Trust in financial markets:

Evidence from reactions to earnings news

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Abstract

This paper studies the effect of trust on the perceived credibility of earnings news. Using earnings response coefficients, we find that firms located in low-trust regions of the United States experience significantly lower stock price reactions to earnings news. Additional tests indicate that managers can counterbalance investors' dependence on trust by employing reputable auditors or signaling the quality of their earnings using dividends to improve the perceived credibility of their financial reports. Overall, our findings suggest that trust affects the pricing of earnings news in capital markets.

Keywords*:* Trust, earnings response coefficients, auditor quality, financial reporting

JEL *Classification*: G12, G14, G18

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1. Introduction

"Our market system depends critically on trust—trust in the word of our colleagues and trust in the word of those with whom we do business."

Alan Greenspan, Testimony to Congress (2002)

Does trust affect how investors process and assess accounting information? If so, can managers commit to mechanisms that enhance credibility to improve this process? Investor protection laws, rigorous accounting standards, and legal enforcement help to ensure fairness and build trust among market participants. However, legal enforcement is costly, and laws and accounting standards are not perfect, even in developed financial markets. Investor trust may be shaken after widespread accounting scandals such as the Enron and WorldCom bankruptcies (Farber 2005; Giannetti and Wang 2016).

We have two aims in this paper. First, we hypothesize that a lack of trust affects the perceived credibility of earnings news in the U.S. stock market. We find that firms located in low-trust regions experience significantly lower stock price reactions to earnings news. The findings are consistent with related cross-country evidence on the relation between trust and trading behavior (Pevzner, Xie, and Xin 2015; henceforth PXX). Nevertheless, they are surprising because the U.S. is a relatively sophisticated market, has strong investor protection laws, and has high-quality accounting standards. Moreover, our results provide new evidence that trust is priced with respect to reporting credibility in capital markets.

Second, we examine whether firm-level commitments to enhance the credibility of financial reports can counterbalance investors' reliance on trust. Studies show that investor trust is an important managerial concern (Farber 2005), and managers enact policies to build credibility with investors (Teoh and Wong 1993; Hutton, Miller, and Skinner 2003; Hirst, Koonce, and Venkataraman 2007). However, there is little evidence on whether such firm-level commitments can effectively offset investors' reliance on trust. Our setting offers an opportunity to shed new light on this important issue.

We define trust as an expectation that a counterparty will fulfill obligations in accordance with implicit commitments (Dasgupta 1988; Gambetta 1988; Fukuyama 1995). Due to a lack of trust, investors may suspect that management will engage in opportunistic behavior, such as inflating earnings or

consuming excessive perquisites, which reduces the value of the firm. Upon arrival of earnings news, low-trust investors will not trade aggressively because they assess the earnings news to be less credible. We hypothesize that a lack of trust weakens the perceived credibility of earnings news.

We test this prediction using data from waves of the World Values Survey (WVS) across regions of the United States. To measure trust, we use responses to the following survey question: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" The WVS is commonly used to measure differences in trust across countries, but it can also measure the variation in trust across the United States (Knack and Keefer 1997; La Porta, Lopez-de-Silanes, Shleifer, and Vishny 1997). Importantly, the variation in U.S. regional trust is significant and comparable to that of Western Europe.[1] An attractive feature of focusing on the U.S. market is that firms in our sample face practically identical regulatory, legal, and accounting standards. Therefore, we can isolate investors' reliance on trust from other confounding explanations.

To test our hypothesis, we use earnings response coefficients (ERCs) to measure investors' perceived credibility of earnings news. Consistent with our main prediction, firms headquartered in low-trust regions experience ERCs that are significantly lower, by 9% to 18%, relative to their counterparts in high-trust regions. ERCs are an ideal approach to answer our research question because they capture the stock market reaction in the immediate period around the earnings announcement date. While the ERC approach is well established (Armstrong, Glaeser, and Kempler 2019), it requires certain assumptions. To measure unexpected earnings news, we take the difference between a firm's realized earnings per share (EPS) and the median analyst forecast. ERCs have been used to assess the perceived credibility of earnings news across audit firms, around earnings restatements, and in the presence of regulatory oversight (Teoh and Wong 1993; Wilson 2008; Gipper, Leuz, and Maffett 2020). We build on this literature by using ERCs to study the role of trust. Our results remain after controlling for key firm

[1] In Western Europe, the lowest level of trust is 20% (Greece) and the highest level of trust is 57% (Sweden). In our sample, the lowest level of trust is 22% (East South Central U.S., 1999) and the highest level of trust is 53% (Northwest U.S., 2006).

characteristics (e.g., implied cost of capital, sales growth, size, profitability, liquidity, institutional ownership, and stock volatility) and earnings characteristics (e.g., loss, persistence).

We design a sharper test to assess our main hypothesis based on findings that investors are more skeptical of good news because managers are less inclined to release bad news (Hutton, Miller, and Skinner 2003). Specifically, we separate earnings surprises into good news and bad news subsamples. We expect that trust should affect the perceived credibility of good news, but investors should have little reason to doubt the credibility of bad news. Our analysis supports this prediction. Trust significantly affects ERCs for good news, but there is no significant association between trust and ERCs for bad news. These findings lend further credence to the view that trust affects the perceived credibility of earnings news.

Our second major question is whether managers can take actions to counterbalance investors' reliance on trust. One approach is for firms to obtain external certification of their financial statements to gain credibility and improve the precision of the earnings signal. Reputable auditors (Frankel, Johnson, and Nelson 2002) can enhance the credibility of financial reports because their reputation is built on carefully monitoring accounting practices. Another approach is for managers to signal the quality of earnings, for example, by paying cash dividends (Bhattacharya 1979; Healy and Palepu 1985) to enhance reporting credibility and reduce investors' dependence on trust. Consistent with this view, the effect of trust on ERCs is moderated by employing reputable auditors and the use of cash dividends.

A key threat to our identification strategy is the possibility of correlated omitted variables. Using a causal diagram (Gow, Larcker, and Reiss 2016), we identify regional factors as the most likely candidates because they are plausibly correlated with trust and earnings news. We take the following steps to alleviate these concerns. First, our baseline specification includes time-varying regional factors, such as local economic conditions (i.e., unemployment), population, and education. We also interact these regional factors with earnings surprises to ensure that our results are not due to differences in ERCs related to these factors. For a similar reason, we interact earnings surprises with firm and earnings characteristics in our regressions. Second, we include interactions of the trust measure with firm

characteristics in more stringent specifications to ensure that differences in firm characteristics across high- and low-trust regions are not behind our findings. Third, our baseline regressions include firm and year-quarter fixed effects. Firm fixed effects absorb unobserved firm heterogeneity while year-quarter fixed effects account for fluctuations in macroeconomic conditions or market sentiment. We also interact earnings surprises with the fixed effects for year-quarter to absorb time-varying changes in ERCs. To account for the possibility that ERCs vary across industries, we include industry fixed effects and interact earnings surprises with industry fixed effects. Our inferences continue to hold using these rigorous specifications. Finally, we perform an additional sensitivity analysis using propensity score matching and by repeating the main tests using alternative measures of trust.

Our identification strategy assumes that firms headquartered in a U.S. region experience the corresponding trust attitudes of local residents. This assumption is based on recent findings that a large component of information discovery is local (Omer, Roulstone, Sharp, and Twedt 2012; Brown, Stice, and White 2015) and that investors have a strong preference to hold local stocks (Coval and Moskowitz 1999; Ivkovíc and Weisbenner 2005).[2] Therefore, our approach does not reflect endogenous investors' perceptions of earnings reports, but rather the overall trust attitudes of residents residing in the geographical vicinity. To verify this key assumption, we hone in on stocks with a larger local investor base because our setting better captures investors' trust attitudes for such firms. Conversely, we do not expect to find effects among stocks that are widely held because the trust attitudes of their investor base are dispersed. Consistent with this prediction, our results are concentrated in stocks with greater local ownership as measured by firm size (i.e., smaller firms) and a larger potential investor base (i.e., state population).

Our final analysis addresses whether the reliance on trust to assess the credibility of earnings news represents a bias in investors' beliefs. Drawing definitive conclusions on investor rationality requires the difficult task of distinguishing between risk, mispricing (i.e., leaving money on the table), and other

[2] Recent studies also use a similar approach to study the effect of local investors on financial reporting and governance (Ayers, Ramalingegowda, and Yeung 2011; Chhaochharia, Kumar, and Niessen-Ruenzi 2012).

investor considerations. For example, investors may have preferences to avoid the psychic costs of certain risky investments by abstaining entirely from situations where they could be taken advantage of. Moreover, it is difficult to test for irrational market behavior because it can remain for extended periods. Nevertheless, we assess this alternative explanation by examining whether the returns in the period after the earnings announcement are systematically related to trust. If trust reflects a bias, then the effect of trust on the stock price response to earnings news should be reversed in the subsequent period after the earnings announcement. Our analysis reveals evidence of a weak reversal in stock returns in the post-earnings announcement period, but the findings are not conclusive.

Our paper contributes to several literatures. First, we contribute to the literature that examines the effect of trust on accounting and financial outcomes. For example, investor trust can increase voluntary disclosure (Guan, Lobo, Tsang, and Xin 2020), decrease auditor fees (Jha and Chen 2015), improve stock market participation (Guiso, Sapienza, and Zingales 2008; Giannetti and Wang 2016; Gurun, Stoffman, and Yonker 2017), and increase portfolio diversification (Wei and Zhang 2020).[3] In a related study, PXX (2015) examine the effect of trust on trading behavior around earnings announcements in a cross-country setting. Compared to these studies, our key contribution is to show that trust affects the pricing of earnings news in capital markets.

We also build on the large literature that examines the perceived credibility of earnings news. Prior research focuses on the role of external auditors and regulatory oversight in enhancing the credibility of audited financial reports (Teoh and Wong 1993; Francis and Ke 2006; Gipper et al. 2020). We show that trust is also a key determinant in the perceived credibility of earnings news. Our paper is also related to Farber (2005), who shows that shocks to trust motivate firms to improve their internal governance structures and restore firm value. Our evidence suggests that firms can counterbalance a lack of trust by

[3] Trust can also affect corporate decisions, such as external financing (Duarte, Siegel, and Young 2012; Hasan, Hoi, Wu, Zhang 2017a; Fotak, Jiang, Lee, and Lie 2022; Lin and Pursiainen 2020), corporate tax avoidance (Hasan, Hoi, Wu, and Zhang 2017), financial reporting (Garrett, Hoitash, and Prawitt 2014; Jha 2019), and managerial contracting (Hilary and Huang 2015; Hoi, Wu, and Zhang 2019).

using credibility-enhancing mechanisms, such as employing reliable auditors and signaling through stock dividends.

2. Hypotheses development and research design

Following the research design approach in Gow, Larcker, and Reiss (2016), we formulate the hypothesis that trust affects the perceived credibility of earnings news. First, we diagram a trust framework that describes the three parties that jointly determine the capital market outcomes. Next, we develop testable hypotheses and provide a causal diagram to illustrate the empirical challenges we face.

2.1 Trust framework

To illustrate the interactions among the three parties/stakeholders, we develop a trust framework, as illustrated in Figure 1.

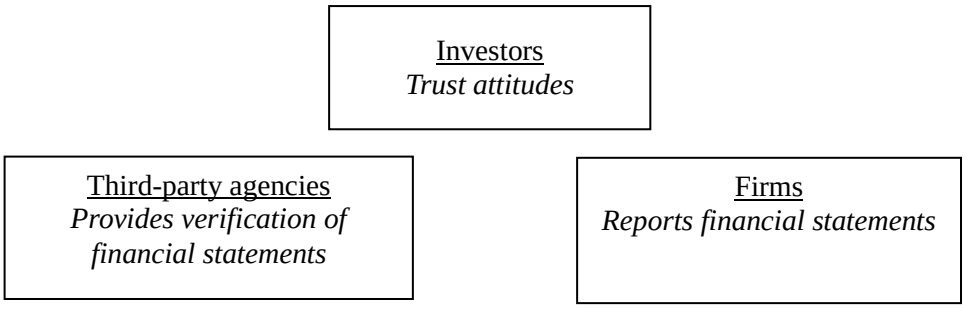

Figure 1. Trust framework showing the relationships among the three parties/stakeholders that determine the market reactions to earnings news.

- *Investors*. Investors provide capital to firms in expectation of future returns. Trust is defined as an expectation that the counterparty will fulfill obligations in accordance with implicit commitments (Guiso, Sapienza, and Zingales 2008). In this setting, the counterparty is the firm, and the stock represents the transaction. Our main hypothesis is that trust affects the perceived credibility of reported financial statements.
- *Firms*. Public firms receive financing from equity investors and must regularly produce financial statements that summarize their business operations. Managers are sensitive to investors' perceptions of the value of their company because the ability to raise financing directly affects

business operations. To enhance firm value, managers may make corporate decisions, such as undertaking costly signals (e.g., pay dividends, repurchase shares), releasing more voluntary disclosures, or improving corporate governance.

- *Third-party agencies.* Third-party agencies, such as auditors, provide certification of the firm's financial statements. These agencies effectively extend their own reputation to certify that the firm has produced accurate financial statements and complied with regulations. Regulators (e.g., the Securities and Exchange Commission) are also included because they enforce regulations and punish companies that breach laws and regulations.

Our analysis builds on studies that examine how financial market outcomes are affected by the interactions among parties in this framework (e.g., investor–firm, firm–third-party agency relationships). For example, evidence suggests that social trust affects equity participation, trading behavior, and portfolio choice. Managers may employ reputable auditors to improve the credibility of their financial statements. Farber (2005) shows that shocks to investors' trust attitudes motivate firms to improve their internal governance structures in an effort to restore firm value.

2.2 Research design: Using the earnings response coefficient

Our primary research design uses ERCs to examine the effect of trust on the perceived credibility of earnings news. ERCs estimate the stock price reaction at the earnings announcement, which reflects investors' assessments of the credibility of the earnings report. Alternatively, we could analyze the effect of trust on longer-term stock returns or the cost of capital, but the inferences from these outcomes are not as sharp and could have alternative interpretations. ERCs are based on the Gordon growth model, which states that $P=D/(r-g)$, where P is the stock price, D is the expected dividend, r is the required rate of

return, and g is the growth rate.[4] Kothari and Sloan (1992) show that the ERC estimate can be interpreted as a regression estimate of $1/(r-g)$.

ERCs are well established in the literature but they require certain assumptions and design choices. First, in the ERC approach, a measure of expected earnings is required to determine investors' expectations. Following the literature, we use the consensus analyst forecast, but the measure could be biased and a noisy proxy for investors' true expectations. Second, regression estimation can be noisy and subject to the statistical power of the empirical design. To address this concern, we use several specifications to address outliers and non-linearities in the data. As an alternative approach, we also examine abnormal volume and volatility reactions at the release of earnings announcement. Third, ERCs could change for reasons other than reporting credibility. Hence, we augment the known determinants of ERCs (Collins and Kothari 1989) with additional firm-level controls that are likely to affect our inferences.

While we take steps to handle the above issues, ERCs are known to have limitations related to non-linearity issues. The empirical distribution of the return–earnings relation exhibits an S-shape phenomenon described in Freeman and Tse (1992). This S-shape can occur if extreme earnings are perceived to be transitory or due to noise in the estimation. Kothari (2001, pp. 134–135) argues that it is tempting to use statistical models to improve model fit, but such an approach lacks strong economic foundations. To reduce noise, Gassen and Veenman (2022) offer two econometric suggestions: truncation of continuous variables and ranks/indicators of independent variables. They show that these techniques are preferable to using more complicated statistical models (robust regressions) and are commonly used in existing papers on ERCs (see Teoh and Wong 1993; Gipper et al. 2020). We implement these prescriptions in our empirical analysis.

[4] Assuming that shocks to earnings are equal to shocks to expected dividends, $\Delta D=\Delta E$, a firm that receives a positive (negative) shock to earnings ΔE should expect a positive (negative) reaction to the stock return, $\Delta P/P_{t-1}$, all else equal.

A second non-linearity issue arises due to duration effects (like those in bond pricing) in the numerator and denominator effects of the ERC estimation. ERCs are estimated slopes of the regression of the price change per unit of earnings surprise, which is an empirical estimate of $1/(r-g)$. But the price sensitivity to discount rates (duration) depends not only on the resulting change to the rate but also on the level of the rate. For example, at low rates, small changes produce large changes in prices. Hence, our regressions include controls for the sales growth rate and the pre-existing level of the discount rate as measured by the implied cost of capital.

2.3 Hypotheses development

Given the recent evidence that trust affects accounting and financial outcomes, we argue that trust is likely to affects how investors perceive the credibility of earnings news. For example, PXX (2015) show that trust affects trading volumes around earnings news. The results imply that investors who lack trust are skeptical about earnings news. Upon arrival of earnings news, low-trust investors will not trade aggressively because they assess the earnings news to be less credible. A natural question to ask is whether trust affects the pricing of earnings news. Formally, we state our first hypothesis as follows.

H1: Firms headquartered in high-trust regions experience greater ERCs compared to firms located in low-trust regions.

Extant findings show that investors are more skeptical of good news because managers are less inclined to release bad news (Hutton, Miller, and Skinner 2003). Based on this evidence, we design a sharper test by separating earnings surprises into good-news and bad-news subsamples. Low-trust investors could have doubts about the credibility of good news, but there is little reason to question the credibility of bad news. Our second hypothesis is written as follows:

H2: The effect of trust on ERCs is stronger for good earnings news compared to bad earnings news.

Our third hypothesis shifts the focus of our analysis from the investor's view to the firm's perspective. Studies show that investors' trust is vital, as managers expend considerable efforts to restore

trust (Farber 2005). Managers could take actions to signal the quality of the earnings. For example, theoretical and empirical studies show that dividends can act as a credible signal of earnings strength (Bhattacharyia 1979; Healy and Palepu 1985). To boost the credibility of the earnings signal (Teoh and Wong 1993), managers could employ reputable auditors (Frankel, Johnson, and Nelson 2002). We posit that hiring reputable auditors can enhance reporting credibility and plausibly reduce investors' reliance on trust. It is worth noting, however, that auditors may face conflicts of interest, which may weaken their credibility. As such, the economic force that dominates in our setting is an empirical question. Formally, we state our third hypothesis as follows:

H3: Firm-level actions, such as the employment of reputable auditors, or credible signals, such as dividend payments, can moderate the effect of trust on the return–earnings relation.

Overall, we have three testable predictions that follow from our main hypothesis. We take these predictions to the data in our subsequent tests.

2.4 Causal diagram illustrating the effect of trust on capital markets

We conclude this section with a causal diagram that illustrates our empirical design and anticipates the potential challenges we face (Gow, Larcker, and Reiss 2016). As such, Figure 2 identifies the primary factors that affect how capital markets respond to the arrival of earnings news. Classic studies analyze the information content of financial reports by employing the ERC methodology (Collins and Kothari 1989). The research design estimates the relation between the short window *Stock return at the earnings release* (box on top right) and *Earnings news* (box on middle right). The ERC is represented by the thick arrow connecting the two aforementioned boxes. Early studies recognized the importance of implementing *controls* (box on top left), such as firm size, growth prospects, earnings persistence, reported loss, and restructuring charges, to remove possible confounding factors. Other factors, such as investor sentiment and market conditions, can also influence ERC estimates.

Since Teoh and Wong (1993), the ERC measure has been used to reflect the perceived credibility of the earnings news by the capital market. Teoh and Wong (1993) and subsequent studies (Francis and Ke

2006; Gipper et al. 2020) show that reputable auditors of financial reports and regulatory oversight improve investors' assessments of the credibility of the earnings announcement and significantly increase the ERC. We represent this effect using the arrow from *Credibility-enhancing mechanisms* (lower left box) to *Earnings news* in the diagram. In other words, certification effects on the earnings news affect the relation between the return–earnings relation, as measured by the ERC. While the decision to employ such mechanisms is often a managerial choice, it can also be a regulatory matter (see Gipper et al. 2020).

Our study introduces the role of *Trust* (left middle box). In this setting, trust is the subjective expectation that affects investors' assessments of the credibility of earnings news. We represent the relation as an arrow from the *Trust* box to the *Earnings news* box. We can observe that trust affects the stock return outcome through investors' perceptions of the credibility of earnings news. Next, we discuss how trust and credibility-enhancing mechanisms are related. Farber (2005) argues that when fraud is revealed, investors are likely to experience a negative shock to trust. In turn, managers take measures, such as improving governance, to restore trust. We represent the effect of credibility on trust using the up arrow from the *Credibility-enhancing mechanisms* box to the *Trust* box. Alternatively, trust may affect the choice of the credibility-enhancing mechanisms. For example, Jha and Chen (2015) find that firms located in high-trust regions pay lower audit fees, while auditors charge higher premiums to their counterparts in low-trust regions. The down arrow from the *Trust* box to the *Credibility-enhancing mechanisms* box reflects this effect. The bidirectional effects demonstrate the complexity between trust and credibility-enhancing mechanisms, which include disclosure and reporting decisions. We acknowledge that while our analysis focuses on changes in perceptions of the credibility of earnings news as measured by ERCs, it does not directly capture reporting effects related to trust.

The greatest threat to our identification strategy is the possibility of correlated omitted variables, which is shown in the dotted box in the lower right. To alter our inferences, the omitted variable must affect trust, earnings news, and the stock return. Thus, the likely candidates that satisfy this condition are regional characteristics that are difficult to systematically observe. Examples may include economic growth or decline (e.g., unemployment) that affect both social trust and firm composition, which in turn is

likely to affect earnings news across regions. Another possible candidate is investor sophistication, because sophisticated investors are less likely to rely on trust and are better able to process earnings news. In our analysis, we address these threats and potential omitted variables using a series of control variables and interactions. Finally, it is worth noting that a variable that affects earnings news but not trust would not affect our inferences on the trust explanation.

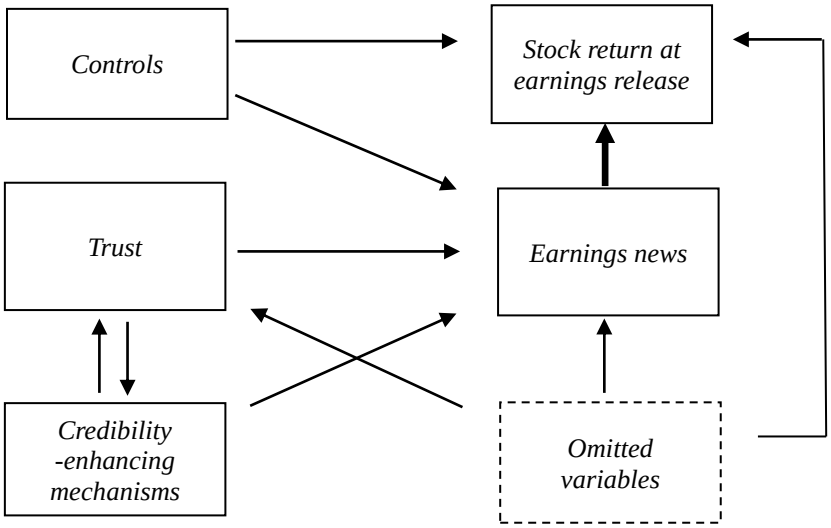

Figure 2. Causal diagram to identify the effect of trust on the relation between stock returns and earnings news.

3. Data and sample selection

We construct a measure of trust based on the 1981–2008 WVS Integrated Questionnaire. We use three waves of WVS surveys conducted in the U.S. that contain trust-related questions: Wave 3 (1995), Wave 4 (1999), and Wave 5 (2006). Thus, our sample period starts in 1995 and ends in 2006. Our sample ends in 2006 because that is the last year of data available on firm headquarters' locations from Compact Disclosure. In total, there are approximately 4,000 survey respondents in the three waves of surveys that

we study. The WVS survey identifies the locations of respondents in ten geographical regions.[5] Starting in 2006, the survey added two additional regions, Alaska and Hawaii. As we do not have measures of trust for these locations before 2006, we omit firms located in these states from our sample.

In each region, we create a *Trust Index* by calculating the percentage of WVS respondents answering "Most people can be trusted" to the survey 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 estimate the value of the *Trust Index* in the years between two consecutive surveys by linear interpolation. However, our findings are not sensitive to this procedure and are similar using non-interpolated values of the Trust Index. As our empirical analysis focuses on the interaction effect of trust and earnings news, we define an indicator variable, *High-Trust Dummy*, that is equal to one if the *Trust Index* is above the sample median, and zero otherwise. This helps facilitate easier economic interpretation of the interaction term.

All data are publicly available and obtained as follows. We collect historical headquarters locations from Compact Disclosure for 1995 to 2006. We obtain firm-level accounting information from Compustat and security return information from the Center for Research in Securities Prices. We gather regional variables, including population, unemployment rate, and education, from the U.S. Census Bureau, the Bureau of Labor Statistics, and the Federal Reserve Bank of Philadelphia, respectively. We gather institutional ownership from Thomson.

To measure earnings surprises, we use quarterly analysts' earnings forecasts from the Institutional Brokers' Estimate System (IBES). Our measure of earnings surprises is unexpected earnings (*UE*), measured as the difference between the actual reported EPS minus the latest median analyst per share forecast scaled by price in the previous month. We choose analyst forecast-based earnings surprise

[5] The regions include New England (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut), Middle Atlantic (New York, Pennsylvania, New Jersey), East North Central (Wisconsin, Michigan, Illinois, Indiana, Ohio), West North Central (Missouri, North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa), South Atlantic (Delaware, Maryland, Washington, D.C., Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida), East South Central (Kentucky, Tennessee, Mississippi, Alabama), West South Central (Oklahoma, Texas, Arkansas, Louisiana), Rocky Mountain (Montana, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico), Northwest (Oregon, Washington, Idaho), and California.

because it is a better proxy for expected earnings (Brown, Foster, and Noreen 1985; O'Brien 1988; Livnat and Mendenhall 2006). Following Livnat and Mendenhall (2006), we use the median of the latest individual analysts' forecasts issued within the 90 days before the earnings announcement date. We are careful to use the IBES Unadjusted Detail History that does not have adjustments for stock splits and stock dividends to avoid rounding issues. Announcement return is calculated as the cumulative market-adjusted return, $CAR(-1,+1)$ in the three-day window around the earnings announcement date. The post-earnings announcement return is the cumulative market-adjusted stock return, $CAR(+7,+60)$ from the seventh to the 60th day after the earnings announcement date.

Panel A in Table 1 reports details of the sample composition and summary statistics of the main variables used in the study. We require earnings surprises for firms in our sample. To reduce the influence of outliers, we truncate all continuous variables at the 1% and 99% levels following the prescription in Gassen and Veenman (2022). The Appendix provides full details on variable construction and data sources. The *Trust Index* has an average and median value of 37.6% and 39.2%, respectively, with a standard deviation of 6.9%. Panel B presents the survey results by region of the *Trust Index* for each of the three survey years (1995, 1999, and 2006). For example, the Northwest region (Oregon, Washington, and Idaho) has the highest average *Trust Index*, with a value between 46.9% and 53.1% during our sample period. The lowest *Trust Index* region is East South Central (Kentucky, Tennessee, Mississippi, Alabama), with a value between 21.9% and 26.9%. There is also variation in the *Trust Index* over time across U.S. geographical regions. For instance, the *Trust Index* in the Rocky Mountain region increases from 28.2% in 1995 to 38.8% in 1999 and continues to increase to 43.9% in 2006, while the index in the Middle Atlantic region increases from 37.1% in 1995 to 40.5% in 1999, but decreases to 38.9% in 2006. The *Trust Index* in California remains stable between 35.5% and 35.1% from 1995 to 1999 and increases to 43.4% in 2006. Our empirical approach exploits both the cross-sectional and time-series variation across regions to test our main hypotheses.

Table 2 examines the possible differences in firm characteristics across high- and low-trust regions. Panel A presents the raw correlations between trust and firm characteristics. We observe that the

correlations are not particularly strong. All correlations are within −10% and +10%. The *Trust Index* is negatively correlated with the implied cost of capital, sales growth, and stock illiquidity, while positively correlated with firm size, market-to-book ratio, and institutional ownership. Panel B reports *t*-tests of the differences of the means of these characteristics across high- and low-trust regions. We observe statistical differences across these characteristics, but the economic differences are small. For example, among commonly used valuation metrics, firms in low-trust regions have negligibly higher values of the implied cost of capital (20 basis points higher), profitability (40 basis points higher), and the market-to-book ratio (3.370/3.156−1 = 3.5% higher). We observe larger differences in sales growth (1.9%) and institutional ownership (4.8%). In our later analysis, we directly address the possibility that differences in firm characteristics across high- and low-trust regions affect our inferences.

4. Main results

4.1 Trust and trading behavior around earnings announcements

We start by examining whether trust affects trading behavior around earnings announcements in our U.S. setting by estimating Equation (1):

$$Abnormal\ volume\ (variance)_{i,t} = \alpha_{it} + \beta_1 \cdot Trust\ Index_{i,t} + x'_{i,t-1} + \varepsilon_{i,t}, \quad (1)$$

Our regression specifications closely follow PXX (2015). We include year-quarter fixed effects to capture macroeconomic trends and geographic region fixed effects (i.e., state) to absorb unobserved geographic heterogeneity. We also include industry fixed effects at the three-digit SIC level in certain specifications to capture unobserved variation across industries. x' are firm-level characteristic controls, which we discuss in greater detail in the next section. We cluster standard errors at the industry × year-quarter level because trading behavior is likely to be correlated temporally within each industry.

Table 3 shows that the *Trust Index* is positively associated with abnormal trading volume and abnormal return variance around earnings announcements. The parameter estimate on the *Trust Index* in Column 1 implies that firms located in high-trust regions experience an abnormal trading volume that is 3.1% higher (0.448×0.069=3.1%) than firms in low-trust regions, per a one-standard-deviation change

(0.069) in the *Trust Index*. The parameter estimate on the *Trust Index* in Column 2 implies that firms located in high-trust regions experience abnormal return variance that is 16.8% higher (2.428 × 0.069 = 16.8%) than firms in low-trust regions, per a one-standard-deviation change (0.069) in the *Trust Index*. Overall, the results are consistent with the view that trust affects trading behavior around earnings announcements.

4.2 Earnings response coefficients

We focus our main analysis on the pricing implications in capital markets due to trust. *H1* predicts that a lack of trust will reduce the return–earnings relation around earnings announcements. We test this prediction using the ERC model by estimating Equation (2):

$$CAR_{i,t} = \alpha_{it} + \beta_1 \cdot UE_{i,t} + \beta_2 \cdot UE_{i,t} \times High\text{-}Trust\ Dummy_{i,t} + \beta_3 \cdot High\ Trust_{i,t} + x'_{i,t\text{-}1} + \varepsilon_{i,t}, \quad (2)$$

where *UE* represents the difference between the actual reported EPS and the median analysts forecast; *CAR* is the three-day cumulative abnormal return for the firm; *High-Trust Dummy* is equal to one if the firm has a *Trust Index* above the sample median, and zero otherwise; and $x'_{i,j,t\text{-}1}$ represents a vector of *j* control variables. Standard errors are clustered by each industry × year-quarter because unexpected earnings are correlated temporally within industries; however, our inferences are unchanged when clustering standard errors by firm, quarter, or area (i.e., state or region). In Equation (2), β_2 is the main coefficient of interest and captures the incremental effect of trust beyond the direct effect of the unexpected earnings surprise, which is estimated by β_1. We expect $\beta_2 > 0$ if firms located in high-trust regions experience larger stock price changes in relation to unexpected earnings surprises, which we interpret as an increase in the perceived credibility of earnings news.

The set of control variables *x'* includes: (1) firm size, because Kothari and Sloan (1992) show that it affects earnings reactions due to lead-lag return effects; (2) implied cost of capital, estimated from Gebhardt, Lee, and Swaminathan's (2001) model to control for the discount rate; (3) sales growth, to capture the growth rate (Collins and Kothari 1989); and (4) market-to-book ratio, book leverage, and

profitability, to capture other firm characteristics. In the discussion of the causal diagram, we raised the importance of controlling for investor sophistication. Therefore, we include: (5) institutional ownership as a proxy for shareholder sophistication (Bushee 1998); (6) the natural logarithm of Amihud's (2002) illiquidity measure (Goyenko, Holden, and Trzcinka 2009)[6]; (7) and stock return volatility, following Easton and Zmijewski (1989). Illiquidity acts as a proxy for information asymmetry, as shown in prior literature (Zhang 2006; Daske, Hail, Leuz, and Verdi 2008; Lang and Maffett 2011a, 2011b). Stock volatility captures other dimensions of the firm's information environment, including information asymmetry (Glosten and Milgrom 1985) and uncertainty (Holthausen and Verrecchia 1988; Teoh and Wong 1993). To capture the transitory component of reported earnings, we include a loss dummy, following Hayn (1995); a restructure dummy, following Elliot and Hanna (1996); and earnings persistence, using a seasonally adjusted ARIMA time-series model of quarterly earnings, following Kormendi and Lipe (1987) and Collins and Kothari (1989). To address the influence of outliers (Gasssen and Veeram 2022), we use indicators for the control variable, which equals one if the value is above the cross-sectional median, following Teoh and Wong (1993), and zero otherwise. We interact *UE* with all the control variables in our baseline specifications, following Teoh and Wong (1993). These interaction terms ensure that the ERC estimate β_2 is not affected by the effect of firm characteristics on the return–earnings relation.

Our baseline specifications include fixed effects for the year-quarter of a firm's reporting period and firm fixed effects. Year-quarter fixed effects account for macroeconomic shocks or fluctuations in market sentiment. Firm fixed effects account for unobserved firm heterogeneity, such as the firm's average CAR at the earnings announcement. Moreover, it can also help account for possible changes in the sample of firms over the period studied.

Consistent with our main hypothesis (*H1*), the results show that trust has a strong effect on ERCs. Column 1 of Table 4, Panel A, shows that the market responds strongly to earnings surprises, as the

[6] The authors show that it is among the best-performing measures of liquidity and is commonly used to measure transparency and information asymmetry.

parameter estimate β_1 (2.793, t = 24.54) is positive and statistically significant. The parameter estimate on the interaction term of *UE*× *High-Trust Dummy*, β_2 = 0.605 (t = 3.78), implies that firms located in high-trust regions experience a 22% greater stock price response for the same amount of earnings surprise relative to the baseline effect β_1 (0.605 / 2.793 = 22%). Column 2 includes the firm characteristics that are known to affect the return–earnings relation and the interaction of these controls with *UE*. Our inferences are unchanged with this augmented specification. The parameter estimate β_2 = 0.583 (t = 3.63) in this specification implies that firms located in high-trust regions experience a 17% greater stock price response for the same earnings surprise relative to the baseline effect β_1 (0.583 / 3.483 = 17%). Column 3 adds earnings characteristics and the interaction of *UE* with these controls. The parameter estimate β_2 remains statistically significant, which implies that the inclusion of these earnings characteristics and their interaction with *UE* does not alter our inferences.

To ensure the robustness of these findings, we augment the specifications with additional interaction terms in Panel B of Table 4. First, we interact the *High-Trust Indicator* measure with all controls to address the possibility that differences in firm characteristics across high- and low-trust areas are not adequately controlled for in the baseline regression. These interactions absorb variation in firm characteristics across high- and low-trust regions (suppressed to conserve space). Column 1 shows that the results are not sensitive to this enhanced specification. Using the causal diagram, we identified regional characteristics as likely candidates for correlated omitted variables, which could plausibly affect trust, earnings news, and market reactions. We address this concern by controlling for three types of time-varying regional characteristics: (1) population size, (2) unemployment rate (as a proxy for economic conditions), and (3) state education (as a proxy for investor sophistication). Column 2 shows that the parameter estimate β_2 remains statistically significant, which implies that the inclusion of these regional factors and their interaction with *UE* does not alter our inferences. Overall, the evidence reduces the possibility that regional characteristics explain our findings.

Column 3 presents our most stringent specification. We include interactions of *UE* × year-quarter fixed effects and introduce industry fixed effects and *UE* × industry fixed effects. The interaction of *UE*

with year-quarter fixed effects accounts for fluctuations in investor sentiment or market conditions that may cause time-varying changes in average ERC. The interaction of *UE* with industry fixed effects controls for ERC differences across industries. The results show that β_2 remains positive and statistically significant, which further supports the view that trust affects perceptions of the credibility of earnings news. While this is our most stringent specification, we acknowledge that we cannot rule out all possible concerns of correlated omitted variables. For example, we would ideally include an interaction of *UE* × state-time fixed effects to exclude time-varying omitted regional factors, but this is not feasible because the trust measure is at the state-time level.[7]

Overall, the results in Table 4 provide strong support for *H1*. The loadings on the control variables are generally consistent with our predictions and the prior literature. Stable firms with predictable earnings—as measured by the lower implied cost of capital and larger size—experience smaller market reactions to earnings surprises. Growth stocks—as measured by sales growth and the market-to-book ratio—stocks with more sophisticated investors (high institutional ownership), and liquid stocks tend to experience larger ERCs. Consistent with the prior literature, we observe non-linear market responses to earnings surprises for firms that report losses.

4.4 Asymmetric reaction to good/bad earnings news

This section analyzes *H2,* which states that the effect of trust on the return-earnings relation is stronger for positive unexpected earnings. We define good news as $UE > 0$ and bad news as $UE \leq 0$. We separate our sample into these two groups and re-estimate the partial reaction model specification with and without the interaction of the control variables with *UE*.

Panel A of Table 5 reports the results. First, we split the sample into earnings that beat the median analyst forecast (good news) and those that do not (bad news), and we re-estimate our baseline regression specification. We find strong support for *H2,* as the parameter estimate β_2 is significant for good earnings

[7] It is also not feasible to include the interaction of *UE* with state fixed effects in the presence of firm fixed effects because the identification would come from the limited variation in firms that change states in our sample.

news in Column 1 (0.851, t = 2.61) and insignificant for bad earnings news in Column 2 (0.270, t = 1.12). Next, we estimate the regression model using the full sample by including two interactions: *Positive UE* × *High-Trust Indicator* and *Negative UE* × *High-Trust Indicator*. Consistent with the analysis in the first two columns, the parameter estimate on the *Positive UE* × *High-Trust Indicator* is positive and significant (0.899, t = 3.17) but insignificant for the interaction between *Negative UE* × *High-Trust Indicator* (0.277, t = 1.30).

Overall, these results provide additional support for our trust explanation and support *H2*. The evidence is consistent with the view that trust has an asymmetric effect on earnings reactions with good news.

4.5 Credibility-enhancing mechanisms

Our results thus far raise the question of whether managers in low-trust areas can take actions to counterbalance investors' reliance on trust. We conjecture that managers can utilize credibility-enhancing mechanisms to overcome investors' reliance on trust. One approach is to employ reputable auditors to verify the accuracy of their financial statements. Studies show that reputable auditors (Frankel, Johnson, and Nelson 2002) enhance the credibility of financial reports because their reputation is built on carefully monitoring accounting practices. Auditors are external agents who certify the accuracy and validity of financial statements. If investors are reassured that auditors can reliably verify the accuracy of earnings reports, we expect trust to play a smaller role in firms audited by high-quality auditors. On the other hand, auditors face conflicts of interest, which may weaken their credibility among investors.

Auditors are typically classified as Big 5 versus non-Big 5 firms (Teoh and Wong 1993) during our sample period. We follow this approach by separating firms based on whether their auditors are Big 5 or non-Big 5. Panel B in Table 5 shows that firms audited by Big 5 auditors are less affected by trust. Consistent with a trust explanation, we observe in Column 1 that the parameter estimate on *Positive UE* × *High-Trust Indicator* is larger among firms that employ non-Big 5 auditors (3.047, t = 3.40) compared to Big 5 auditors in Column 2 (0.776, t = 2.88). The bottom row reports a statistically significant difference

between the parameter estimate β_2 using a Chi-square test. Moreover, the economic effects of trust are much larger for non-Big 5 (3.047 / 7.307 = 42%) than for Big 5-audited firms (0.776 / 5.723 = 14%). Overall, the auditor tests suggest that managers can employ reputable auditors to enhance the perceived credibility of their earnings reports, particularly among firms in low-trust areas.

Another approach is for managers to signal the quality of earnings by paying cash dividends, for example (Bhattacharya 1979; Healy and Palepu 1985), to enhance the credibility of their earnings and reduce investors' dependence on trust. Dividends are credible signals because it is costly for firms with poor earnings quality to mimic this behavior. We split the sample based on whether the firm is a high-dividend payer, which is defined as those firms that pay dividends above the median dividend payment of their industry-size matched group (3-digit SIC and firm-size indicator). We find that the parameter estimate on *Positive UE* × *High-Trust Indicator* is larger among firms in Column 3 that pay relatively lower dividends (1.052, t = 3.27) compared to those that pay high dividends, as shown in Column 4 (0.405, t = 0.65). The bottom row reports that the difference between the parameter estimates using a Chi-square test has a p-value of 0.13. Consistent with a trust explanation, the economic effects of trust are larger for low-dividend stocks (1.052 / 6.771 = 16%) than for high-dividend stocks (0.405 / 7.105 = 6%). Overall, the results are consistent with the view that managers may be able to reduce investors' dependence on trust with signals that enhance reporting credibility.

Taken together, the results in this section suggest that credibility-enhancing mechanisms can offset the effect of investors' reliance on trust when processing financial information.

4.6 Sensitivity analysis: Alternative measures of trust

We perform an important sensitivity analysis by re-estimating our main regressions using three alternative measures of trust. The first measure is based on survey responses to the question related to confidence in institutions in the WVS. We follow the approach used in Aghion, Algan, Cahuc, and Shleifer (2010) and PXX (2015) to construct this measure. Specifically, for each region, we identify the proportion of respondents answering "A great deal" to the WVS question, "Could you tell me how much

confidence you have in major companies?" We create a *High Confidence Dummy* equal to one if the confidence index is above the sample median, and zero otherwise. The second measure is based on the cumulative fraud experience at the state level. We define this measure following Giannetti and Wang (2016), who use it to test whether fraud affects investors' trust in the stock market. For each state, we estimate the cumulative frequencies of fraudulent events among companies headquartered in the state. We create a *High Fraud Dummy* equal to one if the fraud index is above the sample median, and zero otherwise.

Third, we use the social capital measure obtained from the Northeast Regional Center for Rural Development at Penn State (Rupasingha, Goetz, and Freshwater 2006). The social capital variable is constructed by measuring social capital organizations and activities (e.g., business associations, voter turnout, census participation, and non-profit organizations). This measure of social trust has been used in recent accounting and finance articles (Hasan et al. 2017a, 2017b). We create a *High Social Capital Dummy* equal to one if the state-level social capital index is above the sample median, and zero otherwise.

Table 6 reports the results. We interact *UE* with the *High Confidence Dummy,* the *High Fraud Dummy,* and the *High Social Capital Dummy,* in Panels A, B, and C, respectively, and use the same econometric specification as used in Panel A of Table 4. Across all specifications, the results are consistent with the main findings using the WVS trust measure. We observe stronger ERCs in regions where there is higher confidence in major companies, a lower frequency of fraudulent occurrences, and a higher degree of social capital. We also verify that our inferences are unchanged using the more stringent specifications with interactions of *UE* with fixed effects. These results are available in the Online Appendix. The findings based on fraudulent occurrences and social capital are reassuring in that our results are robust to non-survey-based approaches to measuring social trust.

4.7 Sensitivity analysis: Propensity score matching

While the correlations between the *Trust Index* and firm characteristics are relatively low, we observe some notable differences in firm characteristics across high- and low-trust regions (see Panel B of

Table 2). Our previous analysis augments the ERC specifications with interactions between trust and each of the firm characteristics to address this concern. In this section, we perform a propensity score matching procedure to further address this issue.

Our matching procedure takes a firm in the high-trust region and matches it to a firm in the low-trust region whose distribution of firm characteristics is most similar (i.e., nearest neighbor matching). Our initial approach matches with replacement so that all observations are paired. The benefit of matching with replacement is that we retain all observations, but the quality of matching might be low. In sensitivity analysis, we match without replacement. To assess the quality of the match, we report the average firm characteristics of the sample across high- and low-trust regions. We test the statistical differences in firm characteristics including the implied cost of capital, sales growth, firm size, market-to-book ratio, book leverage, institutional ownership, illiquidity, and stock return volatility.

Panel A of Table 7 reports that the quality of the matching procedure is acceptable. Using *t*-tests of the difference in means, we observe no significant differences in any of the firm characteristics between the firms in high-trust regions and their matched counterparts in low-trust regions. Next, we re-estimate the same baseline specification used in Panel A of Table 4. Column 1 shows that the β_2 estimate (0.617, t = 3.05) on the *UE* × *High-Trust Indicator* interaction term remains statistically significant and implies a similar economic effect as the baseline specification (i.e., 0.617 / 4.813 = 13% greater stock price response for the same earnings surprise relative to the baseline effect, β_1). In Columns 2 and 3, we perform the matching without replacement by setting the support to 25% and 50%, respectively, which drops the lowest percentile of matching scores. This approach drops our sample size considerably, as the sample in Columns 2 and 3 are approximately three-quarters and one-half of the full sample in Column 1. Using these matching settings without replacement, the β_2 estimates remain positive and significant in both specifications. We further verify that our inferences are unchanged using the more stringent specifications with interactions of *UE* with fixed effects. These results are available in the Online Appendix.

Overall, we continue to find support for our trust hypothesis and verify that differences in observable firm characteristics do not explain our findings. We do take caution to note that while the matching analysis helps to address concerns that differences in observed firm characteristics are behind our findings, it does not completely solve the omitted variables concern because we can only match based on observed firm characteristics.

4.8 Testing key assumptions: Local investor ownership

Our identification strategy relies on the assumption that there is a strong local investor base. This assumption is based on findings that investors in the U.S. tend to hold local stocks in their nearby city, state, or local region (Coval and Moskowitz 1999; Ivkovíc and Weisbenner 2005). Moreover, there is a strong local component to price discovery. For example, Brown, Stice, and White (2015) find a substantial fall in trading volume after the passing of distracted driving laws.

While we do not have direct information on the location of shareholders, we can exploit the fact that some firms in our sample are less well known and are less likely to be widely held by a national shareholder base. Therefore, we expect that the main effects of trust occur among lesser-known stocks that have a larger local shareholder base. We follow the approach used in Becker, Ivkovíc, and Weisbenner (2011) by focusing on smaller firms.

Table 8 shows that the effect of trust on the return-earnings relation only exists among smaller firms as measured by market capitalization. We separate the sample by the median of each variable and suppress control variables to conserve space. The parameter estimate β_2 is insignificant in Column 1 among larger firms, but $\beta_2>0$ and statistically significant in Column 2 among smaller firms. The bottom row reports a statistically significant difference ($p < .10$) between the parameter estimate β_2 using Chi-square tests.

We design a secondary measure of the shareholder base test using the population in the state. We argue that, *ceteris paribus*, firms located in states with larger populations are likely to have a larger base of local investors. We report these results in Columns 3 and 4. We observe that the effect of trust on the

return-earnings relation is concentrated in stocks with relatively larger populations, as the parameter estimate β_2 is statistically significant only among this subset of firms in Column 3. In Column 4, the parameter estimate β_2 is statistically insignificant among stocks located in high-population states. The bottom row reports a statistically significant difference ($p < .10$) between the parameter estimate β_2 using Chi-square tests.

5. Additional tests and discussion

5.1 Does trust represent a bias in investors' beliefs?

In this section, we address whether trust represents a bias in investors' subjective beliefs. Answering this question is challenging because it requires distinguishing among risk, mispricing (i.e., leaving money on the table), and investor preferences. For example, investors may have a strong preference to avoid the psychic costs associated with investment losses due to fraudulent behavior, which could cause low-trust investors to avoid trading aggressively on earnings news.

To explore this possible explanation, we examine whether the returns in the period after the earnings announcement are systematically related to trust. If trust reflects a bias, then the effect of trust on the stock price response to earnings news should be reversed in the subsequent period after the earnings announcement. Our analysis adopts a similar methodology as the one used in Hirshleifer, Lim, and Teoh (2009) by estimating Equation (3):[8]

$$CAR(+7,+60)_{i,t} = \alpha_{i,t} + \beta_1 \cdot UE + \beta_2 \cdot UE \times High\text{-}Trust\ Dummy_{i,t} + \beta \cdot UE \times x'_{i,t-1} + \varepsilon_{i,t}, \quad (3)$$

where $CAR(+7,+60)$ represents the cumulative abnormal return from Day 7 to Day 60 after the initial earnings announcement date. The post-earnings announcement period begins from Day 7 because recent studies show that stocks may be slow to incorporate accounting information due to investor inattention. For example, investors underreact to earnings news released on Fridays (Dellavigna and Pollet 2009) and

[8] Our test is related to the post-earnings announcement drift phenomenon (Bernard and Thomas 1989; Livnat and Mendenhall 2006; Hirshleifer, Lim, and Teoh 2009).

high news days (Hirshleifer, Lim, and Teoh 2009). Starting the post-earnings announcement period at Day +7 helps to ensure that these effects are not driving our findings. For completeness, we also report regression results using *CAR*(+2,+6). The regressions include the same set of control variables *x'* used in Equation 2 in our main analysis.

Table 9 reports the results. We begin by estimating regressions for the first week *CAR*(+2,+6) after the earnings announcement. Column 1 shows that the parameter estimate β_2 is positive and significant using our baseline specification. In Column 2, we continue to observe a positive and significant parameter estimate β_2 using the more stringent specification that includes the interactions of *UE* × year-quarter fixed effects and *UE* × industry fixed effects. The patterns are consistent with the effects of investor inattention described above and suggests that the market does not fully incorporate information during the initial three-day period.

In the next two Columns, we estimate the regressions for *CAR*(+7,+60). Column 3 shows that the parameter estimate β_2 is negative and significant (−0.922, $t = -2.56$), which indicates that the initial reaction may reverse itself during the subsequent period. However, when using the more stringent specifications in the interactions of *UE* with fixed effects, the parameter estimate β_2 becomes insignificant in Column 4.

Overall, these findings do not conclusively determine whether trust reflects a bias or investor irrationality. We find some weak evidence that the initial stock price reaction to earnings news may reverse over the subsequent period, but upon closer scrutiny the evidence is not robust to more stringent econometric specifications.

5.2 Discussion of omitted variable concerns, alternative explanations, and additional robustness tests

We summarize how our tests have addressed omitted variable concerns, discuss possible alternative explanations, and present additional robustness tests. In the discussion of the causal diagram, we raised the possibility that unobserved regional characteristics are likely candidates for correlated omitted variables, such as time-varying fluctuations in economic activity (i.e., unemployment), population, and

educational attainment. To address this possibility, we add these controls to our regression specification and interact them with *UE* to adequately control for the effects of these variables on ERCs. The regressions also include a set of control variables to capture firm characteristics and features of earnings surprises that are used in the literature. We interact these controls with earnings surprise to further capture the effect of these controls on the return-earnings relations. To address the possibility that investor sophistication could be a correlated omitted variable, we augment the regressions with measures of institutional ownership (Bushee 1998) and illiquidity (Zhang 2006; Daske, Hail, Leuz, and Verdi 2008; Lang and Maffett 2011a, 2011b) and interact these controls with *UE* in our baseline specifications.

We are also concerned with the possibility of model misspecification. We interact the *High-Trust Indicator* with the controls, performing matching sample analysis, and re-estimate our main specifications with alternative measures of trust. We also interact *UE* with industry fixed effects to absorb unobserved heterogeneity in the return-earnings relation that may vary across industry. Our inferences are robust to these more stringent specifications.

Finally, we ensure that our findings are robust to the WVS trust measure by: 1) using a non-interpolated trust measure, 2) regrouping geographic regions, (3) and omitting certain states. There are occasionally large differences across neighboring states due to the region definitions used by the WVS. The WVS region definitions are closely based on the U.S. Census Bureau state groupings, but potentially create noise and imprecise measurement of trust. We regroup certain border states using a different regional classification system from the Bureau of Economic Analysis (BEA) that categorizes states according to economic similarity. The BEA regional classification is arguably more consistent with cultural similarities within the United States. Our results are very similar using this alternative definition. We also omit states located on the border between WVS regions and find similar results. Another concern is that a few large states may drive our findings. After excluding New York and California, we continue to find a significant relation between trust and the market reaction to earnings news. We report all these results in the Online Appendix.

5.3 Comparison to Pevzner, Xie, and Xin (2015)

Our results are consistent with the cross-country analysis in PXX (2015) but differ in important ways. Perhaps the main difference arises in the testable predictions. PXX (2015) test whether trust affects trading behavior as measured by volume and volatility around earnings announcements. The testable hypotheses in PXX (2015) are silent on whether trust is priced with respect to reporting credibility in capital markets. Stated differently, the findings in PXX (2015) could be consistent with cross-country differences in trading volumes or return volatility, but also unrelated to the pricing of accounting information.

We test a stronger assertion that a lack of trust impacts the perceived credibility of earnings news using the well-established ERC methodology. We also test for asymmetric effects and find that trust shapes perceived credibility of earnings reports with good news, but not for those with bad news. Second, we consider whether managers can take actions to overcome a lack of trust. It is natural to consider this question because studies show that managers work hard to restore trust (Farber 2005). We also show that auditor quality and dividend signaling play a role in offsetting the effect of trust on the return-earnings relation. It is also somewhat surprising that we find strong evidence in our setting because PXX (2015) show that the effect of trust is predominantly concentrated in countries with weak disclosure requirements and low educational attainment. The United States, on the other hand, is in the top quintile in both disclosure requirements and educational attainment.

6. Conclusion

Regulators have long recognized that trust is critical to the functioning of the financial market system (Greenspan 2002). However, there is little evidence on whether trust affects the perceived credibility of earnings news. We aim to fill this gap. We find strong empirical evidence that stocks located in low-trust areas experience significantly lower earnings responses. Moreover, the effects are concentrated among good earnings news, which suggests that investors who lack trust have greater skepticism of earnings reports that are more likely to serve the interests of the manager.

Our second major focus is on whether managers can take measures to counterbalance investors' reliance on trust to assess financial reports. We find that when firms employ reputable auditors or use credible signals, such as dividends, the effect of trust on the return–earnings relation is much weaker. These patterns are consistent with the view that managers can enhance the perceived credibility of financial reports and reduce investors' reliance on trust.

While our research design closely follows the literature, we interpret our results cautiously due to potential limitations. First, identifying the effect of trust on the perceived credibility of earnings news requires controlling for concurrent changes in regulation and market factors. To alleviate this concern, we use interactions of earnings surprises with year-quarter fixed effects and augment traditional ERC specifications with additional firm-level controls. Second, our causal diagrams indicate that confounding regional characteristics or geographic differences may cloud our trust explanation. We directly include regional measures of population, unemployment, and education levels to assuage such concerns. However, we acknowledge that we cannot rule out all non-observable omitted variables. Third, despite these sensitivity analyses, we interpret the magnitude of our estimates carefully because estimates of ERCs are noisy. It is reassuring that we find similar effects using alternative measures of trust.

Overall, our findings are important because they indicate that a lack of trust affects the pricing of financial information in capital markets. Even in a market as sophisticated as the United States, trust appears to be a critical consideration. We recognize that the bidirectional effects between trust and credibility (as described in our causal diagram) are complex and could impact disclosure choices and reporting decisions, which we do not explicitly examine in this study. If the board recognizes that trust affects investors' assessments of financial information, it could affect their decision on how to monitor the CEO or even the selection of the CEO, when organizational trust may be lacking. We leave these questions for future research.

References

Aghion, P., Algan, Y., Cahuc, P., and Shleifer, A., 2010. Regulation and distrust. Quarterly Journal of Economics 125, 1015-1049.

Amihud, Y., 2002. Illiquidity and stock returns: Cross-section and time series effects. Journal of Financial Markets 5, 31-56.

Armstrong, C.S., Glaeser, S., Kempler, J.D., 2019. Accounting quality and the transmission of monetary policy. Journal of Accounting and Economics 68,1-30.

Ayers, B.C., Ramalingegowda, S., and Yeung, P. E., 2011. Hometown advantage: The effects of monitoring institution location on financial reporting discretion. Journal of Accounting and Economics 52, 41-61.

Becker, B., Ivković, Z., and Weisbenner, S. 2011. Local dividend clienteles, Journal of Finance 66, 655-683.

Bernard, V., and Thomas, J., 1989. Post-earnings-announcement drift: delayed price response or risk premium? Journal Accounting Research 27, 1-48

Bhattacharya, S., 1979. Imperfect information, dividend policy, and" the bird in the hand" fallacy. Bell Journal of Economics, 259-270.

Brown, P., Foster, G., and Noreen, E., 1985. Security analyst multi-year earnings forecasts and the capital market (No. 21). American Accounting Association.

Brown, N. C., Stice, H., and White, R. M., 2015. Mobile communication and local information flows: Evidence from distracted driving laws. Journal of Accounting Research 53, 275-329.

Bushee, B.J., 1998. The influence of institutional investors on myopic R&D investment behavior. Accounting Review, 305-333.

Chhaochharia, V., Kumar, A., and Niessen-Ruenzi, A., 2012. Local investors and corporate governance. Journal of Accounting and Economics 54, 42-67.

Collins, D, and Kothari, S., 1989. An analysis of the cross-sectional and inter–temporal determinants of earnings response coefficients. Journal of Accounting and Economics 11, 143-181.

Coval, J., and Moskowitz, T., 1999. Home bias at home: Local equity preference in domestic portfolios. Journal of Finance 54, 2045-2073.

Dasgupta, P., 1988. Trust as a commodity, In Diego Gambetta (Ed.), Trust: 49-72. New York: Basil Blackwell.

Daske, H., Hail, L., Leuz, C., and Verdi, R., 2008. Mandatory IFRS reporting around the world: Early evidence on the economic consequences. Journal of Accounting Research 46, 1085-1142.

Dellavigna, S., and Pollet, J. M., 2009. Investor inattention and Friday earnings announcements. Journal of Finance, 709-749.

Duarte, J., Siegel, S., and Young, L., 2012. Trust and credit: the role of appearance in peer-to-peer lending. Review of Financial Studies 25, 2455–2484.

Easton, P.D., and Zmijewski, M.E., 1989. Cross-sectional variation in the stock market response to accounting earnings announcements. Journal of Accounting and Economics 11, 117-141.

Elliot, J., and Hanna, J. D. 1996. Repeated accounting write-offs and the information content of earnings. Journal of Accounting Research, 36(Supplement), 135–155.

Farber, D. B., 2005. Restoring trust after fraud: Does corporate governance matter? The Accounting Review 80, 539-561.

Fotak, V., Jiang, F., Lee, H., and E. Lie, 2022. Trust and debt contracting: Evidence from the back-dating scandal. Journal of Financial and Quantitative Analysis forthcoming.

Francis, J. R., and Ke, B., 2006. Disclosure of fees paid to auditors and the market valuation of earnings surprise. Review of Accounting Studies 11, 495-523.

Frankel, R. M., Johnson, M. F., and Nelson, K. K., 2002. The relation between auditors' fees for non-audit services and earnings management. The Accounting Review 77, 71-105.

Freeman, R.N., and Tse, S. Y., 1992. A nonlinear model of security price response to unexpected earnings. Journal of Accounting Research 30, 185-209.
Fukuyama, F., 1995. Trust: The social virtues and the creation of prosperity. Free Press, New York.
Gambetta, D., 1988, Trust, New York: Basil Blackwell.
Garrett, J., Rani, H., and Prawitt, D. F., 2014. Trust and financial reporting quality. Journal of Accounting Research 52, 1087-1125.
Gassen, J., Veenman, D., 2022. Outlier and robust inference in archival accounting research, Working paper Humboldt University of Berline.
Gebhardt, W.R., Lee, C. M. C., and Swaminathan, B., 2001. Toward an implied cost of capital. Journal of Accounting Research 39, 135-176.
Giannetti, M., and Wang, T., 2016. Corporate scandals and household stock market participation. Journal of Finance 71, 2591-2636.
Gipper, B., Leuz, C., Maffett, M., 2020. Public oversight and reporting credibility: Evidence from the PCAOB audit inspection regime. Review of Financial Studies 33, 4532-4579.
Glosten, L. R., and Milgrom, P. R., 1985. Bid, ask and transaction prices in a specialist market with heterogeneously informed traders. Journal of Financial Economics 14, 71-100.
Goyenko, R., Holden, C., and Trzcinka,C., 2009. Do liquidity measures measure liquidity? Journal of Financial Economics 92, 153-181.
Greenspan, A. 2002. Federal Reserve Board's semiannual monetary policy report to the Congress July 16, 2002.
Guiso, L., Sapienza, P., and Zingales, L., 2008. Trusting the stock market. Journal of Finance 63, 2557-2600.
Gul, F. A., and Goodwin, J., 2010. Short-term debt maturity structures, credit ratings, and the pricing of audit services. The Accounting Review 85, 877-909.
Guan, Y., Lobo, G. J., Tsang, A., Xin, X., 2020. Societal trust and management earnings forecasts. The Accounting Review 95, 149-184.
Gurun, U. G., Stoffman, N., and Yonker, S. E., 2017. Trust busting: The effect of fraud on investor behavior. Review of Financial Studies 31, 1341-1376.
Gow, I.D., Larcker, D.F. and Reiss, P.C., 2016. Causal inference in accounting research. Journal of Accounting Research 54, 477-523.
Hasan, I., Hoi, C., Wu, Q., Zhang, H., 2017a. Does Social Capital Matter in Corporate Decisions? Evidence from Corporate Tax Avoidance. Journal of Accounting Research 55, 629–668.
Hasan, I., Hoi, C., Wu, Q., Zhang, H., 2017b. Social Capital and Debt Contracting: Evidence from Bank Loans and Public Bonds. Journal of Financial and Quantitative Analysis 52, 1017–1047.
Hilary, G., and Huang, S., 2015. Trust and contracting. Singapore Management University Working paper.
Hirshleifer, D., Lim, S.S.Y., and Teoh, S.H., 2009. Driven to distraction: Extraneous events and underreaction to earnings news. Journal of Finance 64, 2289-2325.
Hirst, E.D., Koonce, L., and Venkataraman, S., 2007. How disaggregation enhances the credibility of management earnings forecasts. Journal of Accounting Research 45, 811-837.
Hoi, C.K., Wu, Q., and Zhang, H., 2019. Does social capital mitigate agency problems? Evidence from Chief Executive Officer (CEO) compensation. Journal of Financial Economics 133, 498-519.
Holthausen, R.W., and Verrecchia, R.E., 1988. The effect of sequential information releases on the variance of price changes in an intertemporal multi-asset market. Journal of Accounting Research, 82-106.
Hutton, A. P., Miller, G. S., and Skinner, D.J., 2003. The role of supplementary statements with management earnings forecasts. Journal of Accounting Research 41, 867-890.
Ivković, Z., and Weisbenner, S., 2005. Local does as local is: Information content of the geography of individual investors' common stock investments. Journal of Finance 60, 267-306.
Jha, A., 2019. Financial reports and social capital. Journal of Business Ethics 155, 567–596.
Jha, A., and Chen, Y., 2015. Audit fees and social capital. The Accounting Review 40, 105-134.

Knack, S., and Keefer, P., 1997. Does social capital have an economic payoff? A cross-country comparison, Quarterly Journal of Economics 112, 1251-1288.
Kormendi, R., and Lipe, R. 1987. Earnings innovation, earnings persistence, and stock returns. Journal of Business 60, 323-345.
Kothari, S. P., 2001. Capital markets research in accounting. Journal of Accounting and Economics 31, 105–231.
Kothari, S., and Sloan, R., 1992. Information in prices about future earnings: Implications for earnings response coefficients. Journal of Accounting and Economics 15, 143-171.
La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R., 1997. Trust in large organizations. American Economic Review 87, 333-38.
Lang, M., and Maffett, M., 2011a. Transparency and liquidity uncertainty in crisis periods. Journal of Accounting and Economics 52, 101-125.
Lang, M., and Maffett, M., 2011b. Economic effects of transparency in international equity markets: a review and suggestions for future research. Foundations and Trends in Accounting 5, 175–241.
Lin, T.C., and Pursiainen, V., 2020. Fund what you trust? Social capital and moral hazard in crowdfunding. Working paper.
Livnat, J., and Mendenhall, R.R., 2006. Comparing the post-earnings announcement drift for surprise calculated from analyst and time series forecasts. Journal of Accounting Research 44, 177-205.
O'Brien, P. C., 1988. Analysts' forecasts as earnings expectations. Journal of Accounting and Economics 10, 53-83.
Omer, T. C., Roulstone, D. T., Sharp, N. Y., and Twedt, B. J., 2012. The people in your neighborhood: Evidence of local information leakage around corporate headquarters when insiders trade. Mays Business School Research Paper No. 2170102.
Pevzner, M., Xie, F., and Xin, X., 2015. When firms talk, do investors listen? The role of trust in stock market reactions to corporate earnings announcements. Journal of Financial Economics 117, 190-223.
Rupasingha, A., Goetz, S. J., & Freshwater, D., 2006. The production of social capital in US counties. Journal of Socio-Economics 35, 83-101.
Teoh, S. H., and Wong, T. J., 1993. Perceived auditor quality and the earnings response coefficient. The Accounting Review 68, 346-366.
Wei, C., and Zhang, L., 2020. Trust and local bias. Journal of Financial and Quantitative Analysis 55, 2211-2245.
Wilson, W. M., 2008. An empirical analysis of the decline in the information content of earnings following restatements. The Accounting Review 83, 519–548.
Zhang, X.F., 2006. Information uncertainty and stock returns. Journal of Finance 61, 105-137.

Appendix. Variable Definitions

State level variables

Trust Index: We construct the state-level *Trust Index* using the World Values Survey. The World Values Survey conducted three waves of surveys in the U.S. in 1995, 1999, and 2006. In total, there are around 4,000 respondents in the three surveys. We use the respondents' locations from ten geographical regions: New England (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut), Middle Atlantic (New York, Pennsylvania, New Jersey), East North Central (Wisconsin, Michigan, Illinois, Indiana, Ohio), West North Central (Missouri, North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa), South Atlantic (Delaware, Maryland, Washington D.C., Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida), East South Central (Kentucky, Tennessee, Mississippi, Alabama), West South Central (Oklahoma, Texas, Arkansas, Louisiana), Rocky Mountain (Montana, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico), Northwest (Oregon, Washington, Idaho) and California. We omit responses from Alaska and Hawaii in 2006 survey due to the lack of earlier survey data. In each region, we calculate the percentage of respondents answering "Most people can be trusted" to the survey 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 estimate the value of the *Trust Index* in the years between two consecutive surveys by linear interpolation.

High-Trust: Dummy variable equal to one if the *Trust Index* is above sample median, and zero otherwise.

log(Population): Natural logarithm of the size of state population. Source: U.S. Census Bureau county population estimates datasets.

College fraction: Percentage of population with college degrees in each state. Source: Economic Research Service in the U.S. Department of Agriculture.

Unemployment rate: Historical rate of unemployment in each state. Source: Bureau of Labor Statistics.

Firm level variables

UE: Difference between the actual earning minus the analyst consensus divided by the stock price before the announcement date.

CAR (−1,+1): Market response to earnings surprises, as the cumulative excess return in the 3-day window from the day before the earnings announcement date to the day afterwards.

CAR (+2, +6): Short-run (1-week) post earnings announcement drift as the cumulative excess returns from the second day to the 6^{th} day after the earnings announcement date.

CAR (+7, +60): Long-run (2^{nd} week to 3 months) post earnings announcement drift as the cumulative excess returns from the 7^{th} day to the 60^{th} day after the earnings announcement date.

Abnormal trading volume: Average trading volume over the earnings announcement window (0,+1), scaled by the average trading volume over the pre-announcement window (−40, −21).

Abnormal return variance: Average of the squared residuals from the market model during the firm's earnings announcement window (0, +1), scaled by the variance of the residual returns from the market model estimated over the pre-announcement window (−40, −21).

Loss: Dummy variable equal to one if the current quarter's earnings is negative, and zero otherwise.

Restructure: Dummy variable equal to one if the special item as a percentage of total assets in the quarter is less than or equal to −5%, and zero otherwise.

Persistence: Measure of earnings persistence by calculating the beta estimate from regression of [EPS(t) −EPS(t−4)]/PRC(t−4) = Beta*[EPS(t−1) −EPS(t−5)]/PRC(t−5).

Implied Cost of Capital: Implied cost of equity using the residual income model estimated in Gebhardt, Lee, and Swaminathan (2001).

Sales Growth: Yearly average percentage change in sales across four quarters (data12).

Firm Size: Log value of book assets (data 6).

Market-to-Book: Market value of assets/book assets (data6), where the market value of assets is calculated as: stock price (data199) * shares outstanding (data25) + short term debt(data34) + long term debt(data9) + preferred stock liquidation value (data10) – deferred taxes and investment tax credits (data35).

Book Leverage: Total debt/book assets (data6), where the total debt is long term debt (data9) + short term debt (data34).

Profitability: Operating income before depreciation (data13)/book assets (data6).

Institutional Ownership: Fraction of institutional ownership. Source: Thomason CDA/Spectrum institutional ownership Database (13F).

log(Illiquidity): Natural logarithm of the Amihud (2000) illiquidity measure. It averages over each day in year *t* the square root of the ratio of the absolute price change divided by daily dollar volume. It is calculated as:

$$Illiquidity_{i,t} = \frac{1}{D_t} \sum_{Days \in t} (1000 \times \sqrt{\frac{|\text{daily return}|}{|\text{daily dollar volume}|}}) ,$$

where D_t is the number of days in year *t*.

Stock Return Volatility: Standard deviation of daily stock returns in the year.

Table 1
Summary Statistics

This table presents summary statistics of the main variables used in the subsequent analysis. Panel A reports the mean, median, standard deviation, and the number of observations for each variable. Panel B reports the value of the *Trust Index* by region and year. The World Values Survey conducted three waves of surveys in the U.S. in 1995, 1999, and 2006. The survey identifies survey respondents' locations by ten geographical regions: New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Rocky Mountain, Northwest, and California. In each region, the *Trust Index* is calculated as the percentage of respondents answering "Most people can be trusted" to the survey question: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?".

Panel A. Main variables

	Frequency	Mean	Median	Std. Dev.	N
Firm level variables					
Abnormal Trading Volume	Quarter	1.994	1.608	1.489	67417
Abnormal Return Variance	Quarter	4.082	1.846	6.020	67417
Loss	Quarter	0.196	0.000	0.397	67417
Restructure	Quarter	0.232	0.000	0.422	67417
Persistence	Quarter	0.396	0.391	0.234	67417
UE	Quarter	0.000	0.000	0.005	67417
CAR (-1, +1)	Quarter	0.005	0.002	0.076	67417
CAR (+2, +6)	Quarter	-0.001	-0.002	0.051	67417
CAR (+7, +60)	Quarter	-0.001	-0.007	0.181	67417
Implied Cost of Capital	Year	0.097	0.096	0.033	23333
Sales Growth	Year	0.141	0.038	0.297	23333
Firm Size	Year	6.407	6.255	1.846	23333
Market-to-book	Year	2.112	1.384	2.696	23333
Book Leverage	Year	0.205	0.176	0.189	23333
Profitability	Year	0.116	0.127	0.139	23333
Institutional Ownership	Year	0.568	0.589	0.246	23333
log(Illiquidity)	Year	-1.877	-1.808	2.147	23333
Stock Return Volatility	Year	0.140	0.120	0.086	23333
State level variables					
Trust Index	Year	0.376	0.392	0.069	571
log (Population)	Year	15.128	15.252	0.982	571
College Fraction	Year	0.181	0.166	0.050	571
Unemployment Rate	Year	0.053	0.052	0.014	571

Panel B. Trust Index by region and survey year

Region	States	1995	1999	2006
New England	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut	0.339	0.432	0.425
Middle Atlantic	New York, Pennsylvania, New Jersey	0.371	0.405	0.389
East North Central	Wisconsin, Michigan, Illinois, Indiana, Ohio	0.398	0.403	0.389
West North Central	Missouri, North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa	0.322	0.469	0.407
South Atlantic	Delaware, Maryland, Washington D.C., Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida	0.250	0.327	0.385
East South Central	Kentucky, Tennessee, Mississippi, Alabama	0.269	0.219	0.231
West South Central	Oklahoma, Texas, Arkansas, Louisiana	0.425	0.324	0.381
Rocky Mountain	Montana, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico	0.282	0.388	0.439
Northwest	Oregon, Washington, Idaho	0.526	0.469	0.531
California	California	0.355	0.351	0.434

Table 2
Trust and Firm-level Variables

This table presents the univariate relation between the *Trust Index* and key firm-level variables. Panel A reports the correlation matrix between the *Trust Index* and firm-level variables, including the implied cost of capital, sales growth, firm size, market-to-book, book leverage, profitability, institutional ownership, illiquidity, and stock return volatility. Panel B presents the univariate tests of firm variables between high trust and low trust subsamples. ***, ** and * represent significance levels at 1%, 5%, and 10%, respectively.

Panel A. Correlation matrix with firm-level variables

	Trust Index	Implied Cost of Capital	Sales Growth	Firm Size	Market-to-Book	Book Leverage	Profitability	Institutional Ownership	*log* (Illiquidity)	Stock Volatility
Trust Index	1.000									
Implied Cost of Capital	-0.066	1.000								
Sales Growth	-0.042	-0.068	1.000							
Firm Size	0.029	-0.066	-0.112	1.000						
Market-to-Book	0.017	-0.346	0.149	-0.152	1.000					
Book Leverage	-0.087	0.143	-0.032	0.378	-0.129	1.000				
Profitability	-0.051	0.041	-0.064	0.155	0.009	0.073	1.000			
Institutional Ownership	0.096	-0.107	-0.072	0.423	-0.004	0.072	0.172	1.000		
log (Illiquidity)	-0.077	0.327	0.010	-0.796	-0.162	-0.072	-0.206	-0.561	1.000	
Stock Volatility	-0.012	-0.027	0.171	-0.407	0.259	-0.199	-0.333	-0.244	0.323	1.000

Panel B. Firm-level variables by Trust Index

	Implied Cost of Capital	Sales Growth	Firm Size	Market-to-Book	Book Leverage	Profitability	Institutional Ownership	*log* (Illiquidity)	Stock Volatility
Low Trust	0.098	0.070	6.280	3.370	0.211	0.118	0.543	-1.742	0.147
High Trust	0.096	0.051	6.535	3.256	0.197	0.114	0.591	-2.011	0.133
t-test	-4.08***	-11.57***	10.68***	-2.48**	-5.81***	-2.41**	14.68***	-9.58***	-12.60***

Table 3
Trust and Trading Behavior Around Earnings Announcements

This table presents results on the effect of trust on trading behavior around the earnings announcement date by estimating the following equation.

$$Abnormal\ Trading\ Volume\ (or\ Abnormal\ Return\ Variance)_{i,t} = \alpha_{it} + \beta_2 * Trust\ Index_{i,t} + x'_{i,t-1} + \varepsilon_{i,t}.$$

In column (1), the dependent variable is the abnormal trading volume, defined as the average trading volume over the earnings announcement window (0, +1), scaled by the average trading volume over the pre-announcement window (−40, −21). In column (2), the dependent variable is abnormal return variance, defined as the average of the squared residuals from the market model during the firm's earnings announcement window (0, +1), scaled by the variance of the residual returns from the market model estimated over the pre-announcement window (−40, −21). The control variables are suppressed to conserve space. All regressions include time (year-quarter) fixed effects, state fixed effects, and industry fixed effects at the two-digit SIC level. *t*-statistics (in parentheses) are calculated using heteroscedasticity robust standard errors clustered by industry (two-digit SIC) × time (year-quarter). ***, ** and * represent significance levels at 1%, 5%, and 10%, respectively.

	Abnormal Trading Volume	Abnormal Return Variance
	(1)	(2)
Trust Index	0.448**	2.428***
	(2.01)	(2.80)
Implied Cost of Capital	0.805***	2.776***
	(3.28)	(3.25)
Sales Growth	0.085*	-0.150
	(1.67)	(-0.95)
Firm Size	-0.126***	-0.165***
	(-12.79)	(-5.14)
Market-to-Book	-0.003	-0.036***
	(-0.61)	(-3.04)
Book Leverage	0.152***	0.169
	(3.71)	(1.09)
Profitability	0.406***	1.365***
	(6.71)	(6.20)
Institutional Ownership	0.229***	0.649***
	(6.67)	(5.09)
log (Illiquidity)	-0.082***	-0.282***
	(-9.16)	(-9.67)
Stock Volatility	1.392***	2.463***
	(10.68)	(6.59)
Loss	-0.149***	-0.256***
	(-8.01)	(-3.82)
Restructure	0.043***	0.068
	(3.02)	(1.09)
Persistence	-0.091***	0.001
	(-3.60)	(0.01)
Time FE	Y	Y
State FE	Y	Y
Industry FE	Y	Y
Number of Observations	67,417	67,417
Adjusted R-squared	0.071	0.074

Table 4
Trust and Earnings Response Coefficients

This table presents results on whether trust affects the stock price reactions to earnings surprises using the earnings response coefficient methodology. We estimate the following equation.

$$CAR(-1,+1)_{i,t} = \alpha_i + \beta_1 \times UE_{i,t} + \beta_2 \times UE_{i,t} \times High\text{-}Trust_{i,t} + \beta_3 \times High\text{-}Trust_{i,t} + \gamma \times UE_{i,t} \times x'_{i,t-1} + \delta \times x'_{i,t-1} + \varepsilon_{i,t},$$

where $CAR(-1,+1)$ is the cumulative abnormal return in the 3-day window (−1, 0, +1) around the earnings announcement date. Earnings surprise, i.e., the unexpected earnings (*UE*) is the difference between the actual earning minus the analyst forecast consensus divided by the stock price before the announcement date. *High-Trust* is a dummy equal to one if the *Trust Index* is above the sample median, and zero otherwise. *UE* × *High-Trust* is the interaction of the two variables. Following Teoh and Wong (1993), we use binary measures for the control variables. Panel A presents the baseline results. Panel B presents sensitivity analysis. Column (1) includes the interaction terms of the *High-Trust* and control variables. Column (2) controls for the interaction terms of *UE* with state characteristics including state population, defined as the natural log of the size of state population, college degree, defined as the percentage of population with college degrees, and unemployment rate, defined as the historical rate of unemployment in each state. Column (3) includes the interaction terms of *UE* with time (year-quarter) fixed effects and industry fixed effects at the 3-digit SIC level, and the interaction terms of *High-Trust Indicator* with time fixed effects and industry fixed effects. The control variables are suppressed to conserve space. All specifications include firm and time fixed effects. *t*-statistics (in parentheses) are calculated using heteroscedasticity robust standard errors clustered by industry (two-digit SIC) × time (year-quarter). ***, ** and * represent significance levels at 1%, 5%, and 10%, respectively.

Table 4 Continued

Panel A. Baseline results

Dependent Variable: CAR(−1,+1)	(1)	(2)	(3)
UE	2.793***	3.483***	5.041***
	(24.54)	(9.80)	(13.49)
UE × High-Trust	0.605***	0.583***	0.577***
	(3.78)	(3.63)	(3.65)
UE × Implied Cost of Capital		-0.745***	-0.823***
		(-4.07)	(-4.62)
UE × Sales Growth		0.295*	0.341**
		(1.77)	(2.05)
UE × Firm Size		-0.415*	-0.666***
		(-1.90)	(-3.11)
UE × Market-to-Book		1.041***	1.223***
		(5.00)	(6.20)
UE × Book Leverage		-0.413**	-0.564***
		(-2.38)	(-3.38)
UE × Profitability		1.210***	0.511***
		(6.31)	(2.74)
UE × Institutional Ownership		1.502***	1.408***
		(7.18)	(7.10)
UE × *log* (Illiquidity)		-0.784***	-0.775***
		(-3.25)	(-3.33)
UE × Stock Volatility		-0.658***	-0.121
		(-3.82)	(-0.71)
UE × Loss Indicator			-2.913***
			(-15.64)
UE × Restructure Indicator			-0.235
			(-1.37)
UE × Persistence			0.327**
			(2.06)
Main Effects on Controls (suppressed)	Y	Y	Y
Time FE	Y	Y	Y
Firm FE	Y	Y	Y
Number of Observations	67,417	67,417	67,417
Adjusted R-squared	0.072	0.079	0.086

Table 4 Continued

Panel B. Sensitivity analysis

Dependent Variable: CAR(−1,+1)	(1)	(2)	(3)
UE	5.034***	4.853***	10.233***
	(13.45)	(12.21)	(2.87)
UE × High-Trust	0.586***	0.582***	0.371**
	(3.70)	(3.67)	(2.18)
UE × Implied Cost of Capital	-0.823***	-0.813***	-0.864***
	(-4.60)	(-4.54)	(-4.63)
UE × Sales Growth	0.341**	0.344**	0.579***
	(2.05)	(2.06)	(3.28)
UE × Firm Size	-0.671***	-0.650***	0.133
	(-3.13)	(-3.02)	(0.56)
UE × Market-to-Book	1.228***	1.217***	0.965***
	(6.22)	(6.15)	(4.59)
UE × Book Leverage	-0.564***	-0.534***	-0.018
	(-3.38)	(-3.16)	(-0.09)
UE × Profitability	0.509***	0.524***	0.608***
	(2.72)	(2.81)	(3.20)
UE × Institutional Ownership	1.415***	1.417***	1.230***
	(7.13)	(7.12)	(5.93)
UE × *log* (Illiquidity)	-0.776***	-0.747***	-0.931***
	(-3.34)	(-3.21)	(-3.94)
UE × Stock Volatility	-0.117	-0.132	-0.345*
	(-0.68)	(-0.77)	(-1.81)
UE × Loss Indicator	-2.917***	-2.921***	-2.868***
	(-15.64)	(-15.63)	(-14.53)
UE × Restructure Indicator	-0.236	-0.241	-0.435**
	(-1.38)	(-1.40)	(-2.42)
UE × Persistence	0.325**	0.322**	0.051
	(2.05)	(2.01)	(0.31)
UE × Population		0.121	0.123
		(0.76)	(0.70)
UE × College Degree		0.128	-0.055
		(0.80)	(-0.32)
UE × Unemployment Rate		0.030	-0.045
		(0.18)	(-0.25)
Interactions: High Trust and Controls (suppressed)	Y	Y	Y
Interactions: UE and Time FE	-	-	Y
Interactions: UE and Industry FE	-	-	Y
Main Effects on Control (suppressed)	Y	Y	Y
Time FE	Y	Y	Y
Firm FE	Y	Y	Y
Number of Observations	67,417	67,417	67,417
Adjusted R-squared	0.086	0.086	0.092

Table 5
Trust and Earnings Response Coefficients: Good News and Bad News

This table presents results using the earnings response coefficient methodology to separately consider good vs. bad news of earnings surprises. Panel A reports the main results. We define "Good News" if the earnings surprise is positive and "Bad News" otherwise. Columns (1) and (2) are based on the good news subsample and the bad news subsample, respectively. Column (3) is based on the full sample, where we define *Positive UE* to be equal to *UE* if *UE* is positive, and zero otherwise, and *Negative UE* to be equal to *UE* if *UE* is negative, and zero otherwise. We interact *Positive UE* and *Negative UE* with *High-Trust* and the control variables, respectively. For brevity we only report the variables of focus. Panel B follows the same specification as in column (3) of Panel A, splitting the sample by firms' auditors, i.e., Big Five (Arthur Andersen, Ernst & Young, Deloitte & Touche, KPMG, PricewaterhouseCoopers) and other Non-Big Five auditors. We also split the sample by whether firms pay more dividends per share than the median dividend payment of the same industry-size group (3-digit SIC and firm size indicator). We test the differences in the coefficients of *Positive UE* × *High Trust* between the subsamples and report the Chi-square statistic. The control variables are suppressed to conserve space. All specifications include firm and time fixed effects. *t*-statistics (in parentheses) are calculated using heteroscedasticity robust standard errors clustered by industry (two-digit SIC) × time (year-quarter). ***, ** and * represent significance levels at 1%, 5%, and 10%, respectively.

Panel A. Main results

Dependent Variable: CAR(−1,+1)	Good News	Bad News	Full Sample
	(1)	(2)	(3)
UE	5.437***	2.312***	
	(8.01)	(4.26)	
UE × High-Trust	0.851***	0.270	
	(2.61)	(1.12)	
Positive UE			6.508***
			(10.74)
Negative UE			3.069***
			(6.10)
Positive UE × High-Trust			0.899***
			(3.17)
Negative UE × High-Trust			0.277
			(1.30)
Interactions: UE and Controls (suppressed)	Y	Y	-
Interactions: Positive UE and Controls	-	-	Y
Interactions: Negative UE and Controls	-	-	Y
Main Effects on Controls (suppressed)	Y	Y	Y
Time FE	Y	Y	Y
Firm FE	Y	Y	Y
Number of Observations	40201	27216	67,417
Adjusted R-squared	0.074	0.080	0.089

Table 5 Continued

Panel B. Credibility-enhancing mechanisms

Dependent Variable: CAR(−1,+1)	Non-Big Five	Big Five	Low Dividend	High Dividend
	(1)	(2)	(3)	(4)
Positive UE	7.307***	5.723***	6.771***	7.105***
	(2.83)	(9.94)	(9.53)	(5.72)
Negative UE	4.741***	3.253***	3.097***	3.459***
	(2.75)	(6.57)	(5.55)	(2.79)
Positive UE × High-Trust	3.047***	0.776***	1.052***	0.405
	(3.40)	(2.88)	(3.27)	(0.65)
Negative UE × High-Trust	-0.711	0.293	0.200	0.378
	(-1.27)	(1.39)	(0.85)	(0.66)
Interactions: Positive UE and Controls	Y	Y	Y	Y
Interactions: Negative UE and Controls	Y	Y	Y	Y
Main Effects on Controls (suppressed)	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y
Number of Observations	6,064	61,338	52,205	14,591
Adjusted R-squared	0.094	0.067	0.084	0.096
Wald test: Chi-squared statistic	6.12**		2.26	

Table 6
Alternative Measures of Trust

This table presents sensitivity analysis of the baseline analysis in Table 4, Panel A using alternative measures of social trust. In column (1), we estimate the cumulative frequencies of fraudulent events among companies headquartered in the state. *High Fraud* is a dummy equal to one if the fraud index is above the sample median, and zero otherwise. In column (2), for each state, we identify the proportion of respondents answering "A great deal" to the Gallup survey question, "Could you tell me how much confidence you have in major companies?". *High Confidence* is a dummy equal to one if the confidence index is above the sample median, and zero otherwise. In column (3), for each state, we obtain the social capital measure from the Northeast Regional Center for Rural Development. *High Social Capital* is a dummy equal to one if the social capital index is above the sample median, and zero otherwise. The control variables are suppressed to conserve space. All specifications include firm and time fixed effects. *t*-statistics (in parentheses) are calculated using heteroscedasticity robust standard errors clustered by industry (two-digit SIC) × time (year-quarter). ***, ** and * represent significance levels at 1%, 5%, and 10%, respectively.

Table 6 Continued

Dependent Variable: CAR(−1,+1)	Fraud Occurrences	Confidence Survey	Social Capital
	(1)	(2)	(3)
UE	5.576***	5.217***	5.189***
	(15.49)	(13.89)	(13.91)
UE × High Fraud	-0.610***		
	(-3.87)		
UE × High Confidence		0.286*	
		(1.92)	
UE × High Social Capital			0.358**
			(2.26)
UE × Implied Cost of Capital	-0.810***	-0.822***	-0.848***
	(-4.54)	(-4.56)	(-4.72)
UE × Sales Growth	0.321*	0.304*	0.320*
	(1.90)	(1.81)	(1.92)
UE × Firm Size	-0.629***	-0.663***	-0.687***
	(-2.93)	(-3.09)	(-3.21)
UE × Market-to-Book	1.210***	1.198***	1.221***
	(6.10)	(6.04)	(6.16)
UE × Book Leverage	-0.580***	-0.587***	-0.577***
	(-3.48)	(-3.52)	(-3.45)
UE × Profitability	0.530***	0.471**	0.489***
	(2.86)	(2.52)	(2.62)
UE × Institutional Ownership	1.354***	1.450***	1.457***
	(6.76)	(7.27)	(7.33)
UE × *log* (Illiquidity)	-0.695***	-0.766***	-0.780***
	(-2.97)	(-3.29)	(-3.35)
UE × Stock Volatility	-0.134	-0.161	-0.122
	(-0.78)	(-0.94)	(-0.71)
UE × Loss Indicator	-2.907***	-2.930***	-2.912***
	(-15.61)	(-15.73)	(-15.64)
UE × Restructure Indicator	-0.223	-0.218	-0.238
	(-1.30)	(-1.27)	(-1.39)
UE × Persistence	0.332**	0.337**	0.338**
	(2.09)	(2.12)	(2.13)
Main Effects on Controls (suppressed)	Y	Y	Y
Time FE	Y	Y	Y
Firm FE	Y	Y	Y
Number of Observations	67,417	67,417	67,417
Adjusted R-squared	0.086	0.085	0.085

Table 7
Propensity Score Matching

This table presents sensitivity analysis of the baseline analysis in Table 4, Panel A using a propensity score matching approach. For each firm headquartered in a high-trust region, we perform propensity score matching to identify a matched firm in a low-trust region with similar firm characteristics. Panel A reports the quality of matching between firms in high-trust regions and the matched firms in low-trust regions (propensity score matching with replacement). We test the statistical differences of the following firm characteristics: the implied cost of capital, sales growth, firm size, market-to-book, book leverage, institutional ownership, illiquidity, and stock return volatility. Panel B reports results using the baseline specification in Table 4, Panel A with the matched sample. Column (1) uses the sample based on the matching sample with replacement. Columns (2) and (3) uses the sample based on matching samples without replacement with minimum 25% and 50% common support, respectively. The control variables are suppressed to conserve space. All specifications include firm and time fixed effects. *t*-statistics (in parentheses) are calculated using heteroscedasticity robust standard errors clustered by industry (two-digit SIC) × time (year-quarter). ***, ** and * represent significance levels at 1%, 5%, and 10%, respectively.

Panel A. Average firm characteristics of the matched sample

	High Trust	Low Trust	*t*-test
Implied Cost of Capital	0.094	0.094	0.01
Sales Growth	0.093	0.095	-0.99
Firm Size	6.805	6.826	-1.50
Market-to-Book	3.310	3.300	0.14
Book Leverage	0.201	0.203	-0.97
Profitability	0.121	0.119	1.62
Institutional Ownership	0.620	0.619	0.23
log (Illiquidity)	-2.391	-2.400	0.58
Stock Volatility	0.126	0.127	-0.55

Table 7 Continued

Panel B. Main results using propensity score matching

Dependent Variable: CAR(-1,+1)	With replacement	Without replacement (25%)	Without replacement (50%)
	(1)	(2)	(3)
UE	4.813***	5.335***	5.510***
	(9.98)	(11.35)	(9.37)
UE × High-Trust	0.617***	0.737***	0.738***
	(3.05)	(3.91)	(2.98)
UE × Implied Cost of Capital	-0.367*	-0.603***	-0.513*
	(-1.67)	(-2.76)	(-1.76)
UE × Sales Growth	0.256	0.145	0.341
	(1.24)	(0.72)	(1.27)
UE × Firm Size	-0.463*	-0.641**	-0.534
	(-1.68)	(-2.41)	(-1.49)
UE × Market-to-Book	1.552***	1.644***	1.676***
	(6.43)	(6.39)	(5.06)
UE × Book Leverage	-0.665***	-0.868***	-1.451***
	(-3.20)	(-4.17)	(-4.94)
UE × Profitability	0.659***	0.834***	1.253***
	(2.91)	(3.49)	(3.76)
UE × Institutional Ownership	1.398***	1.305***	1.424***
	(5.46)	(5.92)	(5.22)
UE × *log* (Illiquidity)	-0.744**	-1.106***	-1.121***
	(-2.57)	(-3.77)	(-2.89)
UE × Stock Volatility	-0.306	-0.033	-0.073
	(-1.34)	(-0.16)	(-0.26)
UE × Loss Indicator	-2.977***	-2.961***	-3.083***
	(-12.82)	(-12.88)	(-10.55)
UE × Restructure Indicator	-0.196	-0.567***	-0.609**
	(-0.92)	(-2.81)	(-2.24)
UE × Persistence	0.198	0.444**	0.670***
	(0.98)	(2.52)	(2.61)
Main Effects on Controls (suppressed)	Y	Y	Y
Time FE	Y	Y	Y
Firm FE	Y	Y	Y
Number of Observations	68,066	50,969	33,854
Adjusted R-squared	0.132	0.090	0.099

Table 8
Trust and Earnings Response Coefficients: Local Investor Influence

This table presents results on the effect of the local investor base on the trust–earnings response relation using the regression specification from Table 4, Panel A. In columns (1) and (2), we split the sample by market capitalization (above median, large vs. below median, small). In columns (3) and (4), we split the sample by population. We use the Wald tests to compare the difference in the coefficients of *UE* × *High-Trust Indicator* between the subsamples and report the Chi-square statistics accordingly. The control variables are suppressed to conserve space. All specifications include firm and time fixed effects. *t*-statistics (in parentheses) are calculated using heteroscedasticity robust standard errors clustered by industry (two-digit SIC) × time (year-quarter). ***, ** and * represent significance levels at 1%, 5%, and 10%, respectively.

Dependent Variable: CAR (−1,+1)	Sample split by market capitalization		Sample split by population	
	Small	Large	High	Low
	(1)	(2)	(3)	(4)
UE	5.079***	7.799***	5.479***	5.212***
	(17.38)	(12.48)	(16.25)	(15.58)
UE × High-Trust	0.553***	0.095	0.743***	0.228
	(3.29)	(0.35)	(3.58)	(1.19)
UE × Implied Cost of Capital	-0.528***	-0.539*	-0.576***	-0.509**
	(-2.71)	(-1.68)	(-2.79)	(-2.13)
UE × Sales Growth	0.380**	0.445	0.385*	0.205
	(2.26)	(1.37)	(1.87)	(1.04)
UE × Firm Size	-0.487**	-2.121***	-0.395	-0.692***
	(-2.30)	(-3.38)	(-1.58)	(-2.85)
UE × Market-to-Book	0.605***	2.750***	0.860***	1.225***
	(3.06)	(7.25)	(3.95)	(4.80)
UE × Book Leverage	-0.164	-1.675***	-0.502***	-0.376*
	(-1.02)	(-5.02)	(-2.58)	(-1.73)
UE × Profitability	0.182	1.095***	0.193	0.722***
	(0.93)	(3.29)	(0.81)	(3.25)
UE × Institutional Ownership	1.137***	1.128***	0.872***	1.403***
	(5.23)	(3.99)	(3.85)	(5.46)
UE × *log* (Illiquidity)	-0.454*	-0.937**	-0.584**	-0.458*
	(-1.84)	(-2.46)	(-2.22)	(-1.79)
UE × Stock Volatility	0.074	-0.166	0.141	-0.120
	(0.42)	(-0.51)	(0.66)	(-0.56)
UE × Loss Indicator	-1.837***	-1.862***	-2.087***	-1.790***
	(-9.69)	(-5.74)	(-9.40)	(-8.01)
UE × Restructure Indicator	-0.162	0.094	-0.054	-0.139
	(-0.92)	(0.29)	(-0.24)	(-0.64)
UE × Persistence	0.223	0.110	0.329*	0.232
	(1.35)	(0.38)	(1.69)	(1.18)
Main Effects on Controls (suppressed)	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y
Number of Observations	33,181	33,498	34,577	32,378
Adjusted R-squared	0.097	0.090	0.090	0.091
Wald Tests: Chi-square Statistic	3.14*		3.10*	

Table 9
Does Trust Reflect a Bias? Analysis of Post-Earnings Announcement Returns

This table presents results on whether trust affects post-earnings announcement returns. In columns (1) and (2), the dependent variable is the cumulative abnormal return during the short-term window (1-week, CAR (+2, +6)) in the post-announcement period. In columns (3) and (4), the dependent variable is the cumulative abnormal return during the long-term window (3-month, CAR (+7, +60)) in the post-announcement period. Earnings surprise (*UE*) is the difference between the actual earning minus the analyst forecast consensus divided by the stock price before the announcement date. *High-Trust Indicator* is equal to one if the *Trust Index* is above the sample median, and zero otherwise. *UE* × *High-Trust Indicator* is the interaction of the two variables. The control variables are suppressed to conserve space. All specifications include firm and time fixed effects. *t*-statistics (in parentheses) are calculated using heteroscedasticity robust standard errors clustered by industry (two-digit SIC) × time (year-quarter). ***, ** and * represent significance levels at 1%, 5%, and 10%, respectively.

Dependent Variable:	*CAR*(+2,+6)		*CAR*(+7,+60)	
	(1)	(2)	(3)	(4)
UE	-0.095	-1.281	4.394***	1.568
	(-0.44)	(-0.87)	(5.30)	(0.37)
UE × High-Trust	0.177*	0.198*	-0.922**	-0.389
	(1.69)	(1.71)	(-2.56)	(-0.97)
UE × Implied Cost of Capital	-0.224*	-0.153	0.070	-0.518
	(-1.93)	(-1.23)	(0.16)	(-1.17)
UE × Sales Growth	0.079	0.107	0.445	0.545
	(0.78)	(1.00)	(1.16)	(1.36)
UE × Firm Size	0.230	0.243	-1.277**	-0.900
	(1.58)	(1.49)	(-2.35)	(-1.58)
UE × Market-to-Book	-0.125	-0.042	0.323	0.271
	(-0.98)	(-0.31)	(0.69)	(0.57)
UE × Book Leverage	0.053	-0.021	-0.320	0.215
	(0.49)	(-0.16)	(-0.78)	(0.43)
UE × Profitability	0.138	0.052	0.945**	0.684
	(1.14)	(0.40)	(2.14)	(1.52)
UE × Institutional Ownership	0.140	0.202	-0.244	0.812*
	(1.19)	(1.53)	(-0.55)	(1.69)
UE × *log* (Illiquidity)	0.137	0.104	-0.079	0.044
	(0.96)	(0.68)	(-0.15)	(0.08)
UE × Stock Volatility	0.087	0.017	1.324***	0.531
	(0.82)	(0.14)	(3.31)	(1.24)
UE × Loss Indicator	-0.241**	-0.220*	-2.437***	-2.780***
	(-2.09)	(-1.80)	(-5.85)	(-6.57)
UE × Restructure Indicator	-0.006	-0.059	-0.562	-0.794*
	(-0.05)	(-0.48)	(-1.35)	(-1.86)
UE × Persistence	0.258**	0.277**	0.562	0.165
	(2.47)	(2.44)	(1.50)	(0.41)
Interactions: High Trust and Controls	-	Y	-	Y
Interactions: UE and Time FE	-	Y	-	Y
Interactions: UE and Industry FE	-	Y	-	Y
Main Effects on Controls (suppressed)	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y
Number of Observations	67,417	67,417	67,417	67,417
Adjusted R-squared	0.015	0.033	0.065	0.088