Can Institutional Constraints Curb Innate Personality Traits?

A Study of Audit Engagement Partners

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Abstract

This paper examines whether the facial masculinity of audit engagement partners has an impact on the quality of their audit outputs. Facial masculinity, measured by the facial width-to-height ratio, has been linked by biological and psychological research to high testosterone levels and the underlying aggressive, risk-seeking, status-preserving, and egocentric personality traits in males. We find that on average facial masculinity of engagement partners predicts lower quality financial and audit reports, suggesting that innately aggressive and risk-seeking partners may relax audit standards to retain clients and advance their careers. A notable finding is that we do not observe the effect of facial masculinity for partners of Big 4 accounting firms and accounting firms with low reported audit deficiencies. This evidence suggests that the institutionalized norms and practices of these accounting firms may restrain the innate traits of audit engagement partners and elicit desirable behavior. While contributing to the limited audit research at the partner level, our paper sheds light on the importance of institutional constraints in curbing individuals' natural propensities.

1. Introduction

Studies in biology and psychology suggest that facial masculinity, captured by high facial width-to-height ratio (*fWHR*), is associated with high testosterone levels in males, which in turn manifests into aggressive masculine behavioral traits (e.g., Lefevre et al. 2013, Weston et al. 2007). In laboratory experiments and natural settings, facial masculinity is associated with a complex of masculine personality traits including aggressiveness (Christiansen and Winkler 1992, Carré and McCormick 2008), risk-seeking (Apicella et al. 2008), sensation-seeking (Roberti 2004, Campbell et al. 2010), egocentrism (Wright et al. 2012), competitiveness (Archer 2006, Pound et al. 2009), achievement drive, and status-preservation (Eisenegger et al. 2011). Research shows that facial masculinity and its underlying personality traits can predict morally questionable behavior in some settings (Carré and McCormick 2008, Haselhuhn and Wong 2012). Recent work in the business literature conjectures that individual behaviors associated with facial masculinity can predict corporate outcomes. Empirical studies show that companies led by CEOs with high facial masculinity (*fWHR*) exhibit higher likelihood of financial misreporting (Jia et al. 2014), higher firm riskiness (Kamiya et al. 2019), and higher risk-taking in banks (Ahmed et al. 2019). We question whether these behaviors associated with facial masculinity can be observed even in environments where individual behavior is strictly constrained. The external audit industry provides a unique setting to examine whether extensive institutional guardrails and regulatory oversight discipline an individual's natural tendencies. Specifically, we test whether the audit quality of engagement partners of audit firms is associated with their facial masculinity.

External auditors provide independent assurance to stakeholders about the credibility of a company's financial statements. Since high quality audits are critical to the efficient functioning of capital markets, much of the archival audit literature focuses on the key drivers of audit quality

(DeFond and Zhang 2014). While the bulk of this literature conducts analyses at the audit firm level, audits are led by the engagement partner at a particular practice office, and partners' abilities, expertise, and incentives are not uniform across a given audit firm (Lennox and Wu 2018). That all audits and all auditors are not equal is apparent from the well-known audit failures of the last two decades. A recent PCAOB rule requiring the disclosure of the names of audit engagement partners allows researchers to examine whether partner characteristics and incentives impact the audit quality of U.S. public companies. We exploit the availability of engagement partner names and their photographs to measure each partner's facial masculinity (f*WHR*). We examine whether the innate personality traits associated with facial masculinity of audit engagement partners impact how they conduct audits and the choices they make in forming the audit opinion. Specifically, we examine whether and how facial masculinity relates to the outputs generated in the audit process, namely the quality of clients' financial reports and the audit opinion. As with prior evidence of the impact of *fWHR* on corporate outcomes, we acknowledge the speculative nature of arguments that link facial masculinity, behavioral traits, and individuals' decisions/actions.

We obtain names of audit engagement partners and their clients from the PCAOB database of audit reports issued after January 31, 2017. We find good quality photographs of 1,888 audit engagement partners, from which we measure each partner's facial width-to-height ratio (*fWHR*) following standard procedures. We first establish that the average audit partner exhibits an *fWHR* that falls within the range reported by prior studies for corporate CEOs. Similar to studies on CEOs, we conjecture that the high *fWHR* of audit partners captures the aggressiveness, competitive spirit, and achievement drive of successful individuals. On the one hand, the aggressiveness and risk-taking behavior of high *fWHR* audit partners may induce them to sign off on low quality financial statements and avoid issuing modified audit opinions in order to retain clients. On the other, it is

possible that the egocentric and status-preserving attributes of engagement partners with high *fWHR* could lead them to impose more stringent standards on clients and issue faithful audit opinions in order to preserve their own status and reputation. Moreover, the high level of regulation of the audit industry may restrain idiosyncratic behavior of individual audit partners. Ex ante, it is unclear which of these effects dominate and hence whether the *fWHR* of engagement partners has a positive, negative, or no impact on the quality of audit outputs is an empirical question that we address.

We test the effect of partners' *fWHR* on audit outputs by focusing on multiple proxies of financial reporting and audit quality. We examine two measures of financial reporting quality that can be affected by the audit engagement partner's actions – the client firm's absolute discretionary accruals, and the earnings response coefficient, a measure of earnings quality perceived by the capital market. To measure audit quality, we use audit report aggressiveness, which reflects the engagement partner's threshold for issuing a modified opinion (Gul et al. 2013), and may be more directly influenced by the engagement partner compared to the quality of financial reports. Our analyses further control for client firm characteristics, audit partner incentives and characteristics other than facial masculinity, and employ a rigid fixed effects structure to control for audit firm-year and industry differences.[1] This allows us to strip out variation in "audit style" (Francis, Pinnuck, and Watanabe 2014) and focus only on the variation in auditor characteristics of a given auditor relative to other auditors employed *by the same audit firm in the same year*, while controlling for differences in industry.

To examine the moderating effect of institutional constraints, we differentiate between audit partners that belong to Big 4 versus non-Big 4 audit firms. Big 4 audit firms are known to

[1] Note that facial masculinity and its underlying traits measure the *innate* characteristics of partners that are not subject to incentives and environmental factors that are faced by other "style" variables (e.g., integrity).

have more structured audit practices and procedures, standardized audit tasks, more stringent materiality thresholds, and lower risk tolerance relative to non-Big 4 firms. More importantly, the work of Big 4 partners is subject to checks and balances provided by "Washington national" teams as well as office-level experts, requiring technical consultations and approvals for any unusual aggressive positions involving a partner's discretion and judgment.[2] We hypothesize that any aggressive audit stance a Big 4 partner with high *fWHR* is tempted to take will be moderated by the system of internal controls and other institutional constraints within a Big 4 firm's operations. Thus, we do not expect the *fWHR* of Big 4 partners to impact financial reporting and audit quality.

We find that the *fWHR* of audit engagement partners is positively and significantly associated with their clients' absolute discretionary accruals and audit report aggressiveness, and significantly negatively associated with the earnings response coefficient, consistent with the partners' innate aggressive and risk-seeking traits influencing the quality of their audits. Thus, it appears that, innately aggressive audit partners choose not to impose stricter standards on their clients but instead exhibit leniency in approving financial reports and issuing unmodified audit opinions in order to maintain client relationships and further their own careers. These results also suggest that external regulatory oversight by itself is unable to completely overcome the effect of personality traits and incentives of individual partners. In contrast, a comparison of subsamples of Big 4 and non-Big 4 partners shows that the high *fWHR* of Big 4 partners is not associated with their clients' financial reporting quality or the quality of their audit reports, whereas the high *fWHR* of non-Big 4 partners has a significant adverse effect on quality. This suggests that the standardization of audit practices, effective internal controls, lower risk tolerance, and the

[2] In a recent speech, PCAOB board member Duane DesParte indicated that the PCAOB looks toward quality control approaches and practices implemented by the largest audit firms when assessing potential updates to the Board's quality control standards.

constraints on Big 4 partners' use of discretion and audit judgement has a disciplining effect on the natural aggressive and risk-seeking tendencies of partners.

To further examine the role of institutional practices in curbing aggressive audit reporting behavior, we hand-collect audit deficiencies reported in annual PCAOB inspection reports. The PCAOB conducts periodic inspections of public accounting firms to evaluate compliance with specific laws, regulations, and professional standards when performing audits. Since these inspections are of the audit firm, not individual audit partners, the audit firm-level deficiency rate should serve as a reasonable proxy for the effectiveness of a firm's institutional safeguards that would prevent audit partners' aggressive reporting behavior. Consistent with our expectation, we find the association between partners' *fWHR* and financial reporting and audit quality to be significant only for audit firm-years with high deficiency rates and insignificant for audit firm-years with low deficiency rates. Our collective evidence thus suggests that internal institutional restraints can potentially check the natural propensities of individuals and mitigate unethical behavior.

Cross-sectional analyses also indicate that the effects of high *fWHR* engagement partners on financial reporting and audit quality are concentrated among audits of smaller firms. One interpretation of this finding is that, although aggressive audit partners are willing to take risks to advance their careers, their behavior may be subject to a risk-taking threshold when it comes to large and highly visible clients. The desire to preserve their status and reputation, coupled with the stronger corporate governance, shareholder attention, and regulatory oversight of large clients, appear to moderate the innate aggressiveness of these audit partners.

We make several contributions to the auditing literature. Prior audit research using the audit partner as the unit of analysis has been limited to international samples and proprietary datasets,

which has often yielded mixed results. The recent availability of the names of audit engagement partners in the U.S. allows us to examine the effect of partner characteristics on audit quality, in particular, the partner's facial masculinity that captures innate behavioral traits such as aggressiveness and risk-seeking. While recent work has shown the effect of facial masculinity of CEOs on corporate outcomes (Jia et al. 2014), we inquire into the effects of this characteristic in partners of audit firms – a unique setting that differs from the typical corporate environment. Even though audit engagement partners have the ability to shape their client's financial reporting and have control over their own audit opinion, their actions are restrained by regulatory oversight, self-regulation, and client influence. Notwithstanding these restraints, we find that in general engagement partners with high facial masculinity are associated with lower financial reporting quality of their clients and are likely to issue unmodified audit opinions that depart from expectations. Our results highlight that audit partners are not homogenous and innate partner characteristics play a significant role in explaining the quality of audits. Our evidence thus responds to the call by Lennox and Wu (2018) for more research on the association between partner characteristics and audit outcomes.

Our examination of the effect of individual behavior influenced by facial masculinity and the moderating role of institutional constraints reveals interesting insights. We find evidence suggesting that the effect of innate behavioral traits of partners of Big 4 firms and audit firms with low deficiency rates is mitigated by the structure, standardization, and internal control systems of these audit firms, resulting in higher quality financial and audit reporting of their clients. This finding not only has implications for the audit industry, but also contributes to the general body of research that examines the relationship between personal characteristics and behavior in corporate settings (e.g., Davidson et al. 2015, Bushman et al. 2018, and Davidson et al. 2019). Our evidence

suggests that natural tendencies of individuals can be tempered by institutional and structural constraints (at least partially) and informs the age-old "nature vs. nurture" debate.

The rest of the paper is organized as follows. Section 2 describes the background and hypotheses. Section 3 discusses the data and sample selection. Research design and results are reported in Section 4. Section 5 concludes.

2. Background and Hypothesis Development

2.1 Facial masculinity and individual behavior

Biological studies over the last few decades have concluded that testosterone exposure during adolescence causes craniofacial bone growth (e.g., Lindberg et al. 2005, Nie 2005, Vanderschueren and Bouillon 1995, Verdonck et al. 1999). Lefevre et al. (2013) show that the level of testosterone production in boys during puberty affects facial bone growth as well as the brain's "wiring," and, by extension, some underlying personality traits that persist through time. Consistent with Lefevre et al. (2013), multiple psychological studies have linked the steroid hormone testosterone to a wide variety of masculine behavioral traits, such as aggression, hostility, risk-seeking, career drive, sensation seeking, egocentrism, competitiveness, and a desire to attain and maintain social status (Christiansen and Winkler 1992, Carré and McCormick 2008, Apicella et al. 2008, Archer 2006, Pound et al. 2009, Roberti 2004, among others). As an example, Carré and McCormick (2008) find that differences in the facial width-to-height ratio (*fWHR*) of male varsity and professional ice hockey players are associated with aggressive behavior as measured by the number of penalty minutes per game obtained over a season. The association of testosterone levels with both facial masculinity and masculine behavioral traits leads to the conjecture that facial masculinity can help predict individual behavior. Lefevre et al. (2013) note that the link

between *fWHR* and testosterone might underlie its relation with individual behavior. Thus, *fWHR* is the most commonly used measure of the degree of facial masculinity and is shown to be independent of body size, alleviating concerns about over- or under-weight individuals skewing the measure (Weston et al. 2007).

The use of this measure in the finance and accounting literatures has grown in recent years, specifically in the context of company executives. Relying on prior research that relates high facial masculinity to aggressive and risk-seeking behavior, Jia et al. (2014) examine whether CEOs with high *fWHR* engage in financial misreporting. They find that a CEO's *fWHR* is positively related to the likelihood of an SEC enforcement action against the firm and the likelihood of the CEO being named as a perpetrator. Focusing on the CEO's personal incentives and gains, these authors also find a link between CEO's facial masculinity and the incidence of opportunistic insider trading and options backdating. Supporting the relation between facial masculinity and risk-taking behavior, Kamiya et al. (2019) find that S&P 1500 firms led by CEOs with high *fWHR* exhibit higher firm-level riskiness measured by stock return volatility, financial leverage, frequency and size of acquisitions, and the magnitude of takeover premium. Similarly, Ahmed et al. (2019) report evidence of a link between the *fWHR* of bank CEOs and banks' risk-taking measured by both stock return volatility and idiosyncratic risk. Focusing on hedge fund managers, Lu and Teo (2022) find that hedge funds with high *fWHR* managers underperform and exhibit greater operational risk. They further find that high *fWHR* fund managers are more likely to be associated with failed hedge funds and with regulatory, civil, and criminal violations.

High facial masculinity can have beneficial effects as well. Wong et al. (2011) find that a CEO's facial masculinity is *positively* associated with the firm's financial performance. They attribute their result to *fWHR* being related to a psychological sense of power (Haselhuhn and

Wong 2012), which in turn leads to optimism, a focus on opportunities, and a big picture perspective, resulting in effective leadership and organizational success. Similarly, He et al. (2019) find that the *fWHR* of financial analysts in China is positively associated with forecast accuracy and attribute this effect to their higher achievement drive.

That organizational outcomes are influenced by the personality traits, experiences, and values of top executives can be traced to the "Upper Echelons Theory" first propounded by Hambrick and Mason (1984). Empirical studies have tested the influence of "managerial styles" on corporate decisions and outcomes such as financial reporting (e.g., Davidson et al. 2015). While managerial styles could be as much a result of individual hard-wiring as of corporate or environmental factors, the analysis of facial masculinity and its behavioral implications focuses on an innate individual trait that is free from external influences.[3] We extend prior research on facial masculinity to the domain of external auditors.

2.2 Engagement partner characteristics and audit outcomes

The auditing literature has traditionally used audit-firm or audit-engagement level characteristics as determinants of audit quality. Commonly used predictors of audit quality are auditor size (typically measured as Big-N), industry specialization (Wang et al. 2008, Lennox and Pittman 2010), audit fees and non-audit service fees (DeAngelo 1981, Lim and Tan 2008). Since audit engagements are generally associated with a specific practice office, prior research has also used office-level characteristics as determinants of audit quality (Reynolds and Francis 2001). While partners in an audit firm are clearly not homogenous, there is limited research using partners as the unit of analysis because (until recently) audit engagement partners were not required to be

[3] Prior research has also examined the effect of physical traits such as voice pitch, height, and obesity on various corporate outcomes (e.g., Mayew et al. 2013).

publicly identified in the U.S. As a result, research using partner-level variables has been confined to proprietary datasets or international settings where audit partner identification data is available.

Partners' personal characteristics that are commonly used to explain the quality of audit outputs include age, gender, education, Big-N experience, and expertise. However, these traits fail to exhibit consistent patterns across different audit quality proxies (Gul et al. 2013). Other partner-level and partner-client level variables that capture partners' incentives, including the client's economic importance to the partner, the partner's tenure at the client, and the partner's workload, also produce mixed findings. Using data from China, Chen et al. (2010) examine whether a client's economic importance to an engagement partner (measured as client size relative to the aggregate size of all clients of the partner) affects the likelihood of a modified audit opinion. Similarly, Chi et al. (2012) examine client importance using Taiwanese data. Both studies find mixed results that vary either by sub-period or by audit-firm size (Big-N or not). Examining Australian firms, Carey and Simnett (2006) find that the engagement partner's tenure at a client is negatively associated with the likelihood of a going concern (GC) opinion, implying that close relationships with management developed over longer partner tenure may compromise a partner's independence. On the other hand, partner tenure is found to be negatively associated with discretionary accruals, suggesting *higher* audit quality (Chen et al. 2008, Chi et al. 2012, Chen et al. 2017, Manry et al. 2008). Using Swedish private companies facing imminent bankruptcy, Sundgren and Svanstrom (2014) find that heavy partner workload is associated with lower audit quality. In contrast, Goodwin and Wu (2016) find an insignificant association between partner workload and Australian client-firms' financial reporting quality. In their survey of partner-level audit literature, Lennox and Wu (2018) suggest that the mixed findings of this stream of international research could potentially be attributed to institutional and economic differences in the jurisdictions

examined. Our focus on audit engagement partners responds to their call for more partner-level research.

For audit reports of U.S. firms issued after January 31, 2017, rules issued by the PCAOB and the SEC require audit firms to file Form AP, disclosing the names of engagement partners signing audit reports. This new data availability provides an opportunity to analyze the impact of partner-level variables on the audit quality of U.S. firms that was not possible heretofore. We take this opportunity to examine the extent to which evidence relating to partner characteristics and incentives from international studies applies to U.S. firms. More importantly, we focus on an innate attribute of partners, facial masculinity, and examine if the various behavioral traits generally associated with this attribute have an impact on audit quality.

2.3 Facial masculinity of engagement partner and audit outcomes

While prior research on facial masculinity in the business arena has examined whether the complex of masculine behaviors associated with a CEO's *fWHR* influences the CEO's propensity to misreport or to take excessive risk, we focus on the impact of another dominant player in financial reporting – the audit engagement partner. Audit partners have strong incentives to retain clients and generate fee revenues in order to maintain and advance their status in the audit firm. At the same time, risk of litigation and the ensuing reputation loss may dampen their incentives to retain clients at any cost. Based on a risk-reward trade-off, engagement partners may give in to management pressure in order to maintain good relations with the client, thus compromising their independence and sacrificing audit quality. Since facial masculinity is associated with personal characteristics such as aggressiveness, risk-seeking, status-preserving, and competitiveness, it is plausible that engagement partners with high *fWHR* would strive to retain clients and enhance their status in the audit firm by taking risky audit positions. Thus, high *fWHR* engagement partners may

have a higher propensity to sign off on low quality financial statements and a lower likelihood of issuing modified audit opinions in a timely manner.

On the other hand, there are arguments that support facial masculinity of partners leading to superior quality financial statements and timely qualified/going-concern audit opinions. In addition to aggressiveness and risk-seeking traits, facial masculinity has been associated with egocentrism and an inflated sense of power. The findings of Wong et al. (2011) suggest that these character traits may lead to more effective leadership and strong corporate performance. Egocentric audit partners with a belief in their own power may impose stricter standards on clients and be intolerant of disagreements.

Based on these arguments, the quality of financial statements and audit reports could depend on which of the innate personality traits of high *fWHR* audit partners dominate. As with research on CEOs, we acknowledge that the link between partners' facial masculinity, behavioral traits, and audit outcomes is speculative in nature and suffers from a lack of theory explaining the mechanism through which a particular trait may result in a certain outcome. As such, our discussion above is based on intuitive arguments that support plausible scenarios.

In contrast to CEOs with high *fWHR*, our initial expectation is that audit engagement partners with high *fWHR* are less likely to have an impact (positive or negative) on the quality of financial and audit reports. The rationale for this expectation is that auditing is a tightly regulated industry where auditors are relied upon to be watchdogs for stakeholders, so that personal incentives and traits should have less effect on partners' decisions and actions. Moreover, the auditing standards governing audit practices and procedures coupled with audit oversight by the PCAOB and peer reviews may restrain the decisions and actions of partners with high *fWHR* with regards to their clients' financial reporting and audit quality. Given the competing influence of

different personality traits on audit partner behavior as discussed above and the constrained audit industry environment, the relation between facial masculinity of engagement partners and the quality of audit outputs is ultimately an empirical question.

To assess the quality of audit outputs, we focus on financial reporting quality and the quality of audit reports. DeFond and Zhang (2014) define higher audit quality as greater assurance of high financial reporting quality. We acknowledge that, while auditors significantly influence a firm's financial statements, financial reporting quality is also determined by the firm's accounting system and other innate attributes of the firm and its environment. Our analyses therefore control for firm-specific characteristics when examining the impact of the audit partner's facial masculinity on the firm's financial reporting quality. We also control for audit firm-year fixed effects, because the standardization of audit practices, procedures, materiality thresholds, and risk tolerance within an audit firm-year may lead to consistent audit quality at the audit firm-year level. Finally, we include industry fixed effects.

We analyze multiple proxies of audit/financial reporting quality – discretionary accruals, audit report aggressiveness, and earnings response coefficients, the latter capturing reporting quality as perceived by the capital market. Prior research typically examines financial reporting quality by using earnings quality measures that can (arguably) detect opportunistically managed earnings. Earnings-based measures are also used to capture audit quality, based on the premise that financial statements are jointly produced by the manager and the auditor, and that a high quality audit will likely constrain opportunistic earnings management. While not as egregious as material misstatements, earnings quality measures such as discretionary accruals capture impairment in financial reporting quality and are shown to be associated with SEC enforcement actions (Dechow et al. 1996). Besides, as pointed out by DeFond and Zhang (2014), the continuous nature of

discretionary accruals avoids issues associated with the infrequent occurrence of events such as restatements and SEC enforcement actions especially in small samples.[4]

Prior literature defines aggressive audit reporting as issuing a "clean" or unmodified audit opinion when a modified audit opinion may have been warranted (e.g., Gul et al. 2013, Knechel et al. 2015, Chen et al. 2017). We adapt the method in Gul et al. (2013) to estimate audit report aggressiveness, i.e., a measure of the auditor's threshold for issuing a qualified opinion. Unlike financial reports, this measure of audit quality is an auditor output over which the client has less control. Based on the prior finding that *fWHR* is associated with aggressive and risk-taking behavior and a higher propensity in CEOs to misreport, it is plausible that audit partners with high *fWHR* assume greater risks in order to advance their careers by issuing unqualified audit opinions even when they are not warranted. This would lead to a positive relationship between *fWHR* and audit reporting aggressiveness. On the other hand, due to egocentrism and an inflated sense of power, a partner with high *fWHR* may be intolerant of misreporting by the client, and require audit adjustments before issuing a clean audit opinion or issue a modified audit opinion. Layered on top of these competing behavioral effects is the audit industry regulation and oversight which may prevent partners' aggressive behavior and lead to no relation between *fWHR* and audit reporting aggressiveness. We explore which of these forces has a dominant impact on financial and audit reporting outcomes in the following sections.

We further examine whether the impact of high *fWHR* is lower for partners of Big 4 audit firms, where standardization and internal controls are more effective, risk tolerance is lower, and

[4] Our short sample period, January 2017-June 2020, precludes us from analyzing restatements due to the small sample size. Note that restatements occurring in the early part of our sample period (2017–2018) may relate to misstatements in periods prior to January 2017 for which we do not have audit partner identification. Using data during our sample period and two years thereafter, we find that only 4.3% of firm-years in our sample had misstatements that were later restated (1%) or revised (3.3%).

partners' use of discretion and audit judgement are strictly curtailed. We similarly examine whether the effect of high *fWHR* is less likely for partners of audit firm-years with low deficiency rates reported in PCAOB inspection reports. Overall, we expect institutional constraints and restrictions to rein in partners' natural tendencies, leading to high quality financial and audit reports.

3. Sample and Measurement of *fWHR*

3.1 Sample selection

Table 1 outlines the procedure for obtaining the sample of audit engagement partners in panel A and the client firm-year sample in panel B. We obtain names of audit firms, audit partners, and clients from Form AP (*Auditor Reporting of Certain Audit Participants*) filed with the PCAOB by U.S. registered accounting firms for audit reports issued after January 31, 2017 up to June 15, 2020.[5] Of the 4,022 unique audit partners with one or more U.S. clients during our sample period, 3,701 have at least one client with a valid Compustat identifier. We then proceed to manually collect the photographs of these partners. After applying several filters as explained below, we obtain a final sample of 1,888 unique partners with good quality photographs, resulting in 9,351 firm-year observations. Excluding firms in the financial industry (SIC 6000-6999) and utilities (SIC 4900-4999) further reduces the sample size to 6,790 observations. After deleting observations with missing information relevant to each of our specifications, the final samples consist of 5,363 firm-year observations, corresponding to 1,310 unique partners, for the financial reporting quality analyses, and 6,348 firm-year observations, corresponding to 1,400 unique partners, for the audit reporting aggressiveness analyses.

[5] Accessed from the PCAOB's *AuditorSearch* database at https://pcaobus.org/Pages/AuditorSearch.aspx. We restrict our search to audit report type "Issuer, other than Employee Benefit Plan or Investment Company".

3.2 Photographs of audit partners and measurement of fWHR

We require good quality pictures of audit partners for measuring their facial width-to-height ratio (*fWHR*). We conduct an extensive search and collect photographs from partners' LinkedIn profiles, audit firms' official websites, and google images/business journals. We find 2,696 partners with measurable photographs. We exclude 501 pictures of female partners, since the *fWHR* measure is found to be valid only for capturing characteristics of males (Jia et al. 2014). From the remaining 2,195 photographs, we exclude 307 photographs with low resolution, tilted faces, non-neutral facial expressions, and those with dark glasses. Our final sample includes 1,888 male audit partners with good quality pictures from which we can reliably measure *fWHR*.[6] We calculate *fWHR* for each partner using the "face_recognition" package in Python that first analyzes facial features and identifies key points as the basis of measurement. The algorithm then measures the facial width, the difference between the two points at the very left and right of the eyes, and the upper-face height, the distance between the upper lip and the highest point of the eyelid.[7]

4. Empirical Analyses

4.1 Descriptive statistics

Table 2 reports the summary statistics for the sample used in the analyses of audit report aggressiveness. Variables are defined in Appendix 1. Continuous variables are winsorized at the 1% and 99% levels. For the audit partners in our sample, we obtain a mean *fWHR* of 2.1, which falls within the range (1.96 to 2.14) reported for corporate CEOs by prior studies (e.g., Wong et

[6] We use Face++ facial recognition software to obtain pitch, roll, and yaw angles of facial pictures and exclude pictures tilted by more than 45 degrees to ensure reliable measurements of *fWHR*.

[7] While the use of an algorithm to measure *fWHR* is less susceptible to human error than manual measurement, we validate the accuracy of our algorithmic measurement by calculating facial width and height by hand for a random sample of 50 audit partners. The average *fWHR* of this random subset of partners is not substantially different in magnitude when the calculation is algorithmic or manual (2.12 vs. 2.14).

al. 2011, Jia et al. 2014, Ahmed et al. 2019). This is consistent with audit partners having similar competitive spirit, achievement drive, and desire for status and power as other successful individuals such as CEOs. Audit partners in our sample have a mean age of 48 years and about 15% have a Master's degree.[8] Among client-level variables, 49% of client firms report losses, 21% issue stock or debt, and 35% have a CEO who is also the Chairman of the board (*Dual*).

4.2 Engagement partner's fWHR and financial reporting quality

In this section, we test our hypothesis that high *fWHR* audit partners are associated with lower financial reporting quality of their clients as captured by absolute discretionary accruals.

4.2.1 Research design

We estimate the absolute value of discretionary accruals using the Modified-Jones model as implemented by Kothari et al. (2005). We use performance-matched absolute discretionary accruals (*PM ADA*) as well as performance-adjusted absolute discretionary accruals (*PA ADA*). We estimate the following modified-Jones cross-sectional regression within industry-year:

$$TA_{it} = a_0 + a_1 (1/AT_{it-1}) + a_2 (\Delta Rev_{it} - \Delta AR_{it}) + a_3 PPE_{it} + \varepsilon_{it} \quad (1)$$

where the dependent variable, *TA*, is total accruals computed as income before extraordinary items and discontinued operations minus operating cash flows, *AT* is total assets, ΔRev is the change in revenues from the prior to the current year, ΔAR is the change in accounts receivable from the prior to the current year, and *PPE* is the gross book value of property, plant and equipment. *TA,* ΔRev, ΔAR, and *PPE* are deflated by total assets at the end of the prior year (AT_{it-1}). For each firm, *PM ADA* is calculated as the absolute value of the residual from regression (1) minus the absolute value of the residual for a firm within the same industry-year with the closest value of ROA_{t-1},

[8] (Approximate) partner's age is inferred from LinkedIn profile photos using a proprietary algorithm developed by Face++. Master's level education is determined from self-declared educational experience on the Linkedin platform. We acknowledge that both these variables are subject to measurement error.

where *ROA* is measured as income before extraordinary items deflated by total assets at the end of the prior year. *PA ADA* is calculated similarly, but instead of firm-by-firm matching, ROA_{t-1} is included in regression (1) as an additional independent variable and the absolute value of each firm's residual from the modified regression (1) is used as the measure of absolute discretionary accruals.

Next, in order to test how the innate aggressiveness of audit partners impacts the accruals quality of their clients, we employ the following regression model:

$$PM(PA)\ ADA_{it} = a_0 + a_1 fWHR_j + a_2 Partner\ Age_j + a_3 Master_j + a_4 Client\ Importance_{ijt} + a_5 First\text{-}Year\ Audit_{iat} + \Sigma a_f\ Client\text{-}Firm\ Controls_{it} + \delta_k + \lambda_{at} + \varepsilon_{it} \quad (2)$$

where the independent variable of interest, $fWHR_j$, is the facial width-to-height ratio of engagement partner *j* and serves as our measure of the innate aggressiveness/risk-taking/status-preserving traits of the partner. If these traits result in the audit partner allowing the client to engage in aggressive financial reporting, we expect the coefficient on *fWHR*, a_1, to be positive and significant. We control for a number of other partner-level characteristics (denoted by subscript *j*) that could potentially impact the audit process. *Partner Age* is the age of the audit partner. *Master* is a binary variable that equals one if a Master's degree is reported on the partner's LinkedIn profile, otherwise zero. *Client Importance* equals the total assets of a client divided by the total assets of all clients of the audit partner in that year. We also include a control variable at the auditor-client level, *First-Year Audit*, which is a binary variable that equals one if client firm *i* appoints a new auditor *a* in a given year *t*, otherwise zero. A newly appointed audit firm is likely to face many transition issues that could impact audit quality.[9]

[9] Using proprietary data, Bell et al. (2015) find lower audit quality in the first year of audit; however, Cassell et al. (2020) find this to be true only when a new auditor comes in during the 4th quarter.

Extant literature has included a wide variety of client controls to limit the likelihood of correlated omitted variables (e.g., Doyle et al. 2007, Hribar and Nichols 2007, and Ashbaugh-Skaife et al. 2008, Krishnan et al. 2011). We include the commonly employed client firm-level control variables (denoted by subscript *i*). *Size* is the natural logarithm of total assets, *Leverage* is measured by short-term debt plus long-term debt divided by total assets, and *MTB* is the market-to-book ratio, measured as the market value of equity divided by the total book value of equity. We include *MTB* because growth firms (with high values of *MTB*) may be more concerned with meeting earnings benchmarks and, as a result, may be more likely to manage earnings (Matsumoto 2002). *Size*, *Leverage*, and *MTB* are all measured at the end of the fiscal year. *Loss* is an indicator variable that equals one if the firm reports a net loss during the current year, otherwise zero. We include *OCF*, cash flow from operations scaled by total assets at the end of the prior year, because discretionary accruals models are not able to completely remove non-discretionary accruals which are negatively correlated with cash flows (Ashbaugh et al. 2003, Ali and Zhang 2015). *Sales Growth* is the percentage change in sales from the prior to the current year. *Op Cycle* is the sum of inventory and the accounts receivable periods. We include the volatility of sales (*SalesVol*) and the volatility of operating cash flows (*OCFVol*) to capture the volatility in accruals that is inherently related to a firm's operations. As shown by Hribar and Nichols (2007), excluding these variables can lead to severe misspecification of absolute discretionary accruals models. The volatility measures are calculated over a maximum of ten prior years and are scaled by total assets at the end of the prior year. Prior research has shown that firms who issue debt or equity are more likely to manage their earnings. As a result, we include a binary variable *issuer* which equals one if the firm has issued debt or equity in the current year, otherwise zero. In order to parsimoniously control for the power of the CEO relative to the board, we include the binary variable *Dual*, which

equals one if the CEO is also the Chairman of the board, otherwise zero. Finally, we utilize a rigid fixed effects structure. We include industry fixed effects, δ_k, to control for various industry factors that may affect reporting outcomes. Since we are focusing on an individual partner's attributes, we include auditor-year fixed effects, λ_{at}, which allow us to strip out all observable and unobservable factors that do not vary within an auditor-year. Separately, we split the auditor-year fixed effects into two separate fixed effects (auditor and year) with similar results. Results are based on robust standard errors clustered by firm.

We are hesitant to draw causal conclusions without a random assignment of audit partners. However, we believe that our research design helps to mitigate endogeneity concerns. For example, in a similar spirit to Jia et al. (2014), endogeneity issues related to the 2-sided matching process of firm to audit-partner are reduced to the extent that our measure of innate traits of audit partners is directly related to the matching process. In addition, we include covariates from both sides of the match in our regressions. Further, we try to parse out the specific mechanism - lax institutional controls - through which innate characteristics can affect the audit process. We do this by examining the effects in the cross-section. Thus, an omitted variable would not only have to be related to a given partner's innate characteristics, but it would also have to differentially correlate with those same characteristics in the institutional controls cross-sections. Finally, we include a robust fixed effects structure that includes auditor-year fixed effects and industry fixed effects. As a result, we are exploiting variation in auditor characteristics between a given auditor and other auditors employed *by the same audit firm in the same year*, while controlling for differences in industry.

4.2.2 Results - Financial reporting quality

The results from regression (2) are reported in Table 3.[10] Across specifications, *fWHR* is positive and significant at the 5% level or better.[11] This is consistent with the innate aggressiveness of the engagement partner having a significant impact on financial reporting quality. Thus, it appears that aggressive partners are more likely to allow aggressive financial reporting rather than constrain it. Using *PM ADA* and our most rigid fixed effects structure, column (2) reports a coefficient estimate on *fWHR* of 0.040. A one standard deviation increase in the *fWHR* of the engagement partner is associated with about a 0.64 percentage point increase in *PM ADA*, which is economically meaningful. The other partner characteristics are largely insignificant (except for a positive relation between *First-Year Audit* and *PA ADA*), suggesting that the aggressiveness of the audit partner may be the defining personal characteristic as it relates to the audit process.

As expected, the relationship between a number of firm characteristics and absolute discretionary accruals is statistically significant. Consistent with Hribar and Nichols (2007), the coefficient estimates on both volatility measures, *SalesVol* and *OCFVol*, are positive and significant. The relations between the remaining control variables and absolute discretionary accruals are largely consistent with prior literature. Overall, the results in Table 3 suggest that the aggressiveness and risk-taking traits of engagement partners, captured by their *fWHR*, have a significant negative impact on the quality of their clients' financial reporting.

4.3 Engagement partner's fWHR and audit report aggressiveness

In this section, we test whether high *fWHR* audit partners are associated with lower audit quality measured by the aggressiveness of audit reports.

[10] In this and subsequent tables, the number of observations varies slightly depending on fixed effects structure. Specifically, if auditor by year fixed effects are included then there is a reduction in the sample size due to an increase in singletons. Further, if the sample is split into subsamples then there may be additional singletons, and thus, slightly fewer observations.

[11] Our main inferences are robust to using above/below median indicator variable for *fWHR*.

4.3.1 Research design

Following Gul et al. (2013) and Chen et al. (2017), we construct an audit reporting aggressiveness measure (*ARAgg*) that increases when an auditor issues a clean opinion in spite of a higher predicted probability of a modified opinion. To construct *ARAgg*, we first define an indicator variable, *Mod Op*, that equals one if the auditor issues a modified audit opinion, and zero otherwise. Next, we estimate a logistic regression to estimate the predicted probability of modified opinion issuance as follows:

$$Mod\ Op_{it} = \beta_0 + \beta_1 Quick_{it} + \beta_2 Receivables_{it} + \beta_3 Inventory_{it} + \beta_4 ROA_{it} + \beta_5 Loss_{it} + \beta_6 Leverage_{it} + \beta_7 Size_{it} + \beta_8 Company\ Age_{it} + \beta_9 Dual_{it} + \varepsilon_{it} \quad (3)$$

Following Gul et al. (2013) and Chen et al. (2017), we include *Quick*, *Receivables*, *Inventory*, *ROA*, *Loss*, *Leverage*, *Size*, and *Company Age*, as determinants of modified versus clean audit opinion. We additionally include *Dual* as an independent variable because we expect a powerful CEO to have greater bargaining power over the auditor which may influence the audit opinion. We estimate regression (3) for the full sample by year to obtain the predicted probability of a modified opinion, *Pr Mod Op*, and generate *ARAgg* as the difference between *Pr Mod Op* and *Mod Op*. Thus, greater values of *ARAgg* suggest that the auditor is less likely to issue a modified opinion than is predicted from the full sample.

To empirically examine the role of an engagement partner's innate aggressiveness in determining the quality of the audit report, we employ the following regression:

$$ARAgg_{it} = \beta_0 + \beta_1 fWHR_j + \beta_2\, Partner\ Age_j + \beta_3 Master_j + \beta_4 Client\ Importance_{ijt} + \beta_5 First\text{-}Year\ Audit_{iat} + \Sigma\beta_n Client\text{-}Firm\ Controls_{it} + \delta_k + \lambda_{at} + \varepsilon_{it} \quad (4)$$

where *fWHR* is the facial width-to-height ratio of audit partner *j* and is our proxy for innate aggressiveness and risk-seeking behavior. If these traits result in audit partners issuing aggressive

audit reports in order to retain clients and advance their careers, we expect the coefficient on *fWHR*, β_1, to be positive and significant. Consistent with prior literature, we include client-firm level variables (*Client-Firm Controls*), *Quick*, *Receivables*, *Inventory*, *ROA*, *Loss*, *Leverage*, *Size*, *Company Age*, and *Dual*, and partner-level variables used in regression (2), *Partner Age*, *Master*, *Client Importance*, and *First-Year Audit*. We utilize the same rigid fixed effects structure as in regression (2), including industry and auditor-year fixed effects and separately, auditor and year fixed effects.

We construct two measures of *ARAgg* based on alternate interpretations of what constitutes a modified opinion. First, we measure *ARAgg1* by defining modified audit opinions consistent with prior literature (e.g., Knechel et al. 2015, Chen et al. 2017), where an audit report that deviates from the standard, unmodified form in any way is considered to be modified (*Mod Op1*). The second measure, *ARAgg2*, is constructed based on an alternate view of a modified opinion (*Mod Op2*), where an audit report containing an explanatory paragraph is considered unmodified as long as the explanatory paragraph is not related to a going concern issue.[12] Typically, explanatory paragraphs that do not reference a going concern issue are used to draw attention to an audit-relevant matter such as a change in accounting principle that arguably does not modify the opinion. Appendix 2 includes two examples of such explanatory paragraphs included in audit reports. While a case for classifying audit reports with such explanatory paragraphs as unmodified can be made because they may not substantively change the audit opinion, on the other hand, the choice to exclude such paragraphs may be a matter of audit judgement and could be construed as aggressive audit reporting. Accordingly, we include both measures of *ARAgg* in our analyses.

4.3.2 Results – Audit report aggressiveness

[12] We use the Compustat variable *auop* to classify audit opinions. We detail the procedure for generating *Mod Op1* and *Mod Op2* for *ARAgg1* and *ARAgg2*, respectively, in the variable definitions in Appendix 1.

We report the results of regression (4) in Table 4. We find that *fWHR* is significantly positively associated with both measures of *ARAgg* under both fixed effects specifications, consistent with innately aggressive partners issuing more aggressive audit reports. Partner characteristics are largely insignificant, suggesting that *fWHR* is the dominant attribute of the audit partner that impacts the audit process and outcome. Among client-firm control variables, *Size* has a significant positive relation with *ARAgg1*, suggesting that larger firms are associated with more aggressive audit reports (consistent with Chen et al. 2017). *Loss* exhibits a positive correlation with *ARAgg1*, consistent with Gul et al. (2013). Overall, the results in Table 4 broadly support the idea that innately aggressive audit partners do not tend to pursue misstatements more aggressively or impose stricter standards on their clients, instead favoring career advancement at the expense of assuming more risks to maintain client relationships. This suggests that behaviors associated with facial masculinity such as risk-taking (e.g., Apicella et al. 2008, Kamiya et al. 2019, Ahmed et al. 2019, Lu and Teo 2022) and propensity to misreport (Jia et al. 2008) dominate in this setting despite the fiduciary nature of the audit industry and the high level of regulation.

4.4 Effect of Institutional Constraints

Tables 3 and 4 show an on-average negative relation between the audit partner's innate aggressiveness and financial and audit reporting quality, consistent with behaviors associated with high degrees of facial masculinity. We further explore whether institutional constraints internal to the audit firm moderate an individual partner's personality traits and dampen their effect on audit outputs.

4.4.1 Big 4 versus Non-Big 4

In this section, we examine whether the impact of audit partners' innate aggressiveness on financial reporting and audit quality depends on whether the partner belongs to a Big 4 or a non-

Big 4 audit firm. Big 4 audit firms are traditionally associated with the highest levels of audit quality (Francis 2004, DeFond and Zhang 2014). Relative to non-Big 4 audit firms, Big 4 firms are known to have more structured audit practices and procedures, standardization of audit tasks, and more stringent thresholds to deal with ambiguous or grey areas such as materiality assessments. To maintain audit quality in the face of higher litigation threat due to their "deep pockets," Big 4 firms base their client selection and renewal on thorough risk assessments. Ethical violations by Big 4 auditors of high-profile publicly traded companies generate significant negative publicity and put client retention at greater risk. To ensure high audit quality, the work of Big 4 partners is subject to checks and balances provided by their "Washington national" teams as well as office-level experts. Strict requirements for technical consultations and approvals for any unusual aggressive positions are imposed to constrain the amount of discretion that an individual partner can utilize in the audit process. It is therefore likely that the rigorous system of internal controls and other institutional restraints within a Big 4's work environment will moderate any aggressive audit positions a Big 4 partner with high *fWHR* would otherwise take.[13] Thus, we predict that the effect of high *fWHR* on the financial and audit reporting quality of clients will be attenuated if the partner is at a Big4 audit firm.

In panel A of Table 5, we report the results of regressions (2) and (4) each estimated separately for subsamples of firms with Big 4 and non-Big 4 audit partners. Results for absolute performance-adjusted discretionary accruals (*PA ADA*) are reported in columns (1) and (2), and those for audit report aggressiveness (*ARAgg1*) in columns (3) and (4). We find that the association

[13] We interviewed several partners of Big 4 and non-Big 4 audit firms who revealed some important distinctions in the working of these audit firms. In the Big 4 audit firms, decisions around potentially questionable positions are required to be vetted by in-house quality assurance personnel, reviewing partners are required to participate as active engagement team members, audits are treated as year-round engagements, and improvements to processes are recognized and implemented speedily due to greater familiarity with the PCAOB inspection process. Further, frequent inter-office peer reviews by partners aim to avoid conflicts of interest and provide input for performance evaluations.

between *fWHR* and *PA ADA* (column 1) as well as *ARAgg1* (column 3) is positive and significant for client firms with non-Big 4 audit partners. On the other hand, audit partners' *fWHR* has an insignificant effect on discretionary accruals and audit report aggressiveness for clients with Big 4 auditors (columns 2 and 4). In both cases, the difference in coefficients between Big 4 and non-Big 4 are significant.[14] The insignificant coefficients for Big 4 clients reported in columns (2) and (4) suggest that the aggressiveness of Big 4 audit partners does not impact their clients' financial reporting quality or the quality of their audit reports.

4.4.2 Audit Firm Deficiency Rates

While the Big 4 and non-Big 4 dichotomy serves as a reasonable measure of audit quality, non-Big 4 firms may also have stringent policies and standards and deliver high quality audit reports. Similarly, the implementation of various internal policies may not be uniform across the Big 4 firms. We address this issue by examining a more granular measure of audit quality – audit firm-level deficiency rates revealed by PCAOB inspections. The PCAOB conducts inspections of registered audit firms to evaluate each firm's compliance with legal and regulatory requirements and professional standards that govern the audit function. The PCAOB assesses the audit firm's quality control and reviews selected portions of audit processes and workpapers. Inspections occur at least once every three years for audit firms with fewer than 100 public clients and annually for audit firms with more than 100 public clients.

Part 1.A of a firm's inspection report describes audit deficiencies of such significance that it appears to the PCAOB that the audit firm had not obtained sufficient and appropriate evidence in support of its opinion on the client's financial statements and internal control. We manually collect audit firms' PCAOB inspection reports during our sample period. For each audit firm, we

[14] We make a directional prediction concerning institutional constraints. As a result, we report one-tailed P-values for the test of differences in coefficients in Table 5.

identify (1) the total number of audits reviewed by the PCAOB and (2) the number of audits with Part I.A deficiencies. We then calculate the deficiency rate as the number of audits with deficiencies scaled by the total number of audits of the firm reviewed by the PCAOB.[15] Since these inspections are of the audit firm, not individual audit partners, they should accurately proxy for the firm's institutional safeguards that would prevent audit partners' aggressive financial and audit reporting behavior.

Panel B of Table 5 reports the results of regressions (2) and (4) each estimated for separate subsamples of companies whose audit firm deficiency rate falls in the top versus bottom tercile (*High Deficiency* and *Low Deficiency*, respectively).[16] Results for absolute performance-adjusted discretionary accruals (*PA ADA*) are reported in columns (1) and (2), and those for audit report aggressiveness (*ARAgg1*) in columns (3) and (4). We find that the association between *fWHR* and *PA ADA* (column 1) as well as *ARAgg1* (column 3) is positive and significant for client firms with audit partners from high deficiency audit firm-years. On the other hand, audit partners' *fWHR* has an insignificant effect on discretionary accruals and audit report aggressiveness for clients with auditors from low deficiency audit firm-years (columns 2 and 4). The test of difference in coefficients indicates that the differential effect on financial and audit reporting quality is marginally significant. Overall, the results in Table 5 suggest that appropriate institutional and structural restraints can (at least partially) control the natural tendencies of individuals and elicit desired behavior. As such, in addition to its obvious relevance in the audit literature, our evidence has implications for the extensive body of research on human behavior.

[15] Since not all audit firms are inspected annually, missing deficiency rates are linearly interpolated from available reports in adjacent years. For example, if audit firm A received PCAOB reports in year 2017 with a deficiency rate of 0.2 and in year 2019 with a deficiency rate of 0.6, the missing value in 2018 is filled with a linear interpolation of 0.4.
[16] We partition companies into subsamples using terciles of audit firm deficiency rates. Splitting on the median produces unbalanced subsamples because a substantial number of audit firms are exactly at the median so that the subsample size depends on whether the median is included in the high or the low deficiency group. Terciles still produce unbalanced subsample sizes, but to a lesser extent than using the median.

4.5 Client-firm size

In this section, we provide exploratory evidence on the effect of client-firm size on the relation between partners' *fWHR* and financial and audit reporting quality. Since large firms have better internal controls, competent audit committees, stronger corporate governance, and are subject to stricter scrutiny by investors and regulators, they are less likely to engage in aggressive reporting and in turn less likely to demand accommodations from auditors. Consistently, aggressive audit partners may choose to impose stricter standards on larger client firms to preserve their status and reputation. Moreover, partners may likely perceive audits of large clients as the most prestigious and their achievement drive may motivate them to devote more time and attention to their larger clients leading to less aggressive financial and audit reporting. On the other hand, given audit partners' strong incentives to retain large clients and generate and maintain fee revenues, aggressive and risk-seeking partners may be motivated to allow aggressive reporting and issue unmodified opinions for their larger clients. In this section, we examine whether the negative effect of high *fWHR* audit partners on financial and audit reporting quality is muted or magnified for large-sized clients.

Table 6 reports the results of regressions estimated separately for two subsamples partitioned on the median firm size of clients. We report results of regression (2), explaining absolute performance-adjusted discretionary accruals (*PA ADA*), in columns (1) and (2), and results of regression (4), explaining audit report aggressiveness (*ARAgg1*), in columns (3) and (4). We find that the association between *fWHR* and *PA ADA* (column 1) as well as *ARAgg1* (column 3) is positive and significant for the subsample of small client firms but insignificant for the subsample of large client firms (columns 2 and 4), and the difference in coefficient estimates is

significant in both cases.[17] The insignificant results for large clients suggest that the aggressiveness of audit partners does not impact the financial reporting quality or the quality of audit reports of large clients. It appears that, while aggressive audit partners are willing to take risks to advance their careers, they also have a strong achievement drive and the desire to preserve their status and reputation. Thus, audit partners' aggressive behavior seems to be subject to a risk-taking threshold, which in combination with the stronger corporate governance of large clients moderates the innate aggressiveness of audit partners.

4.6 Perceived financial/audit quality

In this section, to provide market-based evidence, we explore the relation between audit partners' *fWHR* and the quality of their clients' financial and audit reporting as perceived by investors, using the earnings response coefficient (ERC). Prior audit research has used the ERC as a measure of investor perception of audit quality (DeFond and Zhang 2014) and shown that audit firm and audit partner characteristics are associated with ERCs (e.g., Teoh and Wong 1993, and Aobdia et al. 2015). Consistent with prior studies, we expect the ERC to be lower for clients of audit partners with high *fWHR*, if the perceived quality of financial/audit reporting is low. Specifically, we estimate the following regression:

$$CAR[0,1]_{it} = \beta_0 + \beta_1 Earnings\ Surprise_{it} * fWHR_j + \beta_2 fWHR_j + \beta_3 Earnings\ Surprise_{it} + \Sigma\beta_n Controls_{it} + \delta_k + \lambda_{at} + \varepsilon_{it} \quad (5)$$

where the dependent variable, *CAR*[0,1], is the cumulative abnormal return over days 0 and +1 around the annual earnings announcement date. *Earnings Surprise* is measured by the annual change in EPS scaled by price at the end of the fiscal year. The variable of interest is the interaction

[17] In our cross-sectional analysis, we report results using the more restrictive auditor-year fixed effects structure; the results remain unchanged when we include auditor and year fixed effects separately. We obtain substantially similar results using performance-matched discretionary accruals (*PM ADA*), Modified- Jones model discretionary accruals, and *ARAgg2*.

term, *Earnings Surprise* fWHR*. If the innate aggressiveness and risk-seeking trait of audit partners with high *fWHR* results in lower financial/audit quality in the investors' perception, we expect β_1 to be negative and significant. We include multiple client firm and audit partner characteristics as control variables. Controls for partner characteristics include *Partner Age*, *Master*, *Client Importance*, and *First Year Audit*, and client-level characteristics include *Size*, *Market-to-Book*, *Leverage*, *Loss*, and *Dual*, also used in regression (2). As in regressions (2) and (4), we employ a rigid fixed effects structure by including industry, year, and auditor fixed effects.

The results of regression (5) are reported in Table 7 using alternative specifications, similar to Aobdia et al. (2015). Column (1) reports the baseline regression results with industry, auditor, and year fixed effects. Column (2) reports results with auditor fixed effects and the interaction of both industry and year fixed effects with *Earnings Surprise*. Column (3) reports results with the interaction of industry fixed effects with *Earnings Surprise* and auditor-year fixed effects with *Earnings Surprise*. Column (4) reports results with the interaction of industry fixed effects with *Earnings Surprise*, auditor-year fixed effects with *Earnings Surprise*, and the interaction of control variables with *Earnings Surprise*. Consistent with our expectations, β_1 is significantly negative in all columns (at the 5% level), suggesting that audit partners' *fWHR* is strongly associated with low perceived financial and audit reporting quality as gauged by investors.

5. Conclusion

The role of an external auditor is to render an independent and unbiased opinion about the integrity of a firm's financial statements. The incidence of frequent accounting scandals questions the independence of auditors and, consequently, audit quality. While an extensive stream of academic literature has examined the determinants of audit quality, much of the research has been

conducted using the audit firm as the unit of analysis. Yet, an audit is administered by the engagement partner, and partner qualities and characteristics likely shape audit outcomes. We add to the recent spurt in partner-level research (largely restricted to international settings) by examining partner-level data recently made available for U.S. firms. While partner characteristics such as age, education, experience, networks, etc. can be correlated with environmental factors, we focus on an innate attribute of the audit partner – facial masculinity – which is known to be associated with various behavioral traits, such as aggressiveness, risk-seeking, and status-preserving, and investigate whether these underlying traits have an effect on audit outcomes.

Consistent with prior research, we measure facial masculinity by the facial width-to-height ratio (*fWHR*), which is found to be associated with testosterone levels in males, manifesting into aggressive masculine behavior. Recent studies show that companies led by CEOs with high *fWHR* exhibit a higher likelihood of financial misreporting. Unlike CEOs, it is hard to predict how the aggressiveness, risk-seeking, and status-preserving traits of audit partners with high *fWHR* will affect audit outcomes. While these innate traits may lead partners to make unethical audit decisions to retain clients and advance their careers, it is also possible that these partners may impose more stringent standards on clients to preserve their status and reputation. Moreover, auditors' actions are restrained by regulation, self-regulation, and client influence, which could moderate the aggressive tendencies of high *fWHR* audit partners.

Notwithstanding these restraints, our results show that the *fWHR* of audit engagement partners has a positive and significant association with their clients' absolute discretionary accruals as well as audit report aggressiveness, consistent with the innate aggressive and risk-seeking traits of these individuals adversely impacting the quality of audit outputs. Thus, it appears that audit partners who are innately aggressive are lenient towards clients when approving financial reports

and issuing audit opinions. Our examination of whether institutional constraints can moderate individuals' innate tendencies shows that the high *fWHR* of Big 4 partners has no significant impact on their clients' financial and audit reporting quality. We conjecture that the internal restrictions and safeguards embedded in a Big 4's audit practices and operations may restrain the aggressive propensities of high *fWHR* partners and mitigate unethical behavior. Further focusing on a more granular measure of audit quality – the deficiency rate reported by PCAOB inspections of audit firms – shows that the effect of high *fWHR* audit partners on audit outputs is significant for high deficiency audit firms but not for low deficiency firms. Thus, our evidence suggests that strict institutional constraints can rein in individuals' natural tendencies and curb undesirable behavior.

Overall, our paper highlights that audits and audit partners are not homogenous and innate characteristics of engagement partners can affect the quality of audits. Our investigation also reveals that there are varied behavioral attributes underlying facial masculinity, which interact and at times compete, so that the impact of facial masculinity on individual actions is not always predictable. Our evidence suggests that institutional constraints can mitigate the impact of innate behavioral traits and lends support to the profession's use of oversight tools such as PCAOB inspections and peer reviews to promote strong systems of quality control in audit firms. The distinctive features of the auditing industry enable us to shed light on how environmental factors can moderate "nature", adding to the extensive research on human behavior.

References

Ahmed, S., J. Sihvonen, and S, Vahamaa, 2019, CEO facial masculinity and bank risk-taking, *Personality and Individual Differences*, 138: 133-139.

Ali, A., and W. Zhang, 2015, CEO tenure and earnings management, *Journal of Accounting and Economics*, 59: 60–79.

Aobdia, D., C.J. Lin, and R. Petacchi, 2015, Capital market consequences of audit partner quality, *The Accounting Review*, 90 (6): 2143-2176.

Apicella, C., A. Dreber, B. Campbell, P. Gray, M. Hoffman, and A. Little, 2008, testosterone and financial risk preferences, *Evolution and Human Behavior*, 29 (6): 384-390.

Archer, J., 2006, Testosterone and human aggression: An evaluation of the challenge hypothesis, *Neuroscience and Biobehavioral Reviews*, 30 (3): 319-345.

Ashbaugh, H., R. LaFond, and B. Mayhew, 2003, Do non-audit services compromise auditor independence? Further evidence, *The Accounting Review*, 78: 611–639.

Ashbaugh-Skaife, H., D. Collins, W. Kinney Jr., and R. LaFond, 2008, The effect of SOX internal control deficiencies and their remediation on accrual quality, *The Accounting Review*, 83: 217–250.

Bell, T., M. Causholli, and W. Knechel, 2015, Audit firm tenure, non-audit services, and internal assessments of audit quality, *Journal of Accounting Research* 53 (3): 461-509.

Bushman, R., R. Davidson, A. Dey, and A. Smith, 2018, Bank CEO materialism: Risk controls, culture and tail risk, *Journal of Accounting and Economics*, 65 (1): 191-220.

Campbell, B., A. Dreber, C. Apicella, D. Eisenberg, P. Gray, A. Little, J. Garcia, R. Zamore, and J. Lum, 2010, Testosterone exposure, dopaminergic reward, and sensation-seeking in young men, *Physiology & Behavior*, 99 (4): 451-456.

Carey, P. and R. Simnett, 2006, Audit partner tenure and audit quality, *The Accounting Review*, 81 (3): 653-676.

Carre, J., and C. McCormick, 2008, In your face: Facial metrics predict aggressive behavior in the laboratory and in varsity and professional hockey players, *Proceedings of the Royal Society B*, 275: 2651-2656.

Cassell, C., J. Hansen, L. Myers, and T. Seidel, 2020, Does the timing of auditor changes affect audit quality? Evidence from the initial year of the audit engagement, *Journal of Accounting, Auditing & Finance* 35 (2), 263-289.

Chen, C.Y., C.J. Chan, and Y.C. Lin. 2008. Audit partner tenure, audit firm tenure, and discretionary accruals: Does long auditor tenure impair earnings quality? *Contemporary Accounting Research* 25 (2): 415-445.

Chen, S., S. Sun, and D. Wu, 2010, Client importance, institutional improvements, and audit quality in China: An office and individual auditor level analysis, *The Accounting Review*, 85 (1): 127-158.

Chen, X, Y. Dai, D. Kong, and W. Tan, 2017, Effect of international working experience of individual auditors on audit quality: Evidence from China, *Journal of Business Finance and Accounting*, 44: 1073-1108.

Chi, W., D. Douthett, and l. Lisic, 2012, Client importance and audit partner independence, *Journal of Accounting and Public Policy*, 31 (3): 320-336.

Christiansen, K., and E. Winkler, 1992, Hormonal, anthropometrical, and behavioral correlates of physical aggression in !Kung San men of Namibia, *Aggressive Behavior*, 18 (4): 271-280.

Davidson, R., A. Dey, and A. Smith, 2015, Executives' "off-the-job" behavior, corporate culture, and financial reporting risk, *Journal of Financial Economics* 117 (1): 5-28.

Davidson, R., A. Dey, and A. Smith, 2019, CEO materialism and corporate social responsibility, *The Accounting Review*, 94 (1): 101-126

DeAngelo, L., 1981, Auditor independence, 'low balling', and disclosure regulation, *Journal of Accounting and Economics*, 3 (2): 113-127.

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

DeFond, M, J. Zhang, 2014, A review of archival auditing research, *Journal of Accounting and Economics*, 58 (2-3): 275-326.

Doyle, J., W. Ge, and S. McVay, 2007, Accruals quality and internal control over financial reporting, *The Accounting Review*, 82: 1141–1170.

Eisenegger, C., J. Haushofer, and E. Fehr, 2011. The role of testosterone in social interaction, *Trends in Cognitive Sciences*, 15 (6): 263-271.

Francis, J., 2004, What do we know about audit quality? *The British Accounting Review*, 36 (4): 345-368.

Francis, J., M. Pinnuck, and O. Watanabe, 2014, Auditor style and financial statement comparability, *The Accounting Review*, 89 (2): 605-633.

Goodwin, J., and D. Wu, 2016, What is the relationship between audit partner busyness and audit quality? *Contemporary Accounting Research*, 33 (1): 341-377.

Gul, F., D. Wu, and Z. Yang, 2013, Do individual auditors affect audit quality? Evidence from archival data, *The Accounting Review* 88 (6): 1993-2023.

Hambrick, D., and P. Mason, 1984, Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9 (2): 193-206.

Haselhuhn, M., and E. Wong, 2012, Bad to the bone: Facial structure predicts unethical behavior, *Proceedings of the Royal Society B*, 279: 571-576.

He, X., H. Yin, Y. Zeng, H. Zhang and H. Zhao, 2019, Facial structure and achievement drive: Evidence from financial analysts, *Journal of Accounting Research*, 57 (4): 1013-1057.

Hribar, P., and D. Nichols, 2007, The use of unsigned earnings quality measures in tests of earnings management, *Journal of Accounting Research*, 45: 1017-1053.

Jia, Y., L. Lent, and Y. Zeng, 2014, Masculinity, testosterone, and financial misreporting, *Journal of Accounting Research*, 52 (5): 1195-1246.

Kamiya, S., Y. Kim, and S. Park, 2019, The face of risk: CEO facial masculinity and firm risk, *European Financial Management*, 25 (2): 239-270.

Knechel, R., A. Vanstraelen, and M. Zerni, 2015, Does the identity of engagement partners matter? An analysis of audit partner reporting decisions, *Contemporary Accounting Research*, 32 (4):1443-1478.

Kothari, S., A. Leone, and C. Wasley, 2005, Performance matched discretionary accrual measures, *Journal of Accounting and Economics*, 39: 163–197.

Krishnan, J., Y. Wen, and W. Zhao, 2011, Legal expertise on corporate audit committees and financial reporting quality, *The Accounting Review*, 86: 2099-2130.

Lefevre, C., G. Lewis, D. Perrett, and L. Penke, 2013, Telling facial metrics: Facial width is associated with testosterone levels in men, *Evolution and Human Behavior*, 34 (4): 273-279.

Lennox, C., and J. Pittman, 2010, Big Five audits and accounting fraud, *Contemporary Accounting Research*, 27 (1): 209-247.

Lennox, C., and X. Wu, 2018, A review of the archival literature on audit partners, *Accounting Horizons*, 32 (2): 1-35.

Lim C., and H. Tan, 2008, Non-audit service fees and audit quality: The impact of auditor specialization, *Journal of Accounting Research*, 46 (1): 199-246.

Lindberg, M., L. Vandenput, S. Moverare Skrtic, S. Boonen, R. Bouillon, and C. Ohlsson, 2005, Androgens and the skeleton, *Minerva Endocrinologica*, 30 (1): 15-25.

Lu, Y. and M. Teo, 2022, Do alpha males deliver alpha? Testosterone and hedge funds, *Journal of Financial and Quantitative Analysis*, 57 (5): 1727-1770.

Manry, D., T. Mock, and J. Turner, 2008, Does increased audit partner tenure reduce audit quality? *Journal of Accounting, Auditing, & Finance*, 23 (4): 553-572.

Matsumoto, D., 2002, Management's incentives to avoid negative earnings surprises, *The Accounting Review*, 77: 483-514.

Mayew, B., C. Parsons, and M. Venkatachalam, 2013, Voice pitch and the labor market success of male chief executive officers, *Evolution and Human Behavior*, 34: 243-248.

Nie, X., 2005, Cranial base in craniofacial development: Developmental features, influence on facial growth, anomaly, and molecular bases, *Acta Odontologica Scandinavica*, 63 (3): 127-135.

Pound, N., I. Penton-Voak, and A. Surridge, 2009, testosterone responses to competition in men are related to facial masculinity, *Proceedings of the Royal Society B*, 276: 153-159.

Reynolds, J., and J. Francis, 2001, Does size matter: The influence of large clients on office-level auditor reporting decisions, *Journal of Accounting and Economics*, 30: 375-400.

Roberti, J., 2004, A review of behavioral and biological correlates of sensation seeking, *Journal of Research in Personality*, 38: 256-279.

Sundgren, S., and T. Svanstrom, 2014, Auditor-in-charge characteristics and going concern reporting, *Contemporary Accounting Research*, 31 (2): 531-550.

Teoh, S.H., and T.J. Wong, 1993, Perceived auditor quality and the earnings response coefficient, *The Accounting Review*, 68 (2): 346-366.

Vanderschueren, D., and R. Bouillon, 1995, Androgens and bone, *Calcified Tissue International*, 56 (5): 341-346.

Verdonck, A., M. Gaethofs, C. Carels, and F. de Zegher, 1999, Effect of low-dose testosterone treatment on craniofacial growth in boys with delayed puberty. *European Journal of Orthodontics*, 21 (2): 137-143.

Wang, Q., T.J. Wong, and L. Xia, 2008, State ownership, the institutional environment and auditor choice: Evidence from China, *Journal of Accounting and Economics*, 46 (1): 112-134.

Weston, E., A. Friday, and P. Liao, 2007, Biometric evidence that sexual selection has shaped the hominin face, *PloS One*, 2 (8): e710.

Wong, E., M. Ormiston, and M. Haselhuhn, 2011, A face only an investor could love: CEOs' facial structure predicts their firms' financial performance, *Psychological Science*, 22 (12): 1478-1483.

Wright, N., B. Bahrami, E. Johnson, B. Malta, G. Rees, C. Frith, R. Dolan, 2012, Testosterone disrupts human collaboration by increasing egocentric choices, *Proceedings of the Royal Society B*, 279: 2275-2280.

Appendix 1: Variable Definitions

ARAgg1	A measure of audit reporting aggressiveness calculated as the predicted value of *Mod Op1* from the logistic regression (3) minus the actual value of *Mod Op1*.
ARAgg2	An alternate measure of audit reporting aggressiveness calculated as the predicted value of *Mod Op2* from the logistic regression (3) minus the actual value of *Mod Op2*.
Big 4	An indicator variable that takes a value of 1 if the audit partner works for a Big 4 audit firm, and 0 otherwise.
CAR[0,1]	Cumulative market adjusted return from day 0 to day 1 around the annual earnings announcement.
ΔEPS	Annual change in earnings per share, scaled by the stock price on day 0.
Client Importance	Total assets of a client divided by the total assets of all clients of the audit partner in that year.
Company Age	The number of years the company is listed on Compustat.
Deficiency Rate	Number of audits with deficiencies uncovered by a PCAOB inspection scaled by the total number of audits of the same audit firm reviewed by the PCAOB.
Dual	An indicator variable that takes a value of 1 if the CEO is also the chairman of the board, and 0 otherwise.
First-Year Audit	An indicator variable that takes a value of 1 in the first year the audit firm audits a client, and 0 otherwise.
fWHR	Facial width-to-height ratio of audit partner using the Face++ facial recognition software in Python.
Inventory	Inventory scaled by total assets at year-end.
Issuer	An indicator variable that takes a value of 1 if the firm has issued debt or equity in the current year, and 0 otherwise.
Large	An indicator variable that takes a value of 1 if the client is greater than or equal to the sample median client size, and 0 otherwise.
Leverage	Total liabilities divided by total assets at year-end.
Loss	An indicator variable that takes a value of 1 if net income is negative, and 0 otherwise.

Masters	An indicator variable that takes a value of 1 if the partner lists a graduate school on his LinkedIn profile, and 0 otherwise.
Mod Op1	An indicator variable that takes a value of 0 if the Compustat variable *auop* = 1, and 1 otherwise, consistent with identification of modified audit opinions in prior literature (e.g., Knechel et al. 2015, Chen et al. 2017). Used to generate *ARAgg1*.
Mod Op2	An indicator variable that takes a value of 0 if the Compustat variable *auop* = 1 or if (*auop* = 4 and *gc* ≠ 1), and 1 otherwise (i.e., an explanatory paragraph that does not reference a going concern (*gc*) issue is not considered a modified opinion). Used to generate *ARAgg2*.
MTB	Market value of equity divided by the book value of common equity at year-end.
OCF	Cash flow from operations scaled by total assets at the end of the prior year.
OCF Vol	The standard deviation of cash flow from operations over the prior ten years scaled by total assets at the end of the prior year.
Op Cycle	The sum of the inventory period and the accounts receivable period.
Partner Age	Approximate partner age is inferred from LinkedIn profile photos using a proprietary algorithm developed by Face++.
PA ADA	Performance adjusted absolute discretionary accruals, calculated as the absolute value of the residual from the cross-sectional modified-Jones regression (1) estimated within industry-year.
PM ADA	Performance matched absolute discretionary accruals, calculated as the absolute value of the residual from the cross-sectional modified-Jones regression (1) estimated within industry-year minus the absolute value of the residual for a firm in the same industry-year with the closest value of ROA_{t-1}, where *ROA* equals income before extraordinary items scaled by total assets at the end of the prior year.
PPE	Gross book value of property, plant, and equipment deflated by total assets at the end of the prior year.
Quick	Quick ratio, calculated as the sum of cash, short-term investments, notes receivable, and accounts receivable divided by current liabilities at year-end.
Receivables	Accounts receivable scaled by total assets at year-end.
ROA	Return on assets measured as income before extraordinary items deflated by total assets at the end of the prior year.
Sales Growth	Change in sales relative to the prior year scaled by sales during the prior year.
Sales Vol	The standard deviation of sales over the prior ten years scaled by total assets at the end of the prior year.

Size	The natural logarithm of total assets at year-end.
TA	Total accruals computed as income before extraordinary items and discontinued operations minus operating cash flows, deflated by total assets at the end of the prior year.
ΔAR	Change in accounts receivable from the prior to the current year, deflated by total assets at the end of the prior year.
ΔRev	Change in revenues from the prior to the current year, deflated by total assets at the end of the prior year.

Appendix 2: Excerpts of Explanatory Paragraphs in Audit Reports

The following are examples of explanatory paragraphs in audit reports that do not reference a going concern. These types of explanatory paragraphs draw attention to an audit-relevant matter such as a change in accounting principle that arguably does not modify the opinion substantively.

A. Caterpillar Inc.

The explanatory paragraph is extracted from the audit report of PricewaterhouseCoopers LLP in Caterpillar's 2016 Form 10-K dated February 15, 2017. The explanatory paragraph details a change in the accounting treatment of pension obligations and the classification of deferred income taxes, but does not modify the opinion rendered.

"As described in Note 1.B. to the consolidated financial statements, the Company changed the manner in which it accounts for pension and other postretirement benefit plans in 2016. As described in Note 1.K. to the consolidated financial statements, the Company changed its method of classifying deferred income taxes in the consolidated statement of financial position in 2016."

B. Tesla, Inc.

The explanatory paragraph is extracted from the audit report of PricewaterhouseCoopers LLP in Tesla's 2018 Form 10-K dated February 19, 2019, and details a change in accounting treatment of contract revenue that does not modify the opinion rendered.

"Change in Accounting Principle
As discussed in Note 2 to the consolidated financial statements, the company changed the manner in which it accounts for revenue from contracts with customers in 2018."

Table 1: Sample Selection

Panel A: Sample of Audit Partners

Unique audit partners from PCAOB Form AP	4,022
Less: Partners with no clients with Compustat data	(321)
Less: Partners with no photos	(1,005)
Less: Female partners	(501)
Less: Partners with poor quality photos	(307)
Final sample with valid *fWHR*	**1,888**

Panel B: Firm-Year Sample	Financial Reporting Quality	Audit Report Aggressiveness
Firm-years with valid *fWHR* of audit partners	9,351	9,351
Less: Utilities (2 digit SIC=49)	(403)	(403)
Less: Financial firms (2 digit SIC 60-69)	(2,158)	(2,158)
Less: Observations with missing variables	(1,427)	(442)
Final firm-year sample	**5,363**	**6,348**

This table reports our sample construction. Panel A reports criteria for identifying audit partners with valid *fWHR* and, Panel B reports criteria for obtaining the final sample of firm-year observations used in our tests of financial reporting quality and audit report aggressiveness. The sample period covers fiscal years for which audit reports are issued after January 31, 2017 up to June 15, 2020.

Table 2: Summary Statistics

	N	Mean	Std Dev	Q1	Median	Q3
PM ADA	5,363	0.092	0.118	0.023	0.052	0.109
PA ADA	5,363	0.128	0.167	0.031	0.072	0.153
fWHR	6,348	2.104	0.157	2.000	2.098	2.211
ARAgg1	6,348	-0.000	0.411	-0.330	0.119	0.257
ARAgg2	6,348	-0.001	0.188	0.001	0.004	0.026
Partner Age	6,348	48.211	9.140	43	48	54
Master's Degree	6,348	0.152	0.359	0	0	0
Client Importance	6,348	0.564	0.387	0.168	0.585	1.000
First-Year Audit	6,348	0.073	0.260	0	0	0
Dual	6,348	0.346	0.476	0	0	1
Size	6,348	6.021	2.434	4.409	6.098	7.705
Leverage	6,348	0.320	0.496	0.023	0.223	0.414
Loss	6,348	0.492	0.500	0	0	1
MTB	5,363	3.408	10.219	1.152	2.305	4.546
OCF	5,363	-0.008	0.328	-0.008	0.072	0.130
Sales Growth	5,363	0.199	0.722	-0.027	0.063	0.201
OP Cycle	5,363	4.615	0.872	4.161	4.694	5.164
SalesVol	5,363	0.260	0.319	0.094	0.164	0.298
OCFVol	5,363	0.095	0.147	0.028	0.046	0.091
Issuer	5,363	0.210	0.407	0.000	0.000	0.000

This table reports descriptive statistics for discretionary accruals variables for the sample of 5,363 firm-year observations and other variables for the sample of 6,348 firm-year observations used for tests of audit report aggressiveness. Variables are defined in Appendix 1.

Table 3: Partners' *fWHR* and Financial Reporting Quality

Variables	PM ADA		PA ADA	
	(1)	(2)	(3)	(4)
fWHR	**0.040****	**0.040****	**0.023****	**0.022****
	(0.017)	**(0.018)**	**(0.016)**	**(0.020)**
Partner Age	-0.000	-0.000	0.000	0.000*
	(0.445)	(0.352)	(0.121)	(0.071)
Master	0.001	0.002	0.001	0.001
	(0.902)	(0.817)	(0.749)	(0.773)
Client Importance	-0.012	-0.012	0.004	0.006
	(0.129)	(0.126)	(0.372)	(0.160)
First-Year Audit	0.007	0.012	0.015**	0.013*
	(0.521)	(0.268)	(0.044)	(0.074)
Dual	0.002	0.002	0.000	0.000
	(0.666)	(0.759)	(0.937)	(0.947)
Size	-0.007***	-0.006***	-0.008***	-0.007***
	(0.001)	(0.002)	(0.000)	(0.000)
Leverage	0.044***	0.043***	0.027***	0.027***
	(0.000)	(0.001)	(0.000)	(0.000)
Loss	0.017***	0.019***	0.002	0.004
	(0.009)	(0.005)	(0.684)	(0.304)
MTB	0.000	0.000	0.000	0.000
	(0.304)	(0.175)	(0.166)	(0.124)
OCF	-0.087***	-0.086***	-0.074***	-0.072***
	(0.000)	(0.000)	(0.000)	(0.000)
Sales Growth	0.028***	0.030***	0.025***	0.025***
	(0.000)	(0.000)	(0.000)	(0.000)
OP Cycle	-0.002	-0.001	-0.004	-0.003
	(0.658)	(0.829)	(0.143)	(0.274)
SalesVol	0.035**	0.039**	0.024***	0.024***
	(0.025)	(0.014)	(0.006)	(0.006)
OCFVol	0.207***	0.208***	0.118***	0.128***
	(0.000)	(0.000)	(0.000)	(0.000)
Issuer	0.000	0.000	0.004	0.004
	(0.943)	(0.984)	(0.325)	(0.315)
Observations	5,363	5,249	5,363	5,249
Adjusted R-squared	0.275	0.269	0.375	0.369
Industry FE	YES	YES	YES	YES
Auditor FE	YES	NO	YES	NO
Year FE	YES	NO	YES	NO
Auditor x Year FE	NO	YES	NO	YES

* p<0.10, ** p<0.05, *** p<.01. This table presents the results of estimating the relation between audit partners' *fWHR* and financial reporting quality, proxied by absolute discretionary accruals estimated using the modified Jones model (regression 2). PM ADA is the performance-matched absolute discretionary accruals, and PA ADA is the performance-adjusted absolute discretionary accruals. All variables are defined in Appendix 1. P-values (reported in parentheses) are based on robust standard errors clustered by firm.

Table 4: Partners' *fWHR* and Audit Report Aggressiveness

Variables	ARAgg1	ARAgg1	ARAgg2	ARAgg2
	(1)	(2)	(3)	(4)
fWHR	**0.118*** **	**0.112*** **	**0.036***	**0.037** **
	(0.003)	**(0.004)**	**(0.052)**	**(0.044)**
Partner Age	-0.001	-0.001	0.000	0.000
	(0.328)	(0.257)	(0.936)	(0.836)
Master	0.016	0.022	0.000	0.002
	(0.338)	(0.211)	(0.982)	(0.847)
Client Importance	-0.027	-0.026	-0.007	-0.007
	(0.112)	(0.124)	(0.424)	(0.396)
First-Year Audit	-0.038*	-0.030	-0.006	-0.001
	(0.090)	(0.198)	(0.607)	(0.930)
Dual	-0.002	-0.002	-0.001	-0.001
	(0.896)	(0.887)	(0.859)	(0.798)
Size	0.010**	0.010**	0.000	0.000
	(0.042)	(0.046)	(0.848)	(0.906)
Leverage	-0.009	-0.003	-0.007	-0.006
	(0.495)	(0.852)	(0.444)	(0.561)
Loss	0.028**	0.027*	0.007	0.004
	(0.045)	(0.059)	(0.200)	(0.432)
Quick	0.002	0.002	0.001	0.001
	(0.245)	(0.196)	(0.320)	(0.317)
Receivables	-0.029	-0.024	-0.050	-0.045
	(0.658)	(0.726)	(0.116)	(0.150)
Inventory	-0.034	-0.047	0.021	0.017
	(0.648)	(0.533)	(0.577)	(0.651)
ROA	-0.012	-0.010	-0.000	0.002
	(0.127)	(0.223)	(0.985)	(0.812)
Company Age	-0.000	-0.000	-0.000	-0.000
	(0.837)	(0.762)	(0.918)	(0.823)
Observations	6,348	6,201	6,348	6,201
Adjusted R-squared	0.048	0.056	0.029	0.045
Industry FE	Yes	Yes	Yes	Yes
Auditor FE	Yes	No	Yes	No
Year FE	Yes	No	Yes	No
Auditor x Year FE	No	Yes	No	Yes

* p<0.10, ** p<0.05, *** p<.01. This table presents the results of regression (4) estimating the relation between audit partners' *fWHR* and audit report aggressiveness (ARAgg). All variables are defined in Appendix 1. P-values (reported in parentheses) are based on robust standard errors clustered by firm.

Table 5: Effect of Institutional Constraints

Panel A: Big 4 and Non-Big 4 Auditor

Variables	**Non-Big 4** PA ADA (1)	**Big 4** PA ADA (2)	**Non-Big 4** ARAgg1 (3)	**Big 4** ARAgg1 (4)
fWHR	**0.070*** **	**-0.005**	**0.177*** **	**0.074**
	(0.001)	**(0.627)**	**(0.008)**	**(0.141)**
Partner Age	0.000	0.000**	-0.001	-0.001
	(0.753)	(0.029)	(0.406)	(0.447)
Master	0.001	0.002	0.067**	-0.007
	(0.934)	(0.590)	(0.026)	(0.721)
Client Importance	0.016*	-0.001	-0.029	-0.024
	(0.082)	(0.764)	(0.296)	(0.279)
First-Year Audit	0.013	0.012	-0.025	-0.020
	(0.210)	(0.224)	(0.390)	(0.592)
Other Controls	Yes	Yes	Yes	Yes
P-value of Difference[1]	(0.0003)		(0.0993)	
Observations	1,926	3,321	2,450	3,749
Adjusted R-squared	0.402	0.209	0.073	0.062
Auditor-Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes

Table 5 continued…

Panel B: Audit Firms' Deficiency Rates

Variables	High Deficiency PA ADA (1)	Low Deficiency PA ADA (2)	High Deficiency ARAgg1 (3)	Low Deficiency ARAgg1 (4)
fWHR	**0.045****	**0.014**	**0.142****	**0.018**
	(0.032)	**(0.308)**	**(0.040)**	**(0.810)**
Partner Age	-0.000	0.000	0.001	-0.002
	(0.420)	(0.158)	(0.253)	(0.118)
Master	-0.002	-0.001	0.058**	0.023
	(0.831)	(0.879)	(0.043)	(0.467)
Client Importance	0.009	0.009	-0.013	-0.016
	(0.360)	(0.170)	(0.644)	(0.599)
First-Year Audit	0.016	0.009	-0.040	0.004
	(0.232)	(0.402)	(0.230)	(0.918)
Other Controls	Yes	Yes	Yes	Yes
P-value of Difference[1]	(0.0976)		(0.1029)	
Observations	1,561	1,952	2,202	1,943
Adjusted R-squared	0.399	0.319	0.061	0.034
Auditor-Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes

* p<0.10, ** p<0.05, *** p<.01. This table presents the results of cross-sectional analyses estimating the effect of the audit partner's *fWHR* on financial and audit reporting quality for subsamples of firms with Big 4 and Non-Big 4 auditors in panel A, and for subsamples of audit firms with high deficiency rate and low deficiency rate in panel B. Deficiency rates are from PCAOB inspections of audit firms; the subsamples in panel B are based on the top and bottom terciles of deficiency rates. Columns (1) and (2) report the results of regression (2) and columns (3) and (4) report the results of regression (4). PA ADA equals the performance-adjusted absolute discretionary accruals, and ARAgg1 is the measure of audit report aggressiveness. All variables are defined in Appendix 1. P-values (reported in parentheses) are based on robust standard errors clustered by firm.

[1]To test the difference in coefficients on *fWHR* of the two subsamples in each panel, we estimate seemingly unrelated regressions and test for coefficient differences across regressions. Since we make a directional prediction, we report one-tailed P-values based on the chi-square test statistic.

Table 6: Effect of Client-Firm Size

Variables	**Small** PA ADA (1)	**Large** PA ADA (2)	**Small** ARAgg1 (3)	**Large** ARAgg1 (4)
fWHR	**0.048*** **	**0.008**	**0.247*** **	**0.017**
	(0.009)	**(0.329)**	**(0.000)**	**(0.740)**
Partner Age	0.000	0.000**	-0.001	-0.001
	(0.573)	(0.036)	(0.547)	(0.374)
Master	0.005	-0.003	0.033	0.005
	(0.464)	(0.557)	(0.189)	(0.833)
Client Importance	0.010	-0.002	-0.025	-0.019
	(0.118)	(0.746)	(0.275)	(0.461)
First-Year Audit	0.018*	0.007	-0.059**	0.044
	(0.059)	(0.499)	(0.040)	(0.262)
Other Controls	Yes	Yes	Yes	Yes
P-value of Difference[1]	(0.0354)		(0.0034)	
Observations	2,621	2,610	3,027	3,136
Adjusted R-squared	0.346	0.138	0.071	0.067
Auditor-Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes

* p<0.10, ** p<0.05, *** p<.01. This table presents the results of cross-sectional analyses estimating the effect of the audit partner's *fWHR* on financial and audit reporting quality for subsamples of small (below median size) and large (above median size) client firms. Columns (1) and (2) report the results of regression (2) and columns (3) and (4) report the results of regression (4). PA ADA equals the performance-adjusted absolute discretionary accruals, and ARAgg1 is the measure of audit report aggressiveness. All variables are defined in Appendix 1. P-values (reported in parentheses) are based on robust standard errors clustered by firm.

[1]To test the difference in coefficients on *fWHR* of the two subsamples in each panel, we estimate seemingly unrelated regressions and test for coefficient differences across regressions. We report two-tailed P-values based on the chi-square test statistic.

Table 7: Partners' *fWHR* and Perceived Accounting Quality

Variables	CAR[0,1]	CAR[0,1]	CAR[0,1]	CAR[0,1]
	(1)	(2)	(3)	(4)
ΔEPS **fWHR*	**-0.056****	**-0.075****	**-0.090****	**-0.085****
	(0.046)	**(0.019)**	**(0.028)**	**(0.019)**
fWHR	0.006	0.006	-0.001	-0.000
	(0.286)	(0.259)	(0.706)	(0.784)
ΔEPS	0.128**			
	(0.028)			
Partner Age	0.000	0.000	0.000	0.000
	(0.659)	(0.340)	(0.528)	(0.512)
Master	-0.001	-0.002	-0.003	-0.003
	(0.559)	(0.435)	(0.221)	(0.215)
Client Importance	-0.001	-0.001	-0.003	-0.003
	(0.783)	(0.729)	(0.460)	(0.483)
First-Year Audit	-0.003	-0.005	-0.005	-0.005
	(0.431)	(0.247)	(0.187)	(0.179)
Dual	-0.000	0.000	0.000	0.000
	(0.833)	(0.849)	(0.939)	(0.981)
Size	0.002*	0.001	0.001	0.001
	(0.055)	(0.303)	(0.175)	(0.199)
Leverage	-0.008	-0.012**	-0.010*	-0.010*
	(0.140)	(0.037)	(0.065)	(0.056)
Loss	-0.008*	-0.008**	-0.008*	-0.008*
	(0.077)	(0.038)	(0.064)	(0.055)
MTB	0.000	0.000	0.000	0.000
	(0.482)	(0.316)	(0.499)	(0.466)
Observations	5,659	5,659	5,548	5,548
Adjusted R-Squared	0.01	0.02	0.04	0.05
Industry FE	Yes	No	No	No
Auditor FE	Yes	Yes	No	No
Year FE	Yes	No	No	No
ΔEPS *Industry FE	No	Yes	Yes	Yes
ΔEPS *Year FE	No	Yes	No	No
ΔEPS *Auditor-Year FE	No	No	Yes	Yes
ΔEPS *Controls	No	No	No	Yes

* p<0.10, ** p<0.05, *** p<.01. This table presents the results of regression (5) estimating the relation between audit partners' *fWHR* and perceived auditor quality, proxied by the market reaction to earnings surprise around annual earnings announcements. All variables are defined in Appendix 1. P-values (reported in parentheses) are based on robust standard errors clustered by firm.