Shaking the Faith:
Global Frauds and Trust in Capital Markets

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Abstract

We examine whether revelations of financial misconduct invariably lead to negative market spillovers in a global setting. We integrate data on societal trust from the World Values Survey, accounting scandal data from Hail, Tahoun, and Wang (2018), household stock market participation data, and volume and stock price reactions to earnings reports. Our findings reveal a disparity in how investors adjust their views on the stock market between high- and low-trust environments. In high-trust markets, investors tend to lose confidence in the capital markets during high-scandal periods, as evidenced by reduced market participation, lower abnormal trading volume, and lower earnings response coefficients (ERCs). Conversely, in low-trust markets, investors increase their market participation, abnormal trading volume, and ERCs. Adjustments in trust towards gatekeepers appear to contribute to the disparity. High-trust markets exhibit a notable decline in investor confidence towards analysts, scandal-implicated auditors, and institutions responsible for investor protection following scandals. On the contrary, in low-trust markets, financial scandals appear to enhance investor confidence in Big 4 auditors and institutions enforcing investor protection.

JEL classification: F39, G14, G15, G39, M41, M42, Z10

Keywords: trust, capital market participation, corporate scandals, financial misconduct, earnings credibility, corporate earnings announcement, gatekeepers, auditors, analysts, investor protections, enforcement

1. Introduction

Financial reporting misconduct is widely regarded as a significant threat to the existence and efficiency of capital markets, undermining trust between corporations and market participants (Amiram et al., 2018). Numerous studies highlight the negative consequences of financial misconduct, which not only affect the firm and its employees but also create spillover effects on other firms (Desai et al., 2006; Sadka, 2006; Gleason et al., 2008; Karpoff et al., 2008; Weber et al., 2008; Skinner and Srinivasan, 2012; Beatty et al., 2013; Giannetti and Wang, 2016; Kapons et al., 2023; Choi and Gipper, 2024). To explain the negative spillovers from financial misconduct, studies conjecture that misconduct undermines trust in the stock market, thereby reducing investor participation in capital markets (Giannetti and Wang, 2016; Cahan et al., 2024).

However, do revelations of financial misconduct invariably result in negative spillovers for the market? Can investors interpret the revelation of financial scandals as evidence of well-functioning gatekeepers rather than failure? Scandals can be seen as the consequence of gatekeeper inaction over managerial opportunism, potentially due to limited resources or misaligned incentives, decreasing investor activity in the stock market.[1] Instead, misconduct revelations might enhance investor confidence as they witness gatekeepers investigating and prosecuting wrongdoing, which could raise investors' perceptions about the quality of enforcement and lead to greater market participation and reliance on financial reporting.

In this paper, we take a descriptive approach to investigate whether the stock market spillover effects associated with financial misconduct are uniform globally. Specifically, we

[1] Regulators are not fully effective at curbing misconduct and sometimes arise out of market failures and investors' demands for reform and oversight (Amiram et al., 2018; Hail et al., 2018). Institutional gatekeepers may also establish and enforce rules that can be perceived as self-serving, burdensome, or overly restrictive by investors and firms. Thus, investors could perceive the country-level institutional gatekeepers to be sluggish or captured. Tight budget constraints can further limit the efficacy of enforcement actions (Thomsen, 2009; Kedia and Rajgopal, 2011). Regulators can also misallocate the limited resources by incorporating political biases in their investigation and penalty decisions (Yu and Yu, 2011; Correia, 2014; Mehta and Zhao, 2020; Pandey et al., 2024).

examine the importance of investor trust in capital markets for their interpretation of financial scandals and find a stark divergence between high-trust and low-trust markets.[2] Participation in capital markets requires trust in the reliability of reported numbers and the fairness of the overall system (Guiso et al., 2008). We, therefore, focus on the "subjective probability that individuals attribute to the possibility of being cheated" (Guiso et al., 2008) as a crucial factor affecting how investors perceive corporate financial reports, which are key data in capital markets (Ball and Brown, 1968; Healy and Palepu, 2001; Beyer et al., 2010).

Investors in high-trusting markets are more likely to experience a negative shock to their trust in capital markets when financial misconduct is revealed. In such contexts, financial reporting scandals may indicate lower-than-expected reliability of reported numbers and unfairness in the system. Consequently, these investors' trust in gatekeepers (e.g., regulators, equity analysts, or auditors) to maintain the quality of financial reporting plausibly declines (Leuz et al., 2003). As a result, high-trusting markets are likely to see a reduction in investor activity following major accounting scandals. This decline in investors' trust during high-scandal periods is evident in the U.S., a market with relatively high levels of trust (Sapienza and Zingales, 2012). The U.S. market also shows declines in market participation, investors' shareholdings, and households' reliance on the financial intermediation industry in high-scandal periods (Giannetti et al., 2016; Gurun et al., 2018; Cahan et al., 2024).

Conversely, investors in low-trusting markets may not expect gatekeepers to be effective at punishing financial wrongdoing. In these markets, where the expectation is that managers are opportunistic and gatekeepers idle or captured, revelations of financial misconduct might actually enhance the perceived credibility of financial reporting and raise investors' confidence in both capital markets and gatekeepers. Thus, low-trust societies can

[2] Because a country can switch from high trust to low trust during our sample period, our paper refers to high-trusting and low-trusting markets rather than high-trusting and low-trusting countries.

experience an increase in market participation and greater incorporation of reported numbers into stock prices when financial misconduct is uncovered.[3]

We combine the measure of societal trust from the World Values Survey, accounting scandals data from Hail et al. (2018), and capital market participation data from various sources. Our international sample includes 123,120 firm-year observations across 20 countries between 1996-2015.[4] Societal trust levels for each country-year are measured as the mean response to the question, "Generally speaking, would you say that most people can be trusted or that you have to be very careful in dealing with people?" High-scandal periods for each country are identified based on the above-median number of scandals within the twelve months preceding the earnings announcement day relative to the historical number of scandals per year. Our country-level measure of stock market participation is the proportion of households owning stock relative to the total number of surveyed households for each country and year. We measure firm-level market participation with abnormal trading volume and stock price reactions to earnings news.

We begin our analyses by examining whether capital market participation at the country-year level is associated with scandal revelations after including country fixed effects. The results suggest that the association between accounting scandal revelations and capital market participation varies with societal trust levels. In high-trust environments, scandals are associated with a decrease in stock market participation. Conversely, in low-trust environments, scandals are linked to increased market participation. This result reveals heterogeneity across countries in the way households' perceptions of the stock market change

[3] Our arguments and tests apply to the trust levels before any potential adjustments in investors' trust in response to misconduct revelations. In other words, while scandals likely affect investors' trust, we empirically utilize initial trust levels.

[4] Capital market participation data comes from different sources. Country-level participation measures come from the Health and Retirement Study for the United States (Hong et al., 2004), the Survey of Health and Retirement in Europe (Georgarakos and Pasin, 2011; Kaustiaa et al., 2022), the China Household Finance Survey (Cooper and Zhu, 2018), the National Income Dynamics Study for South Africa, and the Share Ownership Study Reports provided by Australian Securities Exchange for Australia. Firm-level trading volume and stock prices come from Datastream.

following high-scandal periods. High-trusting investors likely revise their trust downwards in high-scandal periods. Meanwhile, low-trusting investors seem to increase their trust after high-scandal periods. Therefore, the way investors update their beliefs about the risks of participating in capital markets differs between high-trust and low-trust environments.

To understand whether changes in capital market participation (i.e., changes at the extensive margin) are accompanied by adjustments at the intensive margin, we study abnormal trading volume and the pricing of earnings news at the firm-year level. After controlling for firms' characteristics and industry and year fixed effects, we continue to find a divergence between high-trust and low-trust markets. During high-scandal periods, high-trust markets exhibit lower abnormal trading volumes, while low-trust markets experience higher abnormal trading volumes. In high-scandal periods, the difference in abnormal trading volume between high- and low-trust markets is approximately 6 percent of one standard deviation, akin to the impact of a firm's size doubling. This heterogeneity between high- and low-trust markets remains robust after accounting for country and firm fixed effects (separately).

We study the pricing of earnings news using the earnings response coefficient (ERC) framework, controlling for firm characteristics, their interactions with earnings news, and interactions of industry and year fixed effects with earnings news. Our analyses consistently reveal a divergence in the pricing of earnings news between high-trust and low-trust markets during high-scandal periods.[5] We interpret these findings through the lens of perceived credibility of reported numbers (Gipper et al., 2020). Investors who are naturally more inclined to perceive the earnings reports as credible experience a negative shock to their trust. At the same time, investors disinclined to perceive the earnings numbers as credible and gatekeepers as doing their job well experience a positive shift in their trust.

[5] In line with the findings in Pevzner et al. (2015) that a higher level of trust in a country affects investors' perception and use of firms' financial disclosure, our results show greater abnormal trading volume and larger ERCs in high-trust markets. The stronger investor reactions to earnings news in more trusting societies are consistent with higher perceived credibility of corporate earnings announcements in these societies.

Cross-sectional reactions to various types of news support the interpretation that investors' trust in the credibility of reported figures contributes to the disparity between high- and low-trust markets. First, these trust effects are only present when firms report profits. We consider loss reporting, on average, to be inherently credible—excluding "big bath" loss reporting episodes—whereas profit reporting is more prone to agency issues due to its role in firm valuation (Hayn, 1995). Second, low-trust markets experience an increase in ERC driven by positive earnings surprises during high-scandal periods, where investors are likely to have greater skepticism regarding the news. High-trust markets treat positive and negative earnings surprises symmetrically.

Taken together, the findings suggest that whether scandals undermine or enhance investors' faith in the capital marker is associated with the underlying level of trust. Thus, the mechanisms guiding the updating of investors' beliefs plausibly differ between high- and low-trust markets. In high-trust markets, we observe an erosion of trust in high-scandal periods, whereas in low-trust markets, we see a boost in trust. One potential explanation for the divergence in the results is that the updating of investors' beliefs in high-scandal periods goes in opposite directions for the two types of markets. High-trust investors likely expected accounting wrongdoing to be less prevalent or anticipated that gatekeepers would be more effective at preventing misconduct. Conversely, low-trust investors likely expected the gatekeepers to be idle or captured and, thus, ineffective and were therefore positively surprised when gatekeepers responded to the wrongdoing.

However, the above findings face at least two challenges. First, our measure of trust is broad and encompasses trust in various gatekeepers. Second, trust levels are not shaped in isolation from other important market characteristics. Trust has been shown to be associated with economic growth, firm size, financial development, and institutions, among other factors (Knack and Keefer, 1997; La Porta et al., 1997; Zak and Knack 2001; Guiso et al., 2004; Guiso

et al., 2008; Bloom et al., 2012).[6] Therefore, the observed divergence between high-trust and low-trust markets may be driven by differences in trust towards various gatekeepers or by fundamental characteristics correlated with societal trust.[7]

To explore the possibility that specific gatekeepers or other local factors may contribute to the divergence in our findings, we decompose the scandal coefficient into components that reflect gatekeeper-related characteristics of the market. This allows us to test whether the disparity is confined to markets characterized by particular types of gatekeepers, such as equity analysts, auditors, and regulators.[8] Our analysis reveals that ERC erosion in high-trust markets is predominantly concentrated in firms with high analyst following and low analyst forecast dispersion. This suggests that the faith of high-trusting investors in analysts as gatekeepers is likely shaken during high-scandal periods. Conversely, in low-trust markets, the increase in ERC is concentrated in firms with low analyst following. We also find weak evidence indicating that high-trust investors' faith in auditors decreases for auditors of scandal firms. Additionally, there is weak evidence suggesting that low-trusting investors are gaining confidence in Big 4 auditors, as firms audited by these auditors see an increase in ERC.

We study whether disclosure requirements play a role in the divergence between high- and low-trust markets using the index from La Porta et al. (2006). This index evaluates a country's mandates regarding the provision of a prospectus to potential investors prior to securities issuance and covers the breadth of affirmative disclosure requirements. Our findings indicate that while a high disclosure index elevates ERCs in both high- and low-trust markets,

[6] Another characteristic that might be related to trust is religion. Hasan et al. (2023) study German counties and use the presence of local Protestantism as a proxy for culture, finding that Protestantism is associated with a stronger penalization of corporate fraud.

[7] Financial misconduct is shaped by various factors, including incentives and relative performance, economic growth, regulation, and enforcement (Harris and Bromiley, 2007; Povel et al., 2007; Kedia and Philippon, 2009; Ball, 2009; Hail et al., 2018; Choi et al., 2024).

[8] Regulators often emerge from market failures and investor demands for reform or oversight, sometimes following accounting frauds (e.g., Hail et al., 2018). Therefore, the divergence in our findings between high- and low-trusting markers might reflect the expected regulatory changes in the aftermath of the scandals (Christensen et al., 2019).

in both trust-type markets, the erosion and enhancement of ERCs are not directly attributable to any specific disclosure regime. This may suggest that disclosure does not mitigate the decline in trust in high-trusting markets nor support the elevation in trust in low-trusting markets with respect to earnings news. Finally, we examine whether investor protection adds to the divergence between high- and low-trust markets by using the anti-self-dealing index from Djankov et al. (2008) and the law enforcement index from Kaufmann et al. (2003). Here, we find three important results that are highly relevant for our predictions. First, investor protection generally leads to higher ERCs and more so for high-trusting markets. Second, high-trust investors lose confidence in institutions enforcing investor protection with scandals, whereas (and third) low-trust investors gain trust in these gatekeepers.

This paper improves our understanding of the economic and social costs associated with financial reporting misconduct in a global setting by documenting the divergence between high-trust and low-trust markets. We suggest that evidence of the negative effects associated with scandals in the U.S. (Sapienza and Zingales, 2012; Giannetti and Wang, 2016; Gurun et al., 2018) represents part of the picture attributable to markets with relatively high societal trust. At the same time, a large part of the globe, characterized by low trust, appears to gain trust in capital markets when scandals are revealed.

Our study extends the literature on capital market participation by showing that trust is an important factor for investors' perception of the stock market (e.g., Guiso et al., 2008; Pevzner et al., 2015; Christensen et al., 2019). Our findings also add to the literature on financial misconduct by suggesting these events can have positive spillovers on other firms when trust is low (Gleason et al., 2008; Weber et al., 2008; Giannetti and Wang, 2016). We also highlight the important role that various gatekeepers play in investors' perception of firm disclosure credibility (Blackwell et al., 1998; Bradshaw et al., 2001; Leuz et al., 2003; La Porta et al., 2006; Minnis, 2011; McLean et al., 2012; Carnes et al., 2019; Pan et al., 2022).

2. Related Literature and Hypothesis Development

2.1 Related Literature

"Virtually every commercial transaction has within itself an element of trust, certainly any transaction conducted over a period of time" (Arrow, 1972). Trust is of particular importance in capital markets, where investors exchange their money for promises (Sapienza and Zingales, 2012). Thus, investor responses to financial reporting by firms hinge on the credibility of the underlying signals (Holthausen and Verrecchia, 1988; Kim and Verrecchia, 1991). Consequently, investor participation in capital markets and their responsiveness to reported numbers depend on their expectations of the accuracy of the financial information and the enforcement of high-quality financial reporting by gatekeepers.

Financial scandals disrupt investors' willingness to engage in capital markets and create negative spillovers for other firms. Friedman (2019) shows that beliefs about disclosure quality, measured through surveys, decline around accounting scandals. Giannetti and Wang (2016) show that corporate scandals are negatively associated with household stock market participation. Consistent with a loss of trust in the stock market from exposure to scandals, households reduce their holdings in non-fraudulent firms, even if they do not hold stocks in the fraudulent ones. Brazel et al. (2015) surveyed nonprofessional investors and find that these investors place greater emphasis on fraud risk assessments during periods of high scandal. Gleason et al. (2008) find share price declines among non-restating industry peers of firms with accounting restatements, attributable to skepticism about the accounting quality among these peers. Kapons et al. (2023) suggest that mutual funds increase their demand for dividend-paying stocks following accounting fraud discoveries within their portfolios. Gurun et al. (2018) find a shift from the financial intermediation industry to bank deposits among residents exposed to scandals. Weber et al. (2008) study the accounting scandal involving ComROAD and its auditor KPMG in Germany and find negative spillovers in terms of abnormal returns

for KPMG's clients. Skinner and Srinivasan (2012) study the accounting fraud at Kanebo, a Japanese company audited by ChuoAoyama and find a quarter of this auditor's clients leave after the scandal revelation. Additionally, peer firms often adjust their decision-making, like for investments, in response to fraudulent reports (Beatty et al., 2013).[9]

This paper emphasizes societal trust as a critical factor influencing investors' interpretation of financial scandals, thus contributing to their perceptions of the credibility of reported earnings. Trust impacts government effectiveness, civic participation, international trade, economic growth, and the size of the largest firms (Gambetta, 1988; Coleman, 1990; Putnam, 1993; Fukuyama, 1995; Knack and Keefer, 1997; La Porta et al., 1997; Guiso et al., 2004; 2009; Algan and Cahuc, 2010). It also affects investor behavior in financial markets. For instance, individuals with lower levels of trust are less likely to buy stocks, and lower bilateral trust between European countries leads to reduced cross-country trade, portfolio investment, and direct investment (Guiso et al., 2008; Guiso et al., 2009; Georgarakos and Pasini, 2011). Moreover, higher levels of trust correlate with increased abnormal trading volume and stock return variance around corporate earnings announcements (Pevzner et al., 2015) and more precise, accurate, and comprehensive earnings forecasts by managers (Guan et al., 2020).

Consequently, investors incorporate the risk of being deceived into their decisions to participate in the stock market. Societies with low trust increase household equity ownership in response to securities regulation (Christensen et al., 2019). Thus, low-trusting investors may demand stronger institutional safeguards, such as additional regulation to prevent misconduct, although excessive regulation can itself foster distrust (Aghion et al., 2010). Overall, trust influences investors' perception and use of financial information reported by firms.

[9] We focus on the spillover aspect of financial misconduct. For a review of papers about the direct consequences of misconduct for the fraudulent firms, please see Amiram et al. (2018).

2.2 Hypothesis Development

Extant evidence shows that revelations of accounting misconduct have negative economic spillovers to peer firms in the market (Sadka, 2006; Gleason et al., 2008; Weber et al., 2008; Skinner and Srinivasan, 2012; Beatty et al., 2013; Giannetti and Wang, 2016; Kapons et al., 2023). To explain these negative effects, the literature conjectures that investors' trust in the stock market declines following scandals.

Though a decrease in trust in the aftermath of a scandal seems intuitive, this does not have to be the case. In this paper, we argue that the revision in trust induced by scandals can depend on the initial level of trust. Investors who are inclined to believe in the credibility of reported numbers and the effectiveness of gatekeepers are likely to downgrade their trust in the stock market. Conversely, those who are inclined to distrust financial reporting and gatekeepers may positively revise their trust in the stock market.

Investors in high-trust markets are likely to perceive financial reporting as credible and expect gatekeepers to be effective in enforcing and preventing accounting misconduct. This perception aligns with greater capital market participation and stronger stock market reactions to earnings announcements in high-trust markets (Guiso et al., 2008; Sapienza and Zingales, 2012; Pevzner et al., 2015). As investors value transparent and high-quality financial reporting (Francis et al., 2004), periods marked by significant scandals can erode their trust in the credibility of reported figures. Such events reveal that management may be concealing firm performance more than expected (Leuz et al., 2003; Dyck et al., 2023) and underscore the failure of gatekeepers to prevent misconduct. This sentiment is echoed by survey evidence from Sapienza and Zingales (2012). In the U.S., a market with relatively high levels of trust, the last three months of 2008 during the global financial crisis notably undermined individuals' trust in capital markets and gatekeepers. Consequently, investors' participation in the stock market and their reaction to earnings news are likely to decline in high-trust markets following

such high-scandal periods.

However, investors in low-trust markets might not expect gatekeepers to detect or address any wrongdoing effectively, thus revealed scandals positively surprise these investors. The gatekeepers' inaction in these markets is evidenced by lower financial reporting quality, despite having regulated reporting requirements similar to those in high-trust markets (Nanda and Wysocki, 2011; Garrett et al., 2014). We argue that the key difference between investors in high-trusting and low-trusting markets is that low-trust investors do not expect gatekeepers to investigate, unearth, or penalize misconduct. Scandal revelation indicates that some gatekeeper has potentially outed or facilitated whistleblowing (e.g., Dyck et al., 2010), despite the prior, low expectations of these low-trusting investors. Hence, high-scandal periods may lead to a positive revision in investors' trust within these markets. In turn, an increase in trust is associated with greater capital market participation (an increase at the extensive margin), larger stock holdings (an increase at the intensive margin), and heightened trading activity (Guiso et al., 2008; Pevzner et al., 2015). Consequently, high-scandal periods can raise investor engagement in the stock market in low-trust markets.

H1a: Scandal-induced changes in investors' capital market participation depend on the underlying level of trust.

H1b: Scandal-induced changes in investors' responses to earnings news depend on the underlying level of trust.

3. Data and Research Setting

3.1 Data and Sample Selection

We use a sample of international firms which spans 20 years from 1996 to 2015. We start with all the firms in I/B/E/S, Worldscope, and Datastream that have CUSIP, OFTIC, earnings announcement dates, and the actual value of EPS. We only keep observations where earnings announcements are made within 150 days of the fiscal year-end and available analyst

forecasts to generate a measure of unexpected earnings. We remove other observations that lack identifiable countries in the data or for which we are unable to calculate a CAPM Beta. Further, we merge the resulting observations with the World Values Survey (WVS), Hail, Tahoun, and Wang (2018) accounting scandal data, and capital market participation data, and keep observations with available data for our variables of interest and control variables.

We combine various sources of data on direct stock participation. For the United States, following Hong et al. (2004), we use the Health and Retirement Study (HRS) administered by the University of Michigan in 1996-2014 (biannual data). The survey question Q316 asks whether the household has any shares of stocks or stock mutual funds.[10] For European countries, we follow Georgarakos and Pasin (2011) and Kaustiaa et al. (2022) and use the Survey of Health and Retirement in Europe (SHARE).[11] The survey reports whether households had stocks or shares at the time of the interview. For China, we follow Cooper and Zhu (2018) and use the China Household Finance Survey (CHFS) in 2011-2015 (biannual data). Direct stock holding information is reflected in question D3101. For South Africa, we use the National Income Dynamics Study downloaded from the Datafirst website (waves 1, 2, and 4). The survey asks household members whether they have unit trusts, stocks or shares. For Australia, we use the Share Ownership Study/Reports provided by Australian Securities Exchange. The report provides the number of people and the percentage of the adult Australian population who participated in the Australian share market directly.

[10] The relevant questions for 1996, 1998, and 2000 are E4339, F5099, G5554, respectively.

[11] The main questionnaire is partly based on the Health and Retirement Study (HRS) and the English Longitudinal Study of Aging (ELSA). All questions are standardized across countries. We include Wave 1 (2004), Wave 2 (2006/2007), Wave 4 (2011), Wave 5 (2013) and Wave 6 (2015). We do not include Wave 3 because the survey did not ask the respondents whether they held any shares at the time of the survey instead asking whether they ever had any money in stocks or shares. Wave 1 differs from the rest of the waves in that not all the respondents were asked the question about the stock holdings. For this wave, we calculate the participation rate as the number of respondents who answer "yes" scalded by the number of respondents who were asked this question. Because of the selection issue for Wave 1, the participation rate is considerably higher than in other waves. We therefore report the results with Wave 1 and dropping this wave from our sample.

3.2 Measurement of Societal Trust, Accounting Scandals, and Capital Market Engagement

We measure accounting scandals at a country-year level using the data from Hail et al. (2018).[12] Specifically, we use the number of total scandals and accounting & near-accounting scandals and, separately, non-accounting scandals at the country-year level for our country-level tests.[13] In Hail et al.'s (2018) data, accounting scandals meet four criteria: (i) the event involves financial reporting practices, (ii) the practices are morally or legally wrong, (iii) the event had material negative consequences, like bankruptcy, and (iv) the event caused public attention via press coverage and additional examination. Near-accounting scandals do not meet the first criteria, but accounting still plays some role, like tax fraud with account manipulations. Non-accounting scandals do not meet the first criteria, and there is no accounting role, like bribery. For our firm-level tests, we sharpen the measure by using only accounting scandals and the dates of the media articles collected by Hail et al. (2018). We classify the country-year as being in a "high-scandal" period if the number of scandals within the twelve months preceding the earnings announcement day exceeds the historical median number of scandals per year.

Following the literature, we measure societal trust based on responses to the World Value Survey (WVS) question "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" (La Porta et al., 1997; Guiso et al., 2008; Inglehart et al., 2014). This proxy for trust is associated with society's expectation that people will do the right thing (Bjørnskov, 2007). Importantly, this measure is also used to show that capital markets in high trust countries have greater stock return variance and higher trading volume responses to earnings news (Pevzner et al., 2015). Not all countries are

[12] We use the words "fraud" and "scandal" interchangeably. However, we note that Hail et al. (2018) suggest accounting scandals to be a superset of accounting frauds because scandals can be either morally wrong or legally wrong, and thus drawing public condemnation as scandalous, while fraud must be at least legally wrong.
[13] Their data covers a historical time series of accounting scandals for a panel of 26 countries from 1800 to 2015.

surveyed in every WVS nor is the survey conducted every year. We carry forward the survey measures to country years that are not covered due to these explanations.

We measure the capital market participation rate for each year and country by counting the number of households that own stock and scaling it with the total number of surveyed households.[14] To study investors' responses to earnings news, we calculate abnormal trading volume around earnings announcements as the average trading volume over the event window (0, +1), scaled by the average trading volume over the estimation window (-120, -21). We also use earnings response coefficients (ERCs) to measure investors' assessments of reporting credibility (Kothari, 2001; Dechow et al., 2010). Investors likely respond to a given amount of earnings news more strongly when they believe that reported earnings accurately measure the underlying economic performance (Holthausen and Verrecchia, 1988). To measure unexpected earnings (*UE*), we rank the difference between reported earnings per share and mean of recent analyst forecasts of earnings per share divided by pre-announcement stock price into 100 percentile groups and divide this by 100. This ranking approach reduces the impact of noise in earning news at the tails and improves ERC measurement (Gipper et al., 2020; Gassen and Veenman, 2021). The cumulative abnormal returns in the ERC regressions are from the market model during the firm's earnings announcement window (0, +1) scaled up by 100.

4. Research Design and Results

4.1 Stock Market Participation

We run our analysis of capital market participation at the country-year level and allow the coefficient on scandals to vary with the underlying trust level:

$$\begin{aligned} \textit{Stock Market Participation}_{c,t} = {} & \beta_1 \times \text{Ln}(1+\textit{Scandals})_{c,t} + \beta_2 \times \textit{Trust}_{c,t} \\ & + \beta_3 \times \textit{Trust}_{c,t} \times \text{Ln}(1+\textit{Scandals})_{c,t} + \lambda \times \textit{Wave\_1}_{c,t} + \textit{Country FE} + \varepsilon_{c,t} \end{aligned} \quad (1)$$

where subscript *c* corresponds to country and subscript *t* reflects year. We incorporate country

[14] For cases where multiple members of a household were asked, only when all of them answer "no", we consider this household to not hold any stock.

fixed effects to account for inherent, time-invariant characteristics specific to each country. Additionally, we include a dummy variable for Wave 1 due to differences in the selection process of respondents for stock ownership questions in that wave. We also provide separate results after excluding Wave 1 for robustness. All variables are defined in Appendix A.

Table 1 consists of two panels. Panel A provides descriptive statistics for the stock market participation analysis. In the median country-year observation, 16.56% of households own stock and experience two scandals, of which one scandal is an accounting or near-accounting scandal. Panel B presents the results of our analysis. Columns (1)-(4) include a dummy variable for Wave 1, while columns (5)-(8) display the results after excluding Wave 1 from the sample. We evaluate the impact of various measures of scandals: columns (2) and (6) report results for all corporate scandals as documented in Hail et al. (2018); columns (3) and (7) focus on accounting scandals; and columns (4) and (8) address non-accounting scandals. Our hypothesis suggests that β_1 will be positive and β_3 will be negative. This is based on the expectation that low-trust markets will experience an increase in trust (β_1), whereas high-trust markets will face a decline in trust ($\beta_1 + \beta_3$) associated with scandals.

While trust is positively associated with capital market participation (as shown in columns (1) and (5)), the inclusion of accounting scandals and their interaction with trust reveals significant heterogeneity based on trust levels (columns (3) and (7)). In low-trust environments, accounting scandals are positively correlated with increased capital market participation. Conversely, as trust levels increase, the stock market participation declines. A doubling of the number of accounting scandals (or going from no scandals to one scandal) increases stock market participation by seven percentage points. However, this effect disappears with a two-standard-deviation increase in societal trust. This outcome suggests that how investors update their beliefs in response to scandals varies depending on the prevailing level of trust.

4.2 Descriptive Statistics for Firm-level Data

Table 2, Panel A provides summary information about the by-year distribution of our firm-level sample. The number of observations increases during the first half of the period, peaking in 2007 with 8,654 firms. This number then declines in the second half, with the lowest count in 2015 at 4,494 firms. Then, the number decreases in the second half of the period, with the fewest number of firms in 2015 at 4,494. We also show the time series pattern of scandals in the data counted by the firm-years affected. All years have firms subject to non-scandal, single scandal, and multi-scandal environments, indicating rich variation through time. Panel B provides summary information on the distribution of the by-country sample, as well as distributional statistics regarding countries' trust levels and occurrences of accounting scandals (measured at the yearly level as reported in the press, Hail et al., 2018). Japan and the United States provide the greatest number of observations; while many countries, such as Egypt or Israel, have fewer than 1,000 firm-years. Sweden and Finland have the highest trust levels, whereas Brazil and South Africa have the lowest trust levels. Japan and the United States have the highest number of discovered fraud cases.

Table 3 provides the summary statistics for the variables we use in our firm-level analyses. The main dependent variables across these analyses are abnormal trading volume (*Abnormal Volume*) and cumulative abnormal returns (*CAR*), both measured around the earnings announcement date. A typical country-year has about 2.7 (2) accounting scandals on average (at the median). Due to limited data availability for the control variables, the sample for abnormal trading volume is a subset of the data used for cumulative abnormal returns tests.

4.3 Abnormal Trading Volume

After investigating changes at the extensive margin, specifically investors' decisions to participate in the capital market, we turn our attention to changes at the intensive margin. We begin by focusing on abnormal trading volume around earnings announcements. Our analysis

is conducted at the firm-year level, enabling us to perform subsample analyses for high-trust and low-trust markets. For each subsample, we use the following specification:

$$\begin{aligned} Abnormal\ Volume_{i,t} = \\ \beta_1 \times High\ Scandal_{i,t}\ [+\ \beta_2 \times Trust_{c(i),t} + \beta_3 \times Trust_{c(i),t} \times High\ Scandal_{i,t}] \\ + Controls + Industry\ FE + Year\ FE + \varepsilon_{i,t} \end{aligned} \quad (2)$$

where subscript *i* denotes a firm, *c* corresponds to the country, and *t* reflects the year. $High\ Scandal_{i,t}$ is a dummy variable that equals one if the number of scandals within the twelve months preceding the earnings announcement day exceeds the historical median number of scandals per year. We include a range of controls at the firm-year level as well as industry and year fixed effects. Standard errors are clustered by firm. We perform the subsample analyses for high-trust and low-trust markets and exclude the *Trust* variable, hence the brackets in equation (2). Then, we combine these markets and include trust and its interaction with the high-scandal dummy in the specification. For robustness, we refine the fixed effects structure by separately including country and firm fixed effects.

Table 4, Panel A presents the results for the specifications incorporating industry and year fixed effects. Columns (1) and (2) display the subsample analyses for high-trust and low-trust markets, respectively. Columns (3) and (4) report the results for the combined sample of high- and low-trust markets, after incorporating trust and its interaction with the high-scandal dummy into the specifications. Column (3) uses the raw measure of trust, while column (4) uses percentiles of trust to facilitate easier interpretation of the findings. In Column (1), the analysis reveals a drop in abnormal trading volume in high-trust markets during high-scandal periods. Conversely, Column (2) indicates a positive but non-significant coefficient for low-trust markets. When combining the two samples, Columns (3) and (4) show that low-trust markets experience an increase in abnormal trading volume during high-scandal periods, as evidenced by the positive coefficient on the *High Scandal* variable. Simultaneously, high-trust markets exhibit a negative adjustment in abnormal trading volume, reflected by the negative

coefficient on the *High Scandal* × *Trust* interaction term in both columns. These results support the observed heterogeneity in our capital market tests, demonstrating a divergence in trading volume changes during high-scandal periods between high.

In Panel B of Table 4, we report the results for specifications incorporating country and year fixed effects (columns (1) and (2)), as well as firm and year fixed effects (columns (3) and (4)). Columns (1) and (3) utilize the raw measure of trust, whereas columns (2) and (4) use trust percentiles for easier interpretation. The results consistently demonstrate a negative interaction between trust and scandals, reinforcing our earlier finding that investors in high- and low-trust markets update their beliefs about the stock market differently.

4.4 Earnings Response Coefficients

To better discern whether the changes at the intensive margin around earnings announcements, as documented in our trading volume analyses, reflect the pricing of earnings news rather than investor disagreement, we use an ERC framework. We start by separately examining the subsamples of high-trust and low-trust markets. To investigate how the incorporation of earnings news varies with accounting scandals, conditional on a given trust level, we run the following specification:

$$\begin{aligned} CAR_{i,t} = {} & \beta_1 \times High\ Scandal_{i,t} \times UE_{i,t} + \beta_2 \times High\ Scandal_{i,t} + \\ & [+ \beta_3 \times Trust_{c(i),t} \times UE_{i,t} + \beta_4 \times Trust_{c(i),t} + \\ & + \beta_5 \times High\ Scandal_{i,t} \times Trust_{c(i),t} \times UE_{i,t} + \beta_6 \times High\ Scandal_{i,t} \times Trust_{c(i),t}\ ] \\ & + Controls + Fixed\ Effects + Controls \times UE_{i,t} + Fixed\ Effects \times UE_{i,t} + \varepsilon_{i,t} \end{aligned} \quad (3)$$

As in the abnormal volume analyses, $High\ Scandal_{i,t}$ is a dummy variable that equals one if the number of scandals within the twelve months preceding the earnings announcement day exceeds the historical median number of scandals per year. Following the ERC literature, we include several time-varying firm control variables (e.g., Kothari, 2001). Our regression specification includes an indicator for the firm reporting a loss (*Loss*), the natural log of the firm's size (*Size*), the firm's leverage as a ratio of total liabilities to total assets (*Leverage*), the beta from a capital asset pricing model (*Beta*), and the firm's book-to-market ratio (*Book-to-*

Market). We also interact these variables with *UE* to control for the extent to which investors incorporate earnings news into stock prices in ways that vary systematically with these firm characteristics. For example, earnings surprises of firms that report losses are plausibly less value relevant because earnings may not reflect the abandonment value of the firm or are recognized on a one-time basis as an artefact of conditional conservatism in accounting (e.g., Hayn, 1995; Basu, 1997).

We include industry and year fixed effects to absorb the variation in abnormal returns during the earnings announcements that are common to firms within the same industry or within a given year, respectively. However, to control for the average ERC within an industry or year (as typically the researcher wants to accomplish with non-interactive models, i.e., control for the average main effect), we also interact these effects with *UE* (e.g., Gassen and Veenman, 2021). With these interactions, *UE* becomes collinear with the fixed effects and is consequently omitted from the specification. Industry-by-*UE* fixed effects allow us to compare firms within the same industry experiencing the same earnings surprise but exposed to different levels of societal trust. Similarly, year-by-*UE* fixed effects facilitate comparison across observations within the same year experiencing the same earnings surprise but subject to varying levels of societal trust across countries. We cluster standard errors by firm.

Table 5 presents the results consistent with the disparity observed in our abnormal trading volume analyses. Specifically, whether scandals undermine or enhance investors' confidence in earnings numbers depends on the underlying level of trust. Column (1) indicates that during high-scandal periods, high-trust investors exhibit a muted response to earnings incorporation into stock prices. In other words, investors who are inclined to perceive earnings numbers as highly credible due to their faith in managers and gatekeepers—such as regulators, auditors, and analysts—adjust this perceived credibility downward when scandal revelations occur. Conversely, column (2) shows that in low-trust societies, high-scandal periods are

associated with a greater incorporation of earnings into stock prices. This suggests that investors who are inclined to perceive reported earnings with skepticism, rely more on earnings news during times of heightened scandal.

In Columns (3) and (4), we combine high-trust and low-trust markets into a single sample and expand the specification to include the triple interaction $High\ Scandal_{i,t} \times Trust_{c(i),t} \times UE_{i,t,}$ as well as the two-way interactions $High\ Scandal_{i,t} \times UE_{i,t}$ and $Trust_{c(i),t} \times UE_{i,t,}$ and the main effects of these variables. Column (3) uses a dummy variable for high trust and column (4) uses the percentile version of the trust variable. The negative coefficient on the triple-interaction term reinforces the disparity in how investors in high- and low-trust markets adjust their trust in the stock market.

These results are consistent with our explanation for the disparity in that investors from low-trust markets had no faith in managers or gatekeepers—such as auditors, analysts, or regulators—to report fairly or perform their duties effectively. The revelation of scandals can raise low-trust investors' confidence in the reported numbers, as they observe investigations and penalization of misconduct, at least through public shaming in the media. Consequently, ERCs increase in low-trust markets when scandals are exposed

4.5 Cross-sectional Variation Based on the Inherent Credibility of News

Because trust in earnings numbers is more relevant for positive earnings and positive earnings news, we examine whether the ERC erosion in high-trust markets and the ERC increase in low-trust markets are concentrated in firm-years with positive earnings (columns (1) and (2)) and positive earnings news (columns (3) and (4)). In columns (1) and (2), we modify equation (3) by decomposing the key interaction term, *High Scandal* × *UE*, into two components: one corresponding to a loss (*High Scandal* × *UE* × *Split=1)* and the other corresponding to positive reported earnings (*High Scandal* × *UE* × *Split=0*). Here, *Split=1* indicates

a loss reported by the firms in a given year, while *Split=0* indicates positive earnings. We also include the two-way interactions of *Split* with *UE* and *High Scandal.*

Table 6 presents the results. The ERC erosion in high-trust markets is concentrated in firms reporting positive earnings. In addition, the ERC increase in low-trust markets is concentrated in firms that report positive earnings and have positive earnings news. These results align with the idea that investors in both high- and low-trust markets update their beliefs in cases where trust plays a key role.

4.6 Cross-Sectional Results: Trust in Analysts

The WVS measures trust as a general concept, encompassing trust in analysts, auditors, and regulators, which can all contribute to the disparity in stock market effects between high- and low-trust markets. To further investigate which of these gatekeepers contribute to our findings, we introduce equity analysts, auditors, and regulatory characteristics into our analyses.

The first type of gatekeepers we examine is equity analysts.[15] We modify equation (3) by decomposing the key interaction of interest, *High Scandal* × *UE*, into two components: one corresponding to high analyst following (*High Scandal* × *UE* × *Split=1)* and another corresponding to low analyst following (*High Scandal* × *UE* × *Split=0*). *Split=1* reflects above-median analyst following, and *Split=0* reflects below-median analyst following. We also include the two-way interactions of *Split=1* with *High Scandal* and *UE* and the main effect of this dummy into our regressions.

Panel A in Table 7 presents the findings. Columns (1) and (2) show the results of the decomposition based on analyst following for the two subsamples. Columns (3) and (4) show the results of the decomposition based on analyst forecast dispersion. First, we note that

[15] Reinforcing analyst forecast revisions are associated with larger ERCs, and investors react more to earnings announcements accompanied by analyst forecast revisions when there is greater consensus among analysts (Lobo et al., 2017).

analysts' scrutiny increases the perceived credibility of earnings numbers regardless of the trust level. This is indicated by the positive coefficients on *UE* × Split in columns (1) and (2)—i.e., more analyst attention enhances scrutiny, although other factors such as improved expectations could also contribute to the positive coefficient. Conversely, the negative coefficients on this term in columns (3) and (4) imply that greater analyst disagreement could suggest lower scrutiny, possibly due to a higher number of stale forecasts, though alternative explanations are possible.

In high-trust markets, we observe that the ERC erosion during high-scandal periods is concentrated in firms with high analyst following and low forecast dispersion. This finding aligns with the notion that scandals shake investors' faith in analysts in high-trust societies. For example, formerly high-trusting investors might perceive a large number of analysts or greater analyst agreement as indicators of thorough scrutiny of companies' earnings figures. However, during high-scandal periods, this positive perception of analysts' scrutiny is likely to diminish, weakening the perceived reliability of analysts. In low-trust markets, high-scandal periods result in an incremental increase in ERC for firms with low analyst following. This implies that low-trust investors elevate the perceived credibility of reported earnings for firms with low analyst following during high-scandal periods, thus narrowing the distinction between firms with high and low analyst following. This is consistent with an increase in low-trust investors' reliance on even just a few analysts to scrutinize companies' financial reporting.

4.7 Cross-Sectional Results: Trust in Auditors

Auditors' assurance is another factor contributing to investors' perception of the credibility of reported earnings, which may be affected by financial reporting fraud. Audit quality increases investors' utilization of financial information, as reflected in higher ERC after the Securities Exchange Act of 1934 that mandated disclosure of audited financial statements and higher ERC of Big Eight clients than non-Big Eight clients (Teoh and Wong, 1993; Binz

and Graham, 2022). Moreover, investors' price response to earnings surprises is lower when an auditor changes due to disagreement-related or fee-related reasons, as well as for firms with high levels of non-audit fees than for firms with low levels of such fees (Hackenbrack and Hogan, 2002; Francis and Ke, 2006). Trust affects the demand for audit services and audit fees, with a negative (positive) association between trust and Big N presence in countries that have strong (weak) investor protection (Knechel et al., 2019). In addition, a dismissal of the auditor following a restatement can help restore the credibility of financial reporting (Wilson, 2008; Chen et al., 2014). Overall, investors factor the auditor characteristic into their assessment of firms' reporting credibility.

A few recent studies examine auditors' role in either complementing high trust in financial reporting or substituting for low trust (e.g., Knechel et al., 2019; Wei and Zhang, 2023). This interaction of auditors and trust in capital markets appears to be a critical idea which auditors (or their regulators) often point to in statements, emphasizing the importance of trust for the prevention of fraud and facilitation of capital formation through lower debt and equity costs (e.g., Harris, 2015; Doty, 2017; KPMG, 2018; Munter, 2021). Though, it is unclear how investors would react in the presence of fraud given auditors' involvement in the financial reporting process. On the one hand, auditors may substitute for low or falling trust because auditors can raise the perceived credibility of financial reporting in low-trust markets where the benefit is large from reducing investors' financial reporting concerns (Watts, 1977; Watts and Zimmerman, 1983; Knack and Keefer 1997). On the other hand, auditors may themselves be subject to decreasing societal trust arising out of fraud. Lowered trust coming from fraud will erode the value of auditing because investors' perception would be that auditors, like managers, are likely to cheat investors due to the opaque nature of financial audits and related agency issues, like a firm capturing its auditor.

To study whether trust in auditors contributes to the divergent ERC association with scandals based on prior trust levels, we decompose *High Scandal* × *UE* into two components based on the Big 4 membership of the firm's auditor. The first component in the decomposition corresponds to clients of Big 4 auditors (*High Scandal* × *UE* × *Split=1)* and the second component corresponds to clients of non-Big 4 auditors (*High Scandal* × *UE* × *Split=0*). We also include the two-way interactions of *Split=1* with *High Scandal* and *UE* and the main effect of this dummy into our regressions.

We show the findings in Table 7 Panel B. Columns (1) and (2) show that increases in ERCs in low-trusting markets are concentrated in the clients of Big 4 auditors. This result aligns with the findings in Wei and Zhang (2023) where firms located in low trust regions within the U.S. use Big 4 auditors to substitute for low ERCs. Note that for both types of markets, we do not find Big 4 auditors to be associated with ERCs in the absence of scandal revelations, a common finding in prior literature (Teoh and Wong, 1993). In an untabulated test, where we (i) pool the observations from both high- and low-trust markets into a single sample and (ii) drop the scandal variable (and its interactions), we do find a significant coefficient on *UE* × *Big 4* of 0.5 with a t-statistic of 2.59.

We then assign *Split=1* for firms audited by scandalous auditors (those that audit the scandal firms) and *Split=0* otherwise. Perhaps unsurprisingly, we find ERC erosion for scandalous auditors in high-trust markets, suggesting negative spillover effects from scandals on the clients of these auditors even though these other companies do not have scandals. Overall, we find relatively weak evidence in these tests; however, an important caveat in our interpretation of the results in Panel B is the potential lack of power in detecting the effects due to sample attrition because we require auditor data.

4.8 Cross-Sectional Results: Trust in Institutions

Institutions are another determinant of investors' perception of how credible firm disclosure is. Some studies show disclosure and private enforcement to be related to capital market development and do not find such effects for public enforcement (e.g., La Porta et al., 2006). Other studies show investor protection to be related to better capital allocation and investment efficiency (e.g., McLean et al.,2012). Weak investor protection is also connected to poorly performing firms experiencing takeovers and replacing CEOs (Lel and Darius, 2015). Pevzner et al. (2015) find a more pronounced positive effect of societal trust on investor reactions to earnings news when investor protection and disclosure requirements are weaker, interpreting these findings as evidence that trust acts as a substitute for formal institutions.

Country-level institutional gatekeepers, such as regulators or disclosure regimes, are supposed to address market failures and societal demands for oversight (e.g., McLean et al., 2012). However, these gatekeepers may establish and enforce rules that investors can perceive as ineffective or influenced by special interests. Thus, investors' trust in country-level gatekeepers can further decline when accounting scandals occur (e.g., Aghion et al., 2010). Alternatively, investors might rely on country-level gatekeepers to intervene with legal authority and to reassure them that fraudulent activities will be properly addressed.

We test whether trust in institutions can explain the disparity between high- and low-trust markets in how investors react to earnings news during high-scandal periods. We start by using the index from La Porta et al. (2006) that captures a country's requirement (or the lack thereof) of the delivery of a prospectus to potential investors in advance of securities issuance, and the extent of affirmative disclosure requirements in the following five areas: insiders' compensation, ownership by large shareholders, inside ownership, contracts outside the normal course of business, and transactions with related parties. We assign *Split=1* for country-year observations with above-median disclosure index and *Split=0* otherwise. Similar to the

decompositions in the prior two panels, we include the two-way interactions of *Split=1* with *High Scandal* and *UE* and the main effect of this dummy into our regressions.

In Panel C, columns (1) and (2) report the decomposition based on the disclosure index. We find that high disclosure index increases ERCs in general. However, disclosure seems to be unrelated to investor reactions in both high-trust and low-trust markets. Therefore, there does not appear to be an erosion of trust in capital market disclosure requirements following scandals in high-trust markets, nor is there an increase in reactions to earnings news in low-trust markets.

Finally, we test whether trust in investor protection adds to the diverging reactions to scandals between high- and low-trust markets. We use an investor protection index that aggregates the anti-self-dealing index from Djankov et al. (2008) and the law enforcement index from Kaufmann et al. (2003) after both indices are rescaled to be between 0 and 1. We assign *Split=1* for country-year observations with above-median investor protection index and *Split=0* for below-median values of this index. We also include the two-way interactions of *Split=1* with *High Scandal* and *UE* and the main effect of this dummy into our regressions.

We report the findings in Panel C of Table 7. Columns (3) and (4) show three important results for our predictions. First, investor protection is generally associated with higher ERCs, and this association is stronger for high-trust markets. Second, during high-scandal periods, high-trust investors lose confidence in institutions enforcing investor protection. This suggests that scandals can shake the faith of high-trusting investors in these institutions, possibly because they previously believed such protections were effective at preventing scandals. Third, low-trust investors appear to gain trust in these gatekeepers. We find the ERC increase from scandals in low-trust countries to be concentrated in high-protection markets. It appears that regulators providing high investor protection are important for low-trusting investors to revise

their perception of the reported numbers upward when they observe misconduct getting caught. There is no effect for either high- or low-trusting investors when investor protections are weak.

5. Conclusion

Our paper provides evidence on the heterogeneity in stock market effects associated with scandals across the globe. We highlight a stark disparity between high-trust and low-trust markets in how investors update their beliefs during high-scandal periods. In high-trust markets, the revelation of financial misconduct typically results in a negative shock to investors' trust, as these scandals may indicate a lower-than-expected reliability of reported numbers and perceived unfairness of the system. This can lead to muted investor participation in the stock market and lower reaction to earnings reports. One example of this phenomenon appears to be the U.S., a market with relatively high societal trust.

Conversely, in low-trust markets, scandals are positively associated with the perceived credibility of financial reporting and increased investor confidence. This likely stems from the expectation that managers are opportunistic and gatekeepers are ineffective. The uncovering of misconduct positively surprises investors by demonstrating some level of scrutiny, which can lead to increased market participation and greater incorporation of reported numbers into stock prices.

We find evidence that analysts, Big 4 auditors, and institutions enforcing investor protection contribute to the divergence between high- and low-trust markets during high-scandal periods. Therefore, trust in gatekeepers adds to the investors' updating of their beliefs. Further studies could explore whether investors in high-trust societies exhibit different information gathering patterns and revert to the pre-scandal market reactions over a different horizon, compared to investors in low-trust societies.

This paper enhances our understanding of the economic and social costs associated with financial reporting misconduct by documenting that the negative effects observed in high-trust

markets, such as the U.S., represent only part of the global picture. In contrast, low-trust markets seem to regain trust in capital markets when scandals are exposed. This study extends the literature on capital market participation by emphasizing the crucial role of trust in shaping investors' perceptions of the stock market. It also contributes to the understanding of financial misconduct by proposing that such events can have positive spillover effects on other firms in low-trust environments. Furthermore, the paper underscores the significant role of various gatekeepers in influencing investors' perceptions of the credibility of firm disclosures.

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Appendix A: Variable Definitions

Variable	Short Description
Dependent variable	
CAR	Cumulative abnormal return from the market model during the firm's earnings announcement window (0, +1).
Abnormal Trading Volume	The average trading volume over the event window (0, +1), scaled by the average trading volume over the estimation window (-120, -21)
Stock Market Participation	Ratio of the number of respondents who directly owns stock or through mutual funds relative to the total number of respondents for U.S., China and European countries. Ratio of the number of respondents who owns trusts, stocks, or shares relative to the total number of total respondents for South Africa. For Australia, the percentage of adult Australian population who participated in the Australian share market directly reported by Australian Securities Exchange.
Main variables	
UE	Unexpected earnings. The difference between the actual value of EPS (IBES: VALUE with Periodicity = 1) and the mean forecasted annual earnings (IBES: VALUE with FPI = 1) calculated by us over the last 180 days deflated by stock price (WorldScope: market capitalization at the fiscal year-end (ITEM 8002) divided by common shares outstanding (ITEM 5301)). We take the percentile rank of this variable and divide by 100.
Trust	Societal trust based on responses to the WVS question: Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people? We recode the response to this question to 1 if a survey participant reports that most people can be trusted and 0 otherwise and then calculate the mean of the response in each country-year. Higher index values correspond to higher trust.
Scandals	The number of accounting scandals at the country-year level collected by Hail, Tahoun, and Wang (2018) using the variable 'scand_acct' (replacing missing values with zeros). For the country-level analysis, we also use the number of near accounting scandals, using the variable 'scand_near' (again replacing missing values with zeros).
Split variables	
Forecast Number	The number of annual earnings forecasts reported by I/B/E/S.
Forecast Dispersion	The standard deviation of analysts' earnings forecasts scaled by the most recent stock price. We complement IBES unadjusted history analyst forecast file with the IBES forecast summary file.

Big 4	Indicator variable that equals one if the auditor (Eikon: TR.F.Auditor) of that fiscal year is KPMG, Deloitte, PwC, or Ernst Young, zero otherwise.
Scandal Auditor	Indicator variable that equals one if the auditor is ever affiliated with a scandal case from Hail, Tahoun, and Wang (2018) hand collected by us, zero otherwise.
Investor Protection Index	The sum of the anti-self-dealing index from Djankov et al. (2008) and the law enforcement index from Kaufmann et al. (2003) after both indices are rescaled to be between 0 and 1.
Disclosure Requirement Index	This index is from La Porta, Lopez-de-Silanes, and Shleifer (2006) and captures a country's requirement (or the lack thereof) of the delivery of a prospectus to potential investors in advance of securities issuance, and the extent of affirmative disclosure requirements in the following five areas: insiders' compensation, ownership by large shareholders, inside ownership, contracts outside the normal course of business, and transactions with related parties.
Controls	
Loss	An indicator variable that equals one if the actual EPS (IBES: VALUE and Periodicity = ANN) is less than zero and zero otherwise.
Size	The natural log of market capitalization at the fiscal year-end (WorldScope: ITEM 8002).
Leverage	The ratio of the total liabilities (WorldScope: ITEM 3351) to the total assets (WorldScope: ITEM 2999).
Beta	The CAPM beta calculated from firm and country-level market returns data from Datastream
Book-to-Market	The ratio of book value to market capitalization at the fiscal year-end (WorldScope: ITEM 8002).
Quarterly Reporting	An indicator variable that equals one if the firm has quarterly reporting and zero otherwise.
Cross Listed	An indicator variable that equals one if the firm is cross listed across exchanges (Worldscope: ITEM 11496).
Reporting Lag	The difference between the earnings announcement date (IBES: 'ANNDATS') and the fiscal period end date (IBES: 'PENDS') in days.
$Wave_1$	An indicator variable that equals one if the country-year has stock market participation data from HRS survey Wave 1 and zero otherwise.
Largest 20	An indicator variable that equals one if the firm is one of the largest 20 firms in its country based on firm size.

Table 1. Country-level Stock Market Participation and Fraud

Panel A: Descriptive Statistics

Variables	(1) N	(2) Mean	(3) S.D.	(5) P25	(6) P50	(7) P75
Stock Market Participation	90	19.22	16.92	8.824	16.56	25.78
Trust	90	0.348	0.149	0.229	0.352	0.396
Ln(1 + *All Scandals*)	90	0.985	0.703	0.693	1.099	1.386
Ln(1 + *Accounting Scandals*)	90	0.709	0.671	0	0.693	1.099
Ln(1 + *Non-accounting Scandals*)	90	0.447	0.546	0	0	0.693

Panel B: Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sample	All, with SHARE Wave 1 control				Excluding SHARE Wave 1			
Scandal Measurement		All Scandals	Accounting Scandals	Non-accounting Scandals		All Scandals	Accounting Scandals	Non-accounting Scandals
Dependent Variable	*Stock Market Participation*							
Trust	58.931***	9.307	7.132	-4.508	52.442***	7.250	8.789	-5.419
	(4.69)	(0.94)	(0.90)	(-0.68)	(4.57)	(0.82)	(1.18)	(-0.85)
Ln(1 + *Scandal*)	-	7.060	7.097*	-0.598	-	5.860	7.498**	-1.593
		(1.53)	(1.80)	(-0.23)		(1.42)	(2.07)	(-0.10)
Trust × Ln(1 + *Scandal*)	-	-13.990	-16.847*	2.425	-	-10.846	-18.828**	5.623
		(-1.45)	(-1.81)	(0.37)		(-1.29)	(-2.24)	(1.17)
Wave 1	41.557***	38.655***	39.127***	38.335***	-	-	-	-
	(6.10)	(7.45)	(7.35)	(7.23)				
Fixed Effects	Constant	Country	Country	Country	Constant	Country	Country	Country
Observations	90	90	90	90	84	84	84	84
R-squared	0.719	0.867	0.866	0.861	0.467	0.779	0.781	0.769

Table 1 shows the association between *Trust* and *Stock Market Participation* and the effects of *Scandal* on this association. Panel A provides descriptive statistics. Panel B provides regression analyses. We estimate OLS regressions following equation (1). Two approaches handle abnormal *Stock Market Participation* measurement from Wave 1 of the SHARE survey for European countries, i.e., columns (1)-(4) vs. (5)-(8). T-statistics calculated with country(-year) clustering for columns (1) and (5) (columns (2)-(4) and (6)-(8)) are shown in parentheses below coefficient estimates. *, **, and *** indicate two-sided significance at p<10%, 5%, and 1%, respectively.

Table 2. Firm-level Sample

Panel A: Firm-year Panel by Year

Year	Observations						Percent
	0 Scandals	1 Scandal	2 Scandals	3 Scandals	4+ Scandals	Total	
1996	1,243	1,111	213	2,729	0	5,296	4.3%
1997	552	43	1,406	3,181	0	5,182	4.2%
1998	310	171	154	3,217	1,711	5,563	4.5%
1999	480	2,013	5	3,275	722	6,495	5.3%
2000	394	261	2,727	169	2,992	6,543	5.3%
2001	260	1,091	1,944	382	2,912	6,589	5.4%
2002	1,084	173	0	2,151	3,187	6,595	5.4%
2003	1,192	497	3,050	2,012	0	6,751	5.5%
2004	1,550	256	2,830	125	2,158	6,919	5.6%
2005	974	4,096	69	57	2,183	7,379	6.0%
2006	1,847	672	3,078	118	2,266	7,981	6.5%
2007	3,984	1,360	458	478	2,374	8,654	7.0%
2008	4,373	1,209	0	0	2,765	8,347	6.8%
2009	1,650	2,060	1	2,160	0	5,871	4.8%
2010	1,295	2,161	0	0	2,012	5,468	4.4%
2011	2,156	1,118	1,960	0	0	5,234	4.3%
2012	816	2,421	602	476	0	4,315	3.5%
2013	1,632	805	2,232	0	0	4,669	3.8%
2014	469	3,981	325	0	0	4,775	3.9%
2015	2,091	546	0	0	1,857	4,494	3.7%
Total	28,352	26,045	21,054	20,530	27,139	123,120	100.0%

Table 2 contains descriptive statistics for the firm-level sample. Panel A shows sample distribution by year and number of firm-years associated with the counts of country-year-level accounting scandals. More than four accounting scandals (and up to twenty) are aggregated in the "4+ Scandals" column.

Continued.

Table 2. Firm-level Sample—continued

Panel B: Firm-year Panel by Country

Country	Trust		Scandals		Obs	%
	Mean	S.D.	Mean	S.D.		
Australia	0.459	0.052	0.67	1.23	5,096	4.1%
Brazil	0.046	0.028	0.43	0.50	389	0.3%
Canada	0.411	0.054	0.72	1.10	765	0.6%
China	0.503	0.018	1.50	1.89	2,207	1.8%
Egypt	0.299	0.094	0.00	0.00	48	0.0%
Finland	0.551	0.046	0.19	0.39	1,361	1.1%
France	0.186	0	0.76	0.61	2,424	2.0%
Germany	0.335	0.039	1.30	1.68	4,130	3.4%
India	0.237	0.078	0.51	0.64	3,285	2.7%
Israel	0.229	0	0.00	0.00	182	0.1%
Italy	0.275	0	1.67	1.39	1,220	1.0%
Japan	0.378	0.017	3.74	2.73	38,559	31.3%
Netherlands	0.499	0.103	0.33	0.47	697	0.6%
Poland	0.180	0.008	0.25	0.50	198	0.2%
South Africa	0.091	0.082	0.33	0.85	1,406	1.1%
South Korea	0.292	0.013	1.27	1.10	1,561	1.3%
Sweden	0.626	0.023	0.83	1.08	2,570	2.1%
Switzerland	0.423	0.071	0.50	0.67	2,197	1.8%
United Kingdom	0.296	0.004	0.98	1.14	10,310	8.4%
United States	0.368	0.016	3.31	4.55	44,515	36.2%
					123,120	100.0%

Table 2 contains descriptive statistics for the firm-level sample. Panel B shows sample distribution by country. Mean and standard deviation ("S.D.") are shown for variables *Trust* and (accounting) *Scandals* within each country.

Table 3. Descriptive Statistics

VARIABLES	(1) N	(2) Mean	(3) S.D.	(4) P25	(5) P50	(6) P75
CAR	123,120	0.002	0.062	-0.025	0.000	0.028
Trust	123,120	0.366	0.080	0.352	0.359	0.396
UE (percentiles / 100)	123,120	0.509	0.270	0.280	0.510	0.740
Scandals	123,120	2.650	3.445	1	2	3
Loss	123,120	0.181	0.385	0	0	0
Size	123,120	21.59	2.704	19.52	21.53	23.56
Leverage	123,120	0.543	0.239	0.367	0.547	0.713
Beta	123,120	0.784	0.633	0.330	0.737	1.157
Book-to-Market	123,120	0.873	0.759	0.375	0.657	1.120
Abnormal Volume	88,710	1.985	1.958	0.891	1.448	2.343
Quarterly Reporting	88,710	0.692	0.462	0	1	1
Reporting Lag	88,710	49.75	21.43	35	46	60
Largest 20	88,710	0.042	0.201	0	0	0
Cross Listed	88,710	0.071	0.257	0	0	0
Forecast Dispersion	88,710	0.015	0.064	0.001	0.003	0.010
Forecast Number	88,710	7.370	6.697	3	5	10

Table 3 contains descriptive statistics for the firm-year panel used in the analysis. The panel is the intersection of datasets IBES / Worldscope / Datastream / World Value Survey and coverage by Hail, Tahoun, and Wang (2018).

Table 4. Scandals, Trust, and Abnormal Volume

Panel A: Main Result for Abnormal Volume

	(1)	(2)	(3)	(4)
Sample	High Trust	Low Trust	All	All
Trust Measurement			Raw Trust	Trust Percentile
Dependent Variable		*Abnormal Volume*		
High Scandal	-0.065**	0.044	0.297***	0.090***
	(-2.40)	(1.57)	(3.96)	(2.71)
High Scandal × Trust			-0.863***	-0.236***
			(-4.39)	(-4.14)
Trust			0.606***	0.037
			(5.31)	(1.04)
Size	-0.112***	-0.133***	-0.129***	-0.126***
	(-20.52)	(-23.48)	(-36.54)	(-34.89)
UE	1.236***	0.809**	1.091***	1.059***
	(2.92)	(2.45)	(4.30)	(4.16)
Leverage	0.264***	0.089	0.188***	0.186***
	(4.89)	(1.61)	(4.72)	(4.66)
Quarterly Reporting	0.023	-0.349***	-0.191***	-0.194***
	(0.68)	(-11.42)	(-9.40)	(-9.30)
Reporting Lag	-0.004***	-0.003***	-0.003***	-0.003***
	(-6.41)	(-5.62)	(-7.88)	(-8.08)
Largest 20	0.245***	-0.032	0.113***	0.116***
	(4.71)	(-0.75)	(3.32)	(3.30)
Cross Listed	0.017	-0.063	-0.023	-0.032
	(0.41)	(-1.60)	(-0.78)	(-1.08)
Forecast Dispersion	-0.020	-0.122	-0.051	-0.063
	(-0.06)	(-0.94)	(-0.42)	(-0.52)
Forecast Number	0.013***	0.016***	0.016***	0.016***
	(6.85)	(10.54)	(13.89)	(13.50)
Loss	-0.236***	-0.374***	-0.315***	-0.307***
	(-7.29)	(-11.40)	(-13.67)	(-13.28)
Fixed Effects	I & Y	I & Y	I & Y	I & Y
Observations	40,114	48,595	88,710	88,710
R-squared	0.069	0.052	0.053	0.052

Continued

Table 4. Scandals, Trust, and Abnormal Volume—continued

Panel B: Result Robustness for Abnormal Volume

	(1) Raw Trust	(2) Trust Percentile	(3) Raw Trust	(4) Trust Percentile
Dependent Variable	*Abnormal Volume*			
High Scandal	0.164**	0.055*	0.155**	0.037
	(2.21)	(1.65)	(2.02)	(1.06)
High Scandal × *Trust*	-0.498**	-0.158***	-0.507**	-0.147**
	(-2.56)	(-2.74)	(-2.51)	(-2.41)
Trust	0.214	0.111**	0.530*	0.151**
	(0.80)	(2.04)	(1.83)	(2.49)
Controls	Yes	Yes	Yes	Yes
Fixed Effects				
Industry	Yes	Yes	-	-
Year	Yes	Yes	Yes	Yes
Country	Yes	Yes	-	-
Firm	-	-	Yes	Yes
Observations	88,710	88,710	85,768	85,768
R-squared	0.061	0.061	0.244	0.244

Table 4 contains the association between *Abnormal Volume* and the interaction of *Trust* and *High Scandal* (an indicator equal to one when *Scandal* is above the median in the last year compared with the history of scandals within the firm's country). We estimate OLS regressions following specification equation (2) from the manuscript.

Panel A provides the main association with lower density fixed effects. In the table footer, we indicate fixed effects for industry (I) and year (Y). Column (1) and column (2) estimates the equation without an interaction in high and low trust subsamples. Column (3) estimates the equation with the raw value of *Trust*. Column (4) estimates the equation with the percentile version of *Trust*.

Panel B provides the main association with additional fixed effects. Columns (1) and (2) include country fixed effects. Columns (3) and (4) include firm fixed effects. Columns (1) and (3) estimate the equation with the raw value of *Trust*. Columns (2) and (4) estimate the equation with the percentile version of *Trust*.

T-statistics calculated with firm clustering are shown in parentheses below coefficient estimates. *, **, and *** indicate two-sided significance at p<10%, 5%, and 1%, respectively.

Table 5. Scandals, Trust, and Price Discovery

	(1)	(2)	(3)	(4)
Sample	High Trust	Low Trust	All	All
Trust Measurement			High Trust Dummy	Trust Percentile
Dependent Variable			*CAR*	
UE × *High Scandal*	-0.796***	0.529**	0.488**	0.478*
	(-3.02)	(2.24)	(2.22)	(1.73)
UE × *High Scandal* × *Trust*	-	-	-1.524***	-1.425***
			(-4.75)	(-3.01)
UE × *Trust*	-	-	1.575***	2.001***
			(8.76)	(7.13)
UE × *Loss*	-1.672***	-2.150***	-1.973***	-1.954***
	(-5.72)	(-6.86)	(-9.16)	(-9.08)
UE × *Size*	-0.558***	-0.224***	-0.432***	-0.435***
	(-10.64)	(-5.52)	(-14.19)	(-14.48)
UE × *Leverage*	-0.853	0.159	-0.309	-0.246
	(-1.51)	(0.30)	(-0.78)	(-0.62)
UE × *Beta*	2.074***	0.957***	1.551***	1.561***
	(10.03)	(4.91)	(11.01)	(11.07)
UE × *Book-to-Market*	-0.725***	-0.466***	-0.613***	-0.604***
	(-4.68)	(-3.20)	(-5.83)	(-5.75)
Main Effects of *UE* Interactions	Yes	Yes	Yes	Yes
Fixed Effects	I×*UE* & Y×*UE*	I×*UE* & Y×*UE*	I×*UE* & Y×*UE*	I×*UE* & Y×*UE*
Observations	58,178	64,940	123,120	123,120
R-squared	0.044	0.033	0.032	0.032

Table 5 contains the association between *CAR* and the interaction of *UE*, *Trust*, and *High Scandal* (an indicator equal to one when *Scandal* is above the median in the last year compared with the history of scandals within the firm's country). *UE* is the percentile-ranked, signed unexpected earnings relative to analyst expectations scaled between 0 and 1. We estimate OLS regressions following specification equation (3) from the manuscript. In the table footer, we indicate fixed effects for industry (I) and year (Y). All columns estimate the equation with industry and year effects stand-alone and interacted with *UE*. Column (1) and column (2) estimates the equation without an interaction in high and low trust subsamples, respectively. Column (3) estimates the equation with the above median split of the variable *Trust* (as used to generate the subsamples in columns (1) and (2)). Column (4) estimates the equation with the percentile version of *Trust*. T-statistics calculated with firm clustering are shown in parentheses below coefficient estimates. *, **, and *** indicate two-sided significance at p<10%, 5%, and 1%, respectively.

Table 6. Cross-sectional Reactions to Different Types of News

	(1)	(2)	(3)	(4)
Sample	High Trust	Low Trust	High Trust	Low Trust
Split Variable	*Loss*		*Good News*	
Dependent Variable	*CAR*			
UE × *High Scandal* × Split = 1	-0.130	0.644	0.568	2.519***
	(-0.24)	(1.17)	(1.15)	(5.09)
UE × *High Scandal* × Split = 0	-0.885***	0.535**	-0.044	-0.036
	(-3.24)	(2.17)	(-0.08)	(-0.06)
UE × Split	-1.880***	-2.197***	1.358***	1.378***
	(-5.32)	(-5.87)	(6.55)	(6.60)
UE Interaction Controls	Yes	Yes	Yes	Yes
Main Effects of *UE* Interactions	Yes	Yes	Yes	Yes
Fixed Effects	I×*UE* & Y×*UE*	I×*UE* & Y×*UE*	I×*UE* & Y×*UE*	I×*UE* & Y×*UE*
Observations	58,178	64,940	58,178	64,940
R-squared	0.044	0.033	0.045	0.034

Table 6 contains the association between *CAR* and the interaction of *UE*, *High Scandal* (an indicator equal to one when *Scandal* is above the median in the last year compared with the history of scandals within the firm's country), and variables indicating different types of news. *UE* is the percentile-ranked, signed unexpected earnings relative to analyst expectations scaled between 0 and 1. We estimate OLS regressions following specification equation (3) from the manuscript with additional cross-sectional interaction variables. In the table footer, we indicate fixed effects for industry (I) and year (Y). All columns estimate the equation with industry and year effects stand-alone and interacted with *UE*. Columns (1) and (3) estimate the equation in the high trust subsample, and columns (2) and (4) estimate the equation in the low trust subsample. Columns (1) and (2) have *Loss* as the cross-sectional interaction variable. Columns (3) and (4) have *Good News* (an indicator for positive *UE*) as the cross-sectional interaction variable. T-statistics calculated with firm clustering are shown in parentheses below coefficient estimates. *, **, and *** indicate two-sided significance at p<10%, 5%, and 1%, respectively.

Table 7. Trust in Gatekeepers

Panel A: Analysts

	(1)	(2)	(3)	(4)
Subsample	High Trust	Low Trust	High Trust	Low Trust
Split Variable	*High Analyst Forecast Count*		*High Analyst Forecast Dispersion*	
Dependent Variable	*CAR*			
UE × *High Scandal* × Split = 1	-1.423***	0.249	-0.197	0.412
	(-3.870)	(0.771)	(-0.566)	(1.414)
UE × *High Scandal* × Split = 0	-0.239	0.668**	-3.262***	0.641
	(-0.743)	(2.216)	(-6.433)	(1.265)
UE × Split	1.898***	1.109***	-4.763***	-2.485***
	(6.570)	(4.437)	(-13.479)	(-7.831)
UE Interaction Controls	Yes	Yes	Yes	Yes
Main Effects of UE Interactions	Yes	Yes	Yes	Yes
Fixed Effects	I×UE & Y×UE	I×UE & Y×UE	I×UE & Y×UE	I×UE & Y×UE
Observations	58,178	64,940	40,296	48,923
R-squared	0.045	0.033	0.061	0.038

Panel B: Auditors

	(1)	(2)	(3)	(4)
Subsample	High Trust	Low Trust	High Trust	Low Trust
Split Variable	*Big 4*		*Scandal Auditor*	
Dependent Variable	*CAR*			
UE × *High Scandal* × Split = 1	-0.319	0.630*	-0.786*	0.796
	(-0.94)	(1.77)	(-1.75)	(1.58)
UE × *High Scandal* × Split = 0	-0.412	-0.470	0.060	0.072
	(-0.67)	(-0.86)	(0.15)	(0.20)
UE × Split	0.039	-0.189	0.690**	0.194
	(0.10)	(-0.57)	(1.99)	(0.65)
UE Interaction Controls	Yes	Yes	Yes	Yes
Main Effects of UE Interactions	Yes	Yes	Yes	Yes
Fixed Effects	I×UE & Y×UE	I×UE & Y×UE	I×UE & Y×UE	I×UE & Y×UE
Observations	33,865	32,654	33,865	32,654
R-squared	0.042	0.039	0.042	0.039

Continued.

Table 7. Trust in Gatekeepers—continued

Panel C: Regulators

	(1)	(2)	(3)	(4)
Subsample	High Trust	Low Trust	High Trust	Low Trust
Split Variable	*High Disclosure Requirements*		*High Investor Protection*	
Dependent Variable	*CAR*			
UE × *High Scandal* × Split = 1	-1.601	-0.415	-2.388***	0.698**
	(-1.37)	(-1.09)	(-3.84)	(1.97)
UE × *High Scandal* × Split = 0	-0.054	0.295	0.078	0.015
	(-0.19)	(0.97)	(0.27)	(0.05)
UE × Split	4.486***	3.015***	4.201***	1.865***
	(11.84)	(9.65)	(11.31)	(5.95)
UE Interaction Controls	Yes	Yes	Yes	Yes
Main Effects of UE Interactions	Yes	Yes	Yes	Yes
Fixed Effects	I×UE & Y×UE	I×UE & Y×UE	I×UE & Y×UE	I×UE & Y×UE
Observations	55,971	64,742	57,440	64,671
R-squared	0.050	0.035	0.048	0.034

Table 7 contains the association between *CAR* and the interaction of *UE*, *High Scandal* (an indicator equal to one when *Scandal* is above the median in the last year compared with the history of scandals within the firm's country), and an indicator variable for attributes of analysts, auditors, and regulators (and the split version of the indicator variable). *UE* is the percentile-ranked, signed unexpected earnings relative to analyst expectations scaled between 0 and 1. We estimate OLS regressions following specification equation (3) from the manuscript with additional cross-sectional interaction variables. In the table footer, we indicate fixed effects for industry (I) and year (Y). All columns estimate the equation with industry and year effects stand-alone and interacted with *UE*. In all panels, columns (1) and (3) estimate the equation in the high trust subsample, and columns (2) and (4) estimate the equation in the low trust subsample.

In Panel A, for columns (1) and (2), the split variable is *High Analyst Forecast Count*, indicating above the median number of analyst forecasts for that firm year. For columns (3) and (4), the split variable is *High Analyst Forecast Dispersion*, indicating that the analyst forecasts have above median dispersion.

In Panel B, for columns (1) and (2), the split variable is *Big 4*, indicating above the firm has a Big 4 auditor. For columns (3) and (4), the split variable is *Scandal Auditor*, indicating that the firm's auditor is involved in the accounting scandal(s).

In Panel C, for columns (1) and (2), the split variable is *High Disclosure*, indicating above the median for the disclosure requirements index, from La Porta et al. (2006) as described in the Variable Appendix. For columns (3) and (4), the split variable is *High Investor Protection*, indicating above the median for the investor protection index, from Kaufmann et al. (2003) and Djankov et al. (2008) as described in the Variable Appendix. Observations with a missing index value have the indicator set to zero.

T-statistics calculated with firm clustering are shown in parentheses below coefficient estimates. *, **, and *** indicate two-sided significance at p<10%, 5%, and 1%, respectively.