Journal of Business Ethics (2022) 179:179–203
https://doi.org/10.1007/s10551-021-04786-4

ORIGINAL PAPER

Consequences of Ethical and Audit Violations: Evidence from the PCAOB Settled Disciplinary Orders

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Received: 22 June 2020 / Accepted: 3 March 2021 / Published online: 19 March 2021

Abstract
We investigate the justifications provided by the Public Company Accounting Oversight Board (PCAOB) when sanctioning audit firms and individual auditors, as disclosed in the publicly released Settled Disciplinary Orders (SDOs). Employing responsive regulation theory, we seek to gain an understanding of violating behaviors by audit firms and individual auditors that attract regulatory responses ranging in nature from persuasive to punitive sanctions. Using 298 SDOs issued by the PCAOB from 2005 to 2020, we find that the frequency and severity of PCAOB sanctions at the firm level are positively associated with auditing standards violations, independence issues, and reckless behavior. At the individual auditor level, integrity violations and reckless behavior are positively associated with the frequency and severity of PCAOB sanctions. Our findings indicate that significantly higher financial penalties for individual auditors (audit firms) arise from manipulation of audit evidence (quality control criticisms). Further, the PCAOB financially penalizes Big 4-affiliated auditors and firms significantly more than their non-Big 4 counterparts. Other factors such as multiple individuals being implicated in an SDO and whether a firm and individual(s) are both implicated in the SDO are important considerations in sanction(s) imposed by the PCAOB. Overall, our findings suggest that the PCAOB adopts a responsive enforcement strategy when monitoring the auditors in their ethical and audit compliance efforts.

Keywords PCAOB Disciplinary Orders · Responsive regulation theory · Audit quality · Ethical violations

Introduction

In 2019, the Public Company Accounting Oversight Board (PCAOB) sanctioned Deloitte Korea with a civil monetary penalty of USD 350,000 for quality control violations, and barred two partners for altering audit documentation and concealing audit work performed subsequent to the issuance of the audit report. This example illustrates that the discovery of auditor misconduct by the PCAOB may result in significant consequences, for not only the audit firms, but also individual auditors.[1] Disciplinary proceedings result from acts, practices, or omissions that constitute a violation of the law, PCAOB rules, Securities and Exchange Commission (SEC) rules, or professional standards (PCAOB, 2019). Using publicly released Settled Disciplinary Orders (SDOs), we investigate the justifications offered by the PCAOB in these SDOs about their sanctions on audit firms and individual auditors. SDOs provide detailed information about the violations as well as discernible auditor characteristics.[2] Precisely, we consider the nature of these violations (i.e., if it relates to ethical or auditing violations) and its association with sanctions outlined in the SDOs.

Prior studies have examined client companies and individual auditors that have been investigated by other regulatory bodies (e.g., Leng et al. 2011; Juric et al. 2018). Our study is of particular interest to the stream of literature on business ethics in the modern business environment, arising from the vital role auditors play in maintaining the financial

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[1] SDOs can be triggered by the PCAOB's inspection findings, whistleblowing, or any lack of cooperation with the regulator (Gilbertson and Herron 2009).

[2] We utilize the term "auditor" to refer to both audit firms and individual auditors. While client characteristics can also be deduced, this is not standardized information across SDOs. Thus, we adopt an audit "firm-level" and "individual-level" unit of analysis.

integrity of their clients. An auditor's role in assessing the financial statements of their client is heavily dependent on the commitment of the individual auditor to their ethical principles, which in turn is influenced by factors at the audit firm level. Thus, this paper aims to understand the identification of behavior at the firm and individual levels that shed light on auditing and ethical lapses of judgment or violations during an audit engagement, as concluded by an audit regulator. Significantly, our study raises awareness of an audit regulator's (here, the PCAOB) likely perception of the severity of different violations by presenting the association between the most common violations and sanctions. In this context, our study is relevant to business ethics researchers examining the characteristics exhibited by entities perpetrating such violations. It is also useful to audit firms and partners aiming to improve quality controls and policies to enhance audit quality and auditing regulatory bodies focusing on identifying risk areas posing a significant risk to either the actual or perceived audit quality (Lyubimov et al. 2020). Users of the financial statements can refer to the study's findings in evaluating the credibility of the audit reports.

We draw on responsive regulation theory to develop our understanding of the severity of sanctions imposed by the PCAOB on audit firms and individual auditors. The responsive regulation theory, developed by Ayres and Braithwaite (1992), aims to understand the responsiveness of regulators to the conduct of those they seek to regulate in deciding whether more or less severe enforcement strategies are required. The theory suggests that enforcement strategies are most effective when the sanctions at the disposal of a regulator fall across a spectrum ranging from severe (such as revocation of license and prosecution) to persuasive (such as education and persuasion about a problem). Regulators have the discretion to decide the sanction according to the perceived severity of the violation (Braithwaite, 2007, 2011). A possible influence on the regulator's decision between the choice of sanctions is their perception of the possibility of improvements created by the respective sanctions. That is, to a certain extent, persuasive sanctions often aim to improve the area of concern, while severe sanctions assume distancing the cause of the violation from the firm or audit profession is the best course of action (Bardach & Kagan, 1982; McAllister, 2010). As such, the application of responsive regulation theory provides a basic understanding of how the violation is viewed by the regulator when assessing the harm to investor confidence (Lyubimov et al. 2020) and perception of audit quality when such audit lapses occur (Ege et al. 2020; Krishnan et al. 2017).

We obtain 298 SDOs from the PCAOB Web site issued over 16 years (2005–2020). In these SDOs, sanctions relate to 209 (241) audit firms (individual auditors). We observe ten types of sanctions issued by the PCAOB, which include revocation of registration, suspension of a person from further association with any registered public accounting firm, limitation on activities, monetary penalty, and censure (indicating formal disapproval). Further, persuasive sanctions relate to the requirement for additional professional training, independent monitoring, engaging counsel to design policies, and implementing policies as well as the need for the firm to obtain an independent review and report on one or more engagements. We find that the most common sanction is censure, occurring in 87.6% of SDOs involving firms and 81.3% of SDOs involving individual auditors. We also observe that 86.3% of auditors identified in the SDOs had their US license to practice suspended. Of those SDOs with a financial penalty, the average monetary sanction for firms (individual auditors) was USD 152,876 (USD 18,462).

Using an inductive approach, we identify nine themes emerging from the violations that led to the various PCAOB sanctions. These relate to quality controls, non-compliance with PCAOB standards, non-filing of annual reports and fees, insufficient audit evidence, integrity concerns, independence issues, manipulation of audit evidence, reckless conduct, and unwillingness to cooperate with the PCAOB. The most common violation at the firm level relates to auditor independence, followed by non-compliance with the required PCAOB standards. The latter is also the most frequent violation at the individual level, followed by integrity issues. We find that the PCAOB identifies higher rates of violations for individual auditors than for firms regarding a lack of cooperation with PCAOB inspections and manipulation of audit evidence.

To empirically examine the rationale of PCAOB sanctions, we construct three dependent variables that capture the frequency, severity, and financial magnitude of PCAOB sanctions. At the audit firm level, the frequency and severity of PCAOB sanctions are positively associated with violations of auditing standards, independence issues, and reckless behavior. Further, violations of PCAOB standards and independence increase the likelihood of a monetary penalty being imposed on audit firms. On the contrary, the probability of a monetary penalty is significantly lower for audit firms when an individual auditor is also sanctioned in the same disciplinary order.

When examining PCAOB justifications for sanctions against individual auditors, we find that violations of integrity and reckless behavior are influential. Although a majority of the sanctioned auditors are male, the age of these auditors is also an important consideration, and the PCAOB likely has higher audit quality expectations from auditors holding more senior positions. In a subsample analysis of SDOs with monetary penalties, we identify that the magnitude of the monetary penalty increases with non-cooperation with the PCAOB and if the firm is a Big 4 accounting firm consistent with the 'deep pockets' of these firms (Lennox, 1999). Significant violations of independence (at the firm

level) and integrity issues (at the individual level) do not appear to result in higher financial penalties as the PCAOB may opt for more severe sanctions of registration revocation and license suspension, respectively. We find that monetary penalties are lower for individuals when the audit firm is also implicated in the SDO, indicating that both parties share the financial burden. However, the PCAOB financially penalizes individuals who engage in the manipulation of audit evidence, reflecting the seriousness of this violation.

In an additional analysis, we group the violations relating to quality control, PCAOB standards, non-filing issues, audit evidence, and non-cooperation as audit violations, whereas independence, integrity, manipulation, and reckless behavior are categorized as ethical violations. Both audit and ethical violations are positively associated with the frequency and severity of sanctions for audit firms and individuals. While the likelihood of a monetary penalty is higher for firms with ethical violations, we find that audit firms receive significantly higher financial penalties when the violations are audit-related. This may be due to both ethical and audit violations co-occurring in SDOs.

Our study contributes to the literature examining the PCAOB regulations. Prior inspection studies have mainly focused on the impacts of the PCAOB's identified audit deficiencies in the inspection reports on audit quality and capital market reactions (e.gAobdia, 2018; Boone et al. 2015, 2019; Shroff, 2020). We know little about avenues available to the PCAOB in disciplining firms following the identification of violations or significant deficiencies during an inspection (Abernathy et al. 2013). Our study is one of the first in the PCAOB enforcement literature to focus on the PCAOB's SDOs and the justifications of the sanctions, thus making an essential contribution to the accounting regulation literature, given the importance of the PCAOB's oversight and the significance of high-quality auditing to the legitimacy of capital markets (Power, 2003). The discretion available to the PCAOB in deciding which sanctions to apply and the public availability of such sanction information is a mechanism through which the regulator maintains investor confidence in audit quality, as documented in prior studies (e.g., Boone et al. 2019; Dee et al. 2011). Gaining a better understanding of the likely factors that contribute to auditing violations, particularly ethical violations, would allow various stakeholders such as international auditing regulators to address the contributing factors giving rise to sanctions through altering auditing regulations and training guidelines.

Second, our study contributes to the ethical accounting literature, given the importance of auditors' ethical compliance to the public interest (Dillard & Yuthas, 2002). Our study sheds new light on the characteristics of individual auditors and audit firms who have been subject to PCAOB sanctions. Our findings shed some light on the characteristics of regulated entities associated with violations of audit and ethics regulations, and the severity of sanctions imposed by the PCAOB. Thus, our study may assist regulators in the early detection of violations and consideration of proper enforcement strategies to safeguard stakeholders' interests when setting the future enforcement agenda. Further, audit firms aiming to enhance audit quality at the firm and the partner levels may benefit by introducing policies to improve training and ethical compliance of auditors.

Finally, our study informs accounting regulators and practitioners on what constitutes effective enforcement of compliance with auditing and accounting standards. Our study shows that the PCAOB adopts a punitive approach instead of a persuasive approach in its enforcement strategies by significantly sanctioning firms for auditing violations, ethical violations, and reckless behavior. We also find that the severity of sanctions decreases if the firm domiciles in the USA and if the audit firm is one of the Big 4 auditors. These findings suggest that the PCAOB adopts a responsive enforcement strategy with the objectives of monitoring the regulated entities in their compliance efforts (Ayres & Braithwaite, 1992). The decision of the PCAOB to impose sanctions also provides a pathway to understand the possible relationship between auditors and regulators, as varying sanctions can be an indicator of regulators' perception of potential future improvement at the auditor level. As such, our study has the potential to inform audit firms regarding areas of PCAOB focus, to allow them to ensure audit quality and maintain a good relationship with the regulator.

The paper proceeds as follows. We present the background, theoretical framework, and the research question in the next section. In the subsequent sections, we describe our research methods, followed by the main results. We undertake additional analysis in the penultimate section and present our conclusions in the last section.

Background, Theoretical Framework, and Research Question

PCAOB Enforcement

The US regulator, the PCAOB, is unique compared to other auditing regulatory bodies around the world because it is not only an enforcer of auditing standards but also a standard-setting agency (Simnett & Smith, 2005).[3] One of the

[3] Outside of the USA, it is common practice to have these two roles performed by separate organizations. For example, in Australia, the Auditing and Assurance Standards Board (AUASB) sets auditing standards, and the Australian Securities and Investments Commission (ASIC) regulates the profession. Section 101 of the Sarbanes–Oxley Act 2002 (SOX 2002) outlines the PCAOB's four primary responsibilities: (1) to register public accounting firms; (2) to establish auditing standards and standards of quality control, ethics, and independence; (3) to provide enforcement; and (4) to conduct inspections of audit firms.

primary responsibilities of the PCAOB (Section 101 of the Sarbanes–Oxley (SOX) Act, 2002) concerning enforcement is to conduct formal investigations and disciplinary proceedings. The PCAOB identifies these via firm-level inspections, acts, practices, or omissions—that could constitute a violation of the law, PCAOB rules, SEC rules, or professional standards (PCAOB, 2020). According to Peecher et al. (2013), the power allocated to the regulator allows it to use significant judgment and discretion in determining the severity of deviations. These can then either be reported in the inspection reports as deficiencies or taken further and classified as significant breaches resulting in sanctions.

SOX (2002) mandates the PCAOB to impose substantial disciplinary sanctions such as registration revocation and suspension, as well as significant civil monetary penalties. Significant consequences for audit firms arise from audit firms and individual auditors engaging in deficient audit practices or with inadequate quality control frameworks and systems while auditing an SEC issuer (Lyubimov et al. 2020). The PCAOB publicly releases any SDOs issued to audit firms and individual auditors, including the disclosure of details of the sanctions relating to the registered US and non-US firms or auditors. SDOs represent the settlements the PCAOB has reached with registered audit firms or their associated individual auditors arising out of disciplinary proceedings for violations of PCAOB standards and regulations.

Prior research has investigated the effects of the enforcement activities of other regulatory bodies. Leng et al. (2011) show that the negative implications of the SEC Accounting and Enforcement Release can have long-lasting effects on a firm's performance and survivability (i.e., negative abnormal operating performance and negative abnormal stock returns). Moreover, Juric et al. (2018) examine the effects of SEC activities on individual Certified Public Accountants (CPAs) and find that the severity of SEC proceedings is associated with intention to breach the law and with individual characteristics such as the CPA's age and professional qualifications. Ege et al. (2020) find that the negative tones adopted by the auditors in the response letters to the PCAOB are positively associated with future PCAOB Part I inspection findings that contribute to a restatement of the client's financial statements. The negative tone expressed by the auditor in the response letter is an indication of non-compliance to the PCAOB that resulted in severe punishment in subsequent inspections, suggesting that the PCAOB focuses on a punitive approach in their enforcement strategies.

Prior studies have aptly conveyed audit firm inspection processes and the consequences of publicly reported audit deficiencies and its impact on actual and perceived audit quality (see synthesis by Abernathy et al. (2013)). Few studies have examined the impact of SDOs on audit firms. Boone et al. (2015) find that the PCAOB censure of Deloitte (USA) in 2007 was associated with a decrease in the audit firm's ability to retain and attract clients, and a decrease in its audit fee growth rates. In a subsequent study, Boone et al. (2019) investigate whether two PCAOB US Big 4 firm sanctions (as of 2016 year-end) contained additional information to the audit market. The authors find no evidence of any change in audit quality provided by the two audit firms' pre- and post-sanction by the PCAOB. These studies restrict to a limited number of US and Big 4 firms implicated in the PCAOB SDOs. We expand on this stream of literature by considering all available SDOs issued by the PCAOB to both US and non-US firms, including Big 4 and non-Big 4 firms. Furthermore, our investigation of the PCAOB SDOs is important because other regulatory findings such as PCAOB inspection reports do not convey conclusive findings of identified violations of standards. However, SDOs detail violations of regulations established through the PCAOB's disciplinary process, which can provide evidence about the quality of the audits performed by audit firms and how firms violated PCAOB standards and regulations.

Theoretical Framework

The responsive regulation theory recognizes the need for "a principled way for regulators to choose between punishment and persuasion, recognizing that neither approach works all the time" (Ford, 2013, p. 15). Ayres and Braithwaite (1992) argue for a range of sanctions to accommodate different levels of non-compliance. The authors propose an enforcement pyramid to describe such range, sequenced from persuasive strategies (such as offering compliance consultations and training education) at the bottom of the pyramid. In the middle level, enforcement strategies extending from enforced self-regulation (such as enforceable examinations and warnings) through to commanding regulations with discretionary punishment (such as administrative sanctions) apply. Finally, enforcement with non-discretionary punishment escalates to the peak of the pyramid (such as civil proceedings, license suspensions, and revocations).

Responsive regulation allows regulators to adopt mixed enforcement strategies, often supporting the more favorable position in an attempt to induce cooperation and compliance, but to also be prepared to pursue punitive strategies should these be appropriate to prevent non-compliance (Braithwaite, 2007). Less severe sanctions are necessary in some circumstances because imposing harsh sanctions for minor infringements is not only socially inappropriate (Stigler, 1970) but also engender opposition from otherwise law-complying regulated entities (Bardach & Kagan, 1982). In short, the ideal enforcement strategy, as proposed by Ayres and Braithwaite (1992), adopts a responsive approach: the regulator should not impose a preconceived regulatory framework, but rather, be responsive to various regulatory contexts (Braithwaite, 2011). The responsive approach

emphasizes dynamic enforcement strategies, with the goals of assisting the regulated entities in their compliance efforts and committing to enforcing compliance across the board, even when those regulated entities are highly resistant (Ayres & Braithwaite, 1992).

In an audit environment, the primary purpose of PCAOB enforcement is to ensure that audit firms and individual auditors' behaviors are ethical and comply with accounting rules and regulations. Auditors are subject to PCAOB enforcement regulations (since the creation of the PCAOB) and must comply with the PCAOB's issued standards and undergo PCAOB inspections. Prior research indicates that legislation and regulations formulated by the PCAOB create pressure for auditors to adopt or pursue certain practices (e.g., Krishnan et al. 2017; Westermann et al. 2019). The PCAOB can pursue punitive strategies as part of their enforcement, such as imposing severe sanctions on auditors by suspending them from auditing public companies, revoking audit firms' registration, or imposing monetary penalties. However, the PCAOB can also pursue persuasive strategies, such as directing an audit firm to make improvements in its quality control systems to enhance the firm's compliance with PCAOB regulations. Other persuasive strategies include requiring auditors to undergo additional professional education or training and to engage counsel or another consultant to design firm policies.

The PCAOB has had incentives to adopt a punitive regulatory approach since its creation (DeFond, 2010); in particular, pursuing procedural approaches aimed at penalizing auditors may avoid stakeholder confrontations (Abernathy et al., 2013; Aobdia & Shroff, 2017; Westermann et al., 2019). However, despite the PCAOB favoring a non-compromising punitive approach, Ege et al.'s (2020) interview findings indicate that the regulated entities (i.e., auditors) expect the PCAOB to pursue a persuasion-based approach. Thus, there is an expectation gap between regulators and regulated entities regarding the adoption of a regulatory approach in the auditing setting. Motivated by these concerns, our paper extends these previous studies on auditing profession regulations and, in particular, PCAOB inspections, by exploring the types of sanctions imposed by the PCAOB in light of violations.

PCAOB sanctions can range from highly punitive to supportive, at their discretion, in accordance with PCAOB Rule 5300. The lack of clear guidelines identifying which sanctions to use confers significant discretion to the PCAOB in the imposition of a sanction. As such, by identifying possible patterns between the sanctions imposed and the violations, we seek to obtain a better understanding of the PCAOB's perception of different violations in terms of severity and likely impact on audit quality. Following May and Winter (2000, 2011) and McAllister (2010), punitive enforcement involves penalties that compel compliance (i.e., revoking licenses at the firm-level or suspending auditors). In contrast, supportive styles aim to encourage, educate, and aid the firm or individual to help alter future audits via a collaborative approach (Bardach & Kagan, 1982), such as through enforcing training or changing policies. Classifying PCAOB sanctions in this way allows us to gain a basic understanding of which audit violations had the potential to be avoided and which are indicative of lapses, with reduced room for improvement. Employing responsive regulation theory provides a suitable lens to help us understand the PCAOB enforcement strategies and auditors' non-compliance with PCAOB regulations and ethical principles and practices.

Ethics-Related and Audit-Related Violations of PCAOB Standards

The PCAOB has reported several cases of auditor violations of ethical principles and non-compliance with auditing standards. The first category involves non-compliance with ethical principles governing the audit profession. This includes violations of the ethical principle of integrity, which imposes an obligation on auditors to be straightforward and honest in performing audit engagements. Another common violation under this category is the violation of the requirement of auditor independence—the acknowledged cornerstone of the auditing profession. Such violations include offering prohibited services (e.g., bookkeeping), obtaining a financial interest from an audit client (e.g., having shares in the audit client's firm), and having a close relationship (familiarity threat) with the audit client. Under this category, the PCAOB has also reported several cases involving manipulation of audit evidence to achieve the preferred audit outcome. The violation of ethical principles has a pervasive effect on audit engagement and could result in an auditor not fulfilling their ethical responsibilities to perform their task correctly to obtain appropriate evidence to support an audit opinion. Accordingly, auditors must act with integrity and exercise objectivity and professional skepticism; failure to apply such ethical principles is likely to be penalized by the PCAOB.

The second category of violations involves non-compliance with fieldwork or auditing standards reported by the PCAOB, including improper documentation of audit work and not performing necessary audit procedures. Examples include an auditor failing to exercise due care while reviewing the work of the audit team, and auditors failing to perform appropriate audit procedures to gather high-quality audit evidence based on the assessed audit risk level. There are several scenarios involving non-compliance with quality control standards, including procedures relating to acceptance of potential audit clients, reviews of audit working papers, and procedures relating to maintaining an audit firm's quality control processes. This category of violations

also includes failure to review audit documentation by a quality control audit partner.

Violations of PCAOB regulations could result in sanctions against audit firms (or individual auditors), expose audit firms (and auditors) to litigation, and generate adverse publicity. Following the responsive regulation theory, we expect that coercive pressure from stakeholders and market participants will lead the PCAOB to pursue actions against auditors. Specifically, more severe sanctions should be imposed on auditors when they breach the code of ethical principles, fieldwork standards, and firm quality control policies. Also, the audit profession requires auditors to comply with the principles of the code of ethics, and we expect that enforcement from the profession will lead auditors to comply with such ethical principles (AICPA, 2019; IESBA, 2018). The PCAOB may refer to the accounting profession's code of ethics in determining the sanctions it imposes. The issues stated in SDOs can be a rich resource for investigating and understanding the types of violations committed by auditors and thus help audit practitioners to focus on areas of concern in audit practices. Therefore, our study investigates whether the PCAOB considers the nature of the violation when issuing sanctions; that is, if sanctions issued within an SDO depend on whether a violation is ethics-related (integrity concerns, independence issues, manipulation of audit evidence, or reckless behavior) or audit-related (quality controls, required audit guidelines of standards and filings, insufficient audit evidence, or non-cooperation).

Characteristics of Audit Firms Violating PCAOB Standards

In the USA, PCAOB inspections are conducted annually for the Big 4 auditors and national auditors with more than 100 publicly held registrants (annually inspected auditors). For auditors with fewer than 100 publicly held clients, the PCAOB conducts inspections every three years or triennially (DeFond, 2010). Examining audit firm size factors on the outcomes of audit inspections in our study is warranted for several reasons. First, larger audit firms have extensive and diverse client portfolios and thus have a high earning capacity (Lyubimov, 2019). Larger audit firms' deep pockets could be a central consideration for the PCAOB in determining monetary penalties (DeFond & Zhang, 2014). Second, audits of small firms with fewer than 100 clients are also crucial to regulators because they comprise 34% of US public companies and 97% of worldwide audit firms in 2008 (Defond & Lennox, 2011). The consequences of inspections for smaller audit firms can be severe because smaller audit firms have a significantly smaller audit fee-base than the Big 4 firms and are less able to recover imposed monetary penalties through higher fees. The first published study examining PCAOB sanctions by Gilbertson and Herron (2009) considers the initial 17 SDOs published over the period 2005–2008. The authors state (p. A15) that "*Disciplined firms also tend to have fewer partners, audit more SEC issuers, and have clients that are smaller and less financially sound*." Thus, we are interested in examining whether the audit firm size (i.e., Big 4 status) is associated with the extent of PCAOB sanctions.

Under SOX (2002), non-US audit firms that provide substantial assurance to US issuers must register with the PCAOB. In this paper, we consider whether an audit firm's location is associated with PCAOB sanctions. Foreign auditors' geographic distance, language differences, or cultural differences may constrain the effectiveness of the PCAOB's international inspections. The effect of the PCAOB's international inspection program on the behavior of foreign audit firms is unclear. Foreign auditors may not be subject to the enforcement pressures created by the US inspection programs, which means that they may be less incentivized to comply with PCAOB regulations for their clients that do not list on US stock exchanges. There are concerns that foreign auditors may override their firm-level quality controls and adopt less-effective audit programs or allocate less-qualified audit members for clients that are not listed in the USA (DeFond, 2010; Lennox & Pittman, 2010). This is because foreign auditors may believe that the PCAOB cannot regulate foreign auditors outside of the USA. Moreover, foreign auditors of US registrants operate in different cultural environments and do not respond to regulatory enforcement (Lamoreaux, 2016). For these reasons, our study will provide insights for practitioners on whether audit firm location influences the sanctions imposed by the PCAOB.

Characteristics of Individual Auditors Violating PCAOB Standards

Several studies have examined the ethical attitudes and actions of individual auditors by examining their gender, age, and current job as predictors (e.g., Ameen et al., 1996; Schminke, 1997). Prior studies suggest that women are more likely to act ethically than men (Chung & Trivedi, 2003; Isidro & Sobral, 2015; Kreie & Cronan, 1998; Okleshen & Hoyt, 1996). Moreover, men are more likely to undertake risky actions (Pawlowski et al., 2008). In addition, women have a more conservative mindset and are thus less likely to commit fraud (Vermeir & Van Kenhove, 2008). Juric et al. (2018) find that men incurred a greater amount of SEC penalties than women for breaches of SEC regulations. The recent fraud surveys conducted by the Association of Certified Fraud Examiners (ACFE) reveal that females commit fewer cases of fraud, to the extent that males are responsible for more than 70% (ACFE, 2020). The losses from fraud committed by women are also generally smaller than those resulting from fraud committed by men (ACFE, 2020); for

example, median fraud loss associated with women (USD 85,000) was significantly lower than that related to men (USD 150,000) (ACFE, 2020). Thus, we expect that individual male auditors will be subject to more severe penalties than female individual auditors when found in violation of PCAOB standards.

Another vital characteristic of individual auditors that may influence ethical compliance is their age. The ACFE (2020) surveys indicate that losses related to fraud committed by older individual auditors were significantly larger than those related to younger individuals. This finding might be due to older individual auditors holding senior positions. Also, survey findings show that fraud committed by owners or senior executives is more severe (ACFE, 2020). Several other studies also show that larger-scale fraud tends to be associated with senior positions in the organization, such as the chief executive officer and chief financial officer (e.g., Bishop et al., 2017; Lane & O'Connell, 2009; Persons, 2006). However, Juric et al. (2018) find that the severity of SEC sanctions is significantly negatively associated with age, meaning that younger executives seem more willing to engage in risky behavior. Thus, whether the age of the individual auditor is associated with PCAOB sanctions is worthy of examination.

Based on the relevant literature and theoretical framework presented above, we investigate the following research question:

> What are the justifications (i.e., violations) cited by the PCAOB in sanctioning audit firms and individual auditors?

Research Method

Data and Sample Selection

We source 298 SDOs issued from May 24, 2005, to September 24, 2020, from the PCAOB Web site. Table 1 shows our sample selection process at the firm level and the individual level. Of the 298 SDOs issued, 209 audit firms and 241 individual auditors were sanctioned. We exclude 21 observations in our individual-level analysis due to missing data.[4] The final sample consists of 209 (220) firm-level (individual-level) observations. Our dependent and independent variables are constructed by hand-collecting the information contained in the SDOs.

Figure 1 depicts the yearly distribution of SDOs over the sample period. We observe an increasing trend in the number of audit firms and individuals sanctioned over the period 2012–2017. These numbers peak in 2017 when 54 SDOs were issued for the second consecutive year.

Table 1 Sample selection

Sample selection	Number of SDOs	Number of Firms Sanctioned	Number of Individuals Sanctioned
Number of SDOs issued by the PCAOB as at 24/09/2020	298	209	241
Less missing variables (*AGE*)			(21)
Sample size in firm- and individual-level models		209	220

Panel A of Table 2 presents the firm and individual characteristics reported in the SDOs. The majority of audit firms (80.9%) and individuals (75.9%) are from the USA, consistent with the PCAOB being responsible for oversight of US public companies' audits. Nonetheless, non-US firms do participate in these audits, either as a group or component auditor (Impink et al. 2020). Of the audit firms domiciled in countries outside the USA, Hong Kong ($n=7$, 3.4%), India ($n=4$, 1.9%), and Spain ($n=4$, 1.9%) have the highest frequency of SDOs. In terms of non-US-domiciled individuals, we find that Brazil ($n=15$, 6.2%), Mexico ($n=13$, 5.4%), Hong Kong ($n=6$, 2.5%), and India ($n=6$, 2.5%) have the largest number of auditors sanctioned.

Panel B of Table 2 demonstrates that 10.1% of the firms and 11.6% of the individuals are associated with the Big 4 network. These low rates of SDOs issued to audit firms and individuals associated with the Big 4 are consistent with prior studies, which associate higher audit quality with the Big 4 audit firms (Eshleman & Guo, 2014; Francis & Yu, 2009). Consistent with prior research positing that males are more likely to be implicated in disciplinary cases (Juric et al., 2018), most individual auditors sanctioned in the SDOs are male (89.2%). The largest group of sanctioned individuals are between the ages of 50 and 59 years, with the youngest being 27 years of age and the oldest being 80 years of age.

SDO Sanctions

As per Rule 5300 (PCAOB, 2016), several sanctions can be issued by the PCAOB in each SDO. These are as follows: (1) temporary suspension or permanent revocation of registration (*REVOCATION*); (2) temporary or permanent suspension or barring of a person from further association with any registered public accounting firm (*SUSPENSION*); (3) temporary or permanent limitation on the activities, functions, or operations of such firm or person (*ACTIVITY LIMITATION*); (4) a civil money penalty for each such violation (*MONETARY PENALTY*); (5) a formal disapproval

[4] For completeness, we employ the entire population (n = 241) for individual auditors when presenting the descriptive statistics.

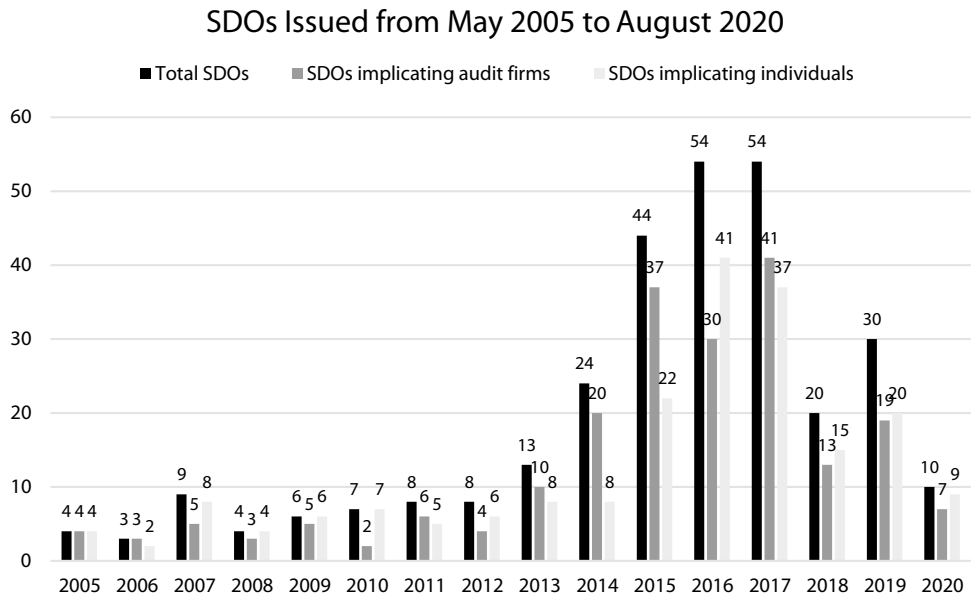

Fig. 1 Year distribution of SDOs issued over the period 2005–2020

(*CENSURE*); (6) requirement for additional professional education or training (*TRAINING*); (7) requirement for the registered public accounting firm to engage an independent monitor (*MONITOR*); (8) requirement for the registered public accounting firm to engage counsel or another consultant to design policies (*COUNSEL*); (9) requirement for the registered public accounting firm, or a person associated with such a firm, to adopt or implement policies, or to undertake other actions (*POLICIES*); and (10) requirement for the registered public accounting firm to obtain an independent review and report on one or more engagements (*REVIEW*).

Panel A of Table 3 presents the frequency of sanctions in our sample. The most common penalty is censure, which occurs in 87.6% of SDOs involving firms and 81.3% of SDOs involving individual auditors. We find that firms are 2.7 times more likely to receive a monetary penalty than individual auditors (69.4% vs. 25.3%). Such a significant difference in the imposition of a monetary penalty could arise because firms have a greater ability than individual auditors to pay substantial fines (Lowe et al., 2002). We identify revocation of audit license for 105 of 209 (50.2%) audit firms; this is a severe sanction preventing the implicated entity from auditing SEC issuers. In addition to revocation, sanctions related to policies are prevalent only at the firm level, with the PCAOB issuing 61 SDOs with this sanction (i.e., 29.2% of implicated firms).

We also observe that 208 of the 241 (86.3%) auditors issued with SDOs faced a suspension of their US license to practice. Further, we find that the PCAOB limits the audit activity of both firms ($n = 11$, 5.3%) and individuals ($n = 27$, 11.2%). Training and monitoring sanctions are also apparent, although less frequent at both the firm and individual levels. In light of these multiple sanctions occurring in a single SDO, we consider three main dependent variables in our full-sample models.

Model Specification

We employ the following two models at the firm and individual levels, respectively:

Firm-Level Model

$$\begin{aligned} &\textit{Dependent variable}\,[\textit{SANCTION\_FREQUENCY}, \textit{SANCTION\_SEVERITY or SANCTION\_MONETARY}] \\ &\quad = \textit{QUALITY\_CONTROLS} + \textit{RULES\_STANDARDS} + \textit{RULES\_FILINGS} + \textit{INDEPENDENCE} \\ &\quad + \textit{INTEGRITY} + \textit{MANIPULATION} + \textit{EVIDENCE} + \textit{RECKLESS}\,\textit{Dependent variable} \\ &\quad [\textit{SANCTION\_FREQUENCY}, \textit{SANCTION\_SEVERITY or SANCTION\_MONETARY}] \\ &\quad = \textit{QUALITY\_CONTROLS} + \textit{RULES\_STANDARDS} + \textit{RULES\_FILINGS} + \textit{INDEPENDENCE} \\ &\quad + \textit{INTEGRITY} + \textit{MANIPULATION} + \textit{EVIDENCE} + \textit{RECKLESS} + \textit{COOPERATION} + \textit{US} \\ &\quad + \textit{BIG4} + \textit{BOTH} + \textit{NUM\_IND} + \textit{COOPERATION} + \textit{US} + \textit{BIG4} + \textit{BOTH} + \textit{NUM\_IND} \end{aligned} \tag{1}$$

Table 2 Characteristics of audit firms and individuals named in the SDOs

Panel A: Audit firm locations

Country	Firm level ($n=209$)		Individual level ($n=241$)	
	Freq	Percent	Freq	Percent
USA	169	80.9	183	75.9
Foreign countries				
Hong Kong	7	3.4	6	2.5
India	4	1.9	6	2.5
Spain	4	1.9	2	0.8
Canada	3	1.4		
Mexico	3	1.4	13	5.4
South Korea	3	1.4	2	0.8
Australia	2	1.0	1	0.4
Brazil	2	1.0	15	6.2
Colombia	2	1.0		
Indonesia	2	1.0	2	0.8
Argentina	1	0.5		
Bermuda	1	0.5	1	0.4
Hungary	1	0.5		
Italy	1	0.5		
Malaysia	1	0.5	2	0.8
Netherlands	1	0.5		
Nicaragua	1	0.5	1	0.4
Turkey	1	0.5	5	2.1
Japan			1	0.4
UK			1	0.4
Total	209	100	241	100

Panel B: Demographic variables

Characteristic	Firm		Individual	
	Freq	Percent	Freq	Percent
Audit firm size ($n=209$ firms, $n=241$ individuals)				
BIG 4	21	10.1	28	11.6
Non-Big 4	188	90.0	213	88.4
Age ($n=220$)				
Under 30 years			3	1.4
30–39			24	10.9
40–49			56	25.5
50–59			76	34.5
60–69			52	23.6
70–79			7	3.2
80			2	0.9
Total			220	100
Gender ($n=241$)				
Male			215	89.2
Female			26	10.8

Table 3 Summary statistics—sanctions

Panel A: SDO Sanctions				
	Firm ($n=209$)		Individual ($n=241$)	
Sanction	Freq	Percent	Freq	Percent
1. Prohibition				
1a. REVOCATION	105	50.2	0	0
1b. SUSPENSION	0	0	208	86.3
2. Penalization				
2a. ACTIVITY LIMITATION	11	5.3	27	11.2
2b. MONETARY PENALTY	145	69.4	61	25.3
3. Censure	183	87.6	196	81.3
4. Others				
4a. TRAINING	12	5.74	27	11.2
4b. MONITOR	2	1	1	0.4
4c. POLICIES	61	29.2	0	0
4d. COUNSEL	1	0.5	0	0
4e. REVIEW	1	0.5	0	0
Panel B: Simple count of the above four (4) sanction categories				
SANCTION_FREQUENCY = PROHIBITION + PENALIZATION + CENSURE + OTHERS				
1	28	13.4	54	22.4
2	76	36.4	122	50.6
3	105	50.2	51	21.2
4			14	5.8
Observations (%)	209	(100)	241	(100)
Panel C: Weighted number of sanctions (SANCTION_SEVERITY)				
2	8	3.8	21	8.7
3			1	0.4
4	22	10.5	33	13.7
5	36	17.2	7	2.9
6	93	44.5	112	46.5
7	3	1.4	8	3.3
8	1	0.5	6	2.5

Table 3 (continued)

Panel A: SDO Sanctions

	Firm ($n=209$)		Individual ($n=241$)	
Sanction	Freq	Percent	Freq	Percent
9	46	22.0	39	16.2
10			14	5.8
Observations (%)	209	(100)	241	(100)

Panel D: US Dollar penalties

	Firm level ($n=145$)	Individual level ($n=65$)
Mean	152,876	18,462
Minimum	1,000	5,000
25th percentile	3,000	10,000
Median	10,000	10,000
75th percentile	20,000	25,000
Maximum	8,000,000	75,000
Standard deviation	719,184	13,938

Individual-Level Model

$$\begin{aligned} &\textit{Dependent variable}\,[\textit{SANCTION\_FREQUENCY},\ \textit{SANCTION\_SEVERITY or SANCTION\_MONETARY}] \\ &= \textit{QUALITY\_CONTROLS} + \textit{RULES\_STANDARDS} + \textit{RULES\_FILINGS} + \textit{INDEPENDENCE} \\ &+ \textit{INTEGRITY} + \textit{MANIPULATION} + \textit{EVIDENCE} + \textit{RECKLESS} + \textit{COOPERATION} \\ &+ \textit{US} + \textit{BIG4} + \textit{BOTH} + \textit{NUM\_IND} + \textit{AGE} + \textit{MALE} \end{aligned} \tag{2}$$

We discuss the measurements of these variables below.[5]

Dependent Variables

Number of SDO Sanctions: SANCTION_FREQUENCY

Similar to Juric et al. (2018), we construct an ordinal dependent variable, *SANCTION_FREQUENCY*. We construct four major sanction categories consistent with the PCAOB 5300 listing and assign a value of one for each category. Specifically, the first category is that of (firm) revocation and (individual) suspension of registration licenses. The second category comprises penalization sanctions of activity limitation and monetary penalties. The third category contains instances of censure by the PCAOB. The fourth category consists of the remaining and infrequent set of sanctions issued by the PCAOB, namely, training, monitoring, and additional policies, counsel, and review. As a single SDO can include multiple sanctions, we sum these categorical values at both the firm and individual levels. As such, a minimum value of one (1) and a maximum value of four (4) are assigned to this dependent variable (*SANCTION_FREQUENCY*).

Panel B of Table 3 presents the frequency of sanctions at the firm level, which range from one to three (no firm has *SANCTION_FREQUENCY* = 4). Some 13.4% of firms have one sanction, 36.4% have two sanctions, and the remaining 50.2% have three sanctions, as disclosed in their SDOs. At the individual level, we find that the frequency of sanctions ranges from one to four, with 50.6% of individuals receiving two sanctions in an SDO.

Severity of SDO Sanctions: SANCTION_SEVERITY

Our second dependent variable, *SANCTION_SEVERITY*, captures the severity of the sanctions disclosed in the SDOs. Consistent with the PCAOB Rule 5300 listing of sanctions (PCAOB, 2016)—which appropriately classifies sanctions in order of severity—we assign the following severity weightings: 4 = revocation of firm registration (or suspension of an individual auditor); 3 = activity limitation or monetary penalty; 2 = censure; and 1 = other sanctions relating to training, monitoring, counsel, policies, and review. Since multiple sanctions are commonly listed in any given SDO, we sum the assigned weighted values for each SDO. As presented in Panel C of Table 3, this dependent variable has a minimum score of 2 and a maximum score of 10, with the majority of both firms (44.5%) and individuals (46.5%) receiving a severity score of six.

Monetary Penalty of SDO Sanctions: SANCTION_MONETARY

Our third dependent variable, *SANCTION_MONETARY*, measures the financial penalties imposed on firms and individuals by the PCAOB. Panel D of Table 3 shows that 145 of the 209 (65 of 241) firms (individuals) incurred a monetary penalty. Of these, the median monetary penalty is $10,000 (USD), with the minimum (maximum) being $1,000 ($8,000,000 imposed on Deloitte Brazil). The median monetary penalty for individuals is $10,000, with the minimum (maximum) being $5,000 ($75,000). Appendix A provides an example of how all the dependent variables are constructed, using an extract from an SDO.

[5] We do not include year fixed effects (as deduced by the date of SDO publication) in the study for the following important reasons. (1) The publication of the SDOs on the PCAOB Web site does not coincide with either the year in which any preceding inspection took place or when the audit violation occurred at the client level (if it is a client-related SDO). Thus, including fixed effects based on the year of the SDO is not meaningful and would thus lead to erroneous conclusions; (2) the publication of the SDOs is made several years after the PCAOB observes the initial violation. For example, the SDO which focused on significant audit violations perpetrated by Deloitte Brazil was initially inspected in 2012, while the actual SDO released in 2016. The time lag would reduce reliance on any results reached after using year fixed effects; (3) the publications of SDOs are highly dependent on the PCAOB inspection program and environmental factors. For example, our updated sample shows that the Coronavirus pandemic impacted the number of SDOs published; with 10 SDOs published in 2020 (across January to September) compared with 21 SDOs during the same time in the previous year. (4) Our study aims to gain an understanding of the relationship between PCAOB sanctions and violations, and its perceived severity by the PCAOB. Including any time-invariant biases may work against this and is secondary to our primary research objective—we encourage future research in the area, which may entail a more qualitative approach.

Table 4 Summary statistics—violations

Violation	Example of PCAOB rules cited in the SDOs	Firm-level model		Individual-level model	
		Freq	Percent	Freq	Percent
Audit-related violations					
RULES_STANDARDS	Engagement quality review (EQR)—AS 7; Internal controls over financial reporting (ICFR)—AS 2201 (formerly AS 5); Integrated audit of statements—AS 13	59	16.8	82	19.1
RULES_FILINGS	Rule 2200 and 2201 on annual report filing; Rule 2202 on annual fee payment	31	8.8	4	0.9
QUALITY_CONTROLS	QC 20, Rule 3400T	54	15.4	47	10.9
EVIDENCE	AS 15, AU Section 326	37	10.5	51	11.9
COOPERATION	Rule 5110, Rule 4006	18	5.1	58	13.5
Ethics-related violations					
INDEPENDENCE	AU Sect. 220, Rule 3520	71	20.2	36	8.4
INTEGRITY	AU Section 230	36	10.3	61	14.2
MANIPULATION	GAAS—AU Section 150; Audit documentation—AS 3; Evaluating audit results—AS 14	14	4.0	47	10.9
RECKLESS	Rule 3502	31	8.8	44	10.2
Total		351	100%	430	100%

Table 5 Descriptive statistics

Variable	Firm-level Model ($n=209$)							Individual-level Model ($n=220$)						
	Mean	S.D	Min	0.25	Mdn	0.75	Max	Mean	S.D	Min	0.25	Mdn	0.75	Max
SANCTION_FREQUENCY	2.37	0.71	1	2	3	3	3	2.1	0.8	1	2	2	3	4
SANCTION_SEVERITY	6.15	1.79	2	5	6	6	9	6.13	2.12	2	6	6	7	10
SANCTION_MONETARY	0.69		0	0	1	1	1	0.23		0	0	0	0	1
MONETARY_AMOUNT	6.56	4.63	0	0	8.52	9.62	15.89	2.23	4.09	0	0	0	0	11.23
QUALITY_CONTROLS	0.26		0	0	0	1	1	0.2		0	0	0	0	1
RULES_STANDARDS	0.28		0	0	0	1	1	0.31		0	0	0	1	1
RULES_FILINGS	0.15		0	0	0	0	1	0.02		0	0	0	0	1
EVIDENCE	0.18		0	0	0	0	1	0.21		0	0	0	0	1
INTEGRITY	0.17		0	0	0	0	1	0.26		0	0	0	1	1
INDEPENDENCE	0.34		0	0	0	1	1	0.16		0	0	0	0	1
MANIPULATION	0.07		0	0	0	0	1	0.2		0	0	0	0	1
RECKLESS	0.15		0	0	0	0	1	0.2		0	0	0	0	1
COOPERATION	0.09		0	0	0	0	1	0.25		0	0	0	0.5	1
US	0.81		0	1	1	1	1	0.74		0	0	1	1	1
BIG4	0.1		0	0	0	0	1	0.13		0	0	0	0	1
BOTH	0.54		0	0	1	1	1	0.6		0	0	1	1	1
NUM_IND	0.71	0.85	0	0	1	1	6	1.46	1.01	1	1	1	2	6
AUDIT_VIOLATIONS	0.95	0.72	0	0	1	1	3	0.99	0.65	0	1	1	1	3
ETHICAL_VIOLATIONS	0.73	0.67	0	0	1	1	3	0.82	0.74	0	0	1	1	4
AGE								52.55	10.48	27	45	53	60	80
MALE								0.9	0.31	0	1	1	1	1

Variables of Interest

Our main variables of interest are the specific violations specified in the SDOs by the PCAOB. Since each SDO inherently represents an evaluation report by the regulator and to allow the violation themes to emerge from the SDOs, we adopted an inductive approach (Thomas, 2006). Thematic data analysis was undertaken by two of the researchers and entailed reading all the SDOs independently. Subsequently,

the researchers shared their coding of the violation themes for moderation. Consensus on the themes was relatively easy to reach by the co-coders because the PCAOB provides a summary of specific violations as well as a detailed description reiterating these themes. Consistent with Lesage and Wechtler (2012), our inductive analysis is data-driven as it covers SDOs issued over 16 years and identifies nine main themes, as discussed next.

QUALITY_CONTROLS is equal to 1 when the audit firm receives a quality control violation, and 0 otherwise. *RULES_STANDARDS* is equal to 1 when the SDO identifies a violation of rules relating to the integrated audit of statements, engagement quality review (EQR), internal controls over financial reporting (ICFR), and PCAOB standards, and 0 otherwise. *RULES_FILINGS* is equal to 1 when the SDO identifies a failure to file an annual report with the PCAOB, non-payment of annual fees, or non-filing of Form AP (Auditor Personnel), and 0 otherwise. *EVIDENCE* is equal to 1 when the audit firm receives a violation relating to insufficient audit evidence, and 0 otherwise. *INTEGRITY* is equal to 1 when the audit firm receives a violation relating to professional care or integrity concerns, and 0 otherwise. *INDEPENDENCE* is equal to 1 when the audit firm receives a violation relating to independence concerns, and 0 otherwise. *MANIPULATION* is equal to 1 when the audit firm receives a violation relating to manipulation of audit evidence, and 0 otherwise. *RECKLESS* is equal to 1 when the audit firm receives a violation relating to reckless conduct, and 0 otherwise. *COOPERATION* is equal to 1 when the audit firm receives a violation relating to the unwillingness to cooperate with PCAOB inspectors, and 0 otherwise.

We also consider other characteristics of audit firms and individuals that are deducible from the SDOs. We include the indicator variable *US*, which is equal to 1 when the auditor is domiciled in the USA, and 0 otherwise. We also include indicator variable *BIG4*, which is equal to 1 when the auditor is from KPMG, EY, Deloitte, or PricewaterhouseCoopers, and 0 otherwise. Further, we include indicator variable *BOTH*, which is equal to 1 if both an audit firm and an individual auditor are implicated simultaneously in an SDO, and 0 otherwise. In some observations, more than one individual auditor is implicated, and thus, we include the variable *NUM_IND*, which is measured as the total number of auditors involved. Finally, we consider the personal characteristics of age (*AGE*) and gender (*MALE*) of auditors identified in the SDOs in our individual-level model. All variables are defined in Appendix B.

Results

Descriptive Statistics

Table 4 presents the frequency of violations in our firm-level and individual-level samples. As several violations can be named for a given SDO, we obtain a model-specific percentage of violation occurrence by scaling the frequency of each violation across SDOs by the relevant total number of violations in each model sample (i.e., 351 violations at the firm level and 430 violations at the individual level). The most common violation at the firm level relates to *INDEPENDENCE*, which is considerably more prominent at the firm level (20.2%) than at the individual level (8.4%). *RULES_STANDARDS* (i.e., breaches relating to the integrated audit of statements, EQR and ICFR) is a frequent violation at the firm level (16.8%) and the most frequent violation at the individual level (19.1%). *INTEGRITY* is the second-most significant violation category for individuals at 14.2%, which is expected given that integrity reflects a personnel trait. *QUALITY_CONTROLS* violations are more prevalent at the firm level (15.4%) than for individuals (10.9%). Similar rates of occurrence at the firm level are shown for *EVIDENCE* (10.5%), *RULES_FILINGS* (8.8%), and *RECKLESS* (8.8%). Additionally, we find that the PCAOB identifies higher rates of violations for individual auditors than for firms for *COOPERATION* (5.1% firm level; 13.5% individual level) and *MANIPULATION* of audit evidence (4.0% firm level; 10.9% individual level).

Table 5 presents the descriptive statistics of all the variables employed in the two models. The average *SANCTION_FREQUENCY* (*SANCTION_SEVERITY*) is 2.37 (6.15) in the firm-level model and 2.1 (6.13) in the individual-level model. We find that the mean *SANCTION_MONETARY* is comparatively higher for firms than for individuals (69% vs. 23%). There is a reasonable amount of variation across the indicator variables relating to violations, with none of these exceeding 50% occurrence across the SDOs. Specifically, we find that 34% (16%) of the firm-level (individual-level) sample of SDOs have an independence-related violation. Other prominent violations are *RULES_STANDARDS*, *QUALITY CONTROLS*, and *EVIDENCE*, with means of 28%, 26%, and 18%, respectively, in the firm-level model. Regarding the individual-level model, we find that the means for *RULES_STANDARDS* (31%), *INTEGRITY* (26%), *COOPERATION* (25%), and *EVIDENCE* (21%) are the highest. Further, both *MANIPULATION* and *RECKLESS* have a mean of 20% in the individual-level model.

As also indicated in Table 5, most of the audit firms sanctioned are domiciled in the USA (81%) and are smaller in

Table 6 Correlation matrix

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1)	*QUALITY_CONTROLS*		−0.142*	−0.068	−0.201*	−0.036	−0.124	−0.108	−0.023	−0.236*	0.016	0.048	0.200*	0.203*	0.007	−0.015
(2)	*RULES_STANDARDS*	−0.099*		0.05	0.062	0.003	0.054	−0.314*	0.348*	−0.255*	0.182*	−0.229*	0.232*	0.035	0.145*	0.039
(3)	*RULES_FILING*	−0.136*	−0.125*		0.014	0.153*	0.034	−0.068	0.187*	0.079	0.004	−0.052	0.111	−0.081	0.080	0.047
(4)	*EVIDENCE*	−0.185*	0.066	−0.101*		0.308*	−0.071	−0.229*	−0.034	−0.168*	0.206*	−0.163*	0.169*	−0.033	0.138*	0.066
(5)	*INTEGRITY*	−0.062	0.030	−0.031	0.368*		−0.087	−0.114	0.067	−0.246*	0.095	−0.101	0.059	−0.041	0.028	0.168*
(6)	*INDEPENDENCE*	−0.113*	−0.085	−0.123*	−0.157*	−0.153*		−0.124	0.155*	−0.223*	0.232*	−0.166*	0.102	−0.031	0.111	0.027
(7)	*MANIPULATION*	−0.089	−0.240*	−0.115*	−0.146*	−0.066	−0.160*		−0.222*	0.289*	−0.139*	0.048	−0.149*	0.088	−0.054	−0.015
(8)	*RECKLESS*	−0.069	0.354*	−0.0185	−0.01	0.114*	0.044	−0.160*		−0.236*	0.144*	−0.191*	0.316*	−0.027	0.122	0.097
(9)	*COOPERATION*	−0.186*	−0.138*	−0.042	−0.088	−0.135*	−0.224*	0.289*	−0.138*		−0.488*	0.410*	−0.300*	−0.029	−0.094	−0.009
(10)	*US*	−0.026	0.171*	0.033	0.138*	0.054	0.080	−0.090	0.106*	−0.337*		−0.453*	0.291*	−0.098	0.280*	−0.002
(11)	*BIG4*	0.068	−0.190*	−0.102*	−0.082	−0.079	−0.044	0.049	−0.156*	0.280*	−0.472*		−0.273*	−0.025	−0.202*	−0.048
(12)	*BOTH*	0.164*	0.281*	−0.191*	0.190*	0.170*	−0.141*	−0.007	0.331*	−0.147*	0.274*	−0.268*		0.376*	0.359*	0.176*
(13)	*NUM_IND*	0.144*	0.087	−0.251*	0.003	0.067	−0.250*	0.219*	0.066	0.178*	−0.093*	−0.042	0.500*		0.031	0.112
(14)	*AGE*	0.008	0.148*	0.11	0.132	0.019	0.130	−0.062	0.117	−0.093	0.273*	−0.202*	0.366*	0.039		0.280*
(15)	*MALE*	0.002	−0.004	0.045	0.049	0.172*	0.033	0.002	0.095	0.008	−0.008	−0.041	0.167*	0.099	0.284*	

This table presents the Pearson (lower diagonal) and Spearman (upper diagonal) correlation coefficients for the regression variables in the study

*Indicate significance level at the 5% level. Detailed variable definitions are outlined in Appendix B

Table 7 Firm-level analysis of the impact of violations on the PCAOB sanctions

Dependent variable	(1) *SANCTION_ FREQUENCY*	(2) *SANC-TION_ SEVERITY*	(3) *SANCTION_ MONETARY*
QUALITY_CONTROLS	0.775*	0.509	−0.144
	(1.76)	(1.55)	(−0.48)
RULES_STANDARDS	1.762***	1.196***	0.816***
	(3.49)	(3.31)	(2.66)
RULES_FILINGS	−0.041	0.861**	−0.403
	(−0.08)	(2.20)	(-1.03)
EVIDENCE	0.505	0.923**	−0.142
	(1.07)	(2.38)	(−0.49)
INTEGRITY	0.680	0.541	−0.302
	(1.37)	(1.37)	(−0.99)
INDEPENDENCE	1.544***	0.756**	0.805***
	(3.30)	(2.39)	(2.62)
MANIPULATION	−0.361	−0.010	−0.588
	(−0.44)	(−0.02)	(−1.32)
RECKLESS	1.225**	1.020**	0.172
	(2.41)	(2.45)	(0.50)
COOPERATION	0.041	0.248	−0.869**
	(0.08)	(0.66)	(−2.08)
US	−0.659	−0.529*	−0.914**
	(−1.59)	(−1.89)	(−2.51)
BIG4	−0.274	−0.721***	–
	(−0.44)	(−2.61)	–
BOTH	−2.447***	−0.495	−2.041***
	(−3.89)	(−1.06)	(−4.81)
NUM_IND	0.518*	0.226	0.798***
	(1.75)	(0.90)	(3.04)
Intercept 1	−2.327***		
	(−4.02)		
Intercept 2	0.097		
	(0.17)		
Intercept		5.472***	1.773***
		(15.08)	(3.68)
No. of observations	209	209	209
Pseudo-R2	0.170		0.296
Adjusted R-squared		16.4%	

This table presents the results examining the relationship between the violations conducted by audit firms and the sanctions imposed by the PCAOB. Column (1) reports the results utilizing an ordered probit model regarding the number of the sanctions (*SANCTION_FREQUENCY*). Column (1) reports the results utilizing an OLS model regarding the severity of the sanctions (*SANCTION_SEVERITY*). Column (3) reports the results utilizing a probit model regarding the imposition of a monetary penalty (*SANCTION_MONETARY)*

***, **, and * indicate significance level at the 1%, 5%, and 10% level. Detailed variable definitions are outlined in Appendix B. We estimate Model (1)

Table 8 Individual-level analysis of the impact of violations on the PCAOB sanctions

Dependent variable	(1) *SANCTION_ FREQUENCY*	(2) *SANCTION_ SEVERITY*	(3) *SANCTION_ MONETARY*
QUALITY_CONTROLS	0.451	0.593*	−0.475
	(1.03)	(1.67)	(−1.48)
RULES_STANDARDS	0.539	0.270	0.132
	(1.58)	(0.89)	(0.47)
RULES_FILINGS	−0.567	−0.569	–
	(−1.26)	(−1.26)	–
EVIDENCE	0.246	0.446	−0.459
	(0.74)	(1.41)	(−1.46)
INTEGRITY	0.699**	0.736**	0.543**
	(2.29)	(2.58)	(2.13)
INDEPENDENCE	−0.112	−0.165	0.016
	(−0.30)	(−0.43)	(0.05)
MANIPULATION	−0.431	−0.352	−0.245
	(−1.11)	(−0.99)	(−0.80)
RECKLESS	0.990***	0.926**	0.055
	(2.66)	(2.60)	(0.18)
COOPERATION	0.353	0.406	−0.654*
	(0.95)	(1.12)	(−1.88)
US	−1.421***	−1.320***	−0.713**
	(−3.23)	(−3.35)	(−2.48)
BIG4	−0.462	−0.470	0.347
	(−0.82)	(−0.87)	(0.95)
BOTH	−1.770***	−1.614***	−1.024***
	(−4.39)	(−4.66)	(−3.51)
NUM_IND	0.810***	0.570***	0.491***
	(3.41)	(2.76)	(4.07)
AGE	0.036**	0.036**	0.008
	(2.22)	(2.47)	(0.74)
MALE	0.324	0.126	0.124
	(0.59)	(0.27)	(0.32)
Intercept 1	0.217		
	(0.25)		
Intercept 2	3.144***		
	(3.51)		
Intercept 3	5.394***		
	(5.58)		
Intercept		4.626***	−0.878
		(5.74)	(−1.48)
No. of observations	220	220	220
Pseudo-R2	0.142		0.209
Adjusted R-squared		20.9%	

This table presents the results examining the relationship between the violations conducted by audit partners and the sanctions imposed by the PCAOB. Column (1) reports the results utilizing an ordered probit model regarding the number of the sanctions (*SANCTION_FREQUENCY*). Column (1) reports the results utilizing an OLS model regarding the severity of the sanctions (*SANCTION_SEVERITY*). Column (3) reports the results utilizing a probit model regarding the imposition of a monetary penalty (*SANCTION_MONETARY)*

***, **, and * indicate significance level at the 1%, 5%, and 10% level. Detailed variable definitions are outlined in Appendix B. We estimate Model (2)

size (i.e., only 10% of sanctions are for the Big 4 firms).[6] This is consistent with the individual-level model, which shows 74% individual auditors residing in the USA with 13% of these individuals employed by the Big 4 firms. Finally, the average age of sanctioned auditors is 52.55 years and that 90% are males.

Correlations

Table 6 presents the correlation matrix investigating the direct relationships between the independent and control variables, with both Spearman (upper diagonal) and Pearson (lower diagonal) coefficients provided. The largest correlations are found between *NUM_IND* and *BOTH* (0.500, $p < 0.05$), *RULES_STANDARDS* and *RECKLESS* (0.348, $p < 0.05$), *COOPERATION* and *US* (−0.488, $p < 0.05$), and *RECKLESS* and *BOTH* (0.316, $p < 0.05$). Given these correlations are below 0.5, it appears that multicollinearity is not a concern in our models.

Multivariate Analysis

Ordered probit regression is utilized for our *SANCTION_FREQUENCY* analysis, while an ordinary least squares regression is employed for the *SANCTION_SEVERITY* model. A probit regression model is used for the *SANCTION_MONETARY* dependent variable.

Firm-Level Results

Table 7 presents the regression results for the firm-level models. Column (1) shows the results using *SANCTION_FREQUENCY* as the dependent variable. We find that *SANCTION_FREQUENCY* is significantly positively associated (at the 1% level) with violation of rules (*RULES_STANDARDS* = 1.762, *t-statistic* = 3.49) and independence concerns (*INDEPENDENCE* = 1.544, *t-statistic* = 3.30). Firms exhibiting reckless behavior (*RECKLESS* = 1.225, *t-statistic* = 2.41) are found to be positively associated with the frequency of sanctions, as are firms with violations related to quality controls (*QUALITY_CONTROLS* = 0.775, *t-statistic* = 1.76). We find that when both the audit firm and its personnel are implicated in an SDO, this does not lead to a higher number of sanctions for the firm. This is expected, as the PCAOB is likely to sanction the individual directly when implicated in an SDO; we explore this further in our individual-level analysis contained in Table 8.

We find similar results for *SANCTION_SEVERITY* as the dependent variable in Column (2) of Table 7 for violations relating to PCAOB standards (*RULES_STANDARDS* = 1.196,*t-statistic* = 3.31),independence (*INDEPENDENCE* = 0.756, *t-statistic* = 2.39), and reckless behavior (RECKLESS = 1.020, *t-statistic* = 2.45). Also, we find significant positive associations between the dependent variable *SANCTION_SEVERITY* and the following test variables: *RULES_FILINGS* (ß = 0.861, *t-statistic* = 2.20) and *EVIDENCE* (ß = 0.923, *t-statistic* = 2.38).

Our findings also reveal that *SANCTION_SEVERITY* decreases if the audit firm is one of the Big 4 auditors (*BIG4* = −0.721, *t-statistic* = 2.61), and when the firm is domiciled in the USA (*US* = −0.529, *t-statistic* = 1.89). The increment in the severity of sanctions concerning foreign audit firms may indicate an underlying difference in the audit environment of different countries, such that US audit firms provide relatively higher audit quality (Brown et al. 2014).

The results presented in Column (3) of Table 7 report the association between the probability of a monetary penalty imposed on audit firms and the violations disclosed in the SDOs. The *BIG4* variable was excluded from this analysis because of its perfect correlation with *SANCTION_MONETARY* (i.e., all Big 4 firms are financially penalized). We find significant positive associations, with violations associated with PCAOB standards (*RULES_STANDARDS* = 0.816, *t-statistic* = 2.66) and auditor independence (*INDEPENDENCE* = 0.805, *t-statistic* = 2.62). These results indicate that the propensity of a monetary penalty at the firm level is contingent on violations of audit standards and independence. Consistent with the findings for the previous two dependent variables in Columns (1) and (2), PCAOB sanctions (in the form of the likelihood of a monetary penalty) are significantly lower for US firms (*US* = −0.914, *t-statistic* = 2.51) than for audit firms domiciled outside the USA.

Additionally, the likelihood of a monetary penalty is significantly lower for audit firms when an individual auditor is implicated in the same disciplinary order (*BOTH* = −2.041, *t-statistic* = 4.81). Finally, the positive association between *SANCTION_MONETARY* and the number of individuals implicated in the same order (*NUM_IND* = 0.798, *t-statistic* = 3.04) suggests that a PCAOB-imposed penalty is more likely when several auditors are identified in an SDO.

[6] Regarding sanctioned Big 4 firms, only 21 of the 209 (10%) firms are affiliated to the largest networks. EY had three member firms issued SDOs (i.e., Indonesia, Spain, and USA); KPMG had two member firms issued SDOs (i.e., Bermuda and Brazil); PwC had six member firms issued SDOs (i.e., Argentina, Hong Kong, India, Mexico, Spain, and USA). Deloitte is the most sanctioned audit firm network with members from eight countries receiving SDOs (i.e., Brazil, Canada, Colombia, Mexico, Netherlands, South Korea, Turkey, and USA).

Table 9 Impact of violations on the magnitude of the monetary penalties imposed**:** subsample analysis

Dependent variable	Firm level *MONETARY_AMOUNT*	Individual level *MONETARY_AMOUNT*
QUALITY_CONTROLS	0.812***	−0.213
	(3.00)	(−0.69)
RULES_STANDARDS	0.027	0.435
	(0.11)	(1.45)
RULES_FILINGS	−1.998***	–
	(−4.89)	–
EVIDENCE	0.258	−0.652**
	(0.81)	(−2.18)
INTEGRITY	0.451	0.294
	(1.18)	(1.20)
INDEPENDENCE	−0.646**	−0.694**
	(−2.04)	(−2.07)
MANIPULATION	0.978	0.702**
	(1.51)	(2.07)
RECKLESS	−0.020	0.430*
	(−0.07)	(1.88)
COOPERATION	1.133*	−0.815*
	(1.72)	(−1.80)
US	0.085	0.187
	(0.36)	(0.56)
BIG4	2.624***	0.861***
	(6.47)	(3.14)
BOTH	−0.099	−1.126***
	(−0.20)	(−4.64)
NUM_IND	0.051	0.056
	(0.20)	(0.87)
AGE		0.020
		(1.61)
MALE		0.542***
		(2.85)
Intercept	9.187***	8.207***
	(23.94)	(12.08)
No. of observations	145	51
Adjusted R-squared	63.9%	45.2%

This table presents the results examining the relationship between the violations by individual auditors and the monetary penalties imposed by the PCAOB. Both columns report the results utilizing an OLS regression regarding the magnitude of a monetary penalty (*MONETARY_AMOUNT)*

***, **, and * indicate significance level at the 1%, 5%, and 10% level. Detailed variable definitions are outlined in Appendix B

Individual-Level Results

Table 8 presents the regression results for the individual-level models. In Column (1), we find that *SANCTION_FREQUENCY* is positively associated with *RECKLESS* (ß = 0.990, *t-statistic* = 2.66) and integrity issues (ß = 0.699, *t-statistic* = 2.29). These variables—as well as *QUALITY_CONTROLS* (ß = 0.593, *t-statistic* = 1.67)—are also significant when regressed on *SANCTION_SEVERITY* (see Column (2)). However, when using *SANCTION_MONETARY* as the dependent variable (see Column (3)), integrity violations are shown to increase the likelihood of a monetary penalty (*INTEGRITY* = 0.543, *t-statistic* = 2.13). In contrast, a lack of cooperation by individuals is less likely to result in a financial penalty (*COOPERATION* = −0.654, *t-statistic* = 1.88). Collectively, the results suggest that the PCAOB is concerned about professional behavior traits such as integrity (rather than reckless behavior and non-cooperation) when deciding whether to issue a punitive individual-level sanction.

Consistent with the firm-level findings (see Table 7), when examining the location of the auditor (*US*) and whether both the firm and the individual have been implicated simultaneously (*BOTH*), we find similar negative associations for these with our three dependent variables in the individual-level models. Specifically, we find highly significant and negative coefficients on *US* and *BOTH* in relation to the number, severity, and likelihood of monetary sanctions, as per Columns 1 (*SANCTION_FREQUENCY*), 2 (*SANCTION_SEVERITY*), and 3 (*SANCTION_MONETARY*) of Table 7, respectively.[7] Similarly, when more than one individual auditor is involved in the identified violations, we find that the PCAOB penalizes more severely. This is evident given the significant and positive coefficients on *NUM_IND* across the dependent variables of sanction frequency (Column (1)), sanction severity (Column (2)), and the probability of a monetary sanction (Column (3)).

Examining the individual-specific control variables, we find that the frequency and severity of sanctions significantly increase when additional individuals are sanctioned. Further, our results indicate that older individuals are more likely to engage in violations, both in frequency (*AGE* = 0.036, *t-statistic* = 2.22) and severity (*AGE* = 0.036, *t-statistic* = 2.47).

[7] *RULES_FILINGS* is omitted from the individual-level models in Tables 8 (column 3) and 9 (column 2) due to all individuals facing a monetary violation here. That is, four individual observations; these are not omitted in the other regressions that consider all sanctions issued within the SDO, including monetary sanctions.

Table 10 Impact of grouped auditing vs. ethical violations on the PCAOB sanctions—additional analysis

Dependent variable:	Firm level				Individual level			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	SANCTION_FREQUENCY	*SANCTION_SEVERITY*	*SANCTION_MONETARY*	*MONETARY_AMOUNT*	*SANCTION_FREQUENCY*	*SANCTION_SEVERITY*	*SANCTION_MONETARY*	*MONETARY_AMOUNT*
AUDIT_VIOLATIONS	0.662***	0.877***	−0.060	0.461***	0.526***	0.538***	−0.156	−0.009
	(2.73)	(5.05)	(−0.42)	(3.00)	(3.01)	(2.96)	(−0.86)	(−0.05)
ETHICAL_VIOLATIONS	1.185***	0.826***	0.299*	0.218	0.373**	0.347**	0.159	−0.100
	(4.09)	(5.10)	(1.90)	(1.38)	(2.17)	(2.14)	(1.04)	(−0.79)
US	−0.551	−0.487*	−0.593*	−0.074	−1.381***	−1.311***	−0.506*	0.120
	(−1.53)	(−1.84)	(−1.85)	(−0.25)	(−3.01)	(−3.14)	(−1.93)	(0.54)
BIG4	−0.227	−0.891***	–	3.484***	−0.520	−0.466	0.134	0.087
	(−0.48)	(−3.68)	–	(7.22)	(−1.08)	(−0.92)	(0.43)	(0.34)
BOTH	−2.071***	−0.381	−1.671***	0.327	−1.412***	−1.368***	−0.856***	−0.697***
	(−4.04)	(−0.91)	(−4.64)	(0.86)	(−4.01)	(−4.21)	(−3.14)	(-3.11)
NUM_IND	0.452*	0.101	0.599***	0.334	0.675***	0.471**	0.383***	−0.030
	(1.75)	(0.41)	(2.63)	(1.37)	(3.00)	(2.34)	(3.20)	(−0.39)
AGE					0.029*	0.030**	0.005	0.018
					(1.83)	(2.03)	(0.51)	(1.38)
MALE					0.426	0.272	0.223	0.568
					(0.81)	(0.59)	(0.58)	(1.57)
Intercept 1	−1.895***				0.225			
	(−4.22)				(0.26)			
Intercept 2	0.242				3.021***			
	(0.53)				(3.38)			
Intercept 3					5.211***			
					(5.40)			
Intercept		5.330***	1.413***	8.084***		4.659***	−1.009*	8.550***
		(18.97)	(3.97)	(26.22)		(5.62)	(−1.69)	(11.73)
No. of observations	209	209	209	145	220	220	220	51
Pseudo-R2	0.0948		0.150		0.117		0.160	
Adjusted R-squared		14.8%		50.1%		19.0%		18.2%

This table presents the results examining the relationship between the grouped violations conducted by audit firms and individuals, and the sanctions imposed by the PCAOB

***, **, and * indicate significance level at the 1%, 5%, and 10% level. Detailed variable definitions are outlined in Appendix B. We estimate Models (1) and (2)

Additional Analysis

Subsample Analysis of Firms and Individuals Receiving a Monetary Penalty

In this additional analysis, we consider only observations with a monetary penalty, resulting in 145 (51) observations for the firm-level (individual-level) model (see Table 9).[8] The dependent variable, *MONETARY_AMOUNT*, is equal to the natural logarithm of the dollar penalty amount specified. We find that in the firm-level model (Table 9, Column (1)), violations relating to quality control are positively associated with the monetary penalty dependent variable (*QUALITY_CONTROL* = 0.812, *t-statistic* = 3.00).

Violations relating to firms failing to file their annual report with the PCAOB, non-payment of annual fees, or non-filing of Form AP attract a lower monetary penalty (*RULES_FILINGS* = -1.998, *t-statistic* = 4.89), which reflects the less severe nature of these violations. On the contrary, non-cooperation with PCAOB inspections attracts a significantly higher penalty (*COOPERATION* = 1.133, *t-statistic* = 1.72). Non-cooperation with inspections and the resultant financial

[8] For the individual-level analysis presented in Table 9, due to missing observations for the *AGE* variable, n = 51.

penalty could signify instances where the PCAOB views the firms as potentially misguiding the PCAOB investigations (due to the possibility of incriminating evidence being found during the inspection).[9]

Consistent with the main results, the Big 4 firms are penalized significantly more than other firms likely due to their 'deep-pockets' (*BIG4* = 2.624, *t-statistic* = 6.47). Tables 7 and 8 exhibit a lower likelihood of a monetary penalty to the firm and individuals when both are implicated. However, the results in Table 9 show that the monetary penalty is only lower for individuals when both parties are implicated (*BOTH* = − 1.126, *t-statistic* = 4.64). This is possibly due to the firms bearing the culpability for, and therefore the penalty of, the violation in SDOs citing both parties.

Compared to the primary analyses, violations relating to independence do not appear to increase the monetary penalty imposed by the PCAOB to the firm and the individual, but rather the PCAOB may opt for other sanctions in such instances. A possible reason relating to independence violations not having a higher monetary penalty imposed is due to the severe nature of these violations, which may warrant a more significant sanction in the form of revocation of the audit firm's license rather than a monetary penalty. Similarly, we do not find significant results for *INTEGRITY* also indicating that integrity may be considered more severe than violations relating to rules, and therefore, warrant the imposition of a more severe penalty such as the suspension of individual licenses.

Interestingly, we find that the PCAOB is more likely to financially penalize individuals that engage in manipulation of audit evidence (*MANIPULATION* = 0.702, *t-statistic* = 2.07). This result reflects the implicit understanding that the manipulation of evidence is a considerably severe violation and should, therefore, attract a larger monetary penalty at the individual level. Lastly, male auditors are penalized more heavily than female auditors (*MALE* = 0.542, *t-statistic* = 2.85).

Auditing Versus Ethical Violations

We further group the relevant violations into either auditing or ethical violations. Specifically, we create two grouped variables (1) *AUDIT_VIOLATIONS*, which combines *QUALITY_CONTROL*, *RULES_STANDARDS, RULES_FILINGS*, *EVIDENCE and COOPERATION*; and (2) *ETHICAL_VIOLATIONS*, which consists of *INDEPENDENCE*, *INTEGRITY*, *MANIPULATION, and RECKLESS.*

On average, the mean *AUDIT_VIOLATIONS* is 0.95 (standard deviation = 0.72) in the firm-level sample and 0.99 (standard deviation = 0.65) in the individual-level sample. In comparison, the mean *ETHICAL_VIOLATIONS* is 0.73 (standard deviation = 0.67) in the firm-level sample and 0.82 (standard deviation = 0.74) in the individual-level sample. This broadly indicates that audit violations are more prominent across the firm- and individual-level observations. Table 10 presents the results for these grouped violations: Columns (1) to (4) present the firm-level analyses, and Columns (5) to (8) present the individual-level analyses.

At the firm level, we find that both audit and ethical violations are positively associated with the frequency and severity of sanctions, as seen in Column (1) (*AUDIT_VIOLATIONS* = 0.662, *t-statistic* = 2.73; *ETHICAL_VIOLATIONS* = 1.185, *t-statistic* = 4.09) and Column (2) (*AUDIT_VIOLATIONS* = 0.877, *t-statistic* = 5.05; *ETHICAL_VIOLATIONS* = 0.826, *t-statistic* = 5.10). In terms of the likelihood of a monetary penalty (Column 3) and the magnitude of monetary penalty (Column 4), we find that ethical violations significantly influence the former dependent variable, although only audit violations lead to higher monetary penalties for firms (*AUDIT_VIOLATIONS* = 0.461, *t-statistic* = 3.00). Further, Column 2 results indicate that firms domiciled in the USA face less severe sanctions (*US* = − 0.487, *t-statistic* = 1.84) and Big 4 audit firms also face less severe sanctions (*BIG4* = − *0*.891, *t-statistic* = 3.68). As shown in Columns (1) and (3), frequency of sanctions and propensity of monetary penalties, respectively, decrease when an individual auditor is also implicated in the SDO (as evidenced by the significant negative coefficients on *BOTH*). However, these increase when the number of people implicated in the SDO increases (as evidenced by the significant positive coefficients on *NUM_IND*). These results are broadly in line with the conclusions formed in the primary analyses.[10]

At the individual level, we also find that the frequency and severity of sanctions are significantly associated with the violations relating to audit and ethics—Table 10, Columns (5) and (6). However, the violations originating from both audit procedures and ethical issues are not significant in the propensity (Column 7) or magnitude (Column 8) of a monetary penalty. Individual auditors from the USA appear to be associated with significantly less frequent and severe sanctions as well as a lower likelihood of monetary penalties. All four dependent variables exhibit a negative

[9] This is also evident in the correlation matrix, where the manipulation of evidence is significantly positively correlated with the non-cooperation in PCAOB inspections. Excluding the outlier Deloitte Brazil ($8 million monetary penalty, *MONETARY_AMOUNT* = 15.89) from the firm-level analysis (n = 144) results in qualitatively similar results for all variables of interest except *COOPERATION* (ß = 0.920, t-statistic = 1.39).

[10] Upon excluding the outlier observation Deloitte Brazil (with an $8 million monetary penalty), all significant associations noted in Table 10 firm-level analysis remain unchanged.

and significant association with *BOTH*, that is, when both the firm and individual auditors are implicated in the same SDO. Similar to the firm-level findings above, the PCAOB penalizes the individuals more as seen by a higher frequency and likelihood of a monetary penalty (and sanction severity) when more individuals are implicated in the same SDO. Overall, these results support our conclusions drawn in the primary analyses.

Controlling for Client Factors

In an untabulated analysis, we consider the number of clients mentioned within the SDOs. We find several instances where client firms are not mentioned in SDOs. This is likely due to the SDO being minor such as non-filing issues. For example, of the 298 SDOs, 80 SDOs are not client related (i.e., 25% and 14.5% of SDOs impacting firms and individuals, respectively). Of the remaining 218 SDOs, we find that although these are indicative of issues with specific audits, 15 SDOs do not mention any client details. The PCAOB does not name the clients with sufficient detail (such as client name, year-end, and Central Index Key (CIK)), and these are often partially disclosed. Thus, we utilize the total number of clients, where available, to gauge its impact on the frequency, severity, and financial penalties of sanctions in SDOs. This results in 203 SDOs for which we can identify the number of clients ranging from a single client to 25 clients.

The firm- and individual-level main results remain qualitatively similar when including a control variable for the number of clients (*CLIENT_NUMBER*). We find that *CLIENT_NUMBER* does not significantly impact the frequency, severity, and financial penalty of SDO-level sanctions at the firm level. However, we find that *CLIENT_NUMBER* is significantly and positively associated with *SANCTION_FREQUENCY* (ß = 0.052, *t-statistic* = 1.82), *SANCTION_SEVERITY* (ß = 0.061, *t-statistic* = 2.00) but not *SANCTION_MONETARY* in the individual-level analysis. Here, it is likely that the identified violations are intrinsically linked to auditor performance (or lack thereof) on specific clients; hence, why the PCAOB may consider the extent of impacted clients when issuing multiple sanctions.

Conclusion

Audit enforcement continues to be an integral responsibility of the PCAOB in its endeavor to drive continuous improvement in audit quality. Our study enhances the understanding of the violations committed by audit firms and individuals and contributes to the enforcement and ethics literature. Utilizing the 298 SDOs issued by the PCAOB between 2005 and 2020, and drawing upon responsive regulatory theory, we investigate the PCAOB's justifications for issuing various types of sanctions to audit firms and individuals as applied in the SDOs.

Our empirical analysis indicates that violations of auditing standards, independence issues, and reckless behavior (integrity issues and reckless behavior) are associated with the frequency and severity of sanctions imposed on audit firms (individuals). When considering SDOs with monetary penalties, we find that the monetary penalties are higher when there is a lack of cooperation with the PCAOB and if the firm is a Big 4 accounting firm. Monetary penalties are lower for individuals when the audit firm is also implicated in the SDO, indicating that both parties share the financial burden. However, the PCAOB financially penalizes individuals that engage in the manipulation of audit evidence. US-domiciled firms are associated with significantly less severe sanctions.

In summary, the PCAOB's approach to enforcement follows the responsive regulation theory, which is to enhance enforcement in response to non-compliance (Ayres & Braithwaite, 1992). The findings of this study inform stakeholders about settled audit investigations relating to audit and ethical violations. These findings have implications for maintaining and improving audit quality because they highlight areas where gaps are currently present, and that could impede effective audits. By linking firm and individual characteristics to violations, we aim to promote an active consideration of these issues in current auditing practices (Knechel, 2016). Doing so may prevent the types of significant economic consequences that have been created by previous audit firm scandals.

We acknowledge limitations of our study. While the analysis utilizes the entirety of SDOs available as at September 24, 2020, the enforcement of sanctions resulting from the SDOs is likely to entail a significant time lag. Thus, we are unable to control for year fixed effects meaningfully. Further, SDO findings are likely influenced by enhancements to PCAOB standards as well as its inspection focus areas. We encourage future research using qualitative approaches in these areas. Moreover, the PCAOB may not investigate every significant violation perpetrated by auditors, either firms or individuals. Thus, despite our use of the population of publicly available SDOs, these may not be entirely representative of all the audit-related and ethics-related violations within the profession. However, we believe that the consistency in disciplining firms and individuals by a single regulatory body provides a fair depiction of the severity with which regulators may view such auditor misconduct around the world. Future research can also examine the violations in greater detail, particularly concerning the clients associated with the audit firms implicated in the violation. An exploration of the violations concerning specific regulatory influences during the same time may also present a promising avenue for future research.

Appendix A: Example of Dependent Variables Measurement

The summary sanction at the beginning of each SDO provides the necessary inputs to enable us to compute our three dependent variables for the full sample analysis. For example, in 2019, KPMG Bermuda received the following sanction, which we annotate below [*in italics*] to represent the relevant information for the firm- and individual-level models.

> By this Order, the Public Company Accounting Oversight Board ('Board' or 'PCAOB') is: (1) Censuring KPMG Audit Limited ('KPMG Bermuda' or the 'Firm') [*Firm-level*, *CENSURE* (sanction category #3 - Censure)]; (2) Imposing a civil money penalty in the amount of US$250,000 upon the Firm [*Firm-level*, *MONETARY PENALTY* (sanction category #2 - Penalization)]; (3) Requiring KPMG Bermuda to undertake and certify the completion of certain improvements to the Firm's system of quality control [*Firm-level*, *POLICY* (sanction category #4 - Others)]; (4) Censuring Damion J. Henderson, CA (collectively, with KPMG Bermuda, the 'Respondents') [*Individual-level*, *CENSURE* (sanction category #3 - Censure)]; (5) Imposing a civil money penalty in the amount of US$10,000 upon Henderson [*Individual-level*, *MONETARY PENALTY* (sanction category #2 - Penalization)]; and (6) Limiting Henderson's role in the Firm's system of quality control for a period of two (2) years from the date of this Order [*Individual-level*, *ACTIVITY LIMITATION* (sanction category #2 - Penalization)].

1. ***The Number of SDO Sanctions—SANCTION_FREQUENCY***

   At the firm level, *SANCTION_FREQUENCY = 3* owing to three sanction categories being present in this SDO, namely, Censure, Penalization, and Others. At the individual level, *SANCTION_FREQUENCY = 2* owing to two sanction categories being present in this SDO, namely, Censure and Penalization. Note that we do not double-count more than one occurrence of sanctions in a similar category to avoid inflating the dependent variable unnecessarily.
2. ***The Severity of SDO Sanctions—SANCTION_SEVERITY***

This SDO does not involve any prohibition by the PCAOB, that is, firm registration revocation or suspension of license, which we would rate as the most severe sanction receiving a weighting of 4. At the firm level, *SANCTION_SEVERITY = 6* as determined by adding values for the three sanction categories present, namely Censure [3], Penalization [2], and Others [1]. At the individual level, *SANCTION_ SEVERITY = 5* as determined by adding values for the two sanction categories present, namely Censure [3] and Penalization [2].

A. ***The Imposition of Monetary penalty of SDO sanctions—SANCTION_MONETARY***

   SANCTION_MONETARY is an indicator variable equal to one where a monetary penalty is imposed on the implicated individual or firm, zero otherwise. In this example, we assign a value of 1 for both the firm- and individual-level dependent variable since a financial penalty for KPMG, and a CA (Damion J. Henderson) is observable.

B. ***The Magnitude of Monetary penalty of SDO sanctions—MONETARY_AMOUNT***

Before taking the natural logarithm of the dollar amount penalties, we add a nominal value of 1 to all the observations to successfully transform all the observations to reduce skewness—a value of 12.43 results at the firm level for *MONETARY_AMOUNT* based on the logarithm transformation of $250,000. Similarly and at the individual level, the individual faces a $10,000 fine resulting in a logarithmic value of 9.21 for *MONETARY_AMOUNT*.

Appendix B: Variable Definitions

Variable	Definition
Dependent variables	
SANCTION_FREQUENCY	A simple count of the sanction categories (prohibition, penalization, censure, and others) as observed in an SDO
SANCTION_SEVERITY	Sum of observable sanction categories, which are ranked as follows: 4 = prohibition by the PCAOB (revocation of firm registration or suspension of an individual auditor's license); 3 = penalization by the PCAOB (activity limitation and/or monetary penalty); 2 = censure; 1 = other persuasive sanctions relating to training, monitoring, polices, counsel, and review
SANCTION_MONETARY	An indicator variable equal to one where a monetary penalty is imposed on the implicated individual or firm, zero otherwise
MONETARY_AMOUNT	The natural logarithm of (US) dollar penalty imposed by the PCAOB
Test variables	

Variable	Definition
QUALITY_CONTROLS	An indicator variable equal to one where quality control violations are identified, zero otherwise
RULES_STANDARDS	An indicator variable equal to one when the SDO identifies violations of rules relating to the integrated audit of statements, engagement quality review (EQR), internal controls over financial reporting (ICFR) and PCAOB standards, and zero otherwise
RULES_FILINGS	An indicator variable equal to one when the SDO identifies a failure to file annual reports with the PCAOB, non-payment of annual fees or non-filing of Form AP (Auditor Personnel), and zero otherwise
EVIDENCE	An indicator variable equal to one where violations arising from insufficient evidence collection are identified, zero otherwise
INTEGRITY	An indicator variable equal to one where violations are identified in relation to professional care or integrity concerns, zero otherwise
INDEPENDENCE	An indicator variable equal to one where a violation relating to independence concerns are identified, zero otherwise
MANIPULATION	An indicator variable equal to one where violations relating to the manipulation of audit evidence are identified, zero otherwise
RECKLESS	An indicator variable equal to one where violations relating to reckless conduct are identified, zero otherwise
COOPERATION	An indicator variable equal to one where violations relating to the unwillingness to cooperate with PCAOB inspections are identified, zero otherwise
Control variables	
US	An indicator variable equal to one if the auditor is domiciled in the USA, zero otherwise
BIG4	An indicator variable equal to one if the auditor is from a Big 4 firm, zero otherwise
NUM_IND	The number of individuals implicated in a single SDO
AGE	The age of the implicated individual
MALE	An indicator variable equal to one if the implicated individual is male, zero otherwise
BOTH	An indicator variable equal to one if the audit firm and an individual are implicated in the same disciplinary order, zero otherwise
Additional variables	
AUDIT_VIOLATIONS	A sum of the following audit-related indicator variables: *QUALITY_CONTROL, RULES_STANDARDS, RULES_FILINGS, EVIDENCE,* and *COOPERATION*
ETHICAL_VIOLATIONS	A sum of the following ethics-related indicator variables: *INDEPENDENCE, INTEGRITY, MANIPULATION,* and *RECKLESS*

Acknowledgements The authors would like to thank the participants at the Monash University's 2020 Audit Research Pitch-Workshop, especially, Chen Chen, Dean Hanlon, Robyn Moroney, and Xinning Xiao.

Declarations

Conflict of interest The authors declare that they have no conflict of interest.

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