Credit rating <i>TYPE1_RATING</i>
Constant	0.4661*** (3.77)	0.2818*** (4.62)	0.2848*** (4.75)	0.1559 (1.04)
<b>UNASSURED</b>	<b>-0.0071</b> <b>(-0.31)</b>	<b>-0.0019</b> <b>(-0.21)</b>	<b>-0.0013</b> <b>(-0.15)</b>	<b>-0.0218</b> <b>(-1.02)</b>
<b>ASSURED_DIFF</b>	<b>-0.0074</b> <b>(-0.28)</b>	<b>0.0043</b> <b>(0.40)</b>	<b>0.0040</b> <b>(0.37)</b>	<b>-0.0110</b> <b>(-0.46)</b>
<b>ASSURED_SAME</b>	<b>0.0699**</b> <b>(2.10)</b>	<b>0.0419***</b> <b>(3.49)</b>	<b>0.0426***</b> <b>(3.55)</b>	<b>0.0198</b> <b>(0.77)</b>
<i>t-stat for (b<sub>3</sub> - b<sub>2</sub> = 0)</i>	<i>(2.33)</i>	<i>(3.73)</i>	<i>(3.84)</i>	<i>(1.72)</i>
<i>p-value</i>	<i>0.0200</i>	<i>0.0002</i>	<i>0.0001</i>	<i>0.0854</i>
ZSCORE	-0.0000 (-0.25)	0.0000 (1.07)	0.0000 (1.07)	-0.0019*** (-2.85)
Firm controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
Observations	3,911	24,182	24,182	5,700
N of <i>TYPE1ERROR</i> = 1	524	2,947	2,934	771
Adjusted R <sup>2</sup>	0.211	0.182	0.179	0.162

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**Panel B:** Type II going concern opinion error

$$TYPE2ERROR = b_0 + b_1UNASSURED + b_2ASSURED\_DIFF + b_3ASSURED\_SAME + Controls + Fixed\ Effects + \varepsilon$$

	Column (1) Bankrupt & distressed <i>TYPE2_BANKRUPT</i>	Column (2) Ceased to exist <i>TYPE2_CEASED</i>	Column (3) Accounting controversies <i>TYPE2_ACCCTR</i>	Column (4) Credit rating <i>TYPE2_RATING</i>
Constant	0.0275 (0.43)	0.0815*** (3.56)	0.0238 (1.10)	0.7459*** (4.30)
<b><i>UNASSURED</i></b>	<b>0.0063</b> <b>(0.36)</b>	<b>0.0038</b> <b>(0.82)</b>	<b>0.0017</b> <b>(0.40)</b>	<b>-0.0126</b> <b>(-0.57)</b>
<b><i>ASSURED_DIFF</i></b>	<b>-0.0111</b> <b>(-0.77)</b>	<b>-0.0046</b> <b>(-0.91)</b>	<b>-0.0091**</b> <b>(-1.97)</b>	<b>-0.0343</b> <b>(-1.21)</b>
<b><i>ASSURED_SAME</i></b>	<b>-0.0323**</b> <b>(-2.20)</b>	<b>-0.0132**</b> <b>(-2.16)</b>	<b>-0.0190***</b> <b>(-3.32)</b>	<b>-0.0486</b> <b>(-1.45)</b>
<b><i>t-stat for (b<sub>3</sub> - b<sub>2</sub> = 0)</i></b>	<b>(2.06)</b>	<b>(1.67)</b>	<b>(2.05)</b>	<b>(0.60)</b>
<b><i>p-value</i></b>	<b>0.0392</b>	<b>0.0940</b>	<b>0.0403</b>	<b>0.5490</b>
<i>ZSCORE</i>	0.0000 (0.00)	-0.0000* (-1.86)	-0.0000 (-0.61)	0.0019** (2.02)
Firm controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
Observations	3,911	24,182	24,182	5,700
N of <i>TYPE2ERROR</i> = 1	156	2,773	2,733	1,029
Adjusted <i>R</i> <sup>2</sup>	0.038	0.705	0.717	0.320
F	97.5567	774.3980	1140.7861	16.7919

Variable definitions are in Appendix A. \*, \*\*, and \*\*\* indicate statistical significance at the 0.10, 0.05, and 0.01 levels (two-tailed), respectively. t-statistics are presented in parentheses and are based on standard errors clustered at the firm level.

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TABLE 6

Relation between environmental provisions, litigation provisions and operating provisions and CSR assurance and financial audit provision

$$ENVPROV = b_0 + b_1UNASSURED + b_2ASSURED\_DIFF + b_3ASSURED\_SAME + Controls + Fixed\ Effects + \varepsilon$$

$$LTGPROV = b_0 + b_1UNASSURED + b_2ASSURED\_DIFF + b_3ASSURED\_SAME + Controls + Fixed\ Effects + \varepsilon$$

$$OPTPROV = b_0 + b_1UNASSURED + b_2ASSURED\_DIFF + b_3ASSURED\_SAME + Controls + Fixed\ Effects + \varepsilon$$

	Column (1) <i>ENVPROV</i>	Column (2) <i>LTGPROV</i>	Column (3) <i>OPTPROV</i>	Column (4) <i>ENVPROV2</i>	Column (5) <i>LTGPROV2</i>	Column (6) <i>OPTPROV2</i>
Constant	0.0809*** (3.36)	0.0268** (2.24)	0.0058 (0.64)	0.0124*** (7.55)	0.0056*** (8.08)	0.0012*** (2.98)
<i>UNASSURED</i>	<b>-0.0002</b> <b>(-0.08)</b>	<b>0.0012</b> <b>(0.61)</b>	<b>-0.0005</b> <b>(-0.41)</b>	<b>0.0001</b> <b>(0.45)</b>	<b>-0.0000</b> <b>(-0.19)</b>	<b>-0.0000</b> <b>(-0.84)</b>
<i>ASSURED_DIFF</i>	<b>0.0008</b> <b>(0.27)</b>	<b>-0.0011</b> <b>(-0.46)</b>	<b>-0.0011</b> <b>(-0.81)</b>	<b>0.0001</b> <b>(0.36)</b>	<b>-0.0001</b> <b>(-0.64)</b>	<b>-0.0001</b> <b>(-1.59)</b>
<i>ASSURED_SAME</i>	<b>0.0064</b> <b>(1.50)</b>	<b>0.0018</b> <b>(0.76)</b>	<b>0.0001</b> <b>(0.05)</b>	<b>0.0009**</b> <b>(2.29)</b>	<b>0.0005**</b> <b>(2.27)</b>	<b>-0.0000</b> <b>(-0.06)</b>
<i>t-stat for (b<sub>3</sub> - b<sub>2</sub> = 0)</i>	<b>(2.02)</b>	<b>(2.37)</b>	<b>(1.09)</b>	<b>(1.94)</b>	<b>(2.45)</b>	<b>(1.04)</b>
<i>p-value</i>	<b>0.0434</b>	<b>0.0181</b>	<b>0.2783</b>	<b>0.0528</b>	<b>0.0142</b>	<b>0.2957</b>
<i>MISS_ENVPROV</i>				-0.0102*** (-18.67)		
<i>MISS_LTGPROV</i>					-0.0059*** (-19.40)	
<i>MISS_OPTPROV</i>						-0.0018*** (-11.31)
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

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Observations	3,108	2,884	3,200	28,661	28,661	28,661
Adjusted $R^2$	0.268	0.140	0.125	0.386	0.408	0.169
F	3.0224	4.4900	53.0794	7.7619	8.1815	72.6134

Variable definitions are in Appendix A. \*\* and \*\*\* indicate statistical significance at the 0.05 and 0.01 levels (two-tailed), respectively. t-statistics are presented in parentheses and are based on standard errors clustered at the firm level.

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TABLE 7

Relation between earnings misstatements and CSR assurance and financial audit provision

$$MISSTAT = b_0 + b_1 UNASSURED + b_2 ASSURED\_DIFF + b_3 ASSURED\_SAME + Controls + Fixed Effects + \varepsilon$$

$$MISSTAT\_POS = b_0 + b_1 UNASSURED + b_2 ASSURED\_DIFF + b_3 ASSURED\_SAME + Controls + Fixed Effects + \varepsilon$$

$$MISSTAT\_NEG = b_0 + b_1 UNASSURED + b_2 ASSURED\_DIFF + b_3 ASSURED\_SAME + Controls + Fixed Effects + \varepsilon$$

	ALL MISSTATEMENTS			MATERIAL MISSTATEMENTS ONLY		
	Column (1) <i>MISSTAT</i>	Column (2) <i>MISSTAT_POS</i>	Column (3) <i>MISSTAT_NEG</i>	Column (4) <i>MISSTAT</i>	Column (5) <i>MISSTAT_POS</i>	Column (6) <i>MISSTAT_NEG</i>
Constant	-0.0721*** (-3.03)	-0.0258 (-1.51)	-0.0463*** (-2.91)	0.0040 (0.29)	0.0091 (0.90)	-0.0051 (-0.52)
<b>UNASSURED</b>	<b>-0.0052</b> <b>(-1.13)</b>	<b>-0.0033</b> <b>(-1.03)</b>	<b>-0.0020</b> <b>(-0.56)</b>	<b>0.0017</b> <b>(0.60)</b>	<b>0.0007</b> <b>(0.34)</b>	<b>0.0011</b> <b>(0.50)</b>
<b>ASSURED_DIFF</b>	<b>0.0023</b> <b>(0.41)</b>	<b>0.0004</b> <b>(0.11)</b>	<b>0.0019</b> <b>(0.45)</b>	<b>-0.0015</b> <b>(-0.45)</b>	<b>-0.0010</b> <b>(-0.46)</b>	<b>-0.0005</b> <b>(-0.20)</b>
<b>ASSURED_SAME</b>	<b>-0.0059</b> <b>(-0.86)</b>	<b>0.0009</b> <b>(0.17)</b>	<b>-0.0068</b> <b>(-1.45)</b>	<b>-0.0055</b> <b>(-1.40)</b>	<b>0.0006</b> <b>(0.18)</b>	<b>-0.0061**</b> <b>(-2.38)</b>
<i>t-stat for (b<sub>3</sub> - b<sub>2</sub> = 0)</i>	<i>(1.37)</i>	<i>(0.10)</i>	<i>(2.10)</i>	<i>(1.28)</i>	<i>(0.62)</i>	<i>(2.95)</i>
<i>p-value</i>	<i>0.1694</i>	<i>0.9194</i>	<i>0.0360</i>	<i>0.2003</i>	<i>0.5307</i>	<i>0.0032</i>
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	28,661	28,661	28,661	28,661	28,661	28,661
N of <i>MISSTAT</i> = 1	1,278	617	661	436	209	227
Adjusted R <sup>2</sup>	0.025	0.014	0.014	0.014	0.013	0.005
F	8.2848	4.5191	5.5334	3.4995	1.9028	2.3461

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Variable definitions are in Appendix A. \*\* and \*\*\* indicate statistical significance at the 0.05 and 0.01 levels (two-tailed), respectively. t-statistics are presented in parentheses and are based on standard errors clustered at the firm level. Material misstatements are defined as restatements with absolute value greater than 5 percent of pre-restated earnings.

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TABLE 8

Relation between audit fees and total fees and CSR assurance and financial audit provision

$$AUDITFEES = b_0 + b_1 UNASSURED + b_2 ASSURED\_DIFF + b_3 ASSURED\_SAME \\ + Controls + Fixed Effects + \varepsilon$$

$$TOTALFEES = b_0 + b_1 UNASSURED + b_2 ASSURED\_DIFF + b_3 ASSURED\_SAME \\ + Controls + Fixed Effects + \varepsilon$$

	Column (1)		Column (2)	
	<i>AUDITFEES</i>	t-stat	<i>TOTALFEES</i>	t-stat
Constant	5.0026***	(22.28)	6.0274***	(21.04)
<b><i>UNASSURED</i></b>	<b>0.1105***</b>	<b>(4.04)</b>	<b>0.1257***</b>	<b>(4.02)</b>
<b><i>ASSURED_DIFF</i></b>	<b>0.2565***</b>	<b>(6.78)</b>	<b>0.2539***</b>	<b>(6.10)</b>
<b><i>ASSURED_SAME</i></b>	<b>0.3109***</b>	<b>(6.55)</b>	<b>0.2880***</b>	<b>(5.57)</b>
<b><i>t-stat for (b<sub>3</sub> - b<sub>2</sub> = 0)</i></b>	<b>(1.41)</b>		<b>(0.82)</b>	
<b><i>p-value</i></b>	<b>0.1574</b>		<b>0.4119</b>	
Firm controls	Yes		Yes	
Year Fixed Effects	Yes		Yes	
Industry Fixed Effects	Yes		Yes	
Country Fixed Effects	Yes		Yes	
Observations	11,046		11,046	
Adjusted R <sup>2</sup>	0.447		0.433	
F	26.4628		28.9936	

Variable definitions are in Appendix A. \*\*\* indicates statistical significance at the 0.01 level (two-tailed). t-statistics are presented in parentheses and are based on standard errors clustered at the firm level.