Beyond Individual Traits: Uncovering CEO Personality Coherence Using Large Language Models

Abstract

CEO traits influence corporate decisions, but prior research typically examines traits one at a time. We study whether CEO personality coherence, capturing the alignment among multiple traits of CEO contains incremental economic information. We use large language models to infer multiple traits from CEO-related public texts under a unified procedure and validate them against established proxies. Using CEO-related webpages for U.S. public-firm CEOs from 2010 to 2024, we find that firms led by more coherent CEOs have higher accrual quality and earnings quality, lower audit fees, lower stock return volatility, and stronger earnings responses to earnings news. The results are incremental to individual CEO traits and robust to alternative coherence measures. The evidence suggests that CEO personality has a system-level dimension that is economically relevant beyond isolated trait levels.

Keywords: *CEO Personality; Large Language Models; Financial Quality*

1. Introduction

A large body of research shows that CEO attributes shape corporate policies and firm outcomes. Prior studies link managerial ability (Demerjian et al., 2013), career experiences (Dittmar and Duchin, 2015), extraversion (Green et al., 2019), overconfidence (Malmendier and Tate, 2005; Schrand and Zechman, 2012), narcissism (Ham et al., 2017; Ham et al., 2018), risk tolerance (Cain and McKeon, 2016), and ethics (Griffin et al., 2019) to a wide range of corporate decisions and outcomes. Yet this literature typically studies CEO traits one at a time. This trait-by-trait approach is partly driven by measurement constraints: existing proxies are usually designed for specific traits and rely on distinct data sources, such as linguistic cues (Dikolli et al., 2020; Green et al., 2019), media portrayals (Ferris et al., 2013; Malmendier and Tate, 2008), past experiences (Benmelech and Frydman, 2015; Dittmar and Duchin, 2015), pilot licenses (Cain and McKeon, 2016) , signature size (Ham et al., 2017; Ham et al., 2018), or observed managerial actions (Griffin et al., 2019). As a result, prior measures are difficult to integrate into a unified framework for studying how multiple traits are organized within the same executive. This limitation is consequential because personality psychology suggests that behavior arises not only from individual traits in isolation, but also from their organization within the broader personality system (Fajkowska, 2018; Mischel and Shoda, 1995).

Motivated by this system view, we ask whether the organization of CEO traits contains economically relevant information beyond individual trait levels. We examine this question in the context of corporate reporting and capital-market outcomes, where CEO behavior has important implications for firms and external stakeholders. We study this question through

CEO personality coherence, which captures the extent to which multiple traits within the same executive form an internally consistent profile (Fajkowska, 2023). CEO personality coherence shifts attention from the level of any particular trait to the structure of the CEO's overall personality profile: a more coherent profile indicates closer alignment among traits, whereas a less coherent profile indicates greater internal divergence.

This focus on coherence imposes a demanding measurement requirement: multiple CEO traits must be estimated for the same executive under a common procedure and on a comparable scale. We address this requirement by using large language models to infer multiple CEO personality traits from a common corpus of publicly available CEO-related texts. This design yields comparable CEO-level trait profiles from which internal alignment can be measured.

We construct a large-scale textual corpus for 6,386 CEOs of U.S. publicly listed firms from 2010 to 2024. The corpus contains 3,652,980 CEO-related webpages collected through rule-based search-engine crawling. To reduce discretionary text selection, we use predefined queries that combine CEO–company name anchors with ex ante, trait-agnostic search terms covering public speech, media coverage, and biographical narratives. These sources capture complementary public representations of CEOs: what executives say, how external audiences describe them, and what their career and personal histories reveal about their backgrounds. We then use a retrieval-augmented Large Language Model (LLM) procedure to score four CEO personality traits—ethics, opportunism, overconfidence, and risk-taking—on a common scale. For each CEO, trait, and textual dimension, the procedure retrieves relevant passages from the corpus, applies a fixed prompt to evaluate trait intensity, and aggregates the resulting scores

into CEO-level trait measures.

We next validate the LLM-based trait measures using established proxies and documented trait–outcome relations in the accounting and finance literature. First, we validate the LLM-based trait measures against widely used proxies from prior research. We adopt and replicate the proxies for CEO traits developed in prior studies (Benmelech and Frydman, 2015; Cain and McKeon, 2016; Ferris et al., 2013; Liu, 2016), and document a positive correlation between our LLM-based trait measures and these conventional proxies, supporting the validity of our approach. Second, we examine whether the LLM-based traits reproduce documented directional associations between CEO traits and firm outcomes in previous literatures (Ali and Hirshleifer, 2017; Cain and McKeon, 2016; Griffin et al., 2019; Kim et al., 2016). Our findings show that the CEO traits constructed using our LLM-based approach reproduce directional patterns documented in prior studies. Taken together, these results provide strong support for the validity of our LLM-based trait measures and suggest that they capture economically meaningful variation in CEO traits.

After validating the LLM-based trait measures, we construct CEO personality coherence as the internal alignment among multiple personality traits within the same executive (Fajkowska, 2023). Accordingly, we measure coherence by first orienting the four CEO traits toward a common behavioral direction and then calculating the degree of alignment among those traits within each CEO's personality profile. The measure is grounded in the personality-system view that traits acquire meaning not only from their standalone levels, but also from their organization within the broader personality profile (Cervone and Shoda, 1999b;

Fajkowska, 2018; Mischel and Shoda, 1995).

Finally, we examine whether CEO personality coherence is associated with firm outcomes beyond individual trait levels. We begin with financial reporting quality, a central accounting outcome that reflects managerial judgment and discretion (Dechow et al., 2010; Dechow and Dichev, 2002). We then examine audit fees, which capture auditors' assessment of the effort required to evaluate the firm's financial reporting risks. To assess broader capital-market implications, we further examine stock return volatility and earnings response coefficients, which capture market uncertainty and the informativeness of earnings news, respectively. Together, these outcomes allow us to examine whether CEO personality coherence is associated not only with firms' reporting quality, but also with external assessments of reporting risk and capital-market responses.

We report three sets of findings. First, CEO personality coherence is positively associated with financial reporting quality. Firms led by CEOs with more internally aligned personality profiles exhibit higher accrual quality and earnings quality; a one-standard-deviation increase in coherence is associated with improvements equal to 2.71% and 2.60% of the sample standard deviation of the two measures, respectively. These associations remain robust after controlling for individual CEO traits, indicating that coherence captures information beyond individual trait levels. The evidence is not limited to reporting outcomes. We also find that coherence is negatively associated with audit fees: a one-standard-deviation increase in coherence corresponds to an approximately 4.0% reduction in audit fees, consistent with lower auditor effort in evaluating the firm's reporting process. Finally, the capital-market results point in the

same direction. CEO personality coherence is associated with lower stock return volatility and stronger earnings response coefficients, consistent with lower market uncertainty and greater earnings informativeness. Together, these findings indicate that CEO personality coherence captures a system-level dimension of executive traits with implications for reporting quality, auditor assessments, and capital-market responses.

This paper makes two main contributions. First, we contribute to the literature on executive characteristics by introducing CEO personality structure—captured by trait-system coherence—and demonstrating its economic relevance for financial reporting quality. While prior research has documented that individual CEO traits such as overconfidence, risk tolerance, and ethics shape corporate decisions, this literature largely treats traits in isolation and relies on fragmented proxy measures. We advance this line of research by shifting the focus from individual traits to the internal organization of traits, showing that the alignment among multiple traits within a CEO systematically is associated with financial reporting quality beyond the effects of any single trait. In doing so, we highlight that how traits are structured within individuals—rather than merely which traits they possess—plays a central role in shaping managerial behavior and firm outcomes.

Second, we contribute methodologically by developing a scalable and unified framework to jointly measure multiple CEO personality traits using large language models applied to a common textual corpus. Prior studies typically rely on heterogeneous proxies drawn from different data sources, which limits comparability and constrains the study of interactions among traits. In contrast, our approach infers multiple traits from the same textual environment

using a consistent procedure, producing directly comparable measures that enable the analysis of personality as an integrated system. We validate these LLM-based measures by demonstrating their alignment with established proxies and their ability to reproduce well-documented trait–outcome relations. More broadly, our framework provides a scalable and replicable tool for studying executive personality at scale, opening new avenues for research on trait interactions, personality dynamics, and executive-team composition.

2. Hypothesis Development

2.1 Personality coherence and behavioral stability

Psychological theory suggests that behavior is shaped by the broader personality system rather than by isolated traits considered one at a time. For example, the Traits as Hierarchical Systems (THS) model conceptualizes personality traits as components of a hierarchically organized system and emphasizes how traits fit together, rather than treating any single trait as representative of the whole (pars pro toto) (Fajkowska, 2013, 2018 and 2023). Similarly, the cognitive-affective processing system (CAPS) theory suggests that behavior arises from the organization of interacting psychological units rather than from isolated traits alone (Mischel and Shoda, 1995). More broadly, person-centered approaches argue that personality is meaningfully represented by the within-person configuration of multiple traits, rather than by variable-centered analyses of separate trait dimensions (Asendorpf, 2015).

Psychological theories and perspectives converge on the view that personality is an organized system, where the internal organization of the system—its coherence—plays a

crucial role in shaping behavior (Cervone and Shoda, 1999a, 1999b; Fajkowska, 2023; Quirin and Kuhl, 2022). Personality coherence refers to the degree of functional consistency among personality traits within a person, indicating how different traits interact and collectively shape an individual's behavior and decision-making (Cervone and Shoda, 1999b; Fajkowska, 2023). From this perspective, human behavior depends not only on the traits an individual possesses, but also on how coherently those traits are organized within the broader personality system.

The coherence of personality traits within a person has important implications for human behavior. CAPS theory suggests that although behavior is situation-dependent, stable patterns of behavior can arise from a stable underlying organization of cognitive-affective units (Cervone and Shoda, 1999a, 1999b) . In this sense, coherence does not imply identical behavior across all settings. Rather, it suggests that more coherently organized personality systems may be expressed in more consistent patterns of decision making across related situations. Prior research likewise suggests that coherent personality functioning is associated with more stable human behavior (Fajkowska, 2023) .

Consistent with the theoretical perspective, empirical evidence in psychology suggests that coherent personality systems are reflected in stable behavioral patterns across situations (Cervone, 1997; Fournier et al., 2008; Shoda et al., 1994). For example, using an experimental design, Cervone (1997) shows that individuals exhibit stable cross-situational patterns in self-efficacy appraisal, consistent with the idea that coherent personality functioning is expressed in organized and predictable patterns of response across situations. Fournier et al. (2008), using event-contingent records of adults' daily social interactions over a 20-day period, show that

personality functioning is reflected not only in average behavioral tendencies, but also in stable within-person patterns of interpersonal situations. Taken together, these studies suggest that a coherent personality system is reflected in s systematically organized, stable, and predictable patterns of behavior and response across situations.

2.2 Testable Predictions

In the context of capital markets, CEOs encounter various decision-making situations, with financial reporting being a key area that heavily relies on managerial judgment. Prior accounting and finance research accordingly suggests that CEO personality traits can influence financial reporting quality. For example, firms led by more ethical CEOs are associated with more conservative financial reporting and a lower likelihood of misconduct (Benmelech and Frydman, 2015; Griffin et al., 2019), and narcissistic executives are associated with greater misreporting and fraud risk (Ham et al., 2017; Rijsenbilt and Commandeur, 2013). All above literatures highlight the importance of CEO personal traits in the domain of financial reporting decisions.

Building on previous discussion, we argue that CEO personality coherence is associated with financial reporting decisions, as it influences how consistently and stably an executive's tendencies are expressed across repeated decision-making situations. A more coherent personality system should lead to less internal conflict in managerial judgment, making decisions more consistent across related reporting situations. This argument is particularly relevant under accrual-based accounting, which involves repeated judgments under uncertainty.

A CEO with a more coherent personality is likely to make stable and consistent judgments, leading to better and less erratic financial reporting quality. Consequently, firms led by such CEOs should demonstrate higher accrual and earnings quality as both accrual formation and reported earnings involve repeated judgments under uncertainty. Based on the above discussion, we propose the following main hypothesis:

H1: *CEO personality coherence is positively associated with financial reporting quality.*

A more coherent CEO may also affect how external monitors evaluate the firm's reporting process. If coherent personality functioning is associated with more systematic managerial judgement, auditors may face less uncertainty when assessing management's accounting estimates and evaluating the risk of material misstatement. This implication is particularly relevant because audit fees reflect the expected effort and risk involved in verifying financial statements and assessing the client's reporting environment (Bell et al., 2001; Hogan and Wilkins, 2008). To the extent that more coherent CEOs are associated with more predictable reporting judgments, auditors should require less effort in evaluating the client's financial statements. Therefore, we derive the following hypothesis:

H2: *CEO personality coherence is negatively associated with audit fees.*

Investors respond not only to the uncertainty surrounding a firm but also to the clarity and informativeness of earnings news (Collins and Kothari, 1989; Rajgopal and Venkatachalam, 2011). When a CEO exhibits higher coherence, their more stable and less erratic reporting behavior leads to a more reliable flow of information, reducing uncertainty surrounding firm fundamentals and making earnings signals more informative for investors. As a result, investors

are likely to experience lower stock return volatility and a more pronounced market response to earnings news. Accordingly:

H3a: *CEO personality coherence is negatively associated with stock return volatility.*

H3b: *CEO personality coherence is positively associated with earnings response coefficients.*

3. Data and Sample Construction

3.1 Inferring CEO's personal traits system with LLMs

The central empirical challenge in this study is to measure multiple CEO personality traits in a comparable way across a large number of CEOs, so that their internal alignment can be examined systematically. Prior research has developed various proxies for CEO traits, but these measures remain fragmented because they rely on trait-specific data sources and differ substantially in construction and scale, making them difficult to integrate into a unified framework. For instance, some studies use experience-based proxies, such as private pilot licenses, to capture CEOs' risk-taking propensity (Cain and McKeon, 2016). Others rely on behavioral proxies, such as marital infidelity to measure ethics (Griffin et al., 2019) or insider trading to capture opportunism (Ali and Hirshleifer, 2017). Still others employ textual or media-based proxies, such as media portrayals, to assess overconfidence (Ferris et al., 2013; Malmendier and Tate, 2008). Because these measures are derived from distinct data sources and designed to capture isolated traits, they are difficult to integrate into a unified framework of CEO personality.

We address this challenge by using LLMs to infer CEO personality traits from large

collections of publicly available CEO-related webpage text. This approach is grounded in the foundation that personality traits leave observable but dispersed traces across heterogeneous public texts, including interviews, speeches, biographies, media coverage et al. Although no single webpage provides a complete view of a CEO's personality, these fragmented texts collectively assemble a window to observe CEO's personality profile. LLMs are well suited to this task for three reasons. First, LLMs have the capability to infer latent personality traits from contextualized text (Rathje et al., 2024; Wright et al., 2026). This is important because signals of personality are often expressed indirectly through tone, narrative style, self-presentation, and third-party descriptions. Second, LLMs are a scalable tool to apply the same inference procedure to thousands of fragmented passages. Taken together, these advantages allow us to measure multiple traits under a unified procedure, thereby improving comparability across traits and across executives.

Our methodology relies on off-the-shelf algorithms and commercially available LLMs to enhance transparency and reproducibility and to reduce research discretion. Recent work in psychology shows that commercially available LLMs can reliably infer personality traits from open-ended text and produce measures comparable to traditional psychometric assessments (Wright et al., 2026) , supporting the feasibility of our approach.

To measure CEO personality traits at scale, we construct a diversified textual corpus that captures heterogeneous public representations of CEOs. A central concern in corpus construction is avoiding selective text inclusion, source-specific bias, and distortions arising from strategic self-presentation or third-party framing. To address these concerns, we adopt a

rule-based, ex ante corpus construction strategy that anchors all collected texts to a specific CEO-company pair and minimizes researcher discretionary choices in text selection. Specifically, webpages are collected through search-engine crawling using predefined queries that combine a fixed anchor component with a varying contextual component. The anchor consists of the CEO's name and the corresponding company name, ensuring that retrieved texts are attributed to the relevant executive and reducing homonym-related noise or irrelevant content. Conditional on this anchor, we introduce placeholder terms ex ante to expand contextual coverage across different modes of public representation.[1] Placeholder terms include categories such as biographies, interviews, public speeches, and media coverage. These placeholder terms are selected ex ante to expand contextual coverage rather than target specific personality dimensions. Accordingly, placeholder terms are intentionally trait-agnostic and outcome-agnostic, and earnings- or performance-related keywords are excluded to avoid mechanically linking the corpus to firm outcomes. The full list of placeholder terms is reported in Appendix B, Table B1.

We identify CEO names from the Compustat Executive Compensation (ExecuComp) database, which primarily covers firms in the Standard & Poor's (S&P) 1500 Index. Using these CEO–company pairs, we conduct search-engine crawling for CEOs serving between 2010 and 2024. Webpages are collected from multiple search engines, including Google, Bing, and DuckDuckGo, to capture a broad range of publicly available CEO-related content.

[1] For example, a query may take the form "CEO Name + Company Name + interview" or "CEO Name + Company Name + biography"

Searches are conducted under default, non-personalized settings without user-specific customization or preference tuning. The only explicitly specified parameter is the country/region (United States), consistent with the sample of U.S. public-firm CEOs examined in this study. Throughout this process, search engines function as external information retrieval systems that return publicly available texts without researcher discretion in text selection.

This procedure yields a corpus of 3,652,980 raw webpages covering 6,386 CEOs, with a median of 535 webpages per CEO (SD = 390.96), indicating extensive coverage for each executive.

3.2 LLM-Traits measurement

Using the CEO-level textual corpus, we construct CEO-level personality trait measures with LLMs. We first segment the corpus into passages of approximately 140 words, preserving the integrity of natural language expressions while enabling consistent evaluation.[2]

For each trait, we define three sub-dimensions — public speech, media perception, and narrative experience—to capture different perspectives through which personality traits are expressed. These sub-dimensions reflect distinct narrative contexts with systematically different incentives. Public speech captures CEOs' self-expression and language use in interviews, speeches, and similar contexts. Media perception reflects third-party descriptions provided by journalists and other external observers. Narrative experience summarizes

[2] A passage length of approximately 140 words typically corresponds to a small, semantically coherent block of text (e.g., a short paragraph), allowing sufficient contextual information for trait inference while maintaining consistency across passages.

biographical and experiential information, such as career experience and personal backgrounds.

We then implement trait scoring using a retrieval-augmented generation (RAG) framework.[3] For each CEO, trait, and sub-dimension, we retrieve a fixed number of passages (e.g., 30) from the corpus that are most relevant to the target trait under the corresponding narrative context. Retrieval is independent of trait intensity, as passages are selected solely based on topical relevance to the target trait rather than the strength or direction of the trait signal. Using a fixed prompt conditioned on the retrieved passages, the language model assigns an ordinal score on a five-point scale (1=lowest, 5=highest). Then we average scores across passages to obtain sub-dimension-level trait measures.

This design serves three purposes: First, evaluating text separately across narrative contexts captures trait signals that may not appear uniformly across sources; some traits are expressed primarily in third-party descriptions or biographical narratives rather than in CEOs' own statements, thus incorporating multiple perspectives improves coverage of the underlying traits. Second, conditioning scoring on observed passages in the corpus ensures that trait assessments reflect concrete linguistic evidence rather than generic evaluations to make each trait score traceable. Third, retrieving a fixed number of passages for each CEO and sub-dimension mitigates differences in textual coverage across CEOs and improves comparability of trait measures.

We then use a retrieval-augmented LLM procedure to score three dimensions of four

[3] Retrieval-augmented generation (RAG) refers to a procedure in which a language model is conditioned on text passages retrieved from a fixed corpus rather than generating responses from its internal parameters alone. This approach helps the language model produce responses that are more specific and grounded in observable textual evidence.

widely studied CEO personality traits: ethics, opportunism, overconfidence, and risk-taking. For each trait, we average the three sub-dimension scores to construct CEO-level measures. Because each score is linked to specific textual passages and generated using a common scoring scale and uniform measurement procedure, the resulting measures are both interpretable and comparable across CEOs.

3.3 LLM-traits measurements validation

Before we build the coherence of the CEO traits system as a key variable, we first validate the CEO traits constructed using the LLM model. We first check the internal consistency of the three sub-dimension scores used to construct each LLM-based traits. Table D1 in Appendix D reports two sets of results: Cronbach's alpha ranges from 0.8268 to 0.9027 across the four traits, indicating high internal consistency; and the first principal component explains 74.42% to 83.88% of the total variation in the three sub-dimension scores, suggesting that these scores share a strong common factor. Overall, the evidence supports aggregating the three sub-dimensions into a single CEO-level measure for each trait.

Next, we assess whether our LLM-based CEO traits align with prior empirical measures. The previous studies used a series of proxies to measure CEO's personal traits. For example, CEO ethics is benchmarked against prior military service as an indicator of personal integrity (Benmelech and Frydman, 2015); opportunism against corruption culture derived from ancestry-linked corruption perceptions (Liu, 2016); risk-taking against the presence of a private pilot license as a signal of individual risk tolerance (Cain and McKeon, 2016); and overconfidence against media-based measures capturing how frequently CEOs are described

as overconfident relative to non-overconfident portrayals (Ferris et al., 2013; Malmendier and Tate, 2008). We apply and replicate their measurement approach, comparing the LLM-traits constructed by our approach with the proxies from previous literature. The detailed replication methods for the prior empirical measures are reported in Appendix C.

Table D2 in Appendix D presents validation results for the LLM-based CEO trait measures using established proxies. Panel A reports CEO-level univariate associations between each LLM-inferred trait measure and its corresponding validation proxy across the three evaluation dimensions—Media Perception, Narrative Experience, and Public Speech—as well as the aggregated measure (AVG), which is constructed as the equal-weighted average of the three dimension-specific scores.

Across the three narrative dimensions, the estimated associations are uniformly positive, and most are statistically significant ($p \leq 0.088$). The main exceptions are the public-speech dimension for ethics ($p = 0.129$) and the narrative-experience and public-speech dimensions for opportunism ($p = 0.536$ and $p = 0.141$, respectively). The weaker ethics result in public speech is plausible because explicit claims of integrity could be counterproductive in self-presentational settings and therefore less informative. The weaker opportunism results are also intuitive, as opportunism-related signals are less likely to appear in CEOs' public speech or self-authored narratives because they are normatively discouraged, whereas risk-taking and overconfidence could be framed as confidence or entrepreneurial leadership.

The aggregated measure (AVG) exhibits a more stable validation pattern: the AVG measure is positively and significantly associated with the corresponding proxy for all four

traits ($p \leq 0.042$). Overall, the results suggest that aggregating across narrative dimensions helps recover trait-related signals that may be only partially visible within any single textual context. Accordingly, we use the aggregated measure for each CEO personality trait in the subsequent analyses.

Last, we examine the association between each LLM-based CEO trait and firms' outcome variables for two main purposes: first, to validate that the inferred traits exhibit patterns consistent with prior evidence, and second, to demonstrate that these traits capture economically meaningful variation beyond mere linguistic features. We select financial reporting quality as the variable for our validation test because financial reporting quality is particularly related to CEO characteristics, making it one of the key variables that a CEO can directly influence and that has been investigated in prior literature (Demerjian et al., 2013).

Specifically, we estimate OLS regressions using firm-year observations to examine the relationship between LLM-based CEO traits and financial reporting quality:

$$Financial\ Reporting\ Quality_{i,t} = \alpha_0 + \beta_1 Trait_{i,t} + \sum_2^k \beta_\tau\ Control_{i,t} + F.E. + \varepsilon_{i,t}, \qquad (1)$$

where the subscripts *i* and *t* denote firm and year, respectively. *Financial Reporting Quality* is measured using two proxies: *AccrualQuality* and *EarningsQuality*. *Trait* denotes the LLM-based CEO traits including *Ethic*, *Opportunism*, *Overconfidence* and *RiskTaking*. We include industry and year fixed effects into the model to control for unobserved heterogeneity across industries and year-specific shocks that may affect financial reporting quality. We clustered the standard errors at the CEO level.

Prior research suggests that CEOs with stronger ethical orientation are associated with

higher-quality financial reporting (Benmelech and Frydman, 2015; Griffin et al., 2019) , and ethical leadership can strengthen the firm's control environment and promote more conservative reporting (Ho et al., 2015). In contrast, opportunistic, risk-taking, and overconfident CEOs are associated with poorer reporting quality, including greater earnings management and misstatements (e.g., Ali and Hirshleifer, 2017; Benmelech and Frydman, 2015; Cain and McKeon, 2016; Griffin et al., 2019; Schrand and Zechman, 2012). Opportunistic CEOs prioritize personal gains over transparency, making them more prone to earnings manipulation and concealment of bad news. Risk-taking CEOs tend to adopt more aggressive accounting practices and tolerate greater reporting risk, increasing the likelihood of misstatements. Overconfident CEOs, by overestimating firm performance and their own ability, are more likely to produce overly optimistic reports and delay loss recognition.

Table D3 Panel A in Appendix D presents the relationship between our LLM-based CEO traits and financial reporting quality. Consistent with prior literature, we find that the LLM-based ethics measure is positively and significantly associated with both *AccrualQuality* (t = 3.76) and *EarningsQuality* (t = 3.48), while opportunism is negatively and significantly associated with both measures (t = −3.78 and −3.35, respectively). Similarly, risk-taking is negatively associated with both *AccrualQuality* (t = −2.50) and *EarningsQuality* (t = −2.35). *Overconfidence* is also negatively related to both measures (t = −1.74 and −3.39), although its association with *Accrual Quality* is not statistically significant at the 5% level. Overall, these results are consistent with prior literature, confirming that our LLM-based CEO traits reflect behavioral patterns that systematically relate to financial reporting quality.

Panel B of Table D3 in Appendix D examines whether the trait–outcome associations documented in Panel A are robust to overlap across the LLM-based CEO trait measures. When the four traits are included jointly, the estimated coefficients generally preserve the same directional patterns as in Panel A, although the coefficient on *Overconfidence* is no longer statistically significant. Similar results obtain when we use residualized trait measures that isolate trait-specific variation net of the remaining traits. Taken together, these findings suggest that the LLM-based trait measures capture economically meaningful trait-specific variation, rather than merely a common component shared across traits.

3.4 CEO personality coherence construction

After validating the LLM-based traits, we construct the primary variable of this paper: coherence of CEO traits system. Personality research views individual traits not as isolated attributes but as components of an organized system that jointly shapes behaviour. Within this perspective, the internal alignment among traits—rather than the magnitude of any single trait—contributes to behavioural consistency and stability (Fajkowska, 2018, 2023). For example, a CEO with both strong ethical standards and a high tolerance for risk may sometimes permit aggressive accounting adjustments that remain within acceptable reporting boundaries to avoid missing earnings targets, yet reject adjustments that would violate reporting integrity. Because these traits guide decisions in different directions within the same reporting task, the CEO's reporting choices may appear situational rather than consistently aligned.

Motivated by this perspective, we define coherence as the degree of alignment among an

individual's personality traits after adjusting them to reflect consistent behavioral directions. We use four personality traits—ethics, opportunism, risk-taking, and overconfidence. First, we standardize them on a comparable scale with a common behavioral direction, then measure the within-CEO standard deviation of these traits. To ensure comparability across traits, we first construct oriented trait scores by directionally standardizing the original trait measures so that the higher values represent stronger expression of the same underlying behavioral tendency across traits. Specifically, for traits whose original interpretation implies an opposing direction, we reverse-scale the score using the transformation $s \longrightarrow 6 - s$, given that the traits scores are measured on a five-point scale.

We then measure *Coherence* as the within-CEO dispersion of oriented trait scores. Specifically, for CEO *i* with *K* traits, *Coherence* is calculated as:

$$Coherence_i = -\frac{1}{K}\sum_{k=1}^{K}(T_{i,k} - \bar{T}_i)^2,$$

where $T_{i,k}$ denotes the oriented score of trait k for CEO i, and $\bar{T}_i$ is the CEO-specific mean of the oriented trait scores. A higher value of *Coherence* indicates greater alignment among traits.

This measure captures whether a CEO's traits are internally aligned or show greater divergence, reflecting how closely the relevant traits align within the overall profile. To aid interpretation, the resulting measure is linearly rescaled to range from -1 to 0, with values closer to zero indicating greater within-CEO trait consistency.

3.5 Sample Construction

We next link the LLM-based CEO trait measures to firm-level financial reporting outcomes. Our primary dependent variables capture financial reporting quality from both intertemporal and contemporaneous perspectives—specifically through *AccrualQuality* and *EarningsQuality*. Following Francis et al. (2005) , we measure *AccrualQuality* as the inverse of the rolling standard deviation of residuals from the modified Dechow and Dichev (2002) model. As a complementary contemporaneous measure, we use *EarningsQuality* based on the magnitude of residuals from the McNichols (2002) accruals model, where higher values of both measures indicate superior reporting quality.[4]

We control for a broad set of firm characteristics shown to affect accruals behavior. These controls capture firm size (*LnAssets*), operating performance (*ROA*), growth opportunities (*MarketToBook*), operating complexity (*LnOperatingCycle*), and asset structure (*CapitalIntensity*). To account for firms' intangible investment activities, which affect accrual estimation and earnings volatility, we include measures of R&D and advertising intensity (*IntangiblesIntensity*) and an indicator for positive intangible investment (*IntensityIndicator*). We further control for business risk and earnings uncertainty using measures of sales volatility (*SalesVol*), cash-flow volatility (*CFVol*), and loss history (*LossPct*). All control variables are

[4] We estimate the following modified Dechow and Dichev (2002) model for firm *j* at time *t*:

$$\frac{TCA_{j,t}}{Assets_{j,t}} = \varphi_{0,j} + \varphi_{1,j}\frac{CFO_{j,t-1}}{Assets_{j,t}} + \varphi_{2,j}\frac{CFO_{j,t}}{Assets_{j,t}} + \varphi_{3,j}\frac{CFO_{j,t+1}}{Assets_{j,t}} + \varphi_{4,j}\frac{\Delta Rev_{j,t}}{Assets_{j,t}} + \varphi_{5,j}\frac{PPE_{j,t}}{Assets_{j,t}} + \varepsilon_{j,t},$$

where *TCA* is total current accruals; *Assets* are average total assets; *CFO* is cash flow from operations; ΔRev is change in sales revenue between years $t-1$ and t; and *PPE* is gross property, plant, and equipment. The model is estimated cross-sectionally by fiscal year and by Fama–French 48 industry classification for industries with at least 20 firm-year observations. *AccrualQuality* is defined as the inverse of the standard deviation of the residuals from this model over the prior five-year window. *EarningsQuality* is constructed from the same regression residual, defined as the negative absolute value of $\varepsilon_{j,t}$ in year t, so that higher values indicate better reporting quality.

constructed using data obtained from Compustat. Detailed variable definitions are provided in Appendix A.

[Insert Table 1 Here]

Table 1, Panel A reports summary statistics for the firm-year sample used in the main analyses, consisting of 16,046 (15,114) observations with nonmissing CEO trait measures and *AccrualQuality* (*EarningsQuality*). The CEO trait scores are constructed on a bounded scale from 1 (lowest) to 5 (highest) and exhibit economically reasonable central tendencies. In particular, the average *Risk-Taking* score (Mean = 3.609) is modestly above the scale midpoint, consistent with survey evidence that CEOs are less risk-averse than the general population and tend to display greater tolerance for risk in corporate decision-making (Graham et al., 2013). The remaining trait measures (*Ethic, Opportunism, Overconfidence*) also exhibit meaningful cross-CEO variation while remaining well within the interior of the 1-5 scale. For example, *Ethic* has a mean of 3.777 (SD = 0.271), while *Opportunism* and *Overconfidence* have means of 2.709 (SD = 0.303) and 2.805 (SD = 0.214), respectively. These statistics suggest that the LLM-based measures capture nontrivial cross-CEO heterogeneity rather than collapsing to extreme or boundary values.

The *Coherence* is scaled between −1 and 0, with values closer to zero indicating greater alignment among traits, the distribution indicates that CEOs exhibit moderate internal consistency on average (Mean = −0.102, Median = −0.065, SD = 0.117), while still displaying substantial cross-CEO variation.

Table 1, Panel B reports Pearson pairwise correlations among the main variables. The

absolute correlations between the financial reporting quality measures and CEO trait variables are all below 0.178, suggesting that no single trait exhibits a strong univariate association with reporting outcomes. Table 1, Panel C reports CEO-level correlations among trait measures and demographic characteristics. The correlations are economically intuitive—for example, *Ethics* is negatively related to *Opportunism* (ρ=−0.534), while *Overconfidence* is positively related to *RiskTaking* (ρ=0.422)—yet well below unity, indicating that the traits capture related but distinct personality dimensions. Importantly, *Coherence* exhibits only small correlations with individual traits ($|\rho| \leqslant 0.139$), suggesting that it reflects system-level alignment across traits rather than the level of any single trait.

4. Empirical Analysis

4.1 CEO personality coherence and financial reporting quality

We begin by examining whether CEO personality coherence is associated with financial reporting quality. We estimate the following OLS regression:

$$Financial\ Reporting\ Quality_{i,t} = \alpha_0 + \beta_1 Coherence_{i,t} + \sum_2^k \beta_\tau\ Control_{i,t} + F.E. + \varepsilon_{i,t}, \quad (2)$$

where *i* and *t* denote firm *i* and fiscal year *t*, respectively. The dependent variable, *Financial Reporting Quality*, is measured using two proxies: *AccrualQuality* and *EarningsQuality*. Higher values of both measures indicate better financial reporting quality. Following Wells (2020), we include a standard set of firm-level controls for size (*LnAssets*), performance (*ROA*), growth opportunities (*MarketToBook*), operating complexity (*LnOperatingCycle*), asset structure (*CapitalIntensity*), intangible investment (*IntangiblesIntensity* and *IntensityIndicator*),

and earnings uncertainty (*SalesVol*, *CFVol* and *LossPct*). *F.E.* denotes industry and year fixed effects, and standard errors are clustered at the CEO level.

[Insert Table 2 Here]

Table 2 reports the association between CEO personality coherence and financial reporting quality. In column (1), the coefficient on *Coherence* is positive and statistically significant in the accrual-quality regression ($\beta = 7.591$, $t = 2.42$), indicating that firms led by CEOs with more internally aligned personality profiles exhibit higher accrual quality. The economic magnitude is nontrivial: a one-standard-deviation increase in *Coherence* is associated with an increase in accrual quality equal to approximately 2.71% of the sample standard deviation. Economically, this result suggests that greater CEO personality coherence is associated with a less variable accrual-estimation process. Column (3) of Table 2 shows a similar pattern for earnings quality. The coefficient on Coherence remains positive and statistically significant ($\beta = 0.008, t = 2.42$), and the estimated magnitude implies an improvement in earnings quality equal to approximately 2.60% of the sample standard deviation for a one-standard-deviation increase in coherence. This result suggests that greater CEO personality coherence is associated with earnings that provide a cleaner signal of underlying firm performance.

Columns (2) and (4) provide a stricter test by including the residualized individual trait measures, which isolate the component of each trait that is orthogonal to the remaining traits. The coefficients on these residualized traits retain the expected signs and remain consistent with both the prior literature and the validation results reported in Section 3.3. Importantly, the

coefficient on Coherence remains positive and statistically significant in both the accrual-quality and earnings-quality specifications ($\beta = 6.434$, $t = 1.96$; $\beta = 0.007$, $t = 2.10$). This result indicates that the relation between coherence and financial reporting quality is not subsumed by the independent effects of ethics, opportunism, overconfidence, and risk-taking considered separately. Rather, the evidence suggests that CEO personality has an economically relevant system-level dimension: the internal alignment among traits contains incremental information about financial reporting quality beyond the contribution of the individual traits alone.

4.2 CEO personality coherence and audit fees

We next examine whether CEO personality coherence is associated with audit fees. Audit fees reflect the effort required to verify the client's financial statements and assess the reasonableness of its accounting judgments. To the extent that greater CEO personality coherence is associated with a more stable financial reporting process and more systematic reporting choices, auditors may face less difficulty in evaluating the client's financial statements and therefore require less effort to complete the engagement. We therefore expect CEO personality coherence to be negatively associated with audit fees.

We use firm-year data to estimate the following OLS regression:

$$LnAuditFee_{i,t} = \alpha_0 + \beta_1 Coherence_{i,t} + \sum_2^k \beta_\tau \, Control_{i,t} + F.E. + \varepsilon_{i,t}, \quad (3)$$

where *i* and *t* denote firm *i* and fiscal year *t*, respectively. The dependent variable, *LnAuditFees*, is measured as the natural logarithm of audit fees. We include a standard set of firm-level controls for client size (*LnAssets*), performance (*ROA*), growth opportunities (*MarketToBook*),

operating uncertainty (*SalesVol*, *CFVol*, and *LossPct*), and auditor type (*BIG4*), where *BIG4* is an indicator variable equal to one if the firm is audited by a Big Four accounting firm and zero otherwise. *F.E.* denotes industry and year fixed effects, and standard errors are clustered at the CEO level.

[Insert Table 3 Here]

Table 3 reports the association between CEO personality coherence and audit fees. In column (1), the coefficient on Coherence is negative and statistically significant (β=−0.349, t=−3.80), indicating that firms led by CEOs with more internally aligned personality profiles pay lower audit fees. The economic magnitude is also meaningful: a one-standard-deviation increase in *Coherence* is associated with a reduction in audit fees of approximately 4.0%. Economically, this result suggests that greater CEO personality coherence is associated with a financial reporting process that requires less auditor effort to evaluate and verify.

Column (2) provides a stricter test by adding the residualized individual trait measures as control variables. Among the residualized traits, opportunism and overconfidence are positively and significantly associated with audit fees. These directions are broadly consistent with prior evidence that opportunistic are more prone to misconduct and aggressive reporting choices (Ali and Hirshleifer, 2017), while overconfident CEOs are more likely to pursue aggressive acquisitions and other riskier corporate actions (Malmendier and Tate, 2008), both of which can increase the auditor's effort in evaluating the client's financial statements (Bell et al., 2001; Hogan and Wilkins, 2008). The coefficient on *Coherence* remains negative and statistically significant (β=−0.372, t=−4.07). The implied magnitude for *Coherence* remains

economically meaningful: a one-standard-deviation increase is associated with an approximately 4.3% reduction in audit fees. Taken together with the evidence in Section 4.1, this result reinforces our central point that CEO personality coherence captures an economically relevant system-level dimension that is not subsumed by the effects of isolated traits alone.

4.3 CEO personality coherence and stock market reactions

If CEO personality coherence reflects a more stable and internally consistent managerial disposition, its implications should not be confined to the financial reporting process alone, but should also extend to how investors interpret and incorporate firm information into prices. In capital markets, stock return volatility and the earnings response coefficient (ERC) capture two related yet distinct dimensions of this process. Stock return volatility reflects the degree of uncertainty surrounding firm fundamentals, whereas ERC captures the extent to which earnings news is viewed as informative. These outcomes thus provide a broader test of whether CEO personality coherence is associated with lower uncertainty surrounding the firm and with greater informativeness of earnings news. If more coherent CEOs exhibit less internally conflicting and less erratic behavioral tendencies, investors may face less uncertainty in evaluating the firm value and place greater weight on reported earnings news.

We next examine whether CEO personality coherence is associated with stock return volatility. Using firm-year data, we estimate the following OLS regression:

$$StockVolatility_{i,t} = \alpha_0 + \beta_1 Coherence_{i,t} + \sum_2^k \beta_\tau \, Control_{i,t} + F.E. + \varepsilon_{i,t}, \qquad (4)$$

where *i* and *t* denote firm *i* and fiscal year *t*, respectively. The dependent variable, *StockVolatility*, is measured as the annualized standard deviation of daily stock returns. We include a standard set of firm-level controls that capture size (*LnAssets*), operating performance (*ROA*), growth opportunities (*MarketToBook*), intangible intensity (*IntangiblesIntensity* and *IntensityIndicator*), and operating uncertainty (*SalesVol*, *CFVol*, and *LossPct*), as well as leverage (*Leverage*). *F.E.* denotes industry and year fixed effects, and standard errors are clustered at the CEO level.

[Insert Table 4 Here]

The evidence in Table 4 suggests that CEO personality coherence is negatively associated with stock return volatility. In column (1), the coefficient on *Coherence* is −0.033 (*t*=−2.41), implying that firms led by more coherent CEOs experience lower fluctuations in stock prices. In economic terms, a one-standard-deviation increase in *Coherence* corresponds to a decline in stock volatility of approximately 2.3% of the sample standard deviation. The result also survives a more demanding specification that includes the residualized trait measures. Although the magnitude attenuates somewhat, the coefficient on *Coherence* remains negative (*β*=−0.026, *t*=−1.85). Among the residualized traits, *overconfidence* and *risk-taking* are positively associated with stock return volatility, in line with prior literature showing that overconfident and personally risk-taking CEOs are linked to greater firm risk and higher equity return volatility (Kim et al., 2016; Cain and McKeon, 2016). Overall, these findings suggest that CEO personality coherence is associated with lower market-perceived uncertainty surrounding the firm. Taken together, the evidence suggests that CEO personality coherence

has implications for capital-market uncertainty that extend beyond the effects of any single underlying trait.

We next examine whether CEO personality coherence affects the pricing of earnings news. To do so, we estimate the following earnings response coefficient (ERC) regression using firm-year observations:

$$\begin{aligned} CAR_{i,t} = \alpha_0 + \beta_1 RSUE_{i,t} + \beta_2 RUSE_{i,t} \times Coherence_{i,t} + \beta_3 Coherence_{i,t} \\ + \sum_4^k \beta_\tau RUSE_{i,t} \times Control_{i,t} + \sum_{k+4}^{2k+4} \beta_\tau Control_{i,t} + \beta_{2k+5} RUSE_{i,t} \times \\ F.E. + F.E \ + \varepsilon_{i,t}, \end{aligned} \quad (5)$$

where subscripts *i* and *t* denote firm *i* and fiscal year *t*, respectively. The dependent variable *CAR* is the cumulative market-adjusted stock return over the two-day window beginning on the earnings announcement date. *RSUE* is the annual decile rank of the standardized unexpected earnings. The unexpected earnings is calculated as the difference between the announced annual earnings per share from I/B/E/S and the median consensus of the latest individual analyst forecast, scaled by the price per share at the beginning of the annual year. The interaction term *RSUE*×*Coherence* is our test variable and captures whether the stock market response to annual earnings news varies with CEO personality coherence. We include a standard set of firm-level controls, including *LnAssets*, *MarketToBook*, *SalesVol*, *Leverage*, and *BIG4*. *F.E.* denotes industry and year fixed effects. We interact *RSUE* with all control variables and include industry and year fixed effects. Standard errors are clustered at the firm level.

[Insert Table 5 Here]

Table 5 presents the ERC estimates. The coefficient on *RSUE*×*Coherence* is positive in

both columns and significant in Column (1) (β=0.005, t=2.16), indicating that earnings news elicits a stronger price response when the CEO exhibits greater personality coherence. The coefficient remains similar after controlling for the residualized trait measures and their interactions with *RSUE* in Column (2) (β=0.005, t=2.21), suggesting that this association is not subsumed by the unique effects of isolated traits. Economically, this result suggests that CEO personality coherence is associated with greater earnings informativeness, consistent with the earlier evidence on financial reporting quality.

4.4 Robustness checks

In this section, we conduct a series of robustness tests to assess whether the main findings are sensitive to additional CEO-level controls, sample restrictions, or alternative constructions of the coherence measure. These tests address four potential concerns. First, the baseline association may reflect other observable CEO characteristics rather than personality coherence. Second, because *AccrualQuality* is constructed using a five-year rolling window, the dependent variable may partially reflect reporting behavior before the current CEO had sufficient influence over the firm. Third, the *Coherence* measure may be driven by one particular trait rather than by the alignment among traits. Fourth, the results may depend on the specific dispersion-based formula used to construct *Coherence*.

4.4.1 Robustness on additional CEO controls

[Insert Table 6 Here]

Table 6 examines whether the relation between CEO personality coherence and financial reporting quality is robust to controlling for additional observable CEO characteristics.

Although the baseline specifications include a broad set of firm-level controls, certain CEO-level characteristics may be correlated with both personality coherence and reporting outcomes. We therefore augment the baseline financial-reporting-quality regressions with four CEO-level controls. *TitleNum* captures the number of executive titles held by the CEO, including the CEO title. *isFounder* is an indicator variable equal to one if the CEO is also the founder of the firm. *Duality* is an indicator variable equal to one if the CEO also serves as chairman of the board. *PhD* is an indicator variable equal to one if the CEO holds a Ph.D. degree. The coefficient on *Coherence* remains positive and statistically significant across both *AccrualQuality* and *EarningsQuality* specifications. These results suggest that the baseline association is not subsumed by these observable CEO status, authority, and education characteristics.

4.4.2 Robustness on minimum tenure requirement

[Insert Table 7 Here]

Table 7 addresses the concern that the *AccrualQuality* measure may not be fully aligned with the timing of CEO influence. As defined in Appendix A, *AccrualQuality* is constructed from the five-year rolling standard deviation of accrual-model residuals. Therefore, for CEOs with relatively short tenure, the measure may partially reflect reporting behavior from years before the current CEO had sufficient influence over the firm's reporting process. To address this concern, we re-estimate the accrual-quality specification after imposing progressively stricter CEO-tenure requirements. Specifically, columns (1) through (4) restrict the sample to firm-year observations in which the CEO has served for at least two, three, four, and five years, respectively, by the fiscal year. The coefficient on *Coherence* remains positive across all four

columns and remains statistically significant under each tenure requirement. These results reduce the concern that the baseline association is driven by observations in which the rolling-window accrual-quality measure is weakly aligned with the current CEO's tenure.

4.4.3 Robustness on leave-one-trait-out coherence measures

[Insert Table 8 Here]

Table 8 examines whether the relation between CEO personality coherence and financial reporting quality is driven by any single trait included in the baseline coherence measure. To conduct this test, we reconstruct *Coherence* four times, each time excluding one of the four oriented LLM-derived traits. Specifically, columns (1) and (2) exclude *Ethic*, columns (3) and (4) exclude *Opportunism*, columns (5) and (6) exclude *Overconfidence*, and columns (7) and (8) exclude *Risk-taking*. The coefficient on *Coherence* remains positive across all specifications and is statistically significant in most columns for both *AccrualQuality* and *EarningsQuality*. This pattern suggests that the baseline findings are not driven solely by the inclusion of any particular trait, but are more consistent with the interpretation that the measure captures alignment across the CEO's broader trait profile.

4.4.4 Robustness on alternative coherence construction

[Insert Table 9 Here]

Table 9 examines whether the results are sensitive to the specific way in which CEO personality coherence is measured. The baseline measure captures coherence as the negative average squared deviation of the oriented trait scores from the CEO-specific trait mean. However, deviation from the CEO-specific mean is not the only way to quantify alignment

among multiple traits. As an alternative, we construct *Coherence*^{pairwise} as the negative average absolute pairwise distance among the oriented trait scores:

$$Coherence_i^{pairwise} = -\frac{2}{K(K-1)}\sum_{k<l}\left|T_{i,k} - T_{i,l}\right|,$$

where $T_{i,k}$ and $T_{i,l}$ denote CEO *i*'s oriented scores for traits *k* and *l*, respectively, and *K* is the number of traits. This measure compares each trait directly with every other trait within the same CEO's personality profile, rather than measuring dispersion around the CEO-specific mean. Higher values of *Coherence*^{pairwise} indicate smaller pairwise distances and therefore greater within-CEO trait alignment. Re-estimating the main specifications using this alternative measure yields results consistent with the baseline findings: *Coherence*^{pairwise} is positively associated with *AccrualQuality* and *EarningsQuality*, and negatively associated with *StockVolatility* and *LnAuditFee*. These results suggest that the evidence is not specific to the baseline deviation-based construction of *Coherence*.

5. Conclusion

Executives differ not only in the strength of particular traits, but also in how those traits fit together. This paper examines whether such within-executive trait alignment is informative for corporate reporting and capital-market outcomes. The question is difficult to study with conventional proxies because most CEO-trait measures are trait-specific, source-specific, and not naturally comparable across dimensions. We address this measurement problem by using large language models to evaluate several CEO traits from the same broad set of CEO-related

public texts and by constructing a CEO-level measure of personality coherence.

The empirical evidence indicates that personality coherence is systematically related to firms' reporting environment. CEOs with more aligned trait profiles are associated with higher accrual quality and earnings quality, and these relations remain after controlling for the residualized components of the individual traits. The evidence also extends to audit pricing and capital-market outcomes. Firms led by more coherent CEOs pay lower audit fees, exhibit lower stock return volatility, and have stronger earnings responses to earnings news. Additional tests show that these patterns are not subsumed by observable CEO characteristics, are robust to minimum-tenure restrictions designed to address the rolling-window construction of accrual quality, do not depend on any single trait in the personality coherence measure, and persist under an alternative pairwise-distance measure of trait alignment.

These findings point to a broader implication for research on managerial characteristics. While much of the existing literature studies executive traits one at a time, the evidence in this paper suggests that the configuration of traits within the same CEO can also contain economically relevant information. The results therefore complement, rather than replace, prior work on individual CEO traits. They also illustrate how scalable text-based methods can make it feasible to study executive personality in a more integrated manner. Future research can use similar approaches to examine how personality alignment operates within top management teams, and whether different forms of trait configuration matter in other corporate decision settings.

References

Ali, U., and Hirshleifer, D. (2017). Opportunism as a firm and managerial trait: Predicting insider trading profits and misconduct. *Journal of Financial Economics*, *126*(3), 490–515. https://doi.org/10.1016/j.jfineco.2017.09.002

Asendorpf, J. B. (2015). Person-centered approaches to personality. In M. Mikulincer, P. R. Shaver, M. L. Cooper, and R. J. Larsen (Eds.), *APA handbook of personality and social psychology, Volume 4: Personality processes and individual differences.* (pp. 403–424). American Psychological Association. https://doi.org/10.1037/14343-018

Bell, T. B., Landsman, W. R., and Shackelford, D. A. (2001). Auditors' Perceived Business Risk and Audit Fees: Analysis and Evidence. *Journal of Accounting Research*, *39*(1), 35–43. https://doi.org/10.1111/1475-679X.00002

Benmelech, E., and Frydman, C. (2015). Military CEOs. *Journal of Financial Economics*, *117*(1), 43–59. https://doi.org/10.1016/j.jfineco.2014.04.009

Cain, M. D., and McKeon, S. B. (2016). CEO Personal Risk-Taking and Corporate Policies. *Journal of Financial and Quantitative Analysis*, *51*(1), 139–164. https://doi.org/10.1017/S0022109016000041

Cervone, D. (1997). Social-Cognitive Mechanisms and Personality Coherence: Self-Knowledge, Situational Beliefs, and Cross-Situational Coherence in Perceived Self-Efficacy. *Psychological Science*, *8*(1), 43–50. https://doi.org/10.1111/j.1467-9280.1997.tb00542.x

Cervone, D., and Shoda, Y. (1999a). Beyond Traits in the Study of Personality Coherence. *Current Directions in Psychological Science*, *8*(1), 27–32. https://doi.org/10.1111/1467-8721.00007

Cervone, D., and Shoda, Y. (1999b). *The coherence of personality: Social-cognitive bases of consistency, variability, and organization* (pp. 3–33). Guilford Press.

Collins, D. W., and Kothari, S. P. (1989). An analysis of intertemporal and cross-sectional determinants of earnings response coefficients. *Journal of Accounting and Economics*, *11*(2–3), 143–181. https://doi.org/10.1016/0165-4101(89)90004-9

Dechow, P., Ge, W., and Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, *50*(2–3), Article 2–3. https://doi.org/10.1016/j.jacceco.2010.09.001

Dechow, P. M., and Dichev, I. D. (2002). The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors. *The Accounting Review*, *77*(s-1), 35–59. https://doi.org/10.2308/accr.2002.77.s-1.35

Demerjian, P. R., Lev, B., Lewis, M. F., and McVay, S. E. (2013). Managerial Ability and Earnings Quality. *The Accounting Review*, *88*(2), 463–498. https://doi.org/10.2308/accr-50318

Dikolli, S. S., Keusch, T., Mayew, W. J., and Steffen, T. D. (2020). CEO Behavioral Integrity, Auditor Responses, and Firm Outcomes. *The Accounting Review*, *95*(2), 61–88. https://doi.org/10.2308/accr-52554

Dittmar, A., and Duchin, R. (2015). Looking in the Rearview Mirror: The Effect of Managers' Professional Experience on Corporate Financial Policy. *Review of Financial Studies*, hhv051. https://doi.org/10.1093/rfs/hhv051

Fajkowska, M. (2013). *Personality coherence and incoherence: A perspective on anxiety and depression.* (pp. xiv, 297). Eliot Werner Publications.

Fajkowska, M. (2018). Personality traits: Hierarchically organized systems. *Journal of Personality*, *86*(1), 36–54. https://doi.org/10.1111/jopy.12314

Fajkowska, M. (2023). Personality coherence as a personality dynamics-related concept. *Journal of Personality*, *91*(4), 1012–1034. https://doi.org/10.1111/jopy.12717

Ferris, S. P., Jayaraman, N., and Sabherwal, S. (2013). CEO Overconfidence and International Merger and Acquisition Activity. *Journal of Financial and Quantitative Analysis*, *48*(1), 137–164. https://doi.org/10.1017/S0022109013000069

Fournier, M. A., Moskowitz, D. S., and Zuroff, D. C. (2008). Integrating dispositions, signatures, and the interpersonal domain. *Journal of Personality and Social Psychology*, *94*(3), 531–545. https://doi.org/10.1037/0022-3514.94.3.531

Francis, J., LaFond, R., Olsson, P., and Schipper, K. (2005). The market pricing of accruals quality. *Journal of Accounting and Economics*, *39*(2), 295–327. https://doi.org/10.1016/j.jacceco.2004.06.003

Green, T. C., Jame, R., and Lock, B. (2019). Executive Extraversion: Career and Firm Outcomes. *The Accounting Review*, *94*(3), 177–204. https://doi.org/10.2308/accr-52208

Griffin, J. M., Kruger, S., and Maturana, G. (2019). Personal infidelity and professional conduct in 4 settings. *Proceedings of the National Academy of Sciences*, *116*(33), 16268–16273. https://doi.org/10.1073/pnas.1905329116

Ham, C., Lang, M., Seybert, N., and Wang, S. (2017). CFO Narcissism and Financial Reporting Quality. *Journal of Accounting Research*, *55*(5), 1089–1135. https://doi.org/10.1111/1475-679X.12176

Ham, C., Seybert, N., and Wang, S. (2018). Narcissism is a bad sign: CEO signature size, investment, and performance. *Review of Accounting Studies*, *23*(1), 234–264. https://doi.org/10.1007/s11142-017-9427-x

Ho, S. S. M., Li, A. Y., Tam, K., and Zhang, F. (2015). CEO Gender, Ethical Leadership, and Accounting Conservatism. *Journal of Business Ethics*, *127*(2), 351–370. https://doi.org/10.1007/s10551-013-2044-0

Hogan, C. E., and Wilkins, M. S. (2008). Evidence on the Audit Risk Model: Do Auditors Increase Audit Fees in the Presence of Internal Control Deficiencies?*. *Contemporary Accounting Research*, *25*(1), 219–242. https://doi.org/10.1506/car.25.1.9

Kim, J., Wang, Z., and Zhang, L. (2016). CEO overconfidence and stock price crash risk. *Contemporary Accounting Research*, *33*(4), 1720–1749. https://doi.org/10.1111/1911-3846.12217

Liu, X. (2016). Corruption culture and corporate misconduct. *Journal of Financial Economics*, *122*(2), 307–327. https://doi.org/10.1016/j.jfineco.2016.06.005

Malmendier, U., and Tate, G. (2005). CEO overconfidence and corporate investment. *The Journal of Finance*, *60*(6), 2661–2700. https://doi.org/10.1111/j.1540-6261.2005.00813.x

Malmendier, U., and Tate, G. (2008). Who makes acquisitions? CEO overconfidence and the market's reaction. *Journal of Financial Economics*.

McNichols, M. F. (2002). Discussion of the Quality of Accruals and Earnings: The Role of Accrual Estimation Errors. *The Accounting Review*, *77*(s-1), 61–69. https://doi.org/10.2308/accr.2002.77.s-1.61

Mischel, W., and Shoda, Y. (1995). A cognitive-affective system theory of personality: Reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. *Psychological Review*, *102*(2), 246–268. https://doi.org/10.1037/0033-295X.102.2.246

Quirin, M., and Kuhl, J. (2022). The concert of personality: Explaining personality functioning and coherence by personality systems interactions. *European Journal of Personality*, *36*(3), 274–292. https://doi.org/10.1177/08902070221078478

Rajgopal, S., and Venkatachalam, M. (2011). Financial reporting quality and idiosyncratic return volatility. *Journal of Accounting and Economics*, *51*(1–2), 1–20. https://doi.org/10.1016/j.jacceco.2010.06.001

Rathje, S., Mirea, D.-M., Sucholutsky, I., Marjieh, R., Robertson, C. E., and Van Bavel, J. J. (2024). GPT is an effective tool for multilingual psychological text analysis. *Proceedings of the National Academy of Sciences*, *121*(34), e2308950121. https://doi.org/10.1073/pnas.2308950121

Rijsenbilt, A., and Commandeur, H. (2013). Narcissus Enters the Courtroom: CEO Narcissism and Fraud. *Journal of Business Ethics*, *117*(2), 413–429. https://doi.org/10.1007/s10551-012-1528-7

Schrand, C. M., and Zechman, S. L. C. (2012). Executive overconfidence and the slippery slope to financial misreporting. *Journal of Accounting and Economics*, *53*(1–2), 311–329. https://doi.org/10.1016/j.jacceco.2011.09.001

Shoda, Y., Mischel, W., and Wright, J. C. (1994). Intraindividual stability in the organization and patterning of behavior: Incorporating psychological situations into the idiographic analysis of personality. *Journal of Personality and Social Psychology*, *67*(4), 674–687. https://doi.org/10.1037/0022-3514.67.4.674

Wells, K. (2020). Who Manages the Firm Matters: The Incremental Effect of Individual Managers on Accounting Quality. *The Accounting Review*, *95*(2), 365–384. https://doi.org/10.2308/accr-52505

Wright, A. G. C., Ringwald, W. R., Vize, C. E., Eichstaedt, J. C., Angstadt, M., Taxali, A., and Sripada, C. (2026). Assessing personality using zero-shot generative AI scoring of brief open-ended text. *Nature Human Behaviour*, *10*(3), 541–555. https://doi.org/10.1038/s41562-025-02389-x

Appendix A: Variable definitions

Variable	Definition	Data Source
Explained Variables		
AccrualQuality	Inverse of the five-year rolling standard deviation of residuals from the modified Dechow and Dichev (2002). Higher values indicate better accrual quality.	Compustat
EarningsQuality	Negative absolute residuals from the McNichols (2002) accruals model. Higher values indicate better earnings quality.	Compustat
Explanatory Variables		
Ethic_MP	LLM-inferred CEO Ethic score in the media perception dimension.	Self-calculated
Ethic_NE	LLM-inferred CEO Ethic score in the narrative experience dimension.	Self-calculated
Ethic_PS	LLM-inferred CEO Ethic score in the public speech dimension.	Self-calculated
Opportunism_MP	LLM-inferred CEO Opportunism score in the media perception dimension.	Self-calculated
Opportunism_NE	LLM-inferred CEO Opportunism score in the narrative experience dimension.	Self-calculated
Opportunism_PS	LLM-inferred CEO Opportunism score in the public speech dimension.	Self-calculated
Overconfidence_MP	LLM-inferred CEO Overconfidence score in the media perception dimension.	Self-calculated
Overconfidence_NE	LLM-inferred CEO Overconfidence score in the narrative experience dimension.	Self-calculated
Overconfidence_PS	LLM-inferred CEO Overconfidence score in the public speech dimension.	Self-calculated
RiskTaking_MP	LLM-inferred CEO Risk-taking score in the media perception dimension.	Self-calculated
RiskTaking_NE	LLM-inferred CEO Risk-taking score in the narrative experience dimension.	Self-calculated
RiskTaking_PS	LLM-inferred CEO Risk-taking score in the public speech dimension.	Self-calculated
Ethic	(*Ethic_MP* + *Ethic_NE* + *Ethic_PS*)/3	Self-calculated
Opportunism	(*Opportunism_MP* + *Opportunism_NE* + *Opportunism_PS*)/3	Self-calculated
Overconfidence	(*Overconfidence_MP* + *Overconfidence_NE* + *Overconfidence_PS*)/3	Self-calculated
RiskTaking	(*RiskTaking_MP* + *RiskTaking_NE* + *RiskTaking_PS*)/3	Self-calculated
Coherence	A CEO-level measure capturing the within-individual consistency of the four LLM-derived trait dimensions—Ethic, reverse-scaled Opportunism, reverse-scaled Overconfidence, and reverse-scaled Risk-taking. For each CEO, the four standardized trait scores are compared to the CEO's own average trait level, and Coherence is computed as the negative average squared deviation from this individual-specific mean. The resulting measure is linearly rescaled to range from -1 to 0, where values closer to 0 indicate higher within-CEO trait consistency.	Self-calculated
Control Variables		
LnAssets	Natural logarithm of total assets.	Compustat
ROA	Operating income before depreciation divided by total assets.	Compustat
MarketToBook	Market value of assets over book value of assets.	Compustat
LnOperatingCycle	Natural logarithm of the firm's operating cycle.	Compustat
CapitalIntensity	Ratio of property, plant, and equipment to total assets.	Compustat
IntangiblesIntensity	(R&D expenses + advertising expenses)/sales revenue	Compustat
IntensityIndicator	Indicator variable equal to one if intangibles intensity is greater than zero.	Compustat
SalesVol	Standard deviation of sales deflated by the lagged total assets over the prior 5 years.	Compustat
CFVol	Standard deviation of cash flows from operations deflated by the lagged total assets over the prior 5 years.	Compustat
LossPct	Percentage of annual losses reported over the prior 5 years.	Compustat
Other Variables		
CorruptionCulture	CEO-level corruption culture score constructed following Liu (2016). The measure captures the average corruption perception of the CEO's country of ancestry, proxied by the Transparency International Corruption Perceptions Index (CPI) from 1995 to 2024. The country of ancestry is inferred from the CEO's surname using the Forebears.io global surname database. Higher values indicate greater tolerance toward corruption norms.	Self-calculated
Military	An indicator variable equal to one if the CEO has prior military service experience, and zero otherwise. We identify military background from biographical sources such as Marquis Who's Who and executive profiles and meida report, following Benmelech and Frydman (2015).	Self-calculated

OverconfMediaDiff	The difference between the number of webpages describing the CEO as overconfident and those describing the CEO as not overconfident, following the press-based methodology of Malmendier and Tate (2008) and Ferris et al. (2013).	Self-calculated
Pilot	A dummy variable equal to 1 if the CEO holds a private pilot license and 0 otherwise, following Cain and McKeon (2016).	Self-calculated
StockVolatility	Annualized standard deviation of daily returns.	CRSP
Restatement	An indicator variable equal to one if a firm announces a restatement of its financial statements, and zero otherwise.	Audit Analytics
Gender	An indicator variable equal to one if the firm's CEO is female and zero otherwise.	ExecuComp
PhD	An indicator variable that equals one if the CEO's name prefix is "Dr.", and zero otherwise.	ExecuComp

Appendix B: Methodological details of LLM-based trait inference

This appendix provides additional details on the procedure used to construct the LLM-based CEO personality trait measures. The procedure consists of four stages. First, we construct a CEO-related webpage database using rule-based search queries based on CEO–company pairs. Second, we process the collected webpages into a clean passage-level corpus. Third, for each CEO, trait, and textual dimension, we identify trait-relevant passages using a retrieval-and-reranking procedure. Finally, we use fixed LLM prompts to assign passage-level trait scores and aggregate them into CEO-level trait measures.

To construct the CEO-related webpage database, we begin with CEO–company pairs identified from ExecuComp. For each CEO, we generate search queries that combine the executive's name, the corresponding company name, and a predefined contextual placeholder. The CEO–company anchor is intended to reduce homonym-related noise and increase the likelihood that retrieved webpages refer to the focal executive. We collect search results from multiple search engines, including Google, Bing, and DuckDuckGo, to reduce dependence on any single search provider's ranking algorithm or coverage.[5] For each query, we retain the returned webpage link, title, and short description, which are then used to organize CEO-related webpages for downstream processing. Figure B1 reports the procedure chart of webpage database construction.

The contextual placeholders are selected ex ante to broaden coverage across different public representations of CEOs rather than to target specific personality scores or firm outcomes. These placeholders cover three broad categories: public speech, media description, and personal experience. Public-speech terms retrieve interviews, speeches, panel discussions, public remarks, and similar materials. Media-description terms retrieve news coverage, feature articles, opinion pieces, and other third-party descriptions. Personal-experience terms retrieve biographies, career histories, education backgrounds, and professional profiles. We intentionally avoid earnings- or performance-oriented search terms in the main query design to reduce the possibility that the textual corpus is mechanically linked to the dependent variables. Table B1 reports the full list of placeholder terms.

After collecting search-result URLs, we download the underlying webpage HTML and extract the main body text.[6] We exclude inaccessible pages, non-HTML files, and pages with empty extracted text, and archive the retained webpage text together with basic metadata, including URL, title, CEO name, and firm name. To reduce irrelevant matches, we retain webpages whose extracted text mentions the focal CEO's name. We then segment each webpage into passages of approximately 140 words[7], which preserves sufficient local context for personality inference while keeping each unit focused for

[5] Google search results were collected through the Serper API (https://serper.dev/), which provides structured metadata from Google searches. Bing results were collected using a Selenium-based crawler; Selenium is a Python package for browser automation, which we used to open Bing search-result pages and parse returned links, titles, and descriptions (https://pypi.org/project/selenium/). DuckDuckGo results were collected using the duckduckgo_search Python package (https://pypi.org/project/duckduckgo-search/). All searches were conducted using U.S. region and language settings.

[6] We download webpage HTML using the requests Python package (requests: https://pypi.org/project/requests/). We extract main body text using the jusText Python package, which removes boilerplate content from HTML webpages (jusText: https://pypi.org/project/jusText/).

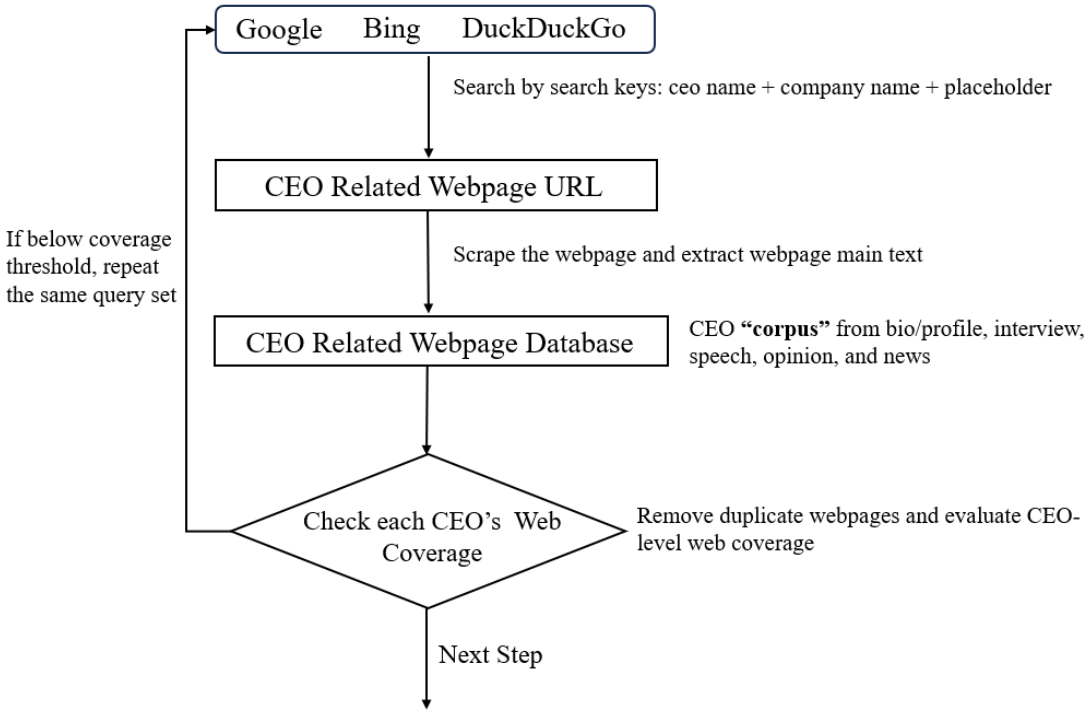
[7] We use passages of approximately 140 words because this length typically corresponds to a short paragraph or semantically coherent text block. It provides enough context for trait inference while limiting the number of unrelated statements within the same scoring unit. Passage boundaries are approximate because we preserve sentence boundaries rather than imposing a fixed word cutoff.

subsequent scoring.

Figure B2 summarizes the LLM-based trait inference procedures. For each CEO, trait, and textual dimension, we identify passages that are relevant to the target trait using a retrieval-and-reranking procedure. We first embed the CEO-level passage corpus and store the embeddings in a vector index.[8] For each trait-dimension pair, we use predefined retrieval queries to locate passages that are topically related to the trait under the relevant textual dimension. Retrieved passages are then reranked for relevance, deduplicated to remove repeated or highly similar text, and selected to preserve semantic diversity.[9] This step is designed to identify relevant textual evidence rather than to determine whether the CEO scores high or low on the trait.

Table B2 reports the system prompt and trait-specific user prompts used for LLM scoring. In the scoring stage, the LLM evaluates each selected passage using a fixed prompt and assigns an ordinal trait score on a five-point scale. To ensure that trait scores are grounded in the collected textual evidence rather than in the model's prior knowledge of prominent executives, we replace CEO names with anonymized identifiers in the scoring prompts. The prompt instructs the model to base its assessment only on the provided passage. We archive the raw LLM responses and extract the numerical scores into structured files, preserving CEO identifiers, textual dimensions, passage identifiers, and scores for subsequent aggregation. This procedure produces passage-level scores that can be traced back to the underlying textual evidence and then aggregated into dimension-level and CEO-level trait measures.

Figure B1: Webpage database construction



[8] We generate passage embeddings using bge-large-en-v1.5 (https://huggingface.co/BAAI/bge-large-en-v1.5) and store the resulting vectors in a FAISS index for similarity search. FAISS is an open-source library for efficient similarity search over dense vectors, see https://github.com/facebookresearch/faiss.

[9] Passage reranking is implemented using bge-reranker-large, which is available at https://huggingface.co/BAAI/bge-reranker-large.

Figure B2: LLM-based trait inference pipeline

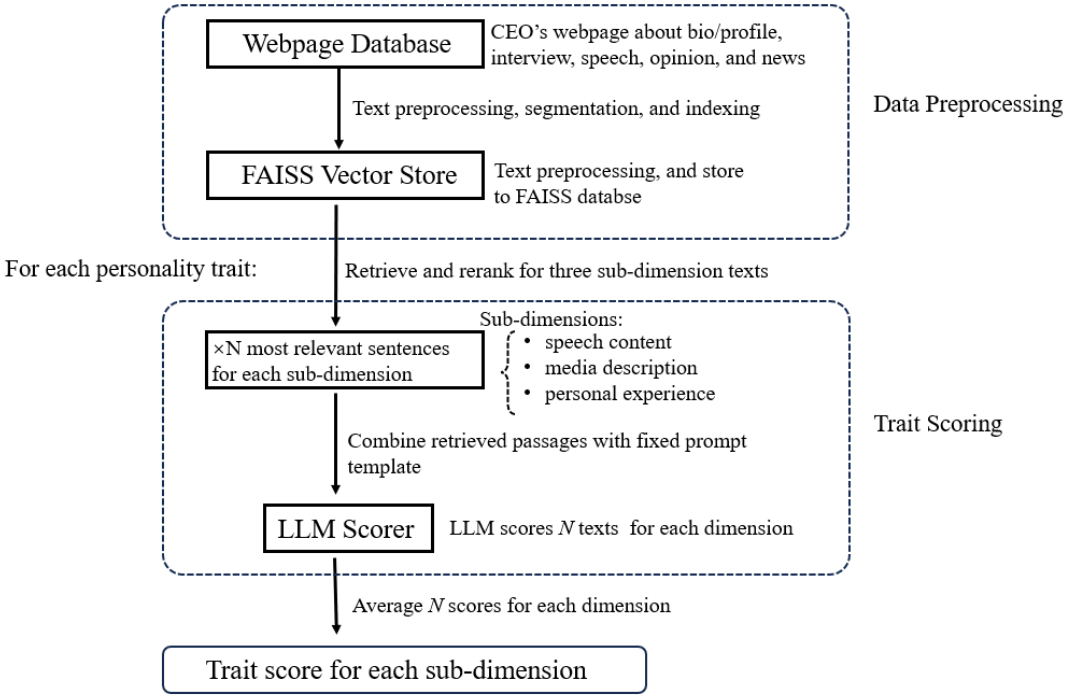


Table B1: Placeholder terms used in search-engine crawling

Speech Content	Media Description	Personal Experience
Chat	Commentary	Biography
Conference speech	Feature article	Career history
Interview	In the news	Career path
Keynot speech	Media coverage	Education background
Panel discussion	News article	Personal background
Public remarks	News profile	Professional background
Speech	Opinion piece	Profile

Table B2: GPT Prompt for each trait

System prompt:

You are a professional personal trait evaluator tasked with inferring CEOs' personality trait. You have expert knowledge in psychology, behavioral science, natural language understanding, opinion analysis, and structured personality classification.

User prompt:

1. **Ethic:**

Ethic is a stable psychological trait characterized by an individual's internalized commitment to **moral principles, fairness, accountability, and the broader well-being of others**, even when such commitments may conflict with personal or strategic gain.
Based on the following retrieved text about CEO {ceo_identifier}, assess the **degree to which their personality reflects ethical tendencies**. Focus on actions, decisions, or expressions that demonstrate a concern for fairness, transparency, long-term responsibility, or prioritization of collective interest over self-serving outcomes.
Use the 5-point scale described below to assign an **ethic score**, indicating how strongly this trait is reflected.
Format your response strictly as a JSON object with two fields:
`ceo_name`: string, the CEO's name

`ethic_score`: integer, an integer between 1 and 5 (inclusive) that reflects the CEO's ethical disposition based on the text:
- 1 = No indication of ethical principles or concern for fairness
- 2 = Slight or weak signs of ethical awareness or responsibility
- 3 = Neutral or insufficient evidence to assess
- 4 = Moderate signs of ethical commitment, fairness, or accountability
- 5 = Strong and consistent signs of moral integrity and prioritization of others' well-being over self-interest

Retrieved text about the CEO:
{text}

2. Opportunism:

Opportunism is a personality-driven behavioral tendency marked by a consistent inclination to **pursue self-interest through manipulation, ethical flexibility, or exploitation of ambiguity**, especially in situations with weak monitoring or unclear norms.
Based on the following retrieved text about CEO {ceo_identifier}, assess the **degree to which their personality reflects opportunistic tendencies**. Focus on actions, decisions, or expressions that suggest a willingness to bend rules, act strategically for personal advantage, or operate in gray areas of ethics or oversight.
Use the 5-point scale described below to assign an **opportunism score**, indicating how strongly this trait is reflected.
Format your response strictly as a JSON object with two fields:
`ceo_name`: string, the CEO's name
`opportunism_score`: integer, an integer between 1 and 5 (inclusive) that reflects the CEO's opportunistic trait based on the text:
- 1 = No signs of opportunism
- 2 = Slight or weak signs of opportunism
- 3 = Neutral or Cannot Determine
- 4 = Moderate signs of opportunism
- 5 = Strong and clear signs of opportunism

Retrieved text about the CEO:
{text}

3. Overconfidence:

Overconfidence is a stable psychological trait characterized by an individual's **inflated belief in their own abilities, judgment, or control over outcomes**, beyond what is justified by objective evidence or situational constraints.
Based on the following retrieved text about CEO {ceo_identifier}, assess the **degree to which their personality exhibits signs of overconfidence**. Focus on language, decisions, or behaviors that suggest excessive certainty, control, or self-belief relative to the context.
Use the 5-point scale described below to assign an **overconfidence score**, indicating how strongly this trait is reflected.
Format your response strictly as a JSON object with two fields:
`ceo_name`: string, the CEO's name
`overconfidence_score`: integer, an integer between 1 and 5 (inclusive) that reflects the CEO's overconfidence trait based on the text:
- 1 = No signs of overconfidence
- 2 = Slight or weak signs of overconfidence
- 3 = Neutral or Cannot Determine
- 4 = Moderate signs of overconfidence
- 5 = Strong and clear signs of overconfidence

Retrieved text about the CEO:
{text}

4. Risktaking:

Risk-taking traits refer to enduring individual differences in the **disposition** to engage in situations that involve uncertainty and potential negative outcomes in pursuit of potential rewards.
Based on the following retrieved text about CEO {ceo_identifier}, assess the degree to which their personality reflects a risk-taking trait. Use the 5-point scale described below.
Format your response strictly as a JSON object with two fields:
`ceo_name`: string, the CEO's name

`risk_score`: integer, an integer between 1 and 5 (inclusive) that reflects the CEO's risk-taking trait based on the text:
- 1 = Clearly Risk-Averse
- 2 = Moderately Risk-Averse
- 3 = Neutral or Cannot Determine
- 4 = Moderately Risk-Taking
- 5 = Clearly Risk-Taking

Retrieved text about the CEO:
{text}

Appendix C: Replication details for CEO trait proxies from prior literature

Military Experience and CEO Ethics

We follow Benmelech and Frydman (2015) and use prior military service as an external validation proxy for CEO ethics. This proxy is appropriate because military service is associated with institutionalized training, discipline, duty, dedication, self-sacrifice, and loyalty, all of which may foster a value system that encourages ethical decision-making and reduces self-serving behavior. Consistent with this interpretation, Benmelech and Frydman (2015) argue that military service may instill a stronger sense of ethics and show that CEOs with military experience are significantly less likely to be involved in corporate fraudulent activity.

To replicate their measurement approach, we construct *Military* as an indicator variable equal to one if a CEO's public biography indicates prior military service, and zero otherwise. Following their measurement approach, we identify CEOs' military backgrounds from public biographical sources that explicitly report military service, including Marquis Who's Who[10], executive profiles, company biographies, corporate webpages, and media reports. We manually check these sources for each CEO and code *Military* based only on the CEO's own prior military service. The data on military service are compiled independently of our CEO textual corpus and are therefore not mechanically related to the LLM-derived ethics measure.

Ancestry-Based Corruption Culture and CEO Opportunism

We replicate the corruption-culture measure developed by Liu (2016) as an external validation proxy for CEO opportunism. Liu (2016) argues that corruption culture captures a general attitude toward opportunistic behavior and shows that firms with higher corruption culture are more likely to engage in corporate misconduct, including earnings management, accounting fraud, option backdating, and opportunistic insider trading. Following this logic, we use *CorruptionCulture* to validate whether the LLM-derived opportunism score captures variation related to self-serving or misconduct-prone behavioral tendencies.

To construct this measure, we infer each CEO's likely country of ancestry from the CEO's surname using the Forebears[11] global surname database. We then match the inferred ancestral country to Transparency International's Corruption Perceptions Index (CPI). Following the epidemiological approach used in Liu (2016), the measure assumes that cultural attitudes associated with the country of ancestry may persist among immigrants and their descendants and can therefore provide a proxy for inherited corruption-related norms. We calculate *CorruptionCulture* as the average corruption score of the CEO's inferred ancestral country over 1995–2024, with higher values indicating greater corruption tolerance. This variable is constructed from surname-based ancestry and country-level corruption data, independently of our CEO textual corpus, and is therefore not mechanically related to the LLM-derived

[10] Marquis Who's Who has published biographical directories documenting accomplished individuals since 1899. We access this source through its online biographical database, Marquis Biographies Online; see https://www.marquisbiographiesonline.com/.

[11] Forebears is a genealogy portal that reports surname meanings and geographic distributions. We use its global surname database to infer the likely ancestral country associated with each CEO's surname.

opportunism measure.

Press-Based Overconfidence and CEO Overconfidence

We replicate the press-based overconfidence proxy developed by Malmendier and Tate (2008) and further used by Ferris et al. (2013). This proxy is appropriate because CEO overconfidence is reflected in outsiders' descriptions of the CEO's beliefs, optimism, and confidence. Malmendier and Tate (2008) show that press characterizations of CEOs as "confident" or "optimistic" are positively correlated with portfolio-based overconfidence measures, and they use this media-based measure as an alternative proxy for CEO overconfidence. Ferris et al. (2013) adopt a similar press-based approach and argue that public news articles provide direct outside assessments of CEOs' confidence. Following this method, we construct *OverconfMediaDiff* as the difference between the number of webpages describing a CEO using overconfidence-related terms and the number of webpages describing the CEO using non-overconfidence or cautiousness-related terms. Specifically, overconfidence-related terms include "confident," "confidence," "optimistic," and "optimism," while non-overconfidence-related terms include "not confident," "not optimistic," "reliable," "cautious," "conservative," "practical," "frugal," and "steady." Higher values of *OverconfMediaDiff indicate* that the CEO is more frequently portrayed as confident or optimistic relative to cautious or restrained.

We choose the CEO-related webpage database constructed for this study rather than traditional press-news archives, primarily because the webpage database provides broader and more scalable coverage for our large CEO sample. This choice is also reasonable for our recent sample period (2010-2024), in which CEO-related public descriptions are increasingly distributed across internet-based sources rather than concentrated in traditional newspaper-based business press. Because the proxy is based on explicit keyword classifications rather than LLM-based latent-trait inference, it provides a distinct external benchmark for validating the LLM-derived overconfidence measure.

Private Pilot License and CEO Risk-Taking

We replicate the private-pilot-license proxy developed by Cain and McKeon (2016) as an external validation measure for CEO risk-taking. This proxy is appropriate because holding a private pilot license reflects a revealed preference for bearing personal, nonpecuniary risk outside the corporate environment. Cain and McKeon (2016) argue that operating small aircraft exposes individuals to substantial health risk and show that CEOs with pilot licenses lead firms with higher equity return volatility and more risk-taking corporate policies. Following their measurement approach, we construct *Pilot* as an indicator variable equal to one if the CEO holds a private pilot license, and zero otherwise. We obtain pilot-license information from the Federal Aviation Administration's Airmen Certification database and identify pilot CEOs by matching executive names to FAA records. When a CEO name matches one or more FAA records, we manually check additional identifying information, such as middle name, location, age, and biographical details, to ensure that the license record corresponds to the sample CEO. Because the pilot-license proxy is based on personal activities outside the firm and is constructed independently of the CEO textual corpus, it provides a non-textual benchmark for validating the LLM-derived risk-taking measure.

Appendix D: Validation of LLM-based CEO traits

Table D1: Inner Consistency of CEO Trait Constructs (CEO-Level)

	N	#.of subdimensions	Variance Explained by 1st Component	Cronbach's α
Ethic	2,968	3	83.88%	0.9027
Opportunism	2,968	3	80.18%	0.8744
Overconfidence	2,968	3	74.42%	0.8268
Risk-taking	2,968	3	81.71%	0.8868

Notes: This table reports internal consistency statistics for the LLM-derived CEO personality trait constructs. The sample is based on CEOs with non-missing scores for all three narrative sub-dimensions used to construct each trait. For each trait, the three sub-dimensions are Media Perception, Narrative Experience, and Public Speech. "Variance Explained by 1st Component" reports, in percentage terms, the proportion of total variation in the three sub-dimension scores explained by the first principal component. Cronbach's α reflects the commonality of the three sub-dimension scores and ranges from 0 to 1. Higher values of both statistics indicate stronger commonality among the three sub-dimensions. Higher values of both statistics indicate stronger internal consistency among the three sub-dimensions.

Table D2: Validation of LLM-Based CEO Traits with established proxies

Panel A - Univariate Analyses Across Evaluation Dimensions.

	LLM-base CEO Traits			
	(1)	(2)	(3)	(4)
	Media Perception	Narrative Experience	Public Speech	AVG
Military	0.036**	0.051***	0.028	0.045**
	(0.049)	(0.006)	(0.129)	(0.014)
OverconfMediaDiff	0.129***	0.058***	0.130***	0.118***
	(0.001)	(0.002)	(0.001)	(0.001)
Pilot	0.042**	0.047**	0.031*	0.044**
	(0.022)	(0.011)	(0.088)	(0.017)
CorruptionCulture	0.057***	0.012	0.028	0.039**
	(0.003)	(0.536)	(0.141)	(0.042)

Panel B - Multivariate Regression Analyses

	(1)	(2)	(3)	(4)
	Risktaking	*Ethic*	*Overconfidence*	*Opportunism*
Pilot	0.072***			
	(2.70)			
Military		0.067***		
		(3.04)		
OverconfMediaDiff			0.001***	
			(6.12)	
CorruptionCulture				0.008***
				(2.33)
Gender	0.085***	0.228***	-0.057***	-0.188***
	(3.63)	(11.07)	(-3.53)	(-7.77)
PhD	0.042**	-0.028	0.039***	0.041*
	(2.21)	(-1.45)	(2.66)	(1.79)
Constant	Yes	Yes	Yes	Yes
Observations	2,968	2,968	2,968	2,753
R-squared	0.0089	0.0438	0.0201	0.0254

Notes: This table validates the LLM-based CEO trait measures using established proxies from prior literature. Panel A reports CEO-level univariate associations between each validation proxy and the corresponding LLM-derived CEO trait measure across three evaluation dimensions: Media Perception, Narrative Experience, and Public Speech. AVG is the equal-weighted average of the three dimension-specific LLM trait scores. *Military* is an indicator variable for CEOs with prior military service and is used to validate the LLM-derived ethics measure. *OverconfMediaDiff* is the difference between the number of webpages describing the CEO as overconfident and those describing the CEO as not overconfident, and is used to validate the LLM-derived overconfidence measure. *Pilot* is an indicator variable for CEOs holding a private pilot license and is used to validate the LLM-derived risk-taking measure. *CorruptionCulture* captures ancestry-based corruption norms and is used to validate the LLM-derived opportunism measure. Panel B reports CEO-level multivariate OLS regressions in which the dependent variables are the aggregate LLM-derived CEO trait measures. Each column includes the corresponding

validation proxy, Gender, and PhD as explanatory variables. Column (4) has fewer observations (N = 2,753) because, for some CEOs, the country of ancestry cannot be reliably identified from surname, resulting in missing values for *CorruptionCulture*. Variable definitions are provided in Appendix A. In Panel A, *p*-values are reported in parentheses. In Panel B, *t*-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table D3: Trait–outcome patterns in financial reporting quality

Panel A - Individual Trait–Outcome Associations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	AccrualQuality				*EarningsQuality*			
Ethic	5.520***				0.005***			
	(3.76)				(3.48)			
Opportunism		-4.673***				-0.005***		
		(-3.78)				(-3.35)		
RiskTaking			-3.363**				-0.004**	
			(-2.50)				(-2.35)	
Overconfidence				-3.039*				-0.007***
				(-1.74)				(-3.39)
LnAssets	3.037***	3.180***	3.369***	3.337***	0.002***	0.002***	0.002***	0.002***
	(10.68)	(11.64)	(12.37)	(12.16)	(5.85)	(6.35)	(7.23)	(7.18)
ROA	-19.05***	-19.65***	-19.19***	-19.04***	0.004	0.003	0.003	0.003
	(-5.51)	(-5.65)	(-5.54)	(-5.50)	(0.56)	(0.47)	(0.53)	(0.55)
MarketToBook	0.197	0.210	0.344*	0.282	-0.001**	-0.001**	-0.001*	-0.001**
	(0.95)	(1.01)	(1.66)	(1.36)	(-2.27)	(-2.26)	(-1.87)	(-2.06)
LnOperatingCycle	-1.016*	-1.044*	-1.053*	-1.044*	-0.002**	-0.002**	-0.002**	-0.002**
	(-1.65)	(-1.70)	(-1.71)	(-1.70)	(-2.25)	(-2.28)	(-2.25)	(-2.19)
CapitalIntensity	8.185***	8.230***	8.012***	8.236***	0.008***	0.008***	0.008***	0.008***
	(3.03)	(3.05)	(2.95)	(3.03)	(3.35)	(3.38)	(3.30)	(3.37)
IntangiblesIntensity	-7.049**	-7.482***	-6.035**	-6.790**	-0.009	-0.009	-0.008	-0.009
	(-2.47)	(-2.59)	(-2.08)	(-2.35)	(-1.38)	(-1.44)	(-1.20)	(-1.33)
IntensityIndicator	-0.390	-0.363	-0.253	-0.244	-0.001	-0.001	-0.001	-0.001
	(-0.36)	(-0.34)	(-0.24)	(-0.23)	(-0.69)	(-0.68)	(-0.57)	(-0.53)
SalesVol	-12.41***	-12.38***	-12.41***	-12.52***	-0.013***	-0.013***	-0.013***	-0.013***
	(-2.74)	(-2.71)	(-2.70)	(-2.72)	(-4.77)	(-4.79)	(-4.77)	(-4.81)
CFVol	-8.313	-8.283	-8.309	-8.210	-0.006	-0.005	-0.005	-0.005
	(-1.23)	(-1.22)	(-1.23)	(-1.21)	(-0.47)	(-0.46)	(-0.47)	(-0.45)
LossPct	-12.47***	-12.12***	-12.26***	-12.32***	-0.016***	-0.015***	-0.016***	-0.015***
	(-9.95)	(-9.67)	(-9.72)	(-9.75)	(-8.66)	(-8.49)	(-8.58)	(-8.50)
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16,046	16,046	16,046	16,046	15,114	15,114	15,114	15,114
Adjusted R-squared	0.4237	0.4235	0.4225	0.4222	0.0992	0.0993	0.0986	0.0994

Panel B - Trait–Outcome Associations Robust to the Inclusion of Other Traits

	(1)	(2)	(3)	(4)
	AccrualQuality		*EarningsQuality*	
Ethic	4.947***		0.004***	
	(2.84)		(2.59)	
Opportunism	-2.874*		-0.001	
	(-1.90)		(-0.67)	
Overconfidence	2.361		-0.003	
	(1.09)		(-1.52)	
Risktaking	-4.774***		-0.003*	
	(-2.99)		(-1.94)	
Ethic_resid		8.269***		0.007***
		(3.87)		(3.52)
Opportunism_resid		-8.229***		-0.008***
		(-3.83)		(-3.36)
Overconfidence_resid		-4.787*		-0.011***
		(-1.75)		(-3.40)
Risktaking_resid		-4.489**		-0.005**
		(-2.56)		(-2.44)

Constant	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
Observations	16,046	16,046	15,114	15,114
Adjusted R-squared	0.4251	0.4251	0.1006	0.1006

Notes: This table examines whether the LLM-derived CEO trait measures exhibit trait–outcome patterns consistent with prior evidence on CEO traits and financial reporting quality. The analyses are conducted at the firm-year level. The dependent variables are *AccrualQuality* and *EarningsQuality*, both of which are constructed so that higher values indicate better financial reporting quality. Panel A reports individual trait–outcome associations by including one LLM-derived CEO trait at a time. Columns (1)–(4) use AccrualQuality as the dependent variable, and columns (5)–(8) use *EarningsQuality* as the dependent variable. Panel B examines whether the trait–outcome associations are robust to overlap across the four LLM-derived CEO trait measures. Columns (1) and (3) include the four trait measures jointly. Columns (2) and (4) include residualized individual trait measures, which isolate the component of each trait that is orthogonal to the other three traits. All regressions include firm-level controls for size, profitability, growth opportunities, operating complexity, asset structure, intangible intensity, and operating uncertainty, as well as industry and year fixed effects. Variable definitions and sample summary statistics are provided in Appendix A and Table 1, respectively. *t*-statistics based on standard errors clustered by CEO are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table D4: Robustness - Alternative trait construction

	(1) *AccrualQuality*	(2) *AccrualQuality*	(3) *AccrualQuality*	(4) *AccrualQuality*	(5) *AccrualQuality*
Ethic_pca		0.850***			
		(3.59)			
Opportunism_pca			-0.814***		
			(-3.48)		
Risktaking_pca				-0.553**	
				(-2.38)	
Overconfidence_pca					-0.419*
					(-1.73)
LnAssets	3.306***	3.056***	3.190***	3.369***	3.337***
	(12.08)	(10.76)	(11.66)	(12.36)	(12.16)
ROA	-18.99***	-19.04***	-19.64***	-19.19***	-19.072***
	(-5.47)	(-5.50)	(-5.65)	(-5.54)	(-5.51)
MarketToBook	0.273	0.199	0.214	0.344*	0.286
	(1.31)	(0.96)	(1.03)	(1.66)	(1.38)
LnOperatingCycle	-1.097*	-1.011	-1.058*	-1.056*	-1.047*
	(-1.78)	(-1.64)	(-1.73)	(-1.72)	(-1.71)
CapitalIntensity	8.316***	8.185***	8.267***	8.041***	8.270***
	(3.06)	(3.03)	(3.06)	(2.96)	(3.05)
IntangiblesIntensity	-6.803**	-6.999**	-7.494***	-6.072**	-6.803**
	(-2.35)	(-2.45)	(-2.60)	(-2.10)	(-2.36)
IntensityIndicator	-0.287	-0.392	-0.352	-0.249	-0.245
	(-0.27)	(-0.37)	(-0.33)	(-0.23)	(-0.23)
SalesVol	-12.62***	-12.43***	-12.41***	-12.43***	-12.52***
	(-2.76)	(-2.74)	(-2.71)	(-2.71)	(-2.72)
CFVol	-8.224	-8.299	-8.252	-8.287	-8.190
	(-1.21)	(-1.22)	(-1.22)	(-1.22)	(-1.20)
LossPct	-12.53***	-12.50***	-12.16***	-12.26***	-12.32***
	(-9.94)	(-9.96)	(-9.68)	(-9.72)	(-9.75)
Constant	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes
Observations	16,046	16,046	16,046	16,046	16,046
Adjusted R-squared	0.422	0.423	0.423	0.422	0.422

Notes: This table reports robustness tests using alternative PCA-based constructions of the LLM-derived CEO trait measures. The analyses are conducted at the firm-year level. The dependent variable is *AccrualQuality*, which is constructed so that higher values indicate better accrual quality. *Ethic_pca*, *Opportunism_pca*, *Risktaking_pca*, and *Overconfidence_pca* are alternative trait measures constructed as the first principal component of the three corresponding narrative sub-dimension scores: Media Perception, Narrative Experience, and Public Speech. Column (1) reports the baseline specification without PCA-based trait measures. Columns (2)–(5) include one PCA-based trait measure at a time. All regressions include firm-level controls for size, profitability, growth opportunities, operating complexity, asset structure, intangible intensity, and operating uncertainty, as well as industry and year fixed effects. Variable definitions and sample summary statistics are provided in Appendix A

and Table 1, respectively. *t*-statistics based on standard errors clustered by CEO are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 1: Descriptive statistics and correlation matrix

Panel A – Summary Statistics (Firm-year level sample)

Variable	N	Mean	S.D.	Q1	Median	Q3
AccrualQuality	16,046	38.54	32.74	18.75	29.13	46.29
EarningsQuality	15,114	-0.034	0.036	-0.045	-0.024	-0.011
Ethic	16,046	3.777	0.271	3.600	3.778	3.956
Opportunism	16,046	2.709	0.303	2.522	2.711	2.889
Overconfidence	16,046	2.805	0.214	2.667	2.789	2.933
RiskTaking	16,046	3.609	0.275	3.422	3.589	3.778
Coherence	16,046	-0.102	0.117	-0.124	-0.065	-0.031
LnAssets	16,046	7.890	1.690	6.713	7.775	8.990
ROA	16,046	0.124	0.100	0.082	0.122	0.171
MarketToBook	16,046	1.977	1.600	0.989	1.464	2.341
LnOperatingCycle	16,046	4.558	0.754	4.159	4.633	5.044
CapitalIntensity	16,046	0.259	0.232	0.083	0.171	0.376
IntangiblesIntensity	16,046	0.071	0.127	0.000	0.021	0.086
IntensityIndicator	16,046	0.729	0.445	0.000	1.000	1.000
SalesVol	16,046	0.192	0.300	0.064	0.122	0.227
CFVol	16,046	0.057	0.137	0.021	0.036	0.061
LossPct	16,046	0.188	0.285	0.000	0.000	0.200

Panel B – Pearson Pairwise Correlations (Firm-year level sample)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(1) AccrualQuality																		
(2) EarningsQuality	***0.235***																	
(3) Ethic	***0.178***	***0.101***																
(4) Opportunism	***-0.133***	***-0.090***	***-0.549***															
(5) Overconfidence	***-0.096***	***-0.072***	***-0.167***	***0.471***														
(6) RiskTaking	***-0.127***	***-0.082***	***0.155***	***0.066***	***0.442***													
(7) Coherence	***0.030***	***0.025***	***-0.045***	***0.065***	***-0.037***	***-0.188***												
(8) LnAssets	***0.315***	***0.189***	***0.272***	***-0.173***	0.001	-0.009	***-0.131***											
(9) ROA	0.018	***0.107***	***0.095***	***-0.113***	***-0.032***	***-0.043***	***-0.039***	***0.141***										
(10) MarketToBook	***-0.114***	***-0.076***	***0.025***	***-0.089***	0.020	***0.168***	***-0.082***	***-0.143***	***0.275***									
(11) LnOperatingCycle	***-0.091***	***-0.038***	***-0.110***	***0.023***	***0.026***	***-0.060***	***-0.025***	***-0.038***	***-0.112***	-0.004								
(12) CapitalIntensity	***0.292***	***0.125***	***0.065***	0.001	***-0.080***	***-0.164***	***0.081***	***0.221***	***0.057***	***-0.198***	***-0.286***							
(13) IntangiblesIntensity	***-0.172***	***-0.170***	***-0.055***	0.017	***0.058***	***0.174***	***-0.040***	***-0.227***	***-0.398***	***0.298***	***0.151***	***-0.317***						
(14) IntensityIndicator	***-0.242***	***-0.077***	***-0.038***	***-0.029***	***0.064***	***0.091***	***-0.096***	***-0.150***	***0.023***	***0.208***	***0.235***	***-0.380***	***0.340***					
(15) SalesVol	***-0.210***	***-0.146***	***-0.081***	***0.084***	***0.044***	***0.063***	0.006	***-0.159***	***-0.052***	***0.043***	***-0.137***	***-0.075***	0.014	***-0.028***				
(16) CFVol	***-0.164***	***-0.143***	***-0.065***	***0.065***	***0.038***	***0.053***	0.008	***-0.168***	***-0.127***	***0.109***	-0.020	***-0.062***	***0.236***	***0.044***	***0.553***			
(17) LossPct	***-0.243***	***-0.216***	***-0.143***	***0.166***	***0.099***	***0.118***	***0.030***	***-0.330***	***-0.449***	0.010	***0.031***	***-0.050***	***0.365***	***0.084***	***0.145***	***0.220***		

Notes: This table reports descriptive statistics and Pearson pairwise correlations for the firm-year sample used in the main analyses. The sample is based on U.S. public-firm CEOs covered by ExecuComp who served between 2010 and 2024, for whom we obtain non-missing LLM-derived personality trait measures and match to firm-year financial reporting and control variables from Compustat. Panel A presents summary statistics for the financial reporting quality measures, CEO personality measures, and firm-level control variables. Panel B reports Pearson pairwise correlations among these variables; bold italic correlations indicate statistical significance at the 1% level. *AccrualQuality* is the inverse of the five-year rolling standard deviation of residuals from the modified Dechow and Dichev (2002) accruals model. *EarningsQuality* is the negative absolute residual from the McNichols (2002) accruals model. Higher values of *AccrualQuality* and *EarningsQuality* indicate better financial reporting quality. *Ethic*, *Opportunism*, *Overconfidence*, and *RiskTaking* are LLM-derived CEO personality trait scores constructed from public CEO-related textual information. Each trait score is measured on a five-point scale, with higher values indicating a stronger expression of the corresponding trait. *Coherence* is a CEO-level measure of the internal alignment among the four oriented CEO personality traits—*Ethic*, reverse-scaled *Opportunism*, reverse-scaled *Overconfidence*, and reverse-scaled *RiskTaking*. *Coherence* is linearly rescaled to range from −1 to 0, with values closer to 0 indicating greater within-CEO trait coherence. Firm-level controls include *LnAssets*, *ROA*, *MarketToBook*, *LnOperatingCycle*, *CapitalIntensity*, *IntangiblesIntensity*, *IntensityIndicator*, *SalesVol*, *CFVol*, and *LossPct*, which capture firm size, profitability, growth opportunities, operating complexity, asset structure, intangible intensity, and operating uncertainty; detailed variable definitions are provided in Appendix A.

Table 2: Coherence of CEO personality traits and financial reporting quality

	(1)	(2)	(3)	(4)
	AccrualQuality	*AccrualQuality*	*EarningsQuality*	*EarningsQuality*
Coherence	7.591**	6.434**	0.008**	0.007**
	(2.42)	(1.96)	(2.42)	(2.10)
Ethic_resid		8.236***		0.007***
		(3.87)		(3.47)
Opportunism_resid		-8.374***		-0.008***
		(-3.89)		(-3.43)
Overconfidence_resid		-4.690*		-0.011***
		(-1.71)		(-3.36)
Risktaking_resid		-3.903**		-0.004**
		(-2.20)		(-2.12)
LnAssets	3.406***	3.136***	0.002***	0.002***
	(12.29)	(10.82)	(7.16)	(6.47)
ROA	-18.93***	-19.64***	0.004	0.003
	(-5.47)	(-5.68)	(0.57)	(0.51)
MarketToBook	0.316	0.286	-0.001*	-0.001**
	(1.54)	(1.40)	(-1.95)	(-2.03)
LnOperatingCycle	-1.004	-0.897	-0.002**	-0.002**
	(-1.64)	(-1.46)	(-2.20)	(-1.99)
CapitalIntensity	7.979***	7.538***	0.008***	0.008***
	(2.95)	(2.83)	(3.31)	(3.17)
IntangiblesIntensity	-6.685**	-6.399**	-0.009	-0.008
	(-2.31)	(-2.21)	(-1.32)	(-1.27)
IntensityIndicator	-0.139	-0.287	-0.001	-0.001
	(-0.13)	(-0.27)	(-0.47)	(-0.49)
SalesVol	-12.58***	-12.05***	-0.014***	-0.013***
	(-2.75)	(-2.66)	(-4.85)	(-4.67)
CFVol	-8.221	-8.452	-0.005	-0.005
	(-1.21)	(-1.26)	(-0.46)	(-0.48)
LossPct	-12.47***	-11.96***	-0.016***	-0.015***
	(-9.90)	(-9.51)	(-8.65)	(-8.41)
Constant	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
Observations	16,046	16,046	15,115	15,115
Adjusted R-squared	0.423	0.426	0.099	0.101

Notes: This table examines the association between CEO personality coherence and financial reporting quality. *Coherence* is a CEO-level measure of within-CEO trait alignment, with higher values indicating greater personality coherence. The dependent variables are *AccrualQuality* and *EarningsQuality*, both of which are constructed so that higher values indicate better financial reporting quality. Columns (1) and (2) use *AccrualQuality* as the dependent variable, and columns (3) and (4) use *EarningsQuality* as the dependent variable. Columns (2) and (4) additionally include residualized individual trait measures (*Ethic_resid*, *Opportunism_resid*, *Overconfidence_resid* and *Risktaking_resid*), which isolate the component of each trait that is orthogonal to the other three traits. All regressions include firm-level controls for size, profitability, growth opportunities, operating complexity, asset structure, intangible intensity, and operating uncertainty, as well as industry and year fixed effects. Variable definitions and sample summary statistics are provided in Appendix A and Table 1, respectively. *t*-statistics based on standard errors clustered by CEO are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 3: Coherence of CEO personality traits and audit fees

	(1) *LnAuditFee*	(2) *LnAuditFee*
Coherence	-0.349***	-0.372***
	(-3.80)	(-4.07)
Ethic_resid		-0.033
		(-0.60)
Opportunism_resid		0.138**
		(2.47)
Overconfidence_resid		0.140*
		(1.85)
Risktaking_resid		-0.017
		(-0.34)
LnAssets	0.516***	0.516***
	(71.89)	(69.04)
ROA	-0.194**	-0.194**
	(-2.10)	(-2.10)
MarketToBook	-0.032***	-0.030***
	(-5.43)	(-5.13)
SalesVol	0.146***	0.142***
	(5.09)	(4.84)
CFVol	-0.209***	-0.212***
	(-2.99)	(-3.01)
LossPct	0.253***	0.248***
	(7.81)	(7.66)
BIG4	0.272***	0.278***
	(8.43)	(8.56)
Constant	Yes	Yes
Industry F.E.	Yes	Yes
Year F.E.	Yes	Yes
Observations	14,450	14,450
Adjusted R-squared	0.797	0.797

Notes: This table examines the association between CEO personality coherence and audit fees. Coherence is a CEO-level measure of the internal alignment among LLM-derived CEO personality traits, with higher values indicating greater within-CEO trait coherence. The dependent variable is *LnAuditFee*, defined as the natural logarithm of audit fees. Column (1) reports the baseline specification, and column (2) additionally includes residualized individual trait measures (*Ethic_resid*, *Opportunism_resid*, *Overconfidence_resid* and *Risktaking_resid*), which isolate the component of each trait that is orthogonal to the other three traits. All regressions include firm-level controls for client size, profitability, growth opportunities, auditor type, and operating uncertainty, as well as industry and year fixed effects. Variable definitions and sample summary statistics are provided in Appendix A and Table 1, respectively. *t*-statistics based on standard errors clustered by CEO are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 4: Coherence of CEO personality traits and stock volatility

	(1) *StockVolatility*	(2) *StockVolatility*
Coherence	-0.033**	-0.026*
	(-2.41)	(-1.85)
Ethic_resid		-0.015*
		(-1.67)
Opportunism_resid		0.030***
		(3.23)
Overconfidence_resid		0.047***
		(3.99)
Risktaking_resid		0.035***
		(4.25)
LnAssets	-0.033***	-0.032***
	(-27.49)	(-26.91)
ROE	-0.092***	-0.091***
	(-16.32)	(-16.12)
MarketToBook	-0.008***	-0.008***
	(-6.73)	(-7.04)
IntangiblesIntensity	0.054**	0.049**
	(2.54)	(2.34)
IntensityIndicator	0.007	0.007
	(1.57)	(1.56)
SalesVol	0.042***	0.040***
	(4.26)	(3.94)
CFVol	0.024	0.025
	(0.59)	(0.63)
LossPct	0.146***	0.143***
	(18.74)	(18.42)
Leverage	0.095***	0.094***
	(9.17)	(9.02)
Constant	Yes	Yes
Industry & Year F.E.	Yes	Yes
Observations	15,441	15,441
Adjusted R-squared	0.593	0.596

Notes: This table examines the association between CEO personality coherence and stock return volatility. *Coherence* is a CEO-level measure of the internal alignment among LLM-derived CEO personality traits, with higher values indicating greater within-CEO trait coherence. The dependent variable is *StockVolatility*, defined as the annualized standard deviation of daily stock returns. Column (1) reports the baseline specification, and column (2) additionally includes residualized individual trait measures, which isolate the component of each trait that is orthogonal to the other three traits. All regressions include controls for firm size, profitability, growth opportunities, intangible intensity, operating uncertainty, loss history, and leverage, as well as industry and year fixed effects. Variable definitions and sample summary statistics are provided in Appendix A and Table 1, respectively. *t*-statistics based on standard errors clustered by CEO are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 5: Coherence of CEO personality traits and earnings response coefficient

	(1)	(2)
	CAR	*CAR*
RSUE × Coherence	0.005**	0.005**
	(2.16)	(2.21)
Coherence	-0.044**	-0.041**
	(-2.54)	(-2.40)
RSUE	0.005***	0.004**
	(3.20)	(2.42)
Ethic_resid		0.007
		(0.49)
Opportunism_resid		-0.019
		(-1.26)
Overconfidence_resid		0.013
		(0.92)
Risktaking_resid		0.012
		(1.21)
LnAssets	0.004***	0.004***
	(3.01)	(2.83)
MarketToBook	-0.001	-0.001
	(-0.58)	(-0.76)
SalesVol2	-0.000	-0.001
	(-0.11)	(-0.18)
Leverage	0.006	0.008
	(0.68)	(0.84)
BIG4	-0.004	-0.004
	(-0.58)	(-0.60)
RSUE × Ethic_resid		-0.002
		(-0.99)
RSUE × Opportunism_resid		0.004*
		(1.77)
RSUE × Overconfidence_resid		-0.002
		(-0.69)
RSUE × Risktaking_resid		-0.000
		(-0.21)
RSUE × LnAssets	-0.001***	-0.001***
	(-3.13)	(-2.88)
RSUE × MarketToBook	0.000	0.000
	(1.29)	(1.38)
RSUE × Leverage	-0.002	-0.002*
	(-1.50)	(-1.95)
RSUE × BIG4	0.001	0.001
	(0.74)	(0.82)
RSUE × SalesVol2	0.001	0.000
	(0.68)	(0.64)
Constant	Yes	Yes
Industry F.E.	Yes	Yes
Year F.E.	Yes	Yes
RSUE × Industry F.E.	Yes	Yes
RSUE × Year F.E.	Yes	Yes
Observations	12,176	12,176
Adjusted R-squared	0.079	0.080

Notes: This table examines whether CEO personality coherence affects the stock market response to earnings news. *Coherence* is a CEO-level measure of the internal alignment among LLM-derived CEO personality traits, with higher values indicating greater within-CEO trait coherence. The dependent variable is *CAR*, defined as cumulative abnormal returns around earnings announcements. *RSUE* is the decile rank of standardized unexpected earnings. The main variable of interest is *RSUE × Coherence*, which captures whether the earnings response coefficient varies with CEO personality coherence. Column (1) reports the baseline specification, and column (2) additionally includes residualized individual trait measures and their interactions with *RSUE*. All regressions include controls for firm size, growth opportunities, sales volatility, leverage, and auditor type, as well as industry and year fixed effects. All regressions also include interactions of *RSUE* with the control variables, industry fixed effects, and year fixed effects. Variable definitions and sample summary statistics are provided in Appendix A and Table 1, respectively. *t*-statistics based on standard errors clustered by firm are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 6: Robustness: additional CEO controls

	(1) *AccrualQuality*	(2) *EarningsQuality*	(3) *StockVolatility*	(4) *LnAuditFee*
Coherence	6.559**	0.007**	-0.024*	-0.394***
	(2.00)	(2.06)	(-1.66)	(-4.25)
TitleNum	0.450	-0.001	-0.002	-0.005
	(1.01)	(-1.03)	(-1.04)	(-0.51)
isFounder	-1.069	-0.001	0.017***	-0.089**
	(-0.92)	(-0.63)	(2.63)	(-2.31)
Duality	1.989**	0.001	-0.008**	0.031
	(2.49)	(1.03)	(-2.38)	(1.43)
PhD	-1.295	0.001	0.007	-0.039
	(-1.15)	(0.66)	(1.19)	(-1.17)
Ethic_resid	8.220***	0.007***	-0.016*	-0.031
	(3.88)	(3.42)	(-1.76)	(-0.56)
Opportunism_resid	-8.275***	-0.008***	0.029***	0.143***
	(-3.86)	(-3.43)	(3.12)	(2.58)
Overconfidence_resid	-4.907*	-0.011***	0.045***	0.161**
	(-1.78)	(-3.40)	(3.75)	(2.12)
Risktaking_resid	-3.798**	-0.004**	0.032***	0.002
	(-2.14)	(-2.01)	(3.88)	(0.04)
LnAssets	3.129***	0.002***	-0.032***	0.513***
	(10.60)	(6.17)	(-26.53)	(68.30)
ROA	-19.31***	0.003		-0.216**
	(-5.62)	(0.49)		(-2.34)
MarketToBook	0.292	-0.001**	-0.009***	-0.029***
	(1.43)	(-2.01)	(-7.19)	(-4.92)
LnOperatingCycle	-0.892	-0.002**		
	(-1.46)	(-2.03)		
CapitalIntensity	7.712***	0.008***		
	(2.91)	(3.23)		
IntangiblesIntensity	-5.777**	-0.008	0.044**	
	(-1.97)	(-1.21)	(2.09)	
IntensityIndicator	-0.276	-0.001	0.007	
	(-0.26)	(-0.50)	(1.57)	
SalesVol2	-11.98***	-0.013***	0.039***	0.141***
	(-2.67)	(-4.68)	(3.88)	(4.96)
CFVol2	-8.684	-0.005	0.025	-0.196***
	(-1.31)	(-0.47)	(0.66)	(-2.96)
LossPct3	-11.73***	-0.015***	0.142***	0.247***
	(-9.35)	(-8.38)	(18.47)	(7.67)
Leverage			0.096***	
			(9.19)	
ROE			-0.090***	
			(-16.03)	
BIG4				0.280***
				(8.55)
Constant	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
Observations	16,046	15,115	15,440	14,450
Adjusted R-squared	0.427	0.101	0.597	0.798

Notes: This table reports robustness tests of the association between CEO personality coherence and financial reporting quality after including additional CEO-level control variables. The dependent variables are *AccrualQuality* and *EarningsQuality*, where higher values indicate better financial reporting quality. *Coherence* is a CEO-level measure of the internal alignment among LLM-derived CEO personality traits, with higher values indicating greater within-CEO trait coherence. The additional CEO-level controls include *TitleNum*, *isFounder*, *Duality*, and *PhD*. *TitleNum* is the number of executive titles held by the CEO, including the CEO title, as reported in ExecuComp. *isFounder* is an indicator variable equal to one if the CEO is also the founder of the firm, and zero otherwise. *Duality* is an indicator variable equal to one if the CEO also serves as chairman of the board, and zero otherwise. *PhD* is an indicator variable equal to one if the CEO holds a Ph.D. degree, and zero otherwise. All specifications include the baseline firm-level controls, industry fixed effects, and year fixed effects. Standard errors are clustered at the CEO level. Variable definitions are provided in Appendix A. *t*-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 7: Robustness: minimum tenure requirement

	(1)	(2)	(3)	(4)

Require tenure:	≥2 *AccrualQuality*	≥3 *AccrualQuality*	≥4 *AccrualQuality*	≥5 *AccrualQuality*
Coherence	7.659**	7.527**	7.612*	9.068**
	(2.24)	(2.08)	(1.95)	(2.12)
Ethic_resid	9.878***	11.23***	12.72***	13.75***
	(4.35)	(4.53)	(4.59)	(4.45)
Opportunism_resid	-8.900***	-9.021***	-10.08***	-11.10***
	(-3.95)	(-3.70)	(-3.69)	(-3.63)
Overconfidence_resid	-5.760**	-6.610**	-8.808**	-11.30***
	(-1.99)	(-2.09)	(-2.53)	(-3.01)
Risktaking_resid	-4.232**	-4.498**	-5.255**	-6.416***
	(-2.26)	(-2.21)	(-2.34)	(-2.67)
LnAssets	3.029***	2.994***	2.926***	2.859***
	(9.77)	(8.82)	(7.61)	(6.50)
ROA	-20.01***	-19.96***	-18.97***	-17.78***
	(-5.22)	(-4.61)	(-3.91)	(-3.35)
MarketToBook	0.211	0.086	0.035	-0.004
	(0.94)	(0.35)	(0.13)	(-0.02)
LnOperatingCycle	-1.033	-1.461**	-1.797**	-1.860**
	(-1.57)	(-2.00)	(-2.18)	(-2.05)
CapitalIntensity	7.419**	7.379**	7.232**	6.109
	(2.57)	(2.31)	(1.99)	(1.49)
IntangiblesIntensity	-5.978*	-5.951	-4.172	-2.958
	(-1.85)	(-1.60)	(-0.95)	(-0.58)
IntensityIndicator	-0.583	-0.416	-0.606	-0.631
	(-0.50)	(-0.32)	(-0.43)	(-0.41)
SalesVol	-13.77***	-16.46***	-17.45***	-23.16***
	(-2.61)	(-3.04)	(-3.27)	(-6.89)
CFVol	-9.714	-7.856	-9.070	-6.692
	(-1.08)	(-0.73)	(-0.67)	(-0.39)
LossPct	-12.10***	-11.25***	-9.806***	-7.844***
	(-8.94)	(-7.41)	(-5.56)	(-3.84)
Constant	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
Observations	13,005	10,405	8,200	6,371
Adjusted R-squared	0.433	0.436	0.426	0.414

Notes: This table reports robustness tests using samples that impose minimum CEO-tenure requirements. The dependent variable is *AccrualQuality*, where higher values indicate better accrual quality. As defined in Appendix A, *AccrualQuality* is constructed from the five-year rolling standard deviation of accrual-model residuals. Because this rolling-window measure may partially reflect reporting behavior from years before the current CEO had sufficient influence over the firm's reporting process, we re-estimate the baseline specification after imposing progressively stricter CEO-tenure requirements. Columns (1) through (4) restrict the sample to firm-year observations in which the CEO has served for at least two, three, four, and five years, respectively, by the fiscal year. *Coherence* is a CEO-level measure of the internal alignment among LLM-derived CEO personality traits, with higher values indicating greater within-CEO trait coherence. All specifications include the baseline firm-level controls, residualized individual trait controls, industry fixed effects, and year fixed effects. Standard errors are clustered at the CEO level. Variable definitions are provided in Appendix A. *t*-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 8: Robustness: leave-one-trait-out coherence measures

	(1)	(2)	(3)	(4)
Exclude	***Ethic***		***Opportunism***	
	AccrualQuality	*EarningsQuality*	*AccrualQuality*	*EarningsQuality*
Coherence	6.561*	0.008**	6.375**	0.008**
	(1.71)	(2.22)	(2.08)	(2.32)
Controls	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
Observations	16,046	15,115	16,046	15,115
Adjusted R-squared	0.422	0.098	0.422	0.099

	(5)	(6)	(7)	(8)
Exclude	***Overconfidence***		***Risk-taking***	
	AccrualQuality	*EarningsQuality*	*AccrualQuality*	*EarningsQuality*
Coherence	7.561**	0.007**	6.832***	0.006*
	(2.32)	(2.11)	(2.64)	(1.74)
Controls	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
Observations	16,046	15,115	16,046	15,115
Adjusted R-squared	0.423	0.098	0.422	0.098

Notes: This table reports robustness tests using leave-one-trait-out constructions of CEO personality coherence. In each specification, Coherence is recalculated after excluding one of the four oriented LLM-derived CEO personality traits: *Ethic*, *Opportunism*, *Overconfidence*, and *Risk-taking*. Columns (1) and (2) exclude *Ethic*; columns (3) and (4) exclude *Opportunism*; columns (5) and (6) exclude *Overconfidence*; and columns (7) and (8) exclude *Risk-taking*. This test examines whether the main results are driven by any single trait included in the baseline coherence measure. The dependent variables are *AccrualQuality* and *EarningsQuality*, where higher values indicate better financial reporting quality. All specifications include the baseline firm-level controls, industry fixed effects, and year fixed effects. Standard errors are clustered at the CEO level. Variable definitions are provided in Appendix A. *t*-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 9: Robustness: alternative coherence construction

	(1) *AccrualQuality*	(2) *EarningsQuality*	(3) *StockVolatility*	(4) *LnAuditFee*
$Coherence^{pairwise}$	4.987**	0.005**	-0.021*	-0.287***
	(2.00)	(1.99)	(-1.89)	(-4.05)
LnAssets	3.381***	0.002***	-0.033***	0.516***
	(12.22)	(7.03)	(-27.35)	(71.82)
ROA	-18.94***	0.004		-0.193**
	(-5.48)	(0.57)		(-2.09)
MarketToBook	0.306	-0.001**	-0.008***	-0.032***
	(1.49)	(-1.98)	(-6.66)	(-5.45)
LnOperatingCycle	-1.026*	-0.002**		
	(-1.67)	(-2.23)		
CapitalIntensity	7.906***	0.008***		
	(2.92)	(3.27)		
IntangiblesIntensity	-6.715**	-0.009	0.054**	
	(-2.32)	(-1.33)	(2.54)	
IntensityIndicator	-0.182	-0.001	0.007	
	(-0.17)	(-0.51)	(1.62)	
SalesVol	-12.58***	-0.014***	0.042***	0.144***
	(-2.74)	(-4.85)	(4.25)	(5.05)
CFVol	-8.247	-0.005	0.024	-0.207***
	(-1.21)	(-0.46)	(0.59)	(-2.93)
LossPct	-12.48***	-0.016***	0.146***	0.254***
	(-9.91)	(-8.66)	(18.76)	(7.84)
Leverage			0.095***	
			(9.16)	
ROE			-0.092***	
			(-16.33)	
BIG4				0.274***
				(8.49)
Constant	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
Observations	16,046	15,115	15,440	14,450
Adjusted R-squared	0.422	0.098	0.593	0.797

Notes: This table reports robustness tests using an alternative construction of CEO personality coherence based on pairwise distances among oriented CEO trait scores. We construct $Coherence^{pairwise}$ as the negative average absolute pairwise distance among the oriented trait scores. This measure captures the average distance between every pair of traits within the same CEO's personality profile, and higher values indicate smaller pairwise distances and therefore greater within-CEO trait alignment. The dependent variables are *AccrualQuality*, *EarningsQuality*, *StockVolatility*, and *LnAuditFee*. Higher values of *AccrualQuality* and *EarningsQuality* indicate better financial reporting quality. *StockVolatility* is the annualized standard deviation of daily stock returns. *LnAuditFee* is the natural logarithm of audit fees. All specifications include the baseline firm-level controls, industry fixed effects, and year fixed effects. Standard errors are clustered at the CEO level. Variable definitions are provided in Appendix A. *t*-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.