Navigating New Waters: Accounting Firms as ESG Raters

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Abstract: This study examines the effect of an accounting firm entering the ESG rating market on the quality of ESG ratings, exploiting the unique context of Deloitte's launch of ESG rating services in China. We find no evidence that Deloitte inflates ESG ratings for its audit clients. On the contrary, these ratings demonstrate greater predictive power for future ESG-related negative events compared to Deloitte's ratings for non-audit clients as well as ratings issued by other agencies, suggesting higher rating quality. Moreover, through difference-in-differences analyses, we find that Deloitte's entry into the ESG rating market is associated with significant growth in its client base for both ESG assurance and financial statement audit services. In the meantime, we do not find evidence suggesting impairment to Deloitte's audit quality after its entry into ESG rating services. These findings provide novel evidence on the synergistic benefits from the joint provision of audit services and ESG ratings. The findings also contribute to our understanding of how client-specific information is incorporated into the ESG rating process. Our study provides important policy implications, particularly given the concerns of regulators that auditors should not be allowed to provide ESG ratings to their audit clients due to potential threats to independence.

Keywords: ESG Ratings; Deloitte; Rating quality; Audit quality; Market share; ESG specialization

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1. Introduction

The importance of Environmental, Social, and Governance (ESG) ratings for investment decisions has fueled a rapid growth in ESG rating services, primarily targeting large institutional investors and asset owners (European Commission, 2020). However, the diversity of rating providers and their varied assessments has added complexity and confusion to the landscape. Recently, concerns about the quality of ESG ratings have been raised by investors, regulators, and academics (e.g., Berg et al. 2021; Larcker et al. 2022; European Commission 2023). These concerns center on the lack of transparency and comparability in data and rating methodologies, as well as potential conflicts of interest—particularly when an ESG rating provider offers multiple products, such as consulting, advisory or audit services, to the company it is rating. In November 2024, the European Union adopted the world's first comprehensive set of rules to regulate the ESG rating market. These regulations aim to enhance transparency, uphold the integrity of ESG rating providers, and mitigate potential conflicts of interest (European Parliament and the Council 2024; Foley 2024). Similar initiatives are underway in the UK (HM Treasury 2023; PwC UK 2024) and other jurisdictions, including Japan and Singapore (PwC UK 2024).

Notably, a late addition to the EU regulations prohibits ESG rating providers from offering statutory audits of financial statements (European Parliament and the Council, 2024; Clifford Chance, 2024). This measure aims to address potential conflicts of interest, as concerns may arise about auditors' incentives to provide unbiased, high-quality ESG ratings for their audit clients. Traditionally, the ESG rating industry has been dominated by large providers operating as subsidiaries of prominent financial services firms, such as MSCI, Bloomberg, and Standard & Poor's (S&P) (European

Commission 2020). While accounting firms have been actively engaging in the ESG assurance market (Gipper et al. 2024a; Gipper et al. 2024b), to our best knowledge, accounting firms have not yet entered the ESG rating market.[1] Thus, there is no empirical evidence to inform the debate as to whether ESG rating services and audit services should be separated.

In this study, we utilize a unique setting of Deloitte's entrance into the ESG rating market in China in 2020 to investigate the impact of ESG raters providing both ESG ratings and audit services on ESG rating quality.[2] Furthermore, we examine whether offering both services has implications for the raters' market share in the ESG assurance as well as audit assurance domains. This evidence will offer valuable insights into the recent EU policies and global regulatory efforts aimed at governing ESG rating services.

Leveraging a three-year dataset (2020–2022) of ESG ratings provided by Deloitte China, we first evaluate the quality of ESG ratings for the firm's audit clients in terms of its objectivity and the ability to predict future ESG-related negative events such as regulatory violations, environmental disasters, or social controversies. The quality of ESG ratings produced by accounting firms could be influenced in opposing ways. On one hand, auditors' unique access to client-specific knowledge—gained through internal file reviews, site visits, and regular client interactions—may enable them to

[1] Searching the Factiva database, no accounting firms in the United States or Europe have been found to publicly offer ESG rating services (June 30, 2024). ESG assurance services and ESG rating services are fundamentally different in several key aspects: (i) ESG assurance services are paid for by the company requesting the service, while ESG rating services are funded by information users, such as institutional investors and banks, rather than the company being rated; (ii) ESG assurance services are provided exclusively for the company seeking them, whereas ESG raters evaluate thousands of companies to meet the demands of information users; (iii) the primary goal of ESG assurance is to enhance confidence in ESG information (e.g., climate-related data, workplace safety, diversity) provided by the reporting company, ensuring compliance with specific reporting standards such as GRI, SASB, or ISSB (see Gipper et al., 2024a, 2024b). In contrast, ESG ratings aim to evaluate a company's ESG performance based on the rater's proprietary methods and data sources, which often vary significantly. This lack of standardization has raised concerns among information users and regulators (Berg et al. 2021; Larcker et al. 2022; European Commission 2023).

[2] To the best of our knowledge, Deloitte China is the only accounting firm that has started providing ESG rating services.

produce more informative ESG ratings. On the other hand, the commercial relationships with audit clients could create conflicts of interest, and incentivize audit firms to assign more favorable ESG ratings to maintain good relationships with audit clients, potentially compromising rating integrity (European Parliament and the Council 2024; Clifford Chance 2024). Recent studies in other contexts similarly highlight the dynamics of conflicts of interest and provide evidence of their negative impact on ESG rating outcomes (Tang et al. 2022; Agrawal et al. 2024; Li et al. 2024).

We start by demonstrating that Deloitte's audit clients do not receive higher ESG scores from Deloitte compared to non-Deloitte audit clients or ESG ratings issued by other agencies for the same clients.[3] Thus we fail to find evidence suggesting that Deloitte issue inflated ratings for its own audit clients. Next, we find that Deloitte's ESG ratings for its audit clients outperform both its ratings for non-Deloitte audit clients and the consensus ratings from other rating agencies for Deloitte's audit clients in predicting future ESG-related negative events. Conversely, we find no evidence that Deloitte's ESG ratings for non-Deloitte audit clients outperform ratings issued by other agencies. These results suggest that Deloitte's ratings for its audit clients are of higher quality. This effect is particularly pronounced in situations where "client-specific" information is more likely to matter, i.e., for clients operating in industries where Deloitte has greater expertise and for clients with significant ESG rating disagreements. Collectively, these findings indicate that "client-specific" information, which is uniquely accessible to auditors, plays a critical role in enhancing the quality of ESG ratings.

We conduct several additional analyses to provide more insights into our findings.

[3] To enhance comparability among accounting firms, our study focuses to those audited by Big 4 accounting firms, including Deloitte, PwC, EY, and KPMG. Nevertheless, our main results remain robust when the sample is expanded to include companies audited by non-Big 4 firms in China.

First, we examine the effect of Deloitte's entry into the ESG rating market on its client base growth in both ESG assurance and audit services. Employing a difference-in-differences (DiD) design, we find a significant increase in Deloitte's clientele for both ESG assurance and audit services following its entry into the ESG rating market. We interpret these findings as evidence that building ESG specialization through rating services can act as a strategic differentiator for public accounting firms, complementing traditional competitive advantages such as brand reputation and industry expertise.

Second, we examine how other rating agencies interpret Deloitte's ESG rating by analyzing changes in their upgrades and downgrades following Deloitte's ratings. Our findings show that high ESG ratings from Deloitte are associated with upgrades from other rating agencies in the subsequent year, while low ESG ratings from Deloitte lead to downgrades and hinder upgrades from other ESG rating agencies. These results indicate that other rating agencies generally regard Deloitte's ratings as high quality and incorporate them into their own ratings. However, when focusing on Deloitte's ratings for its own clients, we find that other rating agencies tend to discount high ratings from Deloitte for its own clients. This response aligns with regulatory concerns about potential conflicts of interest. Nonetheless, such concerns may be unwarranted, as we find no evidence of upward bias in Deloitte's rating for its own audit clients and instead document superior predictive power in these ratings.

Finally, we examine the impact of Deloitte's entry into ESG rating services on audit quality. Our analysis reveals that Deloitte's audit clients show no difference in the likelihood of misstatements and even exhibit lower absolute values of discretionary accruals compared to other Big 4 clients. Thus, we find no evidence that the joint provision of ESG rating service and audit service from Deloitte on its own audit client comes at the expense of compromised audit quality.

Our study makes several contributions to the literature. First, it provides timely insights into ongoing global efforts to regulate the ESG rating industry. A recent addition to the EU rules prohibits firms from providing both audit services and ESG rating services, driven by concerns that conflicts of interest could compromise auditor objectivity and lead to favoritism toward their own clients (European Parliament and the Council 2024; Clifford Chance 2024). While these regulatory measures aim to safeguard the integrity of ESG ratings, our findings suggest that such concerns may be unwarranted. Specifically, we find no evidence that Deloitte provides more favorable ESG ratings to its audit clients. On the contrary, we demonstrate that Deloitte's ESG ratings for its audit clients are of higher quality. This challenges the assumption that providing both audit services and ESG ratings could results in biased or less informative ratings, offering a nuanced perspective for regulators as they consider future policies in this area.

Second, our findings contribute to the growing body of literature examining the impact of conflicts of interest on ESG rating outcomes. Prior studies underscore the potential negative effects of conflicts stemming from commercial relationships, shared ownership, or mutual investments between rating providers and their clients. For instance, Li et al. (2024) find an upward bias in ESG ratings issued by Vigeo Eiris and RobecoSAM following their acquisitions by Moody's and S&P to the paying clients of their parent companies. Tang et al. (2022) demonstrate that "sister firms", i.e., those owned by the same parent company as the ESG rater, receive more favorable ESG ratings despite exhibiting poorer future ESG performance. Similarly, Agrawal et al. (2024) show that MSCI's ESG ratings are systematically inflated for firms included in its ESG indexes, which serve as the basis for its ETFs and mutual funds, suggesting these ratings do not accurately reflect fundamental ESG performance. In contrast, our

results show that Deloitte's ESG ratings for its audit clients do not exhibit favoritism and instead demonstrate higher quality, providing a different angle to the debate on the role of conflicts of interest in ESG rating practices.

Our findings also emphasize the vital role of a rater's "client-specific" knowledge in the ESG rating process, an element that is often underappreciated given that ESG ratings are frequently derived from standardized models applied across firms within a sector and based on common disclosures (Serafeim and Yoon 2023). Recognizing firm-specific information as a crucial determinant of ESG rating quality is especially significant due to the challenges in discerning which raters produce the most relevant and accurate ratings. This difficulty stems from the largely voluntary and unregulated nature of ESG disclosures (Christensen et al. 2022) and the wide variation in how these disclosures are interpreted by different raters (Berg et al. 2022). Our findings that Deloitte's ESG ratings are of higher quality compared to other rating agencies but only for its own audit clients suggest that ESG rating quality can be enhanced with private information and expertise that raters develop through extensive client interactions. These insights can inform improvements in the methodologies used within the ESG rating market. By doing so, our study contributes to a broader understanding of the "value of auditing" and responds to calls for research on whether expertise in financial statement audits can be effectively applied in non-accounting contexts (DeFond and Zhang 2014, p. 294).

Finally, our study expands the literature on auditor industry specialization to include the growing field of ESG expertise. As the demand for ESG knowledge and skills continues to rise, it becomes crucial to examine whether audit firms can develop ESG specialization as a strategic competitive advantage by participating in the ESG rating industry, moving beyond traditional sources of differentiation such as brand

reputation and industry-specific expertise (DeFond and Zhang 2014). By documenting the advantages of ESG specialization in terms of future client acquisition, our findings provide new insights into how audit firms can leverage their expertise to meet market demands and strengthen their competitive positioning.

2. Background, Literature Review and Hypotheses Development

2.1 Regulating the ESG Rating Industry

Earlier major statements on regulating ESG ratings include a joint white paper published by the French and Dutch securities regulators (AMF-AFM 2019), which emphasizes the lack of transparency and comparability in the methodologies used by ESG rating providers. On a global scale, the International Organization of Securities Commissions (IOSCO) released a report with recommendations for its member jurisdictions on how to regulate ESG rating providers effectively (IOSCO 2021).

In November 2024, the European Council adopted a new regulation on ESG rating activities. The world's first set of comprehensive rules aim at making rating activities in the EU more consistent, transparent and comparable and prevent potential conflicts of interest to boost investor confidence in sustainable financial products (European Council 2024; Foley 2024). The UK government announced in August 2024 its plan to introduce new regulations on ESG ratings, which follows the conclusion of an HMT consultation in 2023 (HM Treasury 2023; PwC UK 2024). Other jurisdictions, such as Japan and Singapore, are implementing their own requirements for ESG ratings providers (PwC UK 2024). Conflict of interest in the ESG rating industry is a common concern raised by regulators across these jurisdictions.

Although the U.S. has not yet seen similar regulatory initiatives for ESG ratings as those in the EU and other jurisdictions, the SEC has expressed significant concerns regarding ESG ratings. SEC Commissioner Hester Peirce has publicly criticized ESG

rating service providers, questioning the legitimacy and effectiveness of their operations (Peirce 2019; Coley 2022). In 2022, the SEC sought public input on the role of information providers, including certain ESG rating agencies, as investment advisers, highlighting its focus on ensuring transparency and addressing conflicts of interest in the ESG space (SEC 2022; Hupart et al. 2024). As a follow-up, the SEC's Division of Investment Management hosted a conference on Emerging Trends in Asset Management, where they emphasized the widespread criticisms of the ESG ratings industry.[4] The criticisms stem from the divergence in methodologies among providers and changes in their methodologies over time. They also discussed challenges faced by the ESG ratings industry, such as the potential for blurred lines between asset managers and rating providers.

Overall, the recent global push to regulate ESG rating agencies highlights several key messages: (i) ESG ratings are a crucial component of the investment landscape, serving as an increasingly vital and indispensable tool for investors, particularly institutional investors (European Commission 2020); (ii) the primary issue with current ESG ratings lies in their quality, with a lack of consistency and comparability reducing their effectiveness and potentially causing confusion among investors (HM Treasury 2023); (iii) financial regulators emphasize bringing order to the fragmented ESG rating industry rather than limiting its activities and development.

As a result, the regulatory rules on ESG ratings are primarily designed to enhance the transparency and comparability of the currently opaque and fragmented rating services. A key issue highlighted in consultation and regulatory documents is the potential for conflicts of interest. This concern is particularly relevant when ESG rating providers offer multiple services, such as consulting, advisory or audit services, to the

[4] Available at: https://www.sec.gov/comments/s7-18-22/s71822-205659-413442.pdf

same company they rate. As the use of external certifications and second-party opinions continue to grow in the issuance of sustainability-linked securities, the frequency and significance of such conflicts are likely to increase (Lu 2024). The conflict of interest could be further aggravated by the divergence and opaqueness in the ESG ratings as the cost for raters to misrate is low when it is difficult for the market to ascertain the quality of ESG ratings.

The EU Ratings Regulation includes some concessions from the originally proposed strict separation of business activities aimed at addressing conflicts of interest. However, a late addition to the list of prohibited activities stipulates that ESG ratings providers are not allowed to offer statutory auditing services for financial statements (Clifford Chance 2024; European Parliament and the Council 2024).[5] Interestingly, this prohibition was not mentioned in any prior documents, including the 2021 study on sustainability-related ratings, data, and research, or the 2022 call for evidence to gather stakeholders' perspectives on the use, functioning, and challenges of ESG ratings.

2.2 The ESG Rating Industry in China and Deloitte China's ESG Rating Service

Sustainable management practices and ESG investing are gaining momentum in China, particularly since the country's 2020 commitment to achieve Carbon Peak by 2030 and Carbon Neutrality by 2060 (e.g., Lu et al., 2024). To support these goals, the Chinese government has introduced numerous policies and guidelines aimed at fostering green finance and sustainable investment while promoting the adoption of ESG practices. One indicator of this progress is the growing number of public

[5] The regulation also prohibits ESG ratings providers from engaging in activities such as consulting services, credit ratings, benchmarks, investment activities, banking, insurance and reinsurance, and assurance engagements on sustainability reporting. However, certain activities may still be offered by the same legal entity if the provider implements robust measures and procedures to ensure that each activity operates independently and avoids conflicts of interest in ESG rating decisions. Notably, this flexibility does not extend to credit rating activities, as well as audit and consulting services (European Parliament and the Council 2024).

companies disclosing ESG-related reports. By the end of December 2022, 31% of A-share listed companies had disclosed such reports, marking a 35-percentage point increase compared to 2017.[6]

The growing emphasis on sustainable development has catalyzed the rapid expansion of the ESG rating industry in China. A diverse range of players contributes to this landscape, including specialized ESG service providers like SynTao Green Finance, Hexun.com, RKS, and Suallwave companies; index companies like China Securities Index (CSI), Sino-Securities Index (SINO), MSCI and FTSE; data service providers such as Wind, Bloomberg, QuantData, and MioTech; financial institutions such as Harvest Fund; research institutions like the CUFE IGF; and non-profit organizations like Shanghai Qingyue and the Institute of Public and Environmental Affairs. Despite its rapid development, the Chinese market faces similar ESG rating disagreements among rating agencies to those observed in other global markets.[7]

Deloitte China's consulting department launched its ESG analysis and rating systems in 2019. Their ESG rating data, covering all A-share listed companies in China, were first released for the fiscal year 2020. Naturally, some of the rated companies are Deloitte's audit clients, while others are not. Although Deloitte has not publicly explained its rationale for entering the ESG ratings market, the decision is likely tied to its dominant position in the consulting sector, where it leads in providing non-assurance services among accounting firms in China. The proprietary rating data, designed primarily for institutional investors such as banks, securities firms, insurance

[6] See: http://www.stcn.com/article/detail/774144.html (CN)

[7] For example, the Securities Times selected five ESG rating agencies, including Sino-Securities Index, Wind, and FTSE Russell, to analyze 424 stocks with comparable rating results. After normalizing the latest rating results, the correlation between the scores from any two agencies was calculated, revealing an average correlation of 0.412. This indicates significant differences in rating outcomes among the various agencies, highlighting the substantial variance in ESG ratings within the market. See: http://www.stcn.com/article/detail/774144.html (CN)

companies, and mutual funds, is not publicly accessible.

Starting in 2023, Deloitte has periodically released ESG industry white papers focused on specific sectors. Appendix A includes an excerpt from Deloitte's 2022 ESG Chemical Industry Whitepaper, which provides a concise overview of Deloitte's rating framework,[8] an analysis of industry performance, and a list of S-tier companies which represents companies with the highest ESG ratings from Deloitte.[9]

2.3 Literature on ESG Rating Service

Initial academic research on ESG ratings has focused on issues related to their quality, particularly the divergence among ratings. Berg et al. (2022) analyzed data from six major ESG rating agencies using 709 underlying indicators and systematically attribute this divergence to three main sources: scope divergence (38%), measurement divergence (56%), and weight divergence (6%).[10] Additional divergence arises from the varying data sources used by rating agencies. Some agencies rely solely on publicly available information, while others incorporate private communications or surveys with the rated firms (Greenbiz 2022; Deloitte 2023). The ESG rating market is currently saturated, with over 600 different providers operating globally (Foley 2024). However, a consolidation trend is emerging as the market matures (AMF-AFM 2019; IOSCO 2021).

While the divergence in ESG ratings is often interpreted as noise, more recent

[8] The ESG rating framework evaluates a company's "sustainability capacity" from two dimensions: the company itself and its industry.

[9] Deloitte's ESG ratings are organized into five tiers, ranked from highest to lowest: S, A, B, C, and D. According to these whitepapers, over 400 of the more than 4,800 A-share listed companies received an A-tier rating or higher in 2022, accounting for approximately 9.1% of the total.

[10] Scope divergence means ESG rating agencies do not evaluate the same topics. For example, one rating agency may include lobbying activities, while another might not. Measurement divergence means that ESG rating agencies measure specific ESG metrics differently. For example, a firm's labor practices could be evaluated on the basis of workforce turnover or by the number of labor-related court cases brought against the firm. Weight divergence means ESG rating agencies use different weights for individual metrics. For example, the labor practices indicator may enter the final rating with greater weight than the lobbying indicator (Berg et al. 2022).

studies have shifted focus to explore how conflicts of interest impact ESG rating quality. ESG rating services typically operate under a 'subscriber-pay' model, where investors pay for access to the ratings (IOSCO 2021). Some researchers argue that this model reduces the risk of conflicts of interest (e.g., Christensen et al. 2022), whereas others contend that such optimism might be unwarranted (Bonsall et al. 2023; Agrawal et al. 2024; Lu 2024). Conflicts of interest can arise even when businesses do not directly pay for ESG ratings. For instance, ESG rating firms may inflate ratings to retain clients and generate revenue from related certification or consulting services. Furthermore, assigning higher ESG ratings to entities that utilize these additional services could create a feedback loop, enhancing the perceived credibility of both the ratings and the supplementary services (Lu 2024).

Recent studies provide empirical evidence of conflicts of interest among ESG rating agencies. Li et al. (2024) investigate the acquisitions of ESG rating agencies by credit rating agencies (Moody's acquisition of Vigeo Eiris and S&P's acquisition of RobecoSAM). They find that the acquired ESG rating agencies assigned higher ratings to firms that were already credit rating clients of their parent companies compared to firms without such ties, suggesting that existing commercial relationships can influence ESG rating quality. Tang et al. (2022) highlight the influence of ownership structures, showing that ESG rating firms tend to inflate ratings for sister companies owned by the same major shareholders. Agrawal et al. (2024) find that ESG raters with strong index licensing incentives issue higher ratings to firms with better stock return performance and firms in their ESG indexes, compared to raters with weaker licensing incentives.

Conflicts of interest can result in "rate catering," where ESG rating agencies provide inflated ratings to attract or retain clients. Similar patterns have been observed in credit rating agencies. For instance, He et al. (2011) find that credit rating agencies

inflate ratings for repeat issuers or large issuers. Bolton et al. (2012) document instances where agencies adjust ratings upward to secure business. Additionally, Griffin et al. (2013) show that rating agencies made upward adjustments beyond their model outputs when a competitor used more lenient assumptions. Specifically, when Moody's models produced 10% more AAA ratings than S&P's, S&P responded with a 7% upward adjustment beyond its model predictions.

2.4 Hypotheses Development

When ESG ratings are issued by an accounting firm, the firm's commercial relationship with its audit clients may enhance the quality of the ESG ratings provided. Analytical models of credit rating quality typically assume that rating agencies observe a (noisy) signal regarding issuers' types (e.g., Skreta and Veldkamp 2009; Bolton et al. 2012; Chen et al. 2024). Auditors, however, have a unique advantage due to their ability to perform site visits and access internal documents during audit-client interactions. This privileged access allows them to gain deeper insights into a client's operations and ESG management practices, potentially leading to more informed and accurate ESG ratings.

Conversely, an accounting firm's economic dependence on its audit clients could compromise the quality of ESG ratings.[11] To maintain profitable, long-term relationships, accounting firms offering ESG rating services might assign overly favorable ratings, irrespective of the clients' true ESG performance. This conflict of interest, stemming from the audit-client relationship, undermines the credibility of ESG ratings issued by accounting firms and raises concerns about their objectivity and effectiveness in accurately representing companies' sustainable performance.

[11] While non-audit service fees are also commonly used to proxy for auditors' economic dependence, non-audit service fees are not publicly disclosed in China.

It is also possible that the auditor-client relationship has no impact on the quality of ESG ratings. Professional standards, regulatory requirements, and internal controls within audit firms may be strong enough to prevent potential conflicts of interest or address resource allocation concerns that could arise from offering ESG rating services. Furthermore, the data collection and processing involved in ESG rating services are generally systematic, with the components used in the rating models being largely standardized (Serafeim and Yoon 2023). This structured approach could mitigate any potential biases or influence from the auditor-client relationship.

Taken together, we propose a non-directional hypothesis regarding the quality of Deloitte's ESG ratings for its audit clients. Specifically, we first focus on the objectivity of Deloitte's ESG ratings as a key indicator of rating quality. As investors increasingly rely on ESG ratings in their decision-making processes, concerns arise about the potential for rating agencies to inflate the ESG ratings to please their audit clients (European Commission 2020; IOSCO 2021; European Parliament and the Council 2024). Given the competing incentives, it is not clear *ex ante* whether Deloitte's ESG ratings for its audit clients are objective. Thus, our first hypothesis is stated in the following null form:

> *H1: Deloitte's ESG ratings for its audit clients do not systematically differ from either its ratings for non-audit clients or those issued by other ESG rating agencies.*

We next examine the predictability of ESG ratings. While ESG ratings are generally considered less verifiable than credit ratings, which can be validated by future default events (Piccolo and Shapiro 2022), prior studies have used the predictability of ESG ratings—specifically, the ability of ESG ratings to forecast future ESG-related events, particularly negative incidents —as a measure of ESG rating quality (Serafeim and Yoon 2023; Chen et al. 2024). This predictive ability is a key quality metric for ESG ratings and aligns with the goals of ESG raters as well as investors' expectations

regarding ESG rating quality (SustainAbility 2020; Serafeim and Yoon 2023; Chen et al. 2024). In line with this, we propose our non-directional hypothesis regarding the predictability of Deloitte's ESG ratings as follows:

> *H2: The predictability of Deloitte's ESG ratings for its audit clients does not differ significantly from either its ratings for non-audit clients or those issued by other ESG rating agencies.*

3. Research Method

3.1 Sample and Data

Table 1 tabulates the sample construction and its distribution for our main analyses. Panel A details the sample selection procedure. Our initial sample includes all Chinese A-share companies audited by Big 4 accounting firms (Deloitte, PwC, EY, and KPMG) between 2020 and 2022, resulting in 1,049 observations. We focus on Big 4 clients to ensure comparability among firms.[12] The sample period is from Deloitte's ESG ratings for fiscal year 2020 through the latest available ratings, utilizing a dataset purchased from Deloitte in 2023. After excluding observations from financial and utilities industries (193 observations) and those missing key financial data from CSMAR database (97 observations), the final sample comprises 759 company-year observations. We collect negative ESG incident data from the CNRDS database, a resource widely utilized in prior research (e.g., Gunn et al., 2023), and manually collected ESG assurance information. Appendix B provides detailed documentation of the data sources for all variables. Panel B outlines the sample distribution by year, revealing a relatively uniform distribution across the sample period. Panel C presents the sample distribution by industry. The industry composition of our selected sample generally aligns with that

[12] Nevertheless, our main results remain robust when the sample is expanded to include companies audited by non-Big 4 firms in China. Specifically, Deloitte's ESG ratings for its audit clients are not higher compared to its non-audit clients or those assessed by other ESG rating agencies. Furthermore, the predictability of Deloitte's ESG ratings for its audit clients is significantly higher than its ratings for non-audit clients as well as those issued by other ESG rating agencies.

of all A-share listed companies, indicating that our sample is representative.

<Insert Table 1>

Figure 1a illustrates the distribution of Deloitte's ESG ratings for our main sample, which includes all Big 4 clients from 2020 to 2022 (obs. = 759), showing a normal distribution. To enable visual comparisons, all ESG ratings are scaled from 0 to 100, following Christensen et al. (2022). Figures 1b and 1c present subsamples from Figure 1a, specifically for Deloitte's audit clients and non-audit clients, respectively. Notably, the distribution patterns remain consistent across both Deloitte-audited companies (obs. = 125) and those audited by other Big 4 firms (obs. = 634). For comparative purposes, we also analyze ESG ratings from eight rating agencies in China: MSCI, Wind, Hexun.com, FTSE, SINO, Bloomberg, RKS, and SynTao Green Finance. These ratings are sourced from the respective agencies' available datasets. Figure 2 depicts the distribution of ESG ratings from these agencies (obs. = 759), highlighting substantial variations in ratings across providers.

<Insert Figure 1, Figure 2>

3.2 Research Model

3.2.1. Objectivity of ESG Ratings (H1)

We first investigate whether and how the audit-client relationship affects ESG rating objectivity. We compare Deloitte's rating for its audit clients and non-audit clients using Equation (1). Additionally, we compare Deloitte's rating for its audit clients to the ratings issued by other ESG rating agencies for these same clients using Equation (2). Both analyses are performed at company-year-ESG rater level.

$$ESGrating = \beta_0 + \beta_1 Deloitte\_rater + \beta_2 Deloitte\_rater \times Deloitte\_auditclients + \sum \beta_n Controls + \sum Company, Year\ Fixed\ Effects + \varepsilon \quad (1)$$

$$ESGrating = \beta_0 + \beta_1 Deloitte\_auditclients + \beta_2 Deloitte\_rater \times Deloitte\_auditclients + \sum \beta_n Controls + \sum Company, Year \quad (2)$$

$$Fixed\ Effects + \varepsilon$$

Following Li et al. (2024), we define our dependent variable, *ESGrating*, in Equation (1) and Equation (2) as the normalized ESG rating score assigned by all nine rating agencies including Deloitte: MSCI, Wind, Hexun.com, FTSE, SINO, Bloomberg, RKS, SynTao Green Finance, and Deloitte.[13] We define *Deloitte_rater* in Equation (1) as a dummy variable that equals one if the ESG rating is issued by Deloitte, and zero otherwise. *Deloitte_auditclients* in Equation (2), is defined as a binary indicator equaling to one if the company's financial statements are audited by Deloitte and zero otherwise. In both Equation (1) and (2), our main variable of interests is the interaction term *Deloitte_rater* $\times$ *Deloitte_auditclients*. A significantly positive coefficient of *Deloitte_rater*$\times$*Deloitte_auditclients* in Equation (1) would indicate that relative to other rating agencies, Deloitte assigns more favorable ESG ratings to its audit clients compared to its non-audit clients. A significantly positive coefficient of *Deloitte_rater* $\times$*Deloitte_auditclients* in Equation (2) would indicate that relative to Deloitte's non-audit clients, Deloitte's audit clients receive higher ESG rating from Deloitte than the ratings from other ESG rating agencies.

We control for company characteristics related to ESG rating quality, including company size (*Size*), leverage (*Leverage*), return on assets (*ROA*), loss indicator (*Loss*), growth rate (*Growth*), market-to-book ratio (*MTB*), and company age (*Age*). The second set of variables pertains to corporate governance and reporting incentives. These include institutional ownership (*Institution*), CEO duality (*Dual*, indicating whether the CEO also serves as chairman), state-owned enterprises (*State*) and seasoned equity

[13] We normalize the ESG rating score as below: *ESGrating* = (the initial value of ESG rating –mean value in year t of agency i)/ std of ESG rating in year t of agency i. Our results remain robust to alternative methods of calculating rating consensus, including: (1) using the median value of ratings as a measure of consensus instead of the mean value; and (2) excluding one of the rating scores provided by RKS, which exhibits a distribution significantly more skewed than the others (as shown in Figure 2).

offerings (*SEO*). Detailed definitions for all variables are provided in Appendix B. To mitigate the potential influence of outliers, all continuous variables are winsorized at the 1st and 99th percentiles. Finally, we include company and year fixed effects to account for unobserved company-specific characteristics, and temporal trends.[14] Throughout the analysis, we estimate the models using OLS, and cluster standard errors at the company level to account for within-company correlations.

3.2.2. Predictability of Future Negative ESG Incidents (H2)

Our next ESG rating quality measure focuses on the ability of Deloitte's ESG ratings to predict future negative ESG incidents. *ESG_Issue* is defined as a dummy variable that equals one if an ESG incident is recorded for the company during the fiscal year, and zero otherwise. Examples of ESG incidents include production accidents such as explosions, mining disasters, fires, thefts, and environmental pollution.[15] This measure serves as a crucial indicator of rating quality, reflecting the extent to which ESG ratings provide meaningful insights into future risks and challenges faced by rated entities (Serafeim and Yoon 2023; Li et al. 2024).

$$\begin{aligned} ESG\_Issue_{t+1} = {} & \beta_0 + \beta_1 Deloitte\_ESGrating + \beta_2 Deloitte\_auditclients + \\ & \beta_3 Deloitte\_ESGrating \times Deloitte\_auditclients + \\ & \beta_4 Other\_ESGrating + \beta_5 Other\_ESGrating \times Deloitte\_auditclients \\ & + \sum \beta_n Controls + \sum Company,\ Year\ Fixed\ Effects + \varepsilon \end{aligned} \quad (3)$$

To test whether the predictability of Deloitte's ESG ratings differs between its audit and non-audit clients, we interact *Deloitte_auditclient* with *Deloitte_ESGrating*, the ESG rating scores assigned by Deloitte. Since higher values of *Deloitte_ESGrating* indicate that Deloitte has assessed a company as performing better in ESG dimensions,

[14] The results remain robust if we add ESG rater fixed effects to model (1) and (2). We do not use that to report our main results because when we use ESG rater fixed effects, the variable of *Deloitte_rater* is omitted from model (1).

[15] For example, Huaxin Cement (600801.SH) faced a major pollution incident in 2020. Its particulate emissions exceeded the limit by 1.8 times, violating China's Air Pollution Prevention Law, and was fined by regulators. Wanfeng Auto (002085.SH) experienced an explosion in a branch's painting workshop in 2022. In 2019, a significant fire incident took place at Yongcheng Aluminium Plant, an affiliate of Shenhuo Joint-Stock Company (000933.SZ), resulting in substantial property damages.

a significant negative coefficient on the interaction term (β3) would suggest that Deloitte's ESG ratings for its audit clients are more predictive of future negative ESG events than its ratings for non-FS audit clients.

To compare the predictability of Deloitte's ESG ratings for its audit clients relative to other rating agencies, we include two additional variables in Equation (3): the mean ESG rating score from other rating agencies (*Other_ESGrating*), which aggregates ratings from the eight distinct agencies as described previously, and its interaction with *Deloitte_auditclients* (*i.e. Other_ESGrating*×*Deloitte_auditclients*). The difference in the coefficients of the two interaction terms—*Deloitte_ESGrating* × *Deloitte_auditclient* and *Other_ESGrating* × *Deloitte_auditclients*—measures the difference in the predictability of Deloitte's ESG rating compared to the ratings from other agencies for Deloitte's audit clients. If the coefficient of *Deloitte_ESGrating* × *Deloitte_auditclient* is significantly lower (higher) than that of *Other_ESGrating* × *Deloitte_auditclients*, it suggests that the ESG ratings assigned by Deloitte to its audit clients are *more* (*less*) predictive of future negative ESG incidents than the consensus ratings provided by other rating agencies for these same clients.

4. Empirical Results

4.1. ESG Rating Quality by Deloitte (H1 and H2)

Table 2 Panel A presents descriptive statistics for the sample. As we normalize the ESG ratings, the mean overall ESG ratings (*ESGrating*), the mean ESG ratings assessed by Deloitte (*Deloitte_ESGrating*), and the mean ESG ratings from other eight rating agencies (*Other_ESGrating*) are zero by construction. The sample comprises large companies, with the mean value of *Size* being 23.94 (representing total assets of about 25,000 million RMB or 3,500 million USD). Since the analysis focuses on companies audited by Big 4 firms, client attributes are largely comparable between Deloitte's

clients and those of the other three auditors. For most variables, the mean and median values do not differ significantly between the two groups, except for *Size* (*Age*) in mean (median) difference test. Panel B presents the Pearson and Spearman correlation matrix of the variables. Variance inflation factors (VIFs) for all the variables in the regression are below 3, indicating that multicollinearity is not a concern.[16]

<Insert Table 2>

4.1.1 Main Regression Results

Table 3 presents the main findings for H1. Column (1) presents results when comparing Deloitte's ESG ratings for its audit clients to non-audit clients, and Column (2) present results when comparing the ratings assigned to Deloitte's audit clients from Deloitte and the ratings assigned to Deloitte's audit clients from other rating agencies. Please note for both comparisons, the variable of interest is the interaction term *Deloitte_rater* × *Deloitte_auditclients*. With *ESGrating* as the dependent variable which includes ratings from all rating agencies, the coefficients on *Deloitte_rater* × *Deloitte_auditclients* are insignificant in both columns (1) and (2), indicating that Deloitte does not assign higher ESG scores to its audit clients when providing ESG rating services, compared to either Deloitte's ESG rating for its' non-audit clients or to the ratings from other ESG ratings for Deloitte's audit clients.[17, 18] This suggests that Deloitte's audit clients do not receive inflated ratings from Deloitte; in other words, Deloitte's ESG assessments maintain a level of objectivity for its audit clients.

[16] We do not include *ESGrating* in our correlation matrix because *ESGrating* is constructed as a company-year-ESG rater level variable while other variables are at company-year level.

[17] We consider the magnitude of the conference interval for the statistically insignificant coefficients when interpreting a failure to reject the null hypothesis (Cunningham et al. 2019). We find the upper and lower bounds of these confidence intervals indicate that the potential effect size does not exceed one half of one standard deviation in the respective dependent variable.

[18] The results remain consistent when we include the accounting firm fixed effects to control for heterogeneity across auditor types. Note that when the accounting firm fixed effects are included, the variable *Deloitte_auditclients* is absorbed into the model specification.

<Insert Table 3>

Table 4 reports the results of predictability of ESG ratings (H2). As reported in Table 4, the coefficient on the interaction term *Deloitte_ESGrating*×*Deloitte_auditclients* is negative and statistically significant ($p<0.05$), suggesting Deloitte's ESG rating for its audit clients are more predictive of future negative ESG events than its non-audit clients. The coefficient on *Deloitte_ESGrating* is not significant, suggesting Deloitte ratings for non-audit clients do not have significant predictive power for subsequent negative events. In addition, the interaction term *Other_ESGrating*×*Deloitte_auditclients* is insignificant, suggesting that there is no significant difference in the predictability of ESG ratings from other rating agencies for Deloitte's audit clients compared to other clients. This also indicates that the superior predictability of Deloitte's ESG ratings for its own audit clients is unlikely to be driven by differences between Deloitte's audit clients and non-Deloitte clients. Furthermore, a comparison of the coefficients for *Deloitte_ESGrating* × *Deloitte_auditclients* and *Other_ESGrating* × *Deloitte_auditclients* reveals a significant difference ($p<0.10$), suggesting that Deloitte's ESG ratings for its own audit clients are more predictive of future ESG negative events than those from other agencies for the same clients. Collectively, our findings suggest that Deloitte's ESG ratings exhibit superior predictability for its own audit clients, compared to both Deloitte's non-audit clients and ratings from other ESG agencies. This indicates that Deloitte's dual role as both auditor and ESG rater fosters the transfer of "client-specific" knowledge from its audit engagements to its ESG rating services, thereby enhancing the predictive value of its ESG assessments for its audit clients.

<Insert Table 4>

4.1.2 Cross-Sectional Results

Our main results suggest that “client-specific” knowledge plays a crucial role in enhancing the quality of Deloitte's ESG ratings for its audit clients. In this section, we conduct several cross-sectional analyses to provide additional evidence supporting the “client-specific” knowledge channel. We first examine the influence of accounting firms’ industry expertise. We argue that industry-level expertise, developed through audit practices, not only provides a broad understanding of sector-specific ESG challenges but also deepens client-specific knowledge. This expertise enables auditors to better contextualize individual client operations within their competitive landscape, offering a more nuanced understanding of company-specific sustainability practices and more accurate benchmarking against industry peers. With this enhanced knowledge, accounting firms are better equipped to conduct more informed ESG assessments, resulting in higher quality ratings.

We partition the sample based on whether companies operate in industries where Deloitte has developed expertise through its auditing practices, as measured by the number of clients Deloitte has in that industry (*Industry_Expertise*). Column (1) and (2) of Table 5 present regression results from Equation (2) for these two subsamples. In the subsample of companies in industries where Deloitte has developed expertise, the coefficient for *Deloitte_ESGrating*×*Deloitte_auditclients* is negative and statistically significant ($p<0.05$). In contrast, the coefficient is not significant in the subsample with companies without Deloitte’s industry expertise. A Chow test confirms that the coefficients for *Deloitte_ESGrating*×*Deloitte_auditclients* differ significantly between the two subsamples. These findings support the view that the quality of ESG ratings is improved when accounting firms leverage “client-specific” knowledge gained through industry expertise developed in their audit practices.

Next, we examine the impact of ESG rating disagreements. The premise is that when there is greater uncertainty about a company's true ESG performance, assessing its ESG standing becomes more challenging, leading to significant disagreements among ESG rating agencies. In such cases, the "client-specific" knowledge and insights gained through intensive client interactions during financial audits are likely to contribute more meaningfully to the quality of the ESG ratings.

Columns (3) and (4) of Table 5 report the regression results for subsamples partitioned based on the median of the level of ESG rating disagreement. We measure disagreement (*ESG_Disagreement*) as the standard deviation of ESG rating scores provided by the eight previously mentioned agencies, on a scale of 0 to 100 (Christensen et al. 2022). In the high-disagreement subsample, the coefficient for *Deloitte_ESGrating*×*Deloitte_auditclients* is significantly negative ($p<0.05$), while the coefficient is not significant in the low-disagreement subsample. The Chow test reveals that the coefficients for *Deloitte_ESGrating*×*Deloitte_auditclients* differ significantly between the two subsamples. These results highlight that Deloitte's ESG ratings for its audit clients are more informative when there is greater complexity and uncertainty surrounding ESG assessments.

Taken together, these cross-sectional findings emphasize the critical role of superior "client-specific" knowledge in improving the quality of ESG ratings. Accounting firms possess a unique advantage in the ESG rating market due to their privileged access to client-specific information through their role as financial statement auditors. This access allows them to develop a deep understanding of client operations and practices, which enhances the accuracy and relevance of their ESG assessments.

<Insert Table 5>

4.2 Additional Analyses: ESG rating service on client base growth

Deloitte's entry into the ESG rating market could be seen as a strategic move to position itself as a leader in the growing ESG data and services industry. By leveraging its expertise and resources, Deloitte may establish an "ESG specialization," analogous to industry specialization in the auditing market. Engaging in ESG rating activities, which involve benchmarking, comparing entities, and providing insights into future ESG developments (Serafeim and Yoon 2023), could allow Deloitte to gain a deeper understanding of ESG measurements across various sectors. This specialized knowledge would enhance auditors' ability to understand their clients' business environments and better assess ESG-related risks.

Furthermore, the development of ESG rating services requires significant investments in internal training programs to upgrade employees' skills, ensuring they remain current with the rapidly evolving ESG landscape and are equipped to navigate complex reporting and regulatory requirements. This commitment is reinforced by substantial investments in systems and technology to collect and analyze extensive datasets from thousands of companies. Research indicates that such investments in both personnel and technology contribute to fostering specialization within organizations (Gaver and Utke 2019). This specialization allows Deloitte to distinguish itself from competitors, attract clients in need of comprehensive ESG solutions, and capitalize on the growing demand for reliable ESG data and insights into both investment and corporate decision-making. Ultimately, this strategic approach could foster client growth in the increasingly competitive ESG assurance services market (Gipper et al. 2024a; Gipper et al. 2024b), as previous research has shown that ESG expertise is a key factor influencing clients' choice of ESG assurance service providers (Lu et al. 2023). Thus, we expect that Deloitte's entry into the ESG rating market helps attract new clients seeking ESG assurance services to select Deloitte as their assurance providers.

We further examine the effect of Deloitte's entry into the ESG rating market on its client growth in financial statement audits. On the one hand, as discussed earlier, engaging in ESG rating services can enhance auditors' understanding of client business environments and ESG-related risks, potentially making Deloitte's audit services more attractive to prospective clients. On the other hand, given that ESG rating services are largely separate from financial auditing services, the potential spillover effects—whether positive or negative—of Deloitte's accumulated reputation in ESG ratings on its financial audit services may be limited. Additionally, prior studies on auditor industry specialization suggest that serving a large number of similar clients within a specific domain may deter new clients due to concerns about information spillovers (e.g., Aobdia 2015; Bills et al. 2020). It is therefore not clear ex-ante whether Deloitte's entry into the ESG rating market significantly affects client growth for financial statement audit services.

To investigate whether accounting firms engaging in the ESG rating market experience a greater increase in the clients they serve in both the ESG assurance market and the financial audit market, we follow Gunn et al. (2024) and adopt a Difference-in-Differences (DiD) approach to estimate the effect:

$$\Delta ESG\_Assurance = \beta_0 + \beta_1 Deloitte \times Post + \sum \beta_n Controls + \sum Year, Accounting\ Firm\ Fixed\ Effects + \varepsilon \quad (4)$$

$$\Delta Client = \beta_0 + \beta_1 Deloitte \times Post + \sum \beta_n Controls + \sum Year, Accounting\ Firm\ Fixed\ Effects + \varepsilon \quad (5)$$

The analysis is conducted at both the ESG consulting firm-year and accounting firm-year level, as specified in Equations (4) and (5). For the ESG assurance market, the dependent variable *ΔESG_Assurance* represents the change in the number and size of ESG assurance clients. Specifically, *ΔESG_Assurance_Num* (*ΔESG_Assurance_Asset*) measures the net change in the number (or total assets) of

clients receiving ESG assurance from year t-1 to year t, deflated by the number (total assets) of clients in year t-1. Similarly, for the financial audit market, we consider both the number and size of clients. *ΔClient_Num* (*ΔClient_Asset*) represents the net change in the number (total assets) of clients audited by the accounting firm from year t-1 to year t, scaled by the number (total assets) of clients in year t-1 to control for clientele size effects. In these DiD specifications, our primary interest is the interaction term *Deloitte*×*Post*, which captures the effect of Deloitte's entry into the ESG rating business on its market position in both ESG assurance services and financial audits.

To test the parallel trends assumption, we further decompose *Post* variable into a set of year indicators: $Year_{(-2)}$, $Year_{(-1)}$, $Year_{(0)}$, $Year_{(1)}$, *and* $Year_{(2)}$, corresponding to the years 2018, 2019, 2020, 2021 and 2022, respectively (with 2017 serving as the baseline year). In this dynamic DiD regression specification, we test whether the coefficients of *Deloitte*×$Year_{(0, 1, 2)}$ are statistically significant, and whether the coefficients of *Deloitte* × $Year_{(-2, -1)}$ are statistically insignificant, thereby confirming the parallel trends assumption.

When examining the effect on the ESG assurance market in Equation (4), we include control variables of client characteristics. These include *ESGClient_Size*, which is the mean value of natural log of total assets across all clients assured by the ESG assurance firm in year t and *ESGClient_MTB*, which is the mean value of the market-to-book ratio across all clients rated by the ESG assurance firm in year t. With respect to control variables in Equation (5), we also include accounting firm-level attributes related to reputation, including the percentage of audit clients receiving a modified audit opinion (*Client_MAO*), the percentage of audit clients whose financial statements are subsequently restated (*Client_Res*), and the natural log value of the average tenure of all clients for the accounting firm (*Avg_Tenure*). To mitigate concerns that unobserved

accounting firm characteristics and temporal trends might explain client attraction effects, we include ESG assurance firm or accounting firm fixed effects as well as year fixed effects. As a result, the standalone *Deloitte* and *Post* are subsumed in the model specification. Standard errors are adjusted for heteroskedasticity.[19]

Table 6 Panel A presents the regression results for client growth in the ESG assurance market, which includes both accounting and consulting firms (N = 61). [20,21] The coefficients for *Deloitte*×*Post* in columns (1) and (3) are both significantly positive for the change in the number of ESG assurance clients ($p<0.05$) and client assets ($p<0.05$). In columns (2) and (4) under the dynamic DiD model, the non-significant coefficients for the pre-event interactions ($Deloitte \times Year_{(-2,-1)}$) confirm that the parallel trend assumption holds, indicating that the observed phenomena are unlikely driven by the continuation of pre-existing trends. These results suggest that after launching its ESG rating services, Deloitte successfully expands its ESG assurance client base, both in terms of number and scale, compared to other competitors in the ESG assurance market.

Panel B analyzes changes in financial audit client portfolios. The audit sample consists of Big 4 accounting firms (obs. = 24). As presented in columns (1) and (3), the interaction term *Deloitte*×*Post* shows positive and significant coefficients for both the number of clients ($p<0.05$) and client assets ($p<0.05$). The interaction terms $Deloitte \times Year_{(-2,-1)}$ in columns (2) and (4) are statistically insignificant in the dynamic DiD model, validating the parallel trends assumption. These results suggest that after

[19] The small sample sizes (N = 61 and 24 for Table 6 Panel A&B respectively) for this analysis precludes the use of clustering at assurance firm or accounting firm level. Therefore, we use robust-adjusted standard errors to address heteroskedasticity instead.

[20] Our ESG assurance sample comprises eleven service providers: five accounting firms (the Big 4 plus Shanghai Certified Public Accountants) and six consulting companies (TÜV NORD, TÜV Rheinland, CECEP Advisory Company Limited, SGS, LRQA, and Corporate Integrity).

[21] Although we report estimates under OLS, our findings documented in Table 6 still hold if estimated under robust regression (stata code: rreg).

entering the ESG ratings market, Deloitte has developed ESG specialization and attracted more audit clients compared to other Big 4 firms. Overall, these findings highlight that Deloitte's move into ESG ratings has given it a competitive advantage, enhancing its market position in both the emerging ESG assurance market and the traditional FS audit services market.

<Insert Table 6>

4.3 Additional Analyses: The Impact of Deloitte's ESG Ratings on Other Rating Agencies

In this analysis, we test if other ESG rating agencies follow Deloitte's rating in adjusting their own ratings. It is unclear ex-ante whether other rating agencies will follow Deloitte's ratings, given its relatively recent entry into the ESG rating market. Moreover, Deloitte's primary role as a financial statement auditor distinguishes it from other ESG rating agencies in terms of business model, making it less likely to be perceived as a direct competitor by these agencies.

We use the following models to test the effect:

$$\begin{matrix} Upgrades_{t+1} \\ Downgrades_{t+1} \end{matrix} \Big/ = \beta_0 + \beta_1 High\_Deloitte_t + \beta_2 Low\_Deloitte_t + \sum \beta_n Controls + \sum Company,\ Year\ Fixed\ Effects + \varepsilon \quad (6)$$

In Equation (6), our dependent variable is *Upgrades* (*Downgrades*), which is defined as a dummy variable that equals one if the consensus ESG rating is higher (lower) in year t+1 compared to that in year t, and zero otherwise. We include both *High_Deloitte* and *Low_Deloitte* as our main independent variables. *High_Deloitte* (*Low_Deloitte*) is a dummy variable that equals one if Deloitte's ESG rating is significantly higher (lower) than the consensus ESG rating in year t, and zero otherwise. We control for the same set of variables that might affect ESG rating quality as the Equation (1). We include two fixed effects: company and year.

Column (1) and (2) in Table 7 reports the regression results. In column (1), the

coefficient on *High_Deloitte* is significantly positive, and the coefficient on *Low_Deloitte* is significantly negative when the dependent variable is *Upgrades* in year t+1. These results indicate that Deloitte's ratings significantly influence other rating agencies' decisions to upgrade ratings in the following year. Specifically, high ratings from Deloitte serve as a positive signal, increasing the likelihood of upgrades, while low ratings from Deloitte decrease this likelihood. In column (2) where the dependent variable is *Downgrades* in year t+1, *Low_Deloitte* has a significantly positive coefficient while the coefficient on *High_Deloitte* is insignificant. Thus, Deloitte's low ratings play a significant role in promoting future downgrades by other agencies.

Collectively, Deloitte's high ratings encourage upgrades by other rating agencies, Deloitte's low ratings significantly drive downgrades while also inhibiting upgrades. These findings highlight the substantial informational value of Deloitte's ratings to other agencies, indicating that these agencies perceive Deloitte's ratings as being of high quality.

We next add the interaction of *Deloitte_auditclients* into Equation (6) to examine whether and how other ratings agencies response to Deloitte's ESG rating for its audit clients using the following models:

$$\begin{aligned} Upgrades_{t+1} \;/\; Downgrades_{t+1} = {} & \beta_0 + \beta_1 High\_Deloitte + \beta_2 Low\_Deloitte \\ & + \beta_3 High\_Deloitte \times Deloitte\_auditclients \\ & + \beta_4 Low\_Deloitte \times Deloitte\_auditclients \\ & + \beta_5 Deloitte\_auditclients + \sum \beta_n Controls + \\ & \sum Company,\ Year\ Fixed\ Effects + \varepsilon \end{aligned} \tag{7}$$

In Equation (7), our main variables of interests are the interacted terms *High_Deloitte*×*Deloitte_auditclients* and *Low_Deloitte*×*Deloitte_auditclients.* Column (3) and (4) in Table 7 show that the coefficient of *High_Deloitte* × *Deloitte_auditclients* is significantly negative, and the coefficients on the other interacted terms are insignificant. These findings suggest that other rating agencies tend

to discount Deloitte's high ratings for its own audit clients, possible due to concerns about conflicts of interest, consistent with regulators' worries. However, such concerns appear to be unwarranted, as we find no evidence of upward bias in Deloitte's rating for its audit clients and instead observe greater predictive accuracy of these ratings for future ESG-related negative events.

<Insert Table 7>

4.4 Additional Analyses: The Impact of ESG Rating Services on Audit Outcomes

We also examine how an accounting firm's entry into ESG rating business, a non-audit service, impacts its audit practices. On the positive side, prior research finds spillover effects from non-audit services, such as improved financial statement quality and audit opinions following CSR assurance services (Maso et al. 2020; Lu et al. 2023). Engaging in ESG rating activities, which involve benchmarking and comparative analysis, helps firms gain a deeper understanding of market-specific ESG challenges, thereby enhancing client risk assessments. Moreover, these activities encourage investment in employee training to tackle complex reporting and regulatory requirements. On the flip side, potential drawbacks include compromised professionalism and resource allocation issues. In addition, the higher margins of non-audit services may create conflicting incentives (Lisic et al. 2019).

To empirically assess these effects, we capture audit quality using (1) the likelihood of financial misstatement (*Restatement*), and (2) absolute value of discretionary accrual calculated using the Dechow and Dichev (2002) model, *Abs_DACC.* We test the impact of ESG rating services on audit outcomes using a DiD specification as below.

$$Audit\_Outcomes = \beta_0 + \beta_1 Deloitte\_auditclients \times Post + \sum \beta_n Controls + \sum Company, Year, Accounting\ Firm\ Fixed\ Effects + \varepsilon \quad (8)$$

Columns (1) to (2) of Table 8 present the DiD results for audit quality measures, with *Restatement* and *Abs_DACC* as the dependent variables, respectively. The coefficient on *Deloitte_auditclients*×*Post* is insignificant for *Restatement* but significantly negative for *Abs_DACC*.[22] Thus, we find no evidence of a decline in audit quality and even some improvements following Deloitte's initiation of ESG rating services, as evidenced by the reduction in discretionary accruals. These findings indicate that the enhanced quality of ESG ratings provided by Deloitte for its own clients does not come at the cost of compromised audit quality for those clients.[23]

<Insert Table 8>

5. Conclusion

This study offers the first evidence challenging the EU's regulations that prohibit ESG rating agencies from offering financial statement (FS) audit services within the same entity. Leveraging the unique context of Deloitte's entry into the ESG rating market in China between 2020 and 2022, we find no evidence that Deloitte's ESG ratings are biased in favor of its audit clients. On the contrary, these ratings demonstrate stronger predictability of future ESG-related negative events, countering regulators' concerns. We further find that Deloitte's entry into the ESG market is associated with significant growth in its client base for both ESG assurance services and audit services. Moreover, these advantages are not achieved at the expense of audit quality. Thus, our findings suggest that accounting firms' ESG rating services do not comprise audit quality while delivering high-quality ESG ratings.

[22] The dynamic DiD model for Column (2) (un-tabulated) returns insignificant coefficients for the pre-event interactions *Deloitte_auditclients*×$Year_{(-2,\ -1)}$ confirming the validity of the parallel trend assumption.

[23] We also tested the accuracy of auditors' going concern opinion as an alternative proxy for audit quality following Maso et al. (2020). Results also show that the *Deloitte_auditclients*×*Post* coefficients are significantly negative for *both Type 1 and Type 2* errors of going concern opinions, suggesting higher audit quality. We caution the interpretation of these findings as the number of observations for *Deloitte_auditclients* have Type I or Type II errors in the *Post* period is small (N= 19 and 56, respectively).

Our study provides timely and practical policy insights as jurisdictions worldwide consider regulating the ESG rating industry. This study also contributes to the auditing and ESG rating literature by underscoring the critical role accounting firms can play as gatekeepers in these markets. By demonstrating the advantages of integrating audit and ESG rating services within accounting firms, our results provide valuable guidance for policymakers, regulators, practitioners, and investors alike.

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Appendix A Excerpt from Deloitte's 2022 ESG Chemical Industry Whitepaper

图 12：2022 年度 ESG 化工行业 S 级企业

证券代码	企业简称	ESG评级	ESG评分	E评分	S评分	G评分
600803 · SH	新奥股份	S	3.83	3.41	5.03	6.09
002812 · SZ	恩捷股份	S	3.80	3.38	4.12	6.79
002601 · SZ	龙佰集团	S	3.57	2.97	4.01	6.37
600660 · SH	福耀玻璃	S	3.56	2.34	4.88	6.41
601865 · SH	福莱特	S	3.54	2.76	3.92	6.60
688116 · SH	天奈科技	S	3.40	2.77	4.17	5.70
603737 · SH	三棵树	S	3.15	2.04	4.30	5.41
002064 · SZ	华峰化学	S	3.13	2.55	3.56	5.29
002466 · SZ	天齐锂业	S	3.11	1.44	4.25	6.08
600176 · SH	中国巨石	S	3.10	2.37	3.31	5.65
000703 · SZ	恒逸石化	S	3.09	2.18	3.71	5.48
002493 · SZ	荣盛石化	S	3.04	2.84	3.10	4.93
600346 · SH	恒力石化	S	2.98	2.11	3.65	5.14
601966 · SH	玲珑轮胎	S	2.98	3.01	2.57	4.90
601636 · SH	旗滨集团	S	2.97	1.79	4.07	5.14

Deloitte's ESG Ratings Industry Whitepaper mainly covers two parts. Part 1 presents the brief ESG ratings methodology, which is similar across different industry sectors. The above left figure implies that Deloitte assess all listed companies in Chinese A-share (over 4,700) into five distinct grades: S, A, B, C and D, based on different industry model (CICS 1-26). This grading system helps stakeholders understand the level of ESG compliance and performance of each company. Furthermore, the ESG evaluation process utilizes a variety of indicators (over 290) under three categories: (1) Environment: measures such as carbon footprint reduction, energy efficiency improvements, sustainable resource usage, pollution control mechanisms and others; (2) Social Responsibility: employee rights protection, product responsibilities, supply chain management, and contributions to social welfare. (3) Governance Practices: company's governance structure, compliance with regulations, transparency in reporting, and integrity in management practices.

Part 2 presents the overall performance for assessed industry. For example, it mentions the assessment of ESG practices for chemical industry using 137 ESG indicators. Deloitte highlights that indicator disclosure rates are just one evaluation dimension of the rating model, while actual scores depend on the actual performance across various dimensions of the enterprise. In the qualitative description surrounding the chemical industry's ESG performance, Deloitte's ratings underscore certain topics within certain dimension. For instance, climate change, lifecycle assessment, and pollution prevention are the primary issues contributing to disparities in the environmental (E) dimension. Meanwhile, supply chain management emerges as the main issue in the social (S) dimension.

Specifically, it lists the stock code and name of 15 companies rated as S grade, shown in the above right table, detailing their respective scores across ESG-related metrics: overall ESG score, and separate environmental (E) score, social (S) score, and governance (G) score. Besides, it mentions the rating distribution in the chemical industry: 58 companies achieved an A grade, 259 earned a B grade, 271 obtained a C grade, and 48 were rated as D.

Appendix B Variable Definition

Variable	Definition	Data Source
Client-Level Variables		
Abs_DACC	The absolute value of discretionary accrual calculated using the Dechow and Dichev (2002) model.	CSMAR
Age	The natural logarithm of one plus the number of years since the firm's listing.	CSMAR
Deloitte_auditclients	A dummy variable equaling 1 if the list company is audited by Deloitte, and zero otherwise.	Manually coded
Deloitte_ESGrating	Yearly normalized ESG rating score assessed by Deloitte. Following Li et al. (2024), we normalize all ESG ratings to ensure their comparability.	Deloitte
Deloitte_rater	A dummy variable that equals one if the ESG rating is assessed by Deloitte, and zero otherwise.	Rating Agency
Downgrades	A dummy variable that equals one if the consensus ESG rating is downgraded in t+1, and zero otherwise.	Rating Agency
ESG_rating	Yearly normalized ESG rating score assessed by different rating agencies. Following Li et al. (2024), we normalize all ESG ratings to ensure their comparability.	Rating Agency
ESG_Issue	A dummy variable that equals one if ESG negative issues happened, and zero otherwise during the fiscal year. Negative issues include production accidents such as explosions, mining disasters, fires, thefts, and environmental pollution.	CNRDS
Growth	The growth rate of total assets.	CSMAR
High_Deloitte	A dummy variable that equals one if Deloitte's ESG rating is significantly higher than the consensus ESG rating, and zero otherwise.	Rating Agency
Industry_Expertise	A dummy variable that equals one if the client firm belongs to an industry in which Deloitte has a high level of market share (based on the number of listed clients in that industry).	CSMAR
Institution	The institutional shareholding ratio, measured as the total common shares held by institutional shareholders divided by the total common shares of the firm at the end of the fiscal year.	CSMAR
Leverage	The total liabilities divided by total assets at the end of the fiscal year.	CSMAR
Loss	A dummy variable that equals one if the net income is less than zero for the fiscal year, and zero otherwise.	CSMAR
Low_Deloitte	A dummy variable that equals one if Deloitte's ESG rating is significantly lower than the consensus ESG rating, and zero otherwise.	Rating Agency
MTB	The market-to-book ratio, measured as the market value of equity divided by book value of equity at the end of the fiscal year of the firm. A firm's market value of equity is calculated as the number of shares outstanding multiplied by the closing price at the end of the fiscal year.	CSMAR
Other_ESGrating	The mean value of the yearly normalized ESG rating scores assessed by MSCI, Wind, Hexun.com, FTSE, SINO, Bloomberg, RKS and SynTao Green Finance. Following Li et al. (2024), we normalize all ESG ratings to ensure their comparability.	Rating Agency
Post	*A* dummy variable equaling 1 if the observation is on year 2020, 2021 and 2022, and zero otherwise.	Manually coded
Restatement	A dummy variable that equals one if there is a financial restatement for the fiscal year, and zero otherwise.	CSMAR
ROA	The return on assets, measured as net income divided by total assets at the end of the fiscal year.	CSMAR

Size	Natural logarithm of one plus the total assets of the firm at the end of the fiscal year.	CSMAR
State	A dummy variable that equals one if the ultimate controlling owner of the firm is the government, and zero otherwise.	CSMAR
SEO	A dummy variable that equals one if the firm has seasoned equity offering activities during the fiscal year, and zero otherwise.	CSMAR
Upgrades	A dummy variable that equals one if the consensus ESG rating is upgraded in t+1, and zero otherwise.	Rating Agency
Year(-2)	A dummy variable equaling 1 if the observation is in year 2017, and 0 otherwise.	Manually coded
Year(-1)	A dummy variable equaling 1 if the observation is in year 2018, and 0 otherwise.	Manually coded
Year(0)	A dummy variable equaling 1 if the observation is in year 2020, and 0 otherwise.	Manually coded
Year(+1)	A dummy variable equaling 1 if the observation is in year 2021, and 0 otherwise.	Manually coded
Year(+2)	A dummy variable equaling 1 if the observation is in year 2022, and 0 otherwise.	Manually coded
Accounting Firm-Level Variables		
ΔClient_Num	Percentage change in the number of clients audited from year t-1 to year t, calculated as (the number of clients of the audit firm in year t minus the number of clients in year t-1) divided by the number of clients in year t-1 for the same audit firm.	CSMAR
ΔClient_Assets	Percentage change in clients' total assets from year t-1 to year t, calculated as (client total assets in year t minus client total assets in year t-1) divided by client total assets in year t-1 for the same audit firm.	CSMAR
ΔESG_Assurance_Num	Percentage change in the number of clients assured from year t-1 to year t, calculated as (the number of clients of the ESG assurance firm in year t minus the number of clients in year t-1) divided by the number of clients in year t-1 for the same ESG assurance firm.	Manually collected
Δ ESG_Assurance_Assets	Percentage change in clients' total assets from year t-1 to year t, calculated as (client total assets in year t minus client total assets in year t-1) divided by client total assets in year t-1 for the same ESG assurance firm.	Manually collected
Avg_Tenure	Log value of the mean tenure of all audit clients in a given year plus 1 for the same audit firm.	CSMAR
Client_MAO	The total number of audit clients receiving modified audit opinions divided by the total number of audit clients in year t for the same audit firm.	CSMAR
Client_Res	The total number of audit clients with misstatements (which were subsequently restated) divided by the total number of audit clients in year t for the same audit firm.	CSMAR
Client_Size	The mean value of natural log of total assets across all clients audited by the audit firm in year t.	CSMAR
Client_MTB	The mean value of market to book ratio across all clients audited by the audit firm in year t.	CSMAR
Deloitte	A dummy variable equaling 1 if the accounting firm (or ESG assurance firm) is Deloitte, and zero otherwise.	CSMAR
ESGClient_Size	The mean value of natural log of total assets across all clients assured by the ESG assurance firm in year t.	CSMAR
ESGClient_MTB	The mean value of market to book ratio across all clients assured by the ESG assurance firm in year t.	CSMAR

Table 1 Sample Construction and Distribution

Panel A Sample Selection Procedure

	N
All Chinese A-share companies audited by Big Four accounting firms from 2020 to 2022	1,049
Removing observations in financial industries and utilities	(193)
Removing observations without key financial data	(97)
The number of final Firm-year observations	759

Panel B Sample Distribution by Year

Year	Full sample	*Deloitte_auditclients* =1	*Deloitte_auditclients* =0
2020	226	39	187
2021	246	42	204
2022	287	44	243
Total	759	125	634

Panel C Sample Distribution by Industry

CSRC Industry	Our sample		All A-share Firms	
	Obs.	Percent.	Obs.	Percent.
A- Farming, forestry, and fishery	3	0.4%	239	1.0%
B- Mining	26	3.4%	433	1.9%
C- Manufacturing	418	55.1%	15,388	66.3%
D- Energy	28	3.7%	675	2.9%
E- Construction industry	19	2.5%	575	2.5%
F- Wholesale and retail industry	45	5.9%	993	4.3%
G- Transportation and related	53	7.0%	612	2.6%
H- Accommodation and catering	5	0.7%	48	0.2%
I- Information technology and software	44	5.8%	1,874	8.1%
K- Real estate development and business	51	6.72%	677	2.9%
L- Leasing and business services	19	2.5%	320	1.4%
M- Scientific and technology services	20	2.6%	405	1.7%
N- Water conservancy and public facilities	10	1.3%	394	1.7%
O- Residential and repairs services	2	0.3%	5	0.0%
P- Education	4	0.5%	46	0.2%
Q- Health and social work	2	0.3%	68	0.3%
R- Culture, sports and entertainment	10	0.3%	348	1.5%
S- Others	0	0.0%	95	0.4%
Total	759	100.0%	23,195	100.0%

Figure 1 Distribution of ESG Ratings Assessed by Deloitte

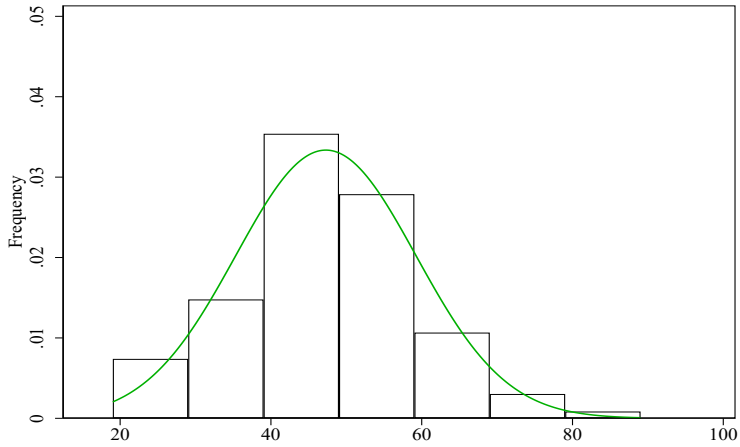

Figure 1A. Deloitte's ESG rating for all Big 4 clients, obs=759

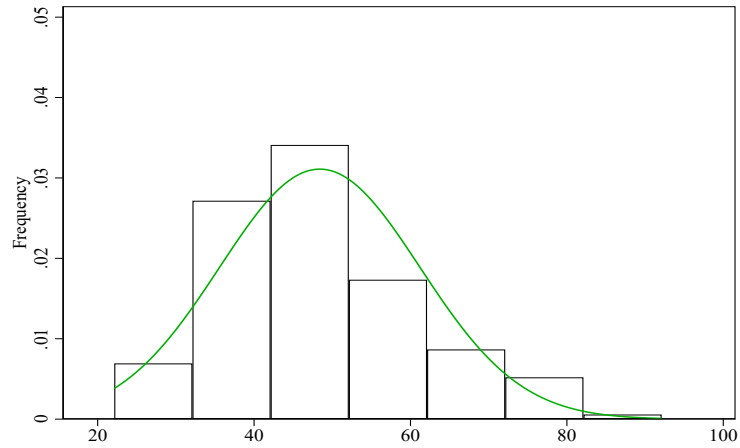

Figure 1B. Deloitte's ESG rating for Deloitte's audit clients, obs=125

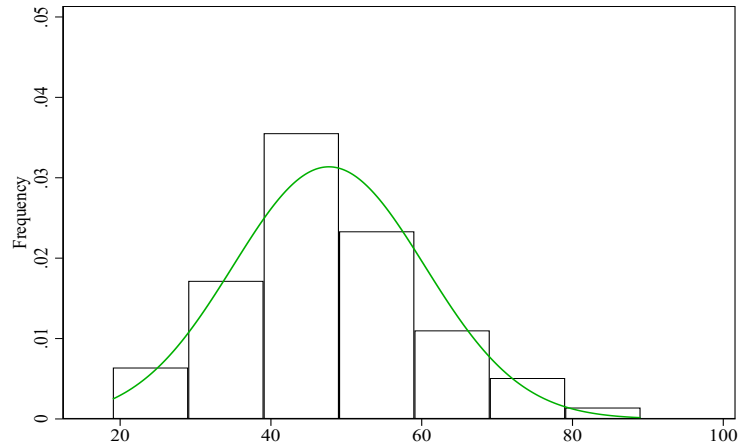

Figure 1C. Deloitte's ESG rating for Deloitte's non-audit clients, obs=634

Figure 1 illustrates the distribution of Deloitte ESG ratings for all Big 4, Deloitte's audit clients, and Deloitte's non-audit Big 4 clients from 2020 to 2022, respectively.

Figure 2 Distribution of ESG Ratings Assessed by Other Rating Agencies

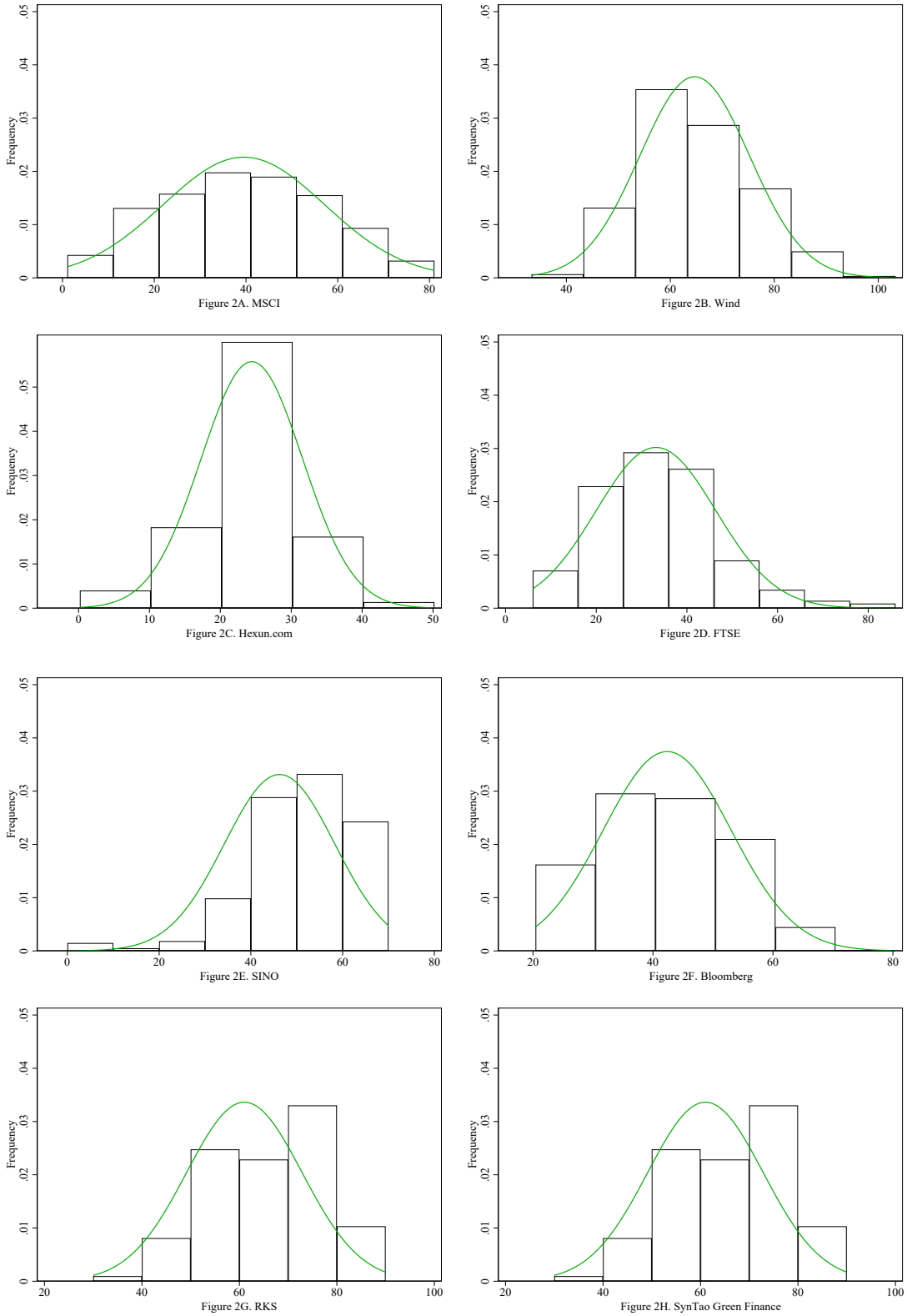

Figure 2 illustrates the distribution of ESG ratings for all Big 4 audited pubic companies from 2020 to 2022 (obs.=759), as provided by MSCI, Wind, Hexun.com, FTSE, SINO, Bloomberg, RKS, and Syntao Green Finance.

Table 2 Descriptive Statistics

Panel A Full Sample and Comparisons

Variable	Full sample						*Deloitte_auditclients* =0 (N=634)		*Deloitte_auditclients* =1 (N=125)	
	N	Mean	SD	P25	P50	P75	Mean	Median	Mean	Median
ESG_Issue	759	0.070	0.255	0.000	0.000	0.000	0.071	0.000	0.064	0.000
ESGrating	4566[24]	0.000	0.997	-0.647	0.044	0.693	-0.030	0.017	0.150***	0.251***
Deloitte_ESGrating	759	0.000	1.000	-0.598	-0.066	0.683	-0.010	-0.057	0.049	-0.131
Other_ESGrating	759	0.000	1.000	-0.470	-0.281	0.351	-0.004	-0.273	0.021	-0.310
Deloitte_auditclients	759	0.165	0.371	0.000	0.000	0.000	0.000	0.000	1.000	1.000
Size	759	23.940	1.757	22.590	23.830	25.100	23.882	23.777	24.212*	24.377
Leverage	759	0.472	0.202	0.318	0.487	0.624	0.470	0.490	0.481	0.475
ROA	759	0.043	0.072	0.016	0.038	0.074	0.045	0.039	0.037	0.035
Growth	759	0.148	0.288	0.015	0.082	0.183	0.148	0.082	0.147	0.087
Loss	759	0.119	0.324	0.000	0.000	0.000	0.123	0.000	0.096	0.000
Institution	759	40.920	36.490	0.000	48.050	75.330	40.213	47.332	44.510	61.957
Age	759	2.328	0.945	1.609	2.565	3.178	2.313	2.565	2.403	2.708**
SEO	759	0.111	0.314	0.000	0.000	0.000	0.114	0.000	0.096	0.000
Dual	759	0.260	0.439	0.000	0.000	1.000	0.254	0.000	0.288	0.000
MTB	759	1.951	2.024	1.013	1.333	1.992	2.002	1.332	1.695	1.379
State	759	0.449	0.498	0.000	0.000	1.000	0.454	0.000	0.424	0.000

[24] As we use company-year-rater level observations in model (1) and (2), the *ESGrating* variable has 4566 observations.

Panel B Correlation Matrix

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*
(1) ESG_Issue	1	0.023	-0.057	-0.01	-0.058	-0.055	0	-0.027	0.043	**-0.095**	-0.008	0.002	0.003	**0.107**	-0.071
(2) Deloitte_ESGrating	0.02	1	-0.031	0.012	**0.233**	0.006	0.041	0.019	0.007	**-0.283**	0.044	-0.006	0.014	0.059	-0.016
(3) Other_ESGrating	-0.064	-0.066	1	0.012	**-0.371**	**-0.168**	0.03	**0.129**	-0.017	**-0.197**	**-0.283**	**-0.101**	**0.109**	**0.094**	**-0.148**
(4) Deloitte_auditclients	-0.01	0.022	0.01	1	0.069	0.028	-0.06	-0.005	-0.031	0.058	0.036	-0.021	0.029	-0.017	-0.023
(5) Size	-0.068	**0.264**	**-0.322**	0.070	1	**0.532**	**-0.151**	**-0.095**	-0.03	**0.173**	**0.537**	0.032	-0.161	-0.558	**0.445**
(6) Leverage	-0.060	0.044	**-0.196**	0.022	**0.517**	1	**-0.493**	**-0.140**	**0.164**	0.070	**0.428**	**0.121**	**-0.121**	**-0.468**	**0.342**
(7) ROA	-0.033	0.027	-0.017	-0.037	-0.064	**-0.421**	1	**0.433**	**-0.560**	0.063	**-0.235**	**-0.097**	0.006	0.441	-0.204
(8) Growth	-0.01	-0.001	**0.173**	-0.001	**-0.135**	**-0.172**	**0.236**	1	**-0.337**	**0.080**	**-0.294**	**0.075**	**0.092**	0.318	-0.201
(9) Loss	0.043	0.014	0.002	-0.031	-0.038	**0.186**	**-0.622**	**-0.145**	1	**-0.111**	0.049	0.039	-0.013	-0.117	0.021
(10) Institution	**-0.081**	**-0.309**	**-0.123**	0.044	**0.170**	**0.075**	0.058	-0.031	**-0.106**	1	0.032	0.047	**-0.088**	-0.047	**0.137**
(11) Age	0.013	**0.083**	**-0.369**	0.035	**0.547**	**0.425**	**-0.129**	**-0.355**	0.028	**0.077**	1	0.03	-0.246	-0.437	**0.535**
(12) SEO	0.002	0	**-0.1**	-0.021	0.015	**0.125**	**-0.095**	0.046	0.039	0.048	0.04	1	0.011	0.027	-0.015
(13) Dual	0.003	-0.005	**0.133**	0.029	**-0.166**	**-0.123**	-0.012	**0.117**	-0.013	**-0.089**	**-0.245**	0.011	1	**0.251**	-0.281
(14) MTB	**0.080**	0.04	-0.033	-0.056	**-0.294**	**-0.334**	**0.358**	**0.146**	**-0.101**	0.049	**-0.205**	0.022	**0.215**	1	-0.561
(15) State	-0.071	-0.003	**-0.168**	-0.023	**0.443**	**0.334**	**-0.156**	**-0.205**	0.021	**0.140**	**0.505**	-0.015	**-0.281**	-0.312	1

The Pearson correlation coefficients are shown in the lower left corner, while the Spearman correlation coefficient matrix is displayed in the upper right triangle. Coefficients in bold indicate statistical significance at the 5% level or lower.

Table 3 The Objectivity of ESG Ratings Assessed by Deloitte (H1)

Dep.	*ESGrating*	
	(1)	(2)
Deloitte_rater	0.137**	
	(2.441)	
Deloitte_auditclients		0.065
		(0.709)
Deloitte_rater× Deloitte_auditclients	**0.006**	**0.136**
	(0.045)	**(1.137)**
Size	0.137	0.131
	(1.338)	(1.278)
Leverage	0.048	0.039
	(0.149)	(0.123)
ROA	-0.505	-0.498
	(-0.937)	(-0.922)
Growth	-0.118**	-0.114**
	(-2.248)	(-2.216)
Loss	-0.201***	-0.201***
	(-2.738)	(-2.740)
Institution	0.000	0.000
	(0.348)	(0.371)
Age	-0.202*	-0.196*
	(-1.776)	(-1.719)
SEO	-0.033	-0.033
	(-0.966)	(-0.963)
Dual	-0.067	-0.070
	(-1.150)	(-1.199)
MTB	-0.041***	-0.040**
	(-2.604)	(-2.512)
State	0.244*	0.250*
	(1.775)	(1.810)
Company FE	Yes	Yes
Year FE	Yes	Yes
N	4566	4566
Adj_R2	0.3684	0.3660

Table 3 presents the results of how audit-client relationship affect relative ESG rating scores assessed by Deloitte. All variables are defined in Appendix B. Standard errors are clustered at client firm level. ***, ** and * indicate the significance levels of 1%, 5% and 10%, respectively. N and Adjusted R^2 correspond to sample size and goodness of fit of model, respectively.

Table 4 The Predictability of ESG Ratings Assessed by Deloitte (H2)

Dep.		*ESG_Issue*$_{t+1}$
		(1)
Deloitte_ESGrating	β1	0.003
		(1.322)
Deloitte_auditclients	β2	0.338**
		(2.222)
Deloitte_ESGrating ×Deloitte_auditclients	**β3**	**-0.005****
		(-2.543)
Other_ESGrating	β4	-0.004
		(-1.501)
Other_ESGrating ×Deloitte_auditclients	β5	0.001
		(0.191)
Size		0.176
		(1.584)
Leverage		-0.628**
		(-2.293)
ROA		-0.414
		(-0.727)
Growth		-0.049
		(-0.597)
Loss		-0.041
		(-0.586)
Institution		0.000
		(0.297)
Age		-0.036
		(-0.636)
SEO		-0.026
		(-0.580)
Dual		0.025
		(0.459)
MTB		0.022
		(1.082)
State		-1.070***
		(-7.859)
Company FE		Yes
Year FE		Yes
Test on (β3- β5 = 0)		**0.039****
Test on (β1- β4 = 0)		0.184
N		759
Adj_R2		0.1737

Table 4 compares the predictability of ESG ratings assigned by Deloitte to its own audit clients and to its non-audit clients, as well as with those from other rating agencies. Variable definitions are provided in the Appendix B. Standard errors are clustered at the company level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. For brevity, company and year fixed effects are omitted from the table. N represents the sample size, while the Adjusted R^2 indicates the model's goodness of fit.

Table 5 Cross-Sectional Analyses of the Predictability of ESG Ratings

Dep.	*ESG_Issue*$_{t+1}$			
	Industry Expertise		ESG Disagreement	
	High	Low	High	Low
	(1)	(2)	(3)	(4)
Deloitte_ESGrating	0.096	0.003	0.089*	0.011
	(0.612)	(0.942)	(1.740)	(0.327)
Deloitte_auditclients	0.033	0.211	0.522	0.531
	(1.080)	(0.971)	(1.571)	(0.892)
Deloitte_ESGrating ×Deloitte_auditclients	-0.094**	**-0.003**	**-0.133****	**-0.045**
	(-2.068)	**(-1.127)**	**(-2.357)**	**(-0.804)**
Other_ESGrating	-0.016	-0.006	-0.133**	-0.045
	(-0.843)	(-1.190)	(-2.357)	(-0.804)
Other_ESGrating ×Deloitte_auditclients	0.000	0.005	0.012*	-0.005
	(0.010)	(0.375)	(1.810)	(-0.588)
Control	Yes	Yes	Yes	Yes
Company FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
P value of F test	0.061*		0.081*	
N	418	341	396	363
Adj_R2	0.1331	0.2220	0.1010	0.1356

Table 5 presents the results of cross-sectional analyses comparing the predictability of ESG ratings assigned by Deloitte with those from other agencies, using audit industry expertise and ESG disagreement, respectively. Variable definitions are provided in the Appendix B. Standard errors are clustered at the client level. ***, ** and * indicate the significance levels of 1%, 5% and 10%, respectively. For brevity, company and year fixed effects are omitted from the table. P value of F test on the difference of the interaction terms *Deloitte_ESGrating* × *Deloitte_auditclients* between subsamples. N represents the sample size, while the Adjusted R^2 indicates the model's goodness of fit.

Table 6 Deloitte' ESG Rating Service and Market Position

Panel A Deloitte's ESG Rating Service and ESG Assurance Client Portfolio

Dep.	*Δ ESG_Assurance_Num* (1)	*Δ ESG_Assurance_Num* (2)	*Δ ESG_Assurance_Assets* (3)	*Δ ESG_Assurance_Assets* (4)
Deloitte×Post	**0.937****		**2.196****	
	(2.727)		**(2.715)**	
Deloitte× Year(-2)		0.009		2.325
		(0.031)		(1.475)
Deloitte× Year(-1)		-0.612		3.121
		(-1.305)		(1.809)
Deloitte× Year(0)		**0.373***		**2.972***
		(1.865)		**(1.980)**
Deloitte× Year(+1)		**1.231*****		**6.709*****
		(5.432)		**(3.888)**
Deloitte× Year(+2)		**0.827*****		**3.523***
		(3.550)		**(1.863)**
ESGClient_Size	-0.294**	-0.331**	-0.108	-0.276
	(-2.737)	(-2.992)	(-0.328)	(-0.748)
ESGClient_MTB	0.417	0.458	-2.211	-2.005
	(1.026)	(1.036)	(-1.775)	(-1.743)
Acc. or Consult. Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	61	61	61	61
Adj_R2	0.2421	0.2197	0.1692	0.1808

Panel B Deloitte's ESG Rating Service and Financial Audit Client Portfolio

Dep.	*ΔClient_Num* (1)	*ΔClient_Num* (2)	*ΔClient_Assets* (3)	*ΔClient_Assets* (4)
Deloitte×Post	**0.353****		**1.811***	
	(3.038)		**(2.033)**	
Deloitte× Year(-2)		0.002		0.595
		(0.040)		(1.738)
Deloitte× Year(-1)		0.035		0.287
		(0.765)		(1.076)
Deloitte× Year(0)		**0.328****		**0.558***
		(3.319)		**(2.132)**
Deloitte× Year(+1)		**0.216*****		**1.022*****
		(4.137)		**(6.925)**
Deloitte× Year(+2)		**0.294****		**0.749****
		(3.787)		**(3.115)**
Client_MAO	1.517*	1.382	7.196	1.965
	(2.176)	(1.801)	(1.010)	(0.881)

Client_Res	-2.812***	-2.034**	-0.946	1.786
	(-3.478)	(-3.262)	(-0.190)	(0.706)
Avg_Tenure	0.836	0.657	-8.019	-3.684
	(1.374)	(1.283)	(-1.598)	(-1.662)
Client_Size	-0.832***	-0.655**	1.440	0.788
	(-3.892)	(-3.728)	(0.859)	(1.066)
Client_MTB	0.190	0.181	1.159	-0.150
	(1.738)	(1.262)	(1.043)	(-0.494)
Acc. Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	24	24	24	24
Adj_R2	0.7483	0.8453	0.0605	0.5518

Table 6 presents the results of Deloitte's ESG rating service and market position both in financial audit and ESG assurance markets. Panel A (B) presents the regression results of whether accounting firms' ESG rating service affect accounting firms' ESG assurance (financial audit) client portfolio. Variable definitions are provided in the Appendix B. Standard errors are robust-adjusted. ***, ** and * indicate the significance levels of 1%, 5% and 10%, respectively. For brevity, accounting (consulting) firm and year fixed effects are omitted from the table. N represents the sample size, while the Adjusted R^2 indicates the model's goodness of fit.

Table 7 Deloitte's ESG Rating and Other Agencies' Future ESG Rating

Dep.	$Upgrades_{t+1}$	$Downgrades_{t+1}$	$Upgrades_{t+1}$	$Downgrades_{t+1}$
	(1)	(2)	(3)	(4)
High_Deloitte	**0.149*****	**-0.001**	0.189***	-0.003
	(3.607)	**(-0.098)**	(4.304)	(-0.126)
Low_Deloitte	**-0.190*****	**0.040***	-0.192***	0.044*
	(-4.854)	**(1.919)**	(-4.733)	(1.926)
High_Deloitte×Deloitte_auditclients			**-0.258****	**-0.013**
			(-2.273)	**(-0.373)**
Low_Deloitte×Deloitte_auditclients			**0.035**	**0.066**
			(0.286)	**(0.765)**
Deloitte_auditclients			0.042	-0.048
			(0.371)	(-0.955)
Size	-0.280**	0.014	-0.283***	0.025
	(-2.513)	(0.475)	(-2.640)	(0.626)
Leverage	0.160	-0.271	0.178	-0.217
	(0.410)	(-1.440)	(0.460)	(-0.930)
ROA	0.247	-0.313*	0.222	-0.262
	(0.478)	(-1.909)	(0.427)	(-0.958)
Growth	0.111	-0.039	0.118*	-0.027
	(1.601)	(-1.571)	(1.678)	(-0.945)
Loss	0.063	-0.017	0.059	-0.020
	(0.866)	(-0.739)	(0.804)	(-0.440)
Institution	0.000	-0.000	0.000	-0.000
	(0.457)	(-0.856)	(0.304)	(-0.130)
Age	0.133	-0.064*	0.157	-0.054
	(1.416)	(-1.717)	(1.577)	(-1.411)
SEO	-0.015	0.002	-0.026	0.006
	(-0.253)	(0.089)	(-0.428)	(0.178)
Dual	0.060	0.009	0.063	-0.002
	(1.178)	(1.495)	(1.235)	(-0.089)
MTB	-0.016	0.005	-0.017	0.011
	(-0.674)	(0.698)	(-0.741)	(1.522)
State	0.980***	-0.046	0.963***	-0.056
	(12.164)	(-1.416)	(11.942)	(-0.981)
Company FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	759	759	759	759
Adj_R2	0.6255	0.0325	0.6283	0.0018

Table 7 presents the regression results of whether Deloitte's ESG rating service affect other rating agencies' future ESG rating. Variable definitions are provided in the Appendix B. Standard errors are clustered at the client level. ***, ** and * indicate the significance levels of 1%, 5% and 10%, respectively. For brevity, company, accounting firm and year fixed effects are omitted from the table. N represents the sample size, while the Adjusted R^2 indicates the model's goodness of fit.

Table 8 Additional Analyses: Deloitte's ESG Rating Service and Audit Quality

Dep.	*Restatement*	*Abs_DACC*
	(1)	(2)
Deloitte_auditclients×Post	**0.039**	**-0.018****
	(1.279)	**(-2.249)**
Size	0.034	0.016*
	(0.823)	(1.792)
Leverage	0.057	0.041
	(0.429)	(1.293)
ROA	-0.002	-0.078
	(-0.011)	(-1.330)
Growth	0.002	0.008
	(0.144)	(1.444)
Loss	0.015	0.012*
	(0.476)	(1.674)
Institution	-0.001**	0.000
	(-2.151)	(0.944)
Age	-0.066*	0.005
	(-1.665)	(0.800)
SEO	-0.027	0.006
	(-1.320)	(1.022)
Dual	0.055*	0.016**
	(1.917)	(2.570)
MTB	0.000	0.000
	(0.071)	(0.351)
State	-0.029	0.058*
	(-0.444)	(1.743)
Company FE	Yes	Yes
Acc. Firm FE	Yes	Yes
Year FE	Yes	Yes
N	1426	1426
Adj_R2	0.0771	0.1541

Table 8 presents the regression results of Deloitte's ESG rating service and client audit quality. Audit quality is measured by financial restatement and discretionary accruals. Variable definitions are provided in the Appendix B. Standard errors are clustered at the client level. ***, ** and * indicate the significance levels of 1%, 5% and 10%, respectively. For brevity, company, accounting firm and year fixed effects are omitted from the table. N represents the sample size, while the Adjusted R^2 indicates the model's goodness of fit.