# Trust and Contracting

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May 20, 2015

We thank the workshop participants at INSEAD, the University of Amsterdam, the University of Melbourne, the University of New South Wales, the University of Queensland and WHU as well as the participants of the Tri-Uni Accounting Conference (Singapore) for their valuable comments. Huang gratefully acknowledges funding from the School of Accountancy Research Center (SOAR) at the Singapore Management University.

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**Abstract:** Prior research has shown that trust has a positive effect on the economic welfare of nations. We investigate this result by analyzing the effect of endowed trust on agency problems within organizations. We find that firms located in U.S. counties where trust is more prevalent suffer less from agency problems and display higher profitability and higher valuation. In addition, these firms utilize lower power compensation schemes and are less likely to fire their CEOs, while they take a harsher view of ethical breaches. Overall, our results suggest that trust is an effective way of mitigating moral hazard problems.

## Trust and Contracting

### I. Introduction

Can trust improve contracting efficiency? Beginning with Putnam (1993), the notion of social capital has emerged in the literature as a key driver of national and regional welfare. Social capital encompasses multiple dimensions, such as cooperative behavior, civic norms and association within groups, but it has trust at its core, which explains why this feature is now seen as an important economic construct. For example, Williamson (1993) supports the notion that trust underlies virtually all economic exchanges, while Fukuyama (1995) argues that trust improves the performance of all institutions in a society, including business.

Building on this intuition, prior research has established that countries where individuals display greater trust grow more quickly (Knack and Keefer, 1997; Zak and Knack, 2001). This higher growth can be explained by different mechanisms. One is transactional efficacy. For example, individuals are more likely to participate in markets (Guiso, Sapienza and Zingales (2008)), firms are more likely to obtain funding (Bottazzi, Da Rin and Hellmann, 2011; Duarte, Siegel, and Young, 2012), and markets are more reactive to information (Pevzner et al., 2014) when trust is more prevalent. This strand of literature essentially demonstrates that transactions and markets function more smoothly when there is a greater degree of trust in the environment.

A second potential channel we consider is trust facilitating infra-organizational efficiency. Agency problems within firms are a notoriously significant hindrance to corporate efficiency (Jensen and Meckling, 1976). At the core of this issue lies moral hazard. The principal has less information on the agent's action than the agent has herself, which gives rise to opportunistic behaviors. To mitigate this issue, two approaches have been proposed in the literature. The first is based on increasing the alignment of interests between principals and agents. The moral hazard problem arises because the principal is the residual claimant, while the agent, who is both effort and risk averse, is paid to execute a task on behalf of the principal. Because the agent's effort is not directly observable, contracts are designed to compensate the agent based on outcomes. Increasing the power of the incentives induces agents to exert a greater effort while also increasing the risk that is unloaded on them. Agents' risk aversion can make these contracts prohibitively expensive. A second approach is to directly reduce the information asymmetry between parties as well as the incompleteness of contracts. For example, specific actions can be contractually prohibited in detailed contracts. Alternatively, the principal may invest in better monitoring technology. Naturally, this approach relies on the possibility of having enough foresight to predict contingencies and on the availability of robust monitoring technology.

A third possibility is to rely on trust to ensure that the agent will not engage in opportunistic behaviors at the expense of the principal. For example, Chami and Fullenkamp (2002) propose a formal agency model with trust as an alternative monitoring mechanism. The model predicts that when trust is more prevalent, the need for monitoring is reduced and the principal increases the insurance aspect of the wage contract. However, the agent cares more about the principal and therefore works harder, and firms enjoy higher profits. These results are consistent with the view that trust optimizes operations within firms and more generally with the view that incomplete contracts may in fact dominate complete contracts (e.g., Allen and Gale (1992), Falk and Kosfeld (2006)).

Our results are consistent with the view that trust is indeed an effective mechanism to mitigate different forms of moral hazard within firms. Specifically, we find that firms located in U.S. counties where community trust is more prevalent employ compensation schemes that have less power. There is also less need for strong direct monitoring in firms operating in a high-trust environment: forced CEO departures are less common, and long-term dedicated investors are less prevalent.

Trust is also associated with less moral hazard. Firms endowed with greater community trust experience less over-investment in tangible assets and a more positive market reaction when they acquire new companies. The effect of cash holdings on firm value is significantly greater, which is a sign that shareholders expect that less value will be diverted from the balance sheet (Pinkowitz et al., 2006). The level of corporate risk is better aligned with that desired by a risk-neutral principal, and reporting manipulations are less likely. Perhaps unsurprisingly given these results, greater trust is associated with higher profit margins and higher corporate valuation.

Our main results are robust to a host of sensitivity checks. For example, they hold when we employ instrumental variable regressions or a propensity score-matched sample analysis. They also hold in a pure cross-sectional setting as well as in a pure time series analysis at the economy level. In fact, our results indicate that the average trust in the U.S. Granger-causes the average efficiency of contracting. Importantly, the prior literature (e.g., Dechow and Sloan (1991)) has established that a CEO’s propensity to engage in R&D effort is lower in her final years in office. Our results indicate that this effect is concentrated in low-trust areas and that trust mitigates horizon problems. This result further helps us to address any endogeneity concerns, as it is unlikely that firm location is driven by the expectation of this temporary drop in R&D investment.

We consider two additional empirical issues. First, we find that firms take a harsher view of ethical breaches in high-trust environments than in low-trust environments. For example, a firm in a high-trust environment is more likely than a firm in a low-trust environment to terminate a CEO involved in a fraudulent reporting manipulation. We also find that a greater realization that trust can be abused weakens its effect. Most specifically, firms rely less on trust to monitor executives after a peer firm has been involved in a fraudulent reporting manipulation. This effect is naturally stronger in environments where trust is higher prior to the incident. As a consequence of employing a less effective contracting technology (instead of trusting people), manifestations of empire building increase. Second, we examine the extent to which executives specialize within high- or low-trust environments by considering a sample of CEOs who changed firms. We find that trust in the environment of the firm they leave predicts the trust in the environment of the firm they join. This result is broadly consistent with Hilary and Hui (2009), who find similar results for risk aversion.

Trust is now considered to be an important characteristic that influences social capital and institutions. However, most of the work to date has been conducted either at the country level in the macro-economic literature or at the individual and small-group levels in the management literature. Our study bridges the gap between these two strands by focusing on the effect of trust at the organizational level. It complements prior work on the effect of other social dimensions, such as religiosity, on corporate behavior (e.g., Hilary and Hui, 2009).

The remainder of the paper proceeds as follows. We discuss the prior literature and develop our hypothesis in Section II. We present our research design and data in Section III and discuss our main empirical results in Section IV and the results from various robustness checks and additional analysis in Sections V and VI. We conclude in Section VII.

## II. Prior Literature and Hypothesis Development

### *2.1. Prior Literature*

Gambetta (1988) defines trust as the subjective probability that an individual assigns to the events of a potential counterparty performing an action that is beneficial or at least not harmful to that individual.[1] Trust can come from different sources. For example, some individuals may have a greater physiological propensity to trust others. Fehr, Fishbacher and Kosfeld (2005) describe some of the neuro-economic foundations of trust. Trust can also be induced between individuals in the context of a repeated game (Engle-Warnick and Slonim, 2006) or cultivated by managers of a specific organization. We focus in this paper on exogenous sources of trust driven by the cultural makeup of the broader firm environment. We attempt to capture the notion that some groups of individuals are on average inherently more trusting than others. For example, surveys indicate that Swedes are typically more trusting than Belgians. While this trust is partially inherited (Algan and Cahuc, 2010), it is also affected by multiple factors, such as ethnic diversity (Koopmans and Veit, 2014) and religious background (Daniels and von der Ruhr, 2010). Controlling for parental attitudes, Dohen et al. (2012) find that trust attitudes are strongly positively correlated between parents and children and that child attitudes are significantly related to the prevailing attitude in a region. This suggests that community standards affect individual behavior.

The role of this trust in economic development has received increasing attention in the literature, and its importance has been gradually recognized. For example, Arrow (1972, p.357) write, "It can be plausibly argued that much of the economic backwardness in the world can be explained by the lack of mutual confidence." Zak and Knack (2001) demonstrate that both growth and the investment rate increase with trust in a sample of 41 economies. These effects are economically significant. For example, an increase in trust by one standard deviation increases growth by nearly 1 percentage point. Part of the contribution to growth can be explained by the positive effect of trust on the development of

[1] There are multiple definitions of trust in the literature. Rousseau et al. (1998) discuss some of these definitions within different fields.

social, administrative and financial institutions (e.g., La Porta et al. (1997), Guiso, Sapienza and Zinagles (2004)).

However, trust is likely to have an effect on the economic efficiency of organizations. This dimension has been investigated mainly by the management literature. For example, Dirks and Ferrin (2001, p. 451) suggest that trust as a psychological state "operates in a straightforward manner. Higher levels of trust are expected to result in more positive attitudes, higher levels of cooperation and other forms of workplace behavior, and superior levels of performance." Although the results of a meta-analysis are somewhat mixed, trust has been found to have a strong effect on job satisfaction and a reasonably strong effect on organizational citizenship behavior. The work in economics and finance on the effect of trust at the firm level has been more limited. Intuitively, many economists would expect trust to have a positive effect. For example, La Porta et al. (1997, p.337) claim that "trust promotes cooperation, especially in large organizations." Knack and Keefer (1997, p.1252) indicate that "written contracts are less likely to be needed, and they do not have to specify every possible contingency." In a more formal setting, Chami and Fullenkamp (2002) demonstrate analytically that trust can be a superior alternative to the standard tools to mitigate agency problems: increased monitoring and incentive-based pay. Al-Najjar and Casadesus-Masanell (2002) demonstrate analytically that trust is necessary for the working of incomplete contracts and that there is a monotone relationship between the principal's level of trustworthiness and her expected profit. In this framework, trust reduces the agent's risk bearing, and thus, it results in a larger total surplus of the relationship.

*2.2. Hypothesis Development*

Our analysis proceeds as follows. As mentioned previously, we define trust as the subjective probability that an individual assigns to the events of a potential counterparty performing an action that is beneficial or at least not harmful to that individual. In a Bayesian framework, individuals are endowed with priors, and we hypothesize that these priors are significantly affected by the norms in the county in which the organization is located. Hilary and Hui (2009) present a similar pattern for risk aversion. If the principal has a high degree of confidence that the agent will not engage in opportunistic behavior, the principal will not employ tools to mitigate a potential moral hazard, such as expending a costly monitoring effort or utilizing contracts with risky payoffs (that will also be costly for the principal).

The agent may then be tempted to abuse this trust, but there are good reasons to expect that this will not happen. First, there are psychological costs associated with a lack of reciprocation (e.g., Fehr and Gaechter (2000)) or with deviation from social norms (e.g., Sliwka (2007)). These costs are incurred even if the misbehavior is undetected by the principal, and they should be greater in high-trust environments. Conversely, the principal may also avoid reneging on implicit promises made to the agent for similar reasons.

Importantly, the economic (e.g., Frey and Oberholzer-Gee (1997)) and psychology (e.g., Deci, Koestner, and Ryan, 1999) literatures have noted the existence of a "crowding-out effect", the fact that external intervention through monetary incentives or punishments may undermine intrinsic motivation.[2] For example, Irlenbusch and Sliwka (2005) note that fairness and reciprocity are known to be fragile in the presence of explicit incentives, suggesting that high power incentives and rapid termination should not be employed in high-trust environments. In other words, if the principal starts with the prior that the agent will only respond to extrinsic motivations and utilize a contingent-contract approach, this is likely to destroy any intrinsic motivation the agent may have.

Second, agents prefer not to incur the cost associated with a greater monitoring or with risky contractual payoffs. If the principal is trustful and the agent is trustworthy, they

[2] Frey and Jegen (2001) propose a review of the literature on the "crowding–out effect".

have achieved the first-best solution, whereas the traditional tools in the contracting literature only provide the second-best one. Naturally, if the principal receives information indicating that the agent went off-equilibrium, she adjusts her posterior. She may terminate the agent or at least return to the traditional contracting approach. In this case, the principal and the agent revert to the second-best solution. In a repeated game setting, the agent may therefore decide that the utility she would obtain from deviating in this period may be lower than the disutility she would incur in future periods.

This discussion motivates our hypotheses. The first hypothesis is that trust is a substitute for traditionally costly mechanisms such as contracts and direct monitoring. Specifically, we propose the following hypotheses:

H1a: Firms located in U.S. counties where the level of trust is higher employ compensation schemes with less power than those located in counties where trust is lower.

H1b: The principals of firms located in U.S. counties where the level of trust is higher employ less-direct monitoring than those located in counties where trust is lower.

Empire building is one of the most common manifestations of moral hazard. If trust is a superior technology to mitigate moral hazard, empire building should be reduced when trust is higher. This reasoning leads to our second hypothesis:

H2: Firms located in U.S. counties where the level of trust is higher are less subject to empire building than those located in counties where trust is lower.

Although we largely focus on empire building as a manifestation of moral hazard in this study, we expect that other forms should also be mitigated. For example, if the principal is risk neutral but the agent risk averse, the realized firm risk appetite may be too low. Trust may also reduce this problem by increasing the average level of corporate risk tolerated by the agent without providing any further incentives to take risk. An ancillary prediction is that the principal in a high-trust environment should be less likely to fire the agent if the appropriate decision made *ex ante* to take risk turns out poorly *ex post*. In contrast, the traditional contracting approach would mitigate this issue by increasing the vega of the managerial compensation, and the agent would be promptly fired in case of poor performance.

Finally, if community trust is beneficial to the firm, this should be reflected in profitability and incorporated into stock prices:

H3: Firms located in U.S. counties where the level of trust is higher experience higher valuation than those located in counties where trust is lower.

H3 does not necessarily imply that trust is an optimal form of contracting in the sense that it may be sub-optimal for the principal must incur costs to build trust. Rather, we hypothesize that organizations endowed with trust will be able to capitalize on this advantage.

## III. Research Design and Data

### *3.1. Sample*

We focus our study on the United States. This stands in contrast to previous work on economic growth and trust, which typically considered differences across countries at the macro level. The main advantage to focusing on one country is that we obtain a more homogeneous sample in terms of financial and economic development, legal structure, and public infrastructure, among other factors. In addition, we add a time series component to our analysis, whereas prior research has largely focused on cross-sectional approaches. We obtain most of our data from Compustat and the Center for Research in Security Prices (CRSP) database. We remove firms from the financial sectors (with Standard Industrial Classification [SIC] codes between 60 and 69) because they face a very different regulatory and economic environment.[3]

We measure community trust utilizing the General Society Survey (GSS). NORC indicates that "the GSS is widely regarded as the single best source of data on societal trends."[4] The response rate for the GSS is approximately 76% on average.[5] Cook and Ludwig (2006, p.381) indicate that the GSS "is capable of providing representative samples at the national or census region or even division level." It covers 333 counties, representing approximately one half of the total market capitalization and one half of the U.S. population. The survey asks whether people can be trusted, to which respondents answer from among "can be trusted" (assigned a value of 3), "can't be trusted" (assigned a value of 1) or "depends or don't know" (assigned a value of 2). We then average across all respondents to obtain a county-level measure of trust for a given year. Information on trust at the county level is available for every other year from 1992 until 2010, though not consecutively for every county. In our main tests, we follow previous studies (e.g., Alesina and LaFerrara, 2000) and linearly interpolate the data to obtain the values for the missing years. Approximating *Trust* linearly increases the power of our tests and gives us the opportunity to study the time series properties of our setting, but as discussed in the following, the results also hold when we do not linearly interpolate *Trust*. Following the previous literature (e.g., Coval and Moskowitz, 1999; Ivkovic and Weisbenner, 2005; Loughran and Schultz, 2004; Pirinsky and Wang, 2006; Hilary and Hui 2009), we define a firm's location as the location

[3] Our main results are not affected if we remove utilities or if we include firms from the financial sector in our analysis (untabulated).

[4] More technical information on the survey can be found here: http://www3.norc.org/GSS+Website.

[5] http://publicdata.norc.org:41000/gss/.%5CDocuments%5CCodebook%5CA.pdf pp. 2112-2113.

of its headquarters. As noted by Pirinsky and Wang (2006), this approach appears "reasonable given that corporate head-quarters are close to corporate core business activities". We extract historical headquarters location from previous 10-K filings available on Edgar. If the data are not available in Edgar, we utilize the value in the closest year for which data are available. *Trust* is our proxy for the principal's prior of the trustworthiness of the agent. We then examine the effect of trust on firm-specific characteristics such as contractual intensity, monitoring, investment and valuation.

*3.2. Descriptive Statistics*

Panel A of Table 1 provides descriptive statistics for the 6 dependent variables presented in Tables 3 to 5. The first two variables measure the explicit sensitivity of CEO compensation to firm performance. *Delta* measures the dollar change in wealth associated with a 1% change in the firm's stock price; *Vega* measures the dollar change in wealth associated with a 1% change in the standard deviation of the firm's return (Coles et al., 2013).[6] *%DedInv* is the percentage of dedicated investors in the shareholding (Bushee, 1998).[7] *PPEGrowth* is the change of Plant, Property and Equipment (PPE) divided by the amount of PPE from the prior year. *CAR[-2;+2]* is the five-day cumulative return around the announcement of a merger or an acquisition by the firm (Masulis, Wong and Xie, 2007), where day 0 is the announcement date provided by the SDC.[8] *Tobin* is the measure of Tobin's Q defined as the ratio of the market-to-book value of assets (as calculated by Kaplan and Zingales (1997)). The variables are defined in greater detail in Appendix 1. Untabulated

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6 Both *Delta* and *Vega* are computed utilizing the Execucomp Database. We thank Lalitha Naveen for making these data available to us.

7 We thank Brian Bushee for making the investor classifications available from his website.

8 We employ the Carhart (1997) four-factor model to estimate benchmark returns, and model parameters are estimated over the 200-day period from event day -210 to event day -11.

results indicate that firms located in high-trust (i.e., above-median) counties experience significantly lower average *Delta, Vega, %DedInv* and *PPEGrowth* but higher average *CAR[-2,+2]* and *Tobin* than those located in low-trust (i.e., below-median) counties.

Panel B considers our different independent variables. We note that the mean and median values of *Trust* are approximately 1.8, suggesting that the U.S. population is marginally distrustful of its neighbors (with 2 being the neutral view). Untabulated results suggest that the level of trust is generally higher near the Canadian border. For example, out of 46 states for which we have data on trust, Wisconsin ranks 3, and Minnesota ranks 4. The level is intermediate on the coasts (California ranks 28, New York State ranks 23). It is lower in states by the Mexican border (e.g., New Mexico ranks 43) and in the South (e.g., Arkansas ranks 42, Mississippi ranks 45). Although there is a strong cross-sectional element in the variation of *Trust*, there is also a non-trivial time series component.[9] We include 7 control variables in our baseline specifications. Specifically, we consider *FirmAge*, *Size*, *Leverage*, *ROA*, *Capex*, *Vol*, and *Zscore*. These variables are also defined in Appendix 1. Values in Table 1 are consistent with the prior literature (e.g., Hilary and Hui, 2009).

Table 2 provides the univariate correlations between *Trust* and the different variables. The univariate correlations are largely consistent with our predictions. Specifically, *Trust* is negatively correlated with the different measures of contractual intensity (*Delta*, *Vega)* and monitoring (*DedInv*). *Trust* is also associated with a lower likelihood of empire building (positive with CAR and negative with PPE growth). Finally, consistent with trust being a positive attribute for firms, we find a positive correlation between *Trust* and Tobin's *Q*. Untabulated results demonstrate that the univariate correlation among the different control variables is low. We still verify below that our results are not driven by multicollinearity.

[9] The average value of the times series volatility (measured utilizing the standard deviation) at the county level is approximately 37%.

Panel B shows the univariate correlation between trust and various county-level social and economic variables (defined in Appendix 1). The correlation between trust and these variables is relatively low (ranging from -0.02 for religiosity to 0.23 for education). It is perhaps then unsurprising that our robustness checks in Section 5 demonstrate that our main results are not driven by other state- or county-level social-demographic variables.

## IV. Main Results

### *4.1. Main Specifications*

We extend our analysis of the univariate correlations in Table 2 by employing regressions that control for multiple variables. Our main model to test our hypotheses is the following:

$$FLC_{i,\,t} = \alpha_1 + \beta_1\, Trust_{i,\,t-1} + \delta^k\, Controls_{i,\,t-1} + \varphi^t\, YearsFE_t + \psi^j\, Ind\ FE_j + \varepsilon_{i,\,t}, \qquad (1)$$

where i indexes the firm, t indexes years, j indexes the industry j and *FLC* is the set of firm-level characteristics defined in Section 3. *Control* is a vector of firm-specific control variables. We lag these control variables by one period to mitigate any endogeneity issues (we further address this issue in Section 5). All of our variables are truncated at the 1% level. *Years FE* and *Ind FE* are vectors of year and industry (SIC 2-digit level) indicator variables, respectively. Unless otherwise mentioned, Model (1) is estimated utilizing Ordinary Least Squares (OLS). All of the standard errors are robust and corrected for the clustering of observations by firm (clustering by firm and year and by county and year and employing a bootstrapping procedure gives very similar untabulated results). Unless otherwise mentioned, untabulated results indicate that the Variance Inflation Factors (VIF) are all below 2 for the tabulated results.

*4.2. Trust, Incentives and Monitoring*

The results presented in Table 3 examine our first hypothesis that trust in the firm environment reduces both contractual intensity and the degree of internal monitoring. The results are consistent with our predictions.

Specifically, we find in Columns 1 and 2 of Table 3 that *Trust* is negatively associated with the power of the compensation contract (both *Delta* and *Vega*). The respective t-statistics are -3.95 and -2.42. The economic effect is such that increasing *Trust* by one standard deviation reduces *Delta* and *Vega* by approximately 11% and 3% of their respective means.[10] Firms that are larger, more profitable, less levered, younger and more tangible asset-intensive offer compensation contracts that are more sensitive to firm performance. Untabulated results indicate that the return volatility is higher in high-trust environments (the untabulated t-statistic is 1.97), even though *Vega* is reduced.[11] This result is consistent with the idea that the realized corporate risk appetite is closer to the preference of a risk-neutral principal in high-trust environments.

We then consider the effect of trust on monitoring in two settings. First, we estimate Model (1) using *% DedInv* as the dependent variable.[12] The results in Column 3 indicate that *Trust* is negatively associated with the presence of dedicated long-term shareholders. The t-statistic is equal to -5.04. The economic effect is such that increasing trust by one standard deviation reduces dedicated investors' shareholdings by 4% relative to the mean. The effect

[10] For example, multiplying the coefficient (-0.991) by one standard deviation of *Trus*t (0.466) and dividing by the mean of *Delta* yields a ratio of -11.17%.

[11] We estimate our standard model utilizing the log of the return volatility as a dependent variable and controlling for lagged volatility. Dropping this last control does not affect our conclusion.

[12] Monitoring managers is a costly activity that requires firm-specific experience. Transient investors are unlikely to devote resources to this objective, as their horizon is too short to enjoy the benefits. Some very large long-term indexers may do this to improve the returns of the overall economy, but they suffer from the tragedy of the commons. Dedicated investors are more likely to have this activity at the core of their investment philosophy and enjoy a comparative, if not absolute, advantage as a result.

of the control variables is similar to their effect on compensation power. Second, we regress *D(CEO Fired)* on *Trust* and the lagged values of *Past Stock Return, ROA, Log Vol, CEO Age, CEO Ownership, Log FirmAge, Firm Size* along with industry and year fixed effects. *D(CEO Fired)* is an indicator variable equal to one if the current CEO is terminated and zero otherwise.[13] All these variables are defined in the Appendix. Because the dependent variable is binary, we estimate a Logit specification. Untabulated results indicate that *Trust* is negatively associated with *D(CEO Fired)* (t-statistic equals -2.40). In other words, the probability of firing the CEO is unconditionally lower in high-trust environments. Next, we employ a similar model in which we include the interaction between *Trust* and *Past StockReturn*.[14] Untabulated results indicate that *StockReturn* is negatively associated with the probability of CEO departure (t-statistic equals -6.09) and that this effect is mitigated by the presence of high trust (the t-statistic equals 3.40). However, Ai and Norton (2003) alert us to the fact the interpretation of the interaction coefficient in a logistic regression is not straightforward. We implement their approach and report the interaction effect in Graph 1. Most of the data points are above the bar, and the few that are not appear when the predicted probability of departure is close to zero. The Ai and Norton corrected z-statistic for the untabulated interaction is 2.87. The results (untabulated) are essentially similar if we employ all CEO replacements as the dependent variable. In other words, CEOs are less likely to be fired (or pushed to retire) in high-trust environments when they experience bad firm performance. These results suggest that boards operating in high-trust environments are more likely to consider that bad returns are attributable to good decisions with bad outcomes or to events outside the control of the CEO.

[13] A CEO is considered to be fired if she leaves her position before the age of 64 (e.g., Fisman et al (2014) and Jenter and Kanaan (2010)). We identify CEO turnover events from the Execucomp database over the 1993 to 2010 period, during which we have identified 2,037 CEO replacements, of which 1,091 are forced replacements.

[14] We "de-mean" *Stock Retrun, and Trust* before creating their interaction to mitigate multicollinearity.

Overall, our results are consistent with H1, suggesting that firms located in high-trust environments employ contracts and direct monitoring less intensively than those located in low-trust environments.

*4.2. Trust and Empire Building*

The results presented in Table 4 examine H2, which states that trust in the firm environment reduces empire building. We consider two approaches: the level of investment (and deviations from the expected level) and the market reaction to the announcement of a new significant investment. The results are consistent with our predictions.

Specifically, we find in Column 1 of Table 4 that *Trust* is negatively associated with PPE growth. The t-statistic equals -8.05, and the economic effect is such that a one-standard-deviation increase in trust reduces the PPE growth rate by 14% relative to the mean. Untabulated results indicate that *Trust* is also significantly negative when we consider total asset growth instead of focusing on PPE growth (the untabulated statistic is -1.88). Next, we follow Biddle et al. (2009) and partition the sample into four quartiles based on the likelihood of overinvestment. We create an indicator variable *OverI4* equal to one if the firm-year observation is in the top quartile, and zero otherwise. We then estimate a logistic regression where *OverI4* is the dependent variable, *Trust* is the treatment variable and *Log FirmAge, Firm Size, Leverage, ROA, Capex/AT, Log Vol, Zscore* (all lagged by one year) are the control variables along with industry and year fixed effects. Untabulated results indicate that *Trust* is significantly negatively related to the probability of over-investment (the t-statistic is -1.72).[15] When we create *OverI5,* a similar indicator variable that takes the value of one if the observation is in the upper quintile, and estimate a similar regression, *Trust* becomes

[15] We tabulate the results based on the level of investment rather than the levels of overinvestment because it is easier to perform our numerous robustness checks utilizing an OLS specification rather than the more sensitive logistic one.

strongly negatively significant at the 1% level (the t-statistic becomes -2.33). In other words, trust mitigates extreme forms of overinvestment.

We find in Column 2 that there is a more positive market reaction around the announcement that the firm has made a significant investment by engaging in an M&A deal. The t-statistic associated with *Trust* when *CAR[-2,+2]* is a dependent variable is 3.39, and the economic effect is such that a one-standard-deviation increase in trust increases 5-day announcement returns by 0.3%. New, large, profitable firms tend to grow faster. Consistent with prior studies such as Masulis et al. (2007), the market reaction to an M&A announcement is more negative for large firms and for deals involving publicly listed firms or for deals not made on a cash basis (these two controls are only included in the M&A specification).

Next, we consider a broader measure of moral hazard. Pinkowitz et al. (2006) demonstrate that the value of corporate cash holding is reduced when agency costs are higher. The greater ability that agents enjoy to extract private benefit reduces the amount that shareholders eventually expect to collect. If trust can effectively reduce the opportunistic behaviors of agents, we expect the value of cash to be greater in higher-trust environments. Following Fama and French (1998) and Pinkowitz et al. (2006), we regress firm value on change in cash holdings and control variables (details for the specification are provided in Appendix 2). We estimate the regression for high- and low-trust subsamples, utilizing the median trust level at year t-1 as a cutoff point. Untabulated results are consistent with our expectations. The coefficient associated with change in cash is 0.67 (t-statistic = 7.04) in the high-trust subsample but only 0.28 (t-statistic = 2.85) in the low-trust subsample.[16] The difference is statistically significant at the 5% level.

[16] This suggests that a one-dollar increase in cash holdings is associated with an increase in firm value of $0.67 in counties with higher trust and an increase of only $0.28 in counties with lower trust levels.

Overall, our results are consistent with H2. They suggest that firms located in high-trust environments are less subject to empire building than those located in low-trust environments.

### *4.3. Trust and Performance*

The results presented in Table 5 examine our third hypothesis, which states that trust increases firm performance. The results are consistent with our predictions. Specifically, we find in Column 1 that *Trust* is positively associated with valuation. The t-statistic equals 6.21, and the economic effect is such that a one-standard-deviation increase in trust increases firm valuation by 3% relative to the mean. Untabulated results indicate that the result holds in first difference with a t-statistic equal to 1.97. In Column 2, we extend our findings by considering the effect of *Trust* on Selling, Administrative and General (SGA) expenses (scaled by sales). Chen, Lu and Sougianis (2012) find a relationship between SGA behavior and managers' empire-building incentives. We find a positive effect of trust on profitability, with a t-statistic of -2.70. The economic effect is such that a one-standard-deviation increase in *Trust* reduces the SGA-to-sales ratio by approximately 4% of its mean. Furthermore, untabulated results also present a similar improvement for the cost of goods sold (COGS) to the sales margin (*Trust* is significant at the 5% level, with a t-statistic of -2.08).

Overall, our results are consistent with H3. They suggest that firms located in high-trust environments experience higher valuation and profitability than those located in low-trust environments.

## V. Robustness Checks

Having established a link between trust and firm behavior, we perform different tests to evaluate the robustness of our results.

*5.1. Endogeneity*

One empirical concern is the possibility that our results are driven by an unspecified omitted variable that happens to be correlated with *Trust*. We perform several tests to further mitigate this concern.

First, Panel B of Table 2 demonstrates that trust has a relatively low correlation with other social demographic variables. Nevertheless, we further control for county-level population size, gender distribution, religiosity, education, income level and labor force participation in our baseline specifications. Our results also remain unaffected when we further control for state-level GDP growth.[17] Panel A of Table 6 demonstrates that our main results remain robust to these additional controls. The point estimates of the coefficients remain reasonably close to those in our main specifications. Our standard controls are included in Table 6 and left untabulated in the interest of space. Second, to mitigate the concerns that our results might be driven by different states' attractiveness to business, we include the state in which the firm is located and year joint fixed effects in addition to industry fixed effects to consider cross-state time variations in business conditions. Panel B indicates that our results remain robust to these additional controls. Third, to address the concerns that our results might be confounded by omitted firm-level variables, we re-estimate our regression utilizing firm and year fixed effects. Panel C indicates that our main results continue to hold in this specification. Fourth, we control for a vector of governance variables including *Board Independence*, *Board Interlock*, *Board Size*, *Busy Board*, *CEO Age*, *CEO-Chairman Duality*, *CEO Tenure*, *Delaware*, *%Blockholder* (the percentage of directors with more than 5% ownership), *%Female* (the percentage of female directors) and *HHI* (the

[17] We obtain state-level GDP growth from the Bureau of Economic Analysis for 1997 to 2010 and re-run our regressions over this shorter sample period. *Trust* remains significant at a minimum of the 5% level (the absolute value of the t-statistics ranges from 2.26 to 5.82).

product market competition as measured by the Herfindahl index of sales at the SIC 3-digit industry level). All variables are defined in the Appendix. Untabulated results demonstrate that our results remain robust (the absolute value of the t-statistics ranges from 1.70 to 3.42), even though our sample size is reduced by 40% to 80% (depending on the dependent variable).

Apart from incorporating different fixed effects and controls, we consider an additional setting in which endogeneity is particularly limited. The prior literature has established that a CEO's motivation to engage in R&D effort is reduced in her final years in office.[18] Our results indicate that this effect is concentrated in low-trust areas. Specifically, we estimate the ratio of R&D expenses to Sales (R&D), and we define *D(Near)* as an indicator variable that takes the value of one if the CEO is within 3 years of retirement and zero otherwise. We then regress R&D on *D(Near)* controlling *Log FirmAge, Firm Size, Leverage, ROA, Capex/AT, Log Vol* and *Zscore*. The sample is restricted to firms for which we have at least six years of data before CEO retirement. We exclude cases when the CEO left before the age of 64. We estimate the regressions separately for high- and low-trust counties (utilizing the median value of *Trust* as the cutoff point). The results reported in Panel D indicate that *D(Near)* is significantly negative in the sample of firms operating in low-trust counties (Column 1) but insignificantly negative in the sample of firms operating in low-trust counties (Column 2). A test indicates that the point estimates are significantly different, with p-values slightly below 10%. This result is consistent with our prior findings that *Trust* mitigates different forms of agency problems. In addition to mitigating empire building and the risk misalignment, trust appears to mitigate horizon problems. This result is

[18] See Dechow and Sloan (1991), Murphy and Zimmerman (1993), Barker and Mueller (2002), and Cheng (2004), among others.

significant because it directly addresses the issue of endogeneity, as firms are unlikely to relocate to mitigate this temporary drop in R&D investment.

Next, we reproduce our OLS results employing an instrument variable regression (IV) approach to further establish a causal inference. In addition to investigating causality, employing an IV approach has two other advantages. First, it mitigates the effect of any potential measurement errors in the level of trust (although it is not immediately obvious why this measurement error would be correlated with dependent variables). Second, an instrumental variable approach removes the estimation bias caused by an omitted correlated variable if the instruments are uncorrelated with this omitted variable and sufficiently correlated with the endogenous elements of the variable of interest (e.g., Wooldridge 2002). Although we are unable to test whether these two conditions are met in our specifications, the IV approach provides additional assurance against the risk that our results are driven by an omitted variable. The two instruments we employ are the county-level major crime rate derived from the Department of Justice and the state-level gun ownership retrieved from the *Vision of Humanity* website.[19] Major crimes include reported violent crimes (such as murders or rapes) and aggravated assaults. We scale the number of crimes by the population size to derive crime rates. The proxy for gun ownership is the number of firearm suicides divided by the total number of suicides (e.g., Cook and Ludwig (2006)). The untabulated correlation between the two instruments is essentially zero.[20] Panel E reports the IV regression results. Untabulated first-stage results indicate that crime rates and gun ownership are both significantly negatively associated with trust. This result is consistent with Corbacho et al. (2012), who indicate that crime reduces community trust. The relevant

[19] http://www.visionofhumanity.org/#/page/indexes/us-peace-index.

[20] Cook and Ludwig (2006, p.387) find that at the county level, "gun prevalence is positively associated with overall homicide rates but not systematically related to assault or other types of crime." By employing state-level data for gun ownership, we further reduce the correlation between crime and gun ownership.

Kleibergen-Paap F-test statistics are above 50, suggesting that the instruments are not weak. Second-stage Hansen J tests fail to reject the orthogonality condition (the p-values are between 0.14 and 0.32), which suggests that the instruments are both valid and adequate. This result is perhaps unsurprising, as one would not expect local crime and state gun ownership to have a strong effect on, for example, the vega of executive compensation. Again, the standard errors are robust and corrected for the clustering of observations by firm. *Trust* is significant in all specifications.

Next, we re-estimate our main results utilizing a propensity score-matched sample (See, e.g., Dehejia and Wahba (1998); Hillion and Vermaelen (2004)). Specifically, propensity scores are created every year by regressing a high-trust indicator variable (an indicator variable equal to one when a firm is located in a high-trust county, and zero otherwise) on firm-level characteristics tabulated in Table 3 (i.e., firm age, size, leverage, performance, capital expenditure, return volatility and financial distress) utilizing a probit model.[21] Untabulated t-tests indicate that the two samples are not significantly different. Panel F of Table 6 indicates that our conclusions regarding *Trust* remain unaffected.

Next, we remove observations for firms that changed their headquarters' location during our sampling period. Thus, we focus on firms that had chosen their location years before entering our sample. This deep lagged approach further mitigates endogeneity. Untabulated results indicate that our main conclusions are unaffected (with the absolute value of the t-statistics ranging from 2.77 to 5.33).

Lastly, we remove observations from counties where one or two firms may have a disproportionate influence (defined as county-years populated by one or two firms) to mitigate the risk that the behavior of the population is influenced by one or two key

[21] The purpose of this approach is to find a matched firm with the same ex ante likelihood of being located in a similar trust region given the set of firm characteristics. To create a matched sample, we match a firm located in a low-trust county with the firm located in a high-trust county that has the closest propensity score.

employers. Untabulated results indicate that our main conclusions are unaffected (with the absolute value of the t-statistics ranging from 3.10 to 8.08).

*5.2. Other Robustness Tests*

*5.2.1. Additional Pooled Sample Tests*

The GSS Survey does not measure the trust level in every period. In our baseline test, we linearly interpolate the estimates. As a robustness test, we focus on observations for which we have a direct measurement of trust. Although our sample size is smaller by approximately 60%, our main results still hold. Panel A of Table 7 indicates that both the estimates of the coefficients and the statistical significances are reasonably close to those obtained for our full sample (the magnitude of the coefficients is usually slightly larger and the statistical significance slightly lower), which suggests that our linear interpolation does not create systematic noise in the sample.

Next, we focus on observations for which we have been able to extract historical information on headquarters locations from past 10-K filings available on Edgar. Because Edgar is only available for 1994 onwards, our sample period is limited to 1994–2010 for this robustness test. Panel B demonstrates that our main results remain unaffected.

Next, we re-estimate our baseline regressions considering the inter-relation of the dependent variables. We address this issue employing two approaches. First, we control for other dependent variables in OLS regressions. For example, when *Delta* is the dependent variable, we also control for *Vega*, *%DedInv*, *PPEGrowth*, and *Tobin*. We do not employ *CAR[-2,+2]* in this analysis, as this variable is calculated at the deal level, whereas the other variables are calculated at the firm-year level. Untabulated results indicate that *Trust* remains significant (with the absolute value of the t-statistics ranging from 2.50 to 4.83). Our second approach is to perform a path analysis in which we simultaneously estimate all five regressions. Untabulated results indicate that *Trust* remains statistically significant (with the absolute values of the t-statistics ranging from 1.69 to 5.38).

Finally, we re-estimate our baseline results utilizing median regressions to mitigate the potential effects of outliers and non-linearities. Untabulated results indicate that *Trust* remains statistically significant (with the absolute value of the t-statistics ranging from 1.67 to 3.18).

*5.2.2. Cross-Sectional Analysis*

Next, we address the concern that our observations may be clustered in a limited number of counties by estimating our main regressions at the county-year level. To do so, we calculate the average values of the different variables over the entire sample period (1992–2010) and re-run the regressions treating each county-year as one observation (the standard errors are robust and corrected for the clustering of observations by county). Although this purely cross-sectional specification removes temporal variations and drastically reduces the power of our tests, all variables remain significant at the conventional levels (as reported in Panel C). In other words, our results are not a statistical artefact created by the large sample size.

Next, we re-estimate our regressions at the firm level in a pure cross-section (utilizing industry fixed effects) by calculating the average values of the different variables over the entire sample period and re-running the regressions, treating each firm as one observation. All the variables have the predicted sign, and all but *% Ded Inv* remain significant at the conventional levels (as reported in Panel D).

*5.2.3. Time Series Analysis*

We next calculate the mean (and the median) of each variable on a yearly basis to obtain a pure time series of the different variables (i.e., we utilize only 18 yearly observations for this test), which further removes the concern that our results are driven by an unspecified omitted cross-sectional variable. We employ a balanced panel to calculate these time series (to make sure that our results are not caused by firms entering or leaving our sample or changing location), but the results are similar to those achieved when we employ an unbalanced one. The Chi-square statistics indicate that *Trust* Granger-causes the effect on our dependent variable. This result holds when we utilize the time series of either the means or the medians (the p-values range from 0.00 to 0.06) and when we control for macro-economic factors (i.e., GDP growth) and market sentiment (Baker and Wrugler, 2006). In other words, our results hold not only in panel and pure cross-section specifications but also in pure time series tests.

This finding suggests that potentially omitted variables that are largely cross-sectional, such as urban versus country locations, cannot explain our results.

## VI. Additional Empirical Analyses

### *6.1. Betrayal of Trust*

How do firms' behaviors change when trust is abused by peers? In other words, how do principals update their priors? We consider two approaches to answer these questions. First, we examine the reaction to direct ethical breaches by regressing *D(CEO Fired)* on *D(Fraud), Trust,* and the interaction between *D(Fraud)* and *Trust,* controlling for the lagged values of *Past Stock return,* as well as the interaction between *Past Stock Return* and *Trust, ROA, Log Vol, CEO Age, CEO Ownership, Log FirmAge,* and *Firm Size* along with industry and year fixed effects. *D(Fraud)* is an indicator variable equal to one if the firm experiences a restatement, litigation and an AAER enforcement action in year t-1, and zero otherwise.

We hypothesize that unethical actions committed by the agent lead to stronger reactions from the principal in a high-trust environment than in a low-trust environment (where they are more expected). The results are generally consistent with our expectations. Because our specification is a Logit regression, we employ the Ai and Norton (2003) approach. We report the interaction effect in Graph 2. Most of the data points are above the bar, and those that are below appear when the predicted probability of departure is low. The Ai and Norton corrected z-statistic for the untabulated interaction is 2.82. In other words, CEOs are more likely to be fired when there is an ethical lapse in high-trust environments than in low-trust ones.[22]

We next examine the effect of signals that do not come directly from the firm but rather from peers that violate the trust granted by the community. We hypothesize that unethical actions committed by peers erode the benefit of trust and lead to revisions in contractual design and monitoring efforts, which should be more evident in high-trust regions than in low-trust regions. To test these conjectures, we create *D(affected)*, an indicator variable equal to one if a peer (defined as a firm in the same SIC 2-digit industry, year and state) experiences a restatement, litigation and an AAER enforcement action, and zero otherwise. We then re-estimate Model (1) including *D(affected)* in the specification, and we split our sample between high- and low-trust subsamples. The results in Table 8 indicate that firms in high-trust environments respond to the erosion of trust by increasing the power of the CEO incentive contracts (higher *Delta* and *Vega*) and utilizing stronger monitoring from shareholders (more dedicated investors), but they become less effective in preventing empire building (more PPE growth and less effective M&A). Valuation is marginally but negatively affected. In contrast, we are unable to detect any effect in the low-trust environment.

[22] In untabulated results, we further control for social demographic variables such as those examined in Panel A of Table 6, and our results remain robust. The Ai and Norton corrected coefficient is 0.03, with z statistics of 2.18.

*D(Affected)* is insignificant in all columns of Panel B. Panel C indicates that the coefficients associated with *D(Affected)* are statistically significant across two subsamples in five of six cases.

### *6.2. Reporting Manipulations*

Next, we examine whether firms operating in a high-trust environment manipulate their reporting to a lower degree. We consider both accrual earnings manipulations and real earnings management. We measure accrual earnings management employing the Kothari et al (2005) model and Dechow and Dichev (2002) model. We measure real earnings management employing the Cohen and Zarowin (2010) model. Untabulated statistics for *Trust* are negative for both accrual and real earnings management measures (ranging from -1.70 to -5.20), suggesting that firms operating in high-trust environments manipulate financial reporting to a lower degree.[23]

### *6.3. Trust and the CEO*

Next, we consider the effect of trust on CEO selection. We expect that the different parties involved in the firm have a congruent level of trust. For example, Coval and Moskowitz (1999) demonstrate that U.S. investment managers exhibit a strong preference for locally headquartered firms. Knyazeva, Knyazeva and Masulis (2013) find that a local supply of qualified directors has a positive influence on board independence, suggesting that firms tend to hire local directors. Similarly, we expect that managerial style, trust, and investment behavior should be congruent. We follow an approach similar to Hilary and Hui

[23] This result is consistent with Jha (2013), who finds that firms located in areas with high social capital display a lower propensity to be prosecuted for financial misrepresentation.

(2009) to explore this idea and examine a sample of 117 CEOs who changed employers from 1993 to 2010.[24]

We regress the trust of the county where the new employer is located (*Trust_Joining*) on the trust of the county where the former employer is located (*Trust_Leaving*). If aversion to distrust is a stable parameter for CEOs, we expect CEOs to operate in similar environments and predict that the two measures of trust will be positively related. We employ three specifications. The first specification regresses *Trust_Joining* on *Trust_Leaving*, controlling for other differences in social-demographic variables. The second specification further controls for joining-state and leaving-state time-invariant characteristics through state-level fixed effects. In the third specification, we add leaving-firm characteristics. The results in Table 8 indicate that the trust of the county where the former employer is located is a predictor of the trust of the county where the new employer is located. This finding holds in all three specifications, with t-statistics ranging from 2.27 to 4.63, and is consistent with the observation that CEOs consistently choose to work for organizations that are likely to exhibit the same culture. The other demographic variables are mostly statistically insignificant.

### *6.4. Geographic Dispersion*

Finally, our results in Section 6.3 suggest that there is congruence between the culture of the firm's location and its executives, which may lead to a natural tendency toward cultural homogeneity. Nevertheless, the degree of homogeneity may still vary across organizations, and the effect of culture may be stronger in more homogeneous firms. To test this intuition, we first consider how the geographic dispersion of a firm's operations affects our results. To do so, we follow McGuire, Omer and Sharp (2012) and create *D(Nseg>2)*, an indicator

[24] We identify 2,037 CEO turnover events from Execucomp over the 1993–2010 period. When we further impose the constraint that departing CEOs join another firm in the Execucomp universe, we are left with 117 events.

variable equal to one if a firm has two or more geographic segments, and zero otherwise. We then re-estimate our regressions including *D(Nseg>2)* and its interaction with *Trust*.[25] Our untabulated results are mixed. In all the regressions, the sign of the interaction is consistent with the idea that the effect of trust is reduced for geographically dispersed firms. However, the coefficient is only statistically significant in three of six cases (e.g., *%DedInv*, *PPE Growth* and *CAR[-2,2])*.[26]

## VII. Conclusions

We consider the possibility that trust facilitates infra-organizational efficiency and, more specifically, mitigates corporate agency problems. Our results are consistent with the view that firms endowed with trust benefit from an efficient mechanism to mitigate agency problems. Specifically, we find that firms located in U.S. counties where trust is more prevalent offer a contract that is closer to a flat salary and are less likely to fire their CEOs in case of bad economic performance. However, these firms suffer less from moral hazard. More specifically, the value of cash holding is greater, the propensity to engage in empire building is lower, the level of corporate risk is closer to that desired by a risk-neutral principal, and these firms suffer less from horizon problems. Perhaps unsurprisingly given these results, greater endowed trust is associated with higher profit margins and higher corporate valuations. These results are robust to a host of robustness checks. For example, the results hold when we employ an instrumental variable approach. Finally, firms in high-trust environments update their priors differently from firms in low-trust environments, they are more likely to terminate their CEOs if they have engaged in reporting manipulations, and they rely less on trust after a peer firm has been involved in an unethical event.

[25] We obtain geographic segment data from the Compustat Segment Database. The mean (median) number of geographic segments for our sample is 2.78 (2) segments, and the maximum number of segments is 33.

[26] It is marginally insignificant, with a t-statistic of 1.63, when *Delta* is the dependent variable.

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## Appendix 1 Variable Definitions

| | |
|---|---|
| *Trust* | *Trust* constructed from the GSS. The survey asks whether people can be trusted, to which respondents answer from among "can be trusted" (assigned a value of 3), "can't be trusted" (assigned a value of 1) or "depends or don't know" (assigned a value of 2). We then average across all respondents from one county to obtain a county-level measure of trust for every year. When the trust measure is not available for that year, we interpolate the value from the most recently available value. |
| *Delta* | The dollar change in wealth associated with a 1% change in the firm's stock price and is obtained from Coles et al (2013). |
| *Vega* | The dollar change in wealth associated with a 1% change in the standard deviation of the firm's returns and is obtained from Coles et al (2013). |
| *% Ded Inv* | Percentage of shares outstanding held by dedicated institutional investors, where the classification of investors follows Bushee (1998). |
| *PPE Growth* | Change in PPE over lagged PPE. |
| *CAR[-2,2]* | A 5-day cumulative abnormal return from day -2 to day +2, where event day 0 is the date of M&A announcement. The benchmark return is calculated employing a Carhart (1997) four-factor model with model parameters estimated over the 200-day period from event day -210 to event day -11. |
| *Tobin* | Market value of equity plus the book value of assets minus the sum of the book value of common equity and deferred taxes, all divided by the book value of assets. |
| *SGA/Sales* | Selling, general and administrative expenses over sales. |
| *COGS/Sale* | Costs of goods sold over sales. |
| *Log FirmAge* | Log of firm age, where age is calculated as number of years since a firm first appeared in the CRSP. |
| *Firm Size* | Log of total assets. |
| *Leverage* | Short-term debt plus long-term debt, divided by total assets. |
| *ROA* | Operating income before depreciation expenses over lagged total assets. |
| *Capex/AT* | Capital expenditure over total assets. |
| *Log Vol* | Log of the annualized monthly standard deviation of the stock return in year t. |
| *Zscore* | Altman Z score calculated as 1.2*(current assets-current liabilities)/total assets+1.4*retained earnings/total assets+3.3*net income before tax and interest/total assets+0.6* market value of equity/book value of total liabilities+0.99*sales/total assets. |
| *D(CEO Replaced)* | Indicator equal to one if a CEO is replaced in year t, and zero otherwise. |
| *D(CEO Fired)* | Indicator equal to one if a CEO is replaced before the age of 64 in year t, and zero otherwise. |
| *D(Fraud)* | Indicator variable equal to one if the firm experiences a restatement, litigation and an AAER enforcement action in year t-1, and zero otherwise. |
| *Stock Returns* | Log of stock returns over the past year. |
| *CEO Ownership* | Log of the percentage of outstanding stock owned by the CEO. |
| *CEO Age* | Log of CEO age. |
| *Religiosity* | Percentage of religious adherents at the county level. When the measure is not available in that year, we interpolate the value from the most recently available value. |
| *Population* | Total population at the county level from the U.S. census. When the measure is not available in that year, we interpolate the value from the most recently available value. |
| *% Female* | Percentage of females in the county-level population. When the measure is not available in that year, we interpolate the value from the most recently available value. |
| *Labor Force PR* | Labor force participation rate at the county level. When the measure is not available in that year, we interpolate the value from the most recently available value. |
| *Education* | Percentage of population with at least a bachelor's degree at the county level. When the measure is not available in that year, we interpolate the value from the most recently available value. |
| *Income* | Income per capita at the county level. When the measure is not available in that year, we interpolate the value from the most recently available value. |
| *CEO Tenure* | Number of years as CEO. |
| *CEO Own* | Percentage of outstanding shares owned by the CEO. |
| *CEO-Chairman* | Indicator variable equal to one if the CEO is also the Chairman of the board, and zero |

| | |
|---|---|
| *Duality* | otherwise. |
| *Board Independence* | Indicator variable equal to one if more than 50% of directors are independent directors, and zero otherwise. |
| *Busy Board* | Indicator variable equal to one if more than 50% of directors hold more than 2 outside board memberships, and zero otherwise. |
| *Board Interlock* | Indicator variable equal to one if the board is interlocked as defined by Execucomp, and zero otherwise. |
| *Board Size* | Number of directors sitting on the board. |
| *Delaware* | Indicator variable that takes the value of one if the firm is incorporated in Delaware, and zero otherwise. |
| *% Female* | Percentage of female directors sitting on the board. |
| *% Blockholder* | Percentage of directors who hold at least 5% of outstanding shares. |
| *HHI* | Herfindahl Hirschman Index (HHI), defined as the sum of squared market shares,, where the market share of firm i in industry j in year t is computed from Compustat based on firms' sales (item #12) and industry is defined at the three-digit SIC level. |
| *D(Near)* | Indicator variable equal to one if the CEO is near retirement, defined as the last three years before a departure after the age of 64, and zero otherwise. |
| *R&D* | Research and development expenses over sales. |
| *D(Affected)* | Indicator variable equal to one if there is at least one firm experiencing restatement, litigation and AAER enforcement in the same state, year and 2-digit SIC industry in year t-1, and zero otherwise. |
| *D(NSeg>2)* | *D(Nseg>2)* is an indicator variable equal to one if a firm has two or more geographic segments, and zero otherwise. |

**Appendix 2 Value of Cash Regression**

Following Fama and French (1998) and Pinkowitz et al (2006), we estimate a valuation regression of the following form to measure the value of cash holdings:

$$V_{i,t} = \alpha + \beta_1 E_{i,t} + \beta_2 dE_{i,t} + \beta_3 dE_{i,t+1} + \beta_4 dNA_{i,t} + \beta_5 dNA_{i,t+1} + \beta_6 RD_{i,t} + \beta_7 dRD_{i,t} + \beta_8 dRD_{i,t+1} + \beta_9 I_{i,t} + \beta_{10} dIi,t + \beta_{11} dI_{i,t+1} + \beta_{12} Di,t + \beta_{13} dD_{i,t} + \beta_{14} dD_{i,t+1} + \beta_{15} dV_{i,t+1} + \beta_{16} dL_{i,t} + \beta 17 dL_{i,t+1} + \varepsilon_{i,t} \quad (2)$$

where $X_t$ is the level of variable X in year t divided by the level of assets in year t; $dX_t$ is the change in the level of X from year t − 1 to year t, $X_t - X_{t-1}$, divided by assets in year t; $dX_{t+1}$ is the change in the level of X from year t to year t+1, $X_{t+1} - X_t$, divided by assets in year t; V is the market value of the firm calculated at fiscal year-end as the sum of the market value of equity, the book value of short-term debt, and the book value of long-term debt; *E* is earnings before extraordinary items plus interest, deferred tax credits, and investment tax credits; *A* is total assets; *RD* is research and development (R&D) expenses, where *NA* is net assets, defined as total assets minus cash, and *L* corresponds to cash holdings. We include industry and year fixed effects in the regression and cluster all standard errors at the firm level. We estimate the above regression for the high-trust subsample and the low-trust subsample, where we split the sample according to the median trust level at year t-1.

## Table 1 Summary Statistics

The sample period is from 1992 to 2010. We exclude financial industries (SIC 6000-6999). All variables are defined in Appendix 1.

| | N | Mean | Median | Std | P25 | P75 |
|---|---|---|---|---|---|---|
| Panel A Dependent Variables | | | | | | |
| | N | Mean | Median | Std | P25 | P75 |
| *Delta* | 15841 | 4.138 | 1.752 | 8.870 | 0.696 | 4.195 |
| *Vega* | 15841 | 0.713 | 0.370 | 1.013 | 0.113 | 0.924 |
| *% Ded Inv* | 38619 | 5.554 | 0.889 | 8.197 | 0.000 | 9.094 |
| *PPE Growth* | 54337 | 0.141 | 0.032 | 0.625 | -0.089 | 0.217 |
| *CAR[-2,2]* | 10224 | 0.014 | 0.006 | 0.077 | -0.027 | 0.047 |
| *Tobin* | 54544 | 2.062 | 1.499 | 1.702 | 1.093 | 2.344 |
| Panel B Independent Variables | | | | | | |
| | N | Mean | Median | Std | P25 | P75 |
| *Trust* | 55450 | 1.832 | 1.765 | 0.466 | 1.524 | 2.056 |
| *Log Firmage* | 55450 | 2.501 | 2.398 | 0.847 | 1.946 | 3.135 |
| *Firm Size* | 55450 | 5.194 | 5.019 | 2.113 | 3.651 | 6.600 |
| *Leverage* | 55450 | 0.212 | 0.157 | 0.244 | 0.011 | 0.336 |
| *ROA* | 55450 | 0.015 | 0.110 | 0.533 | -0.007 | 0.192 |
| *Capex/AT* | 55450 | 0.060 | 0.039 | 0.068 | 0.019 | 0.074 |
| *Log Vol* | 55450 | -1.970 | -1.966 | 0.608 | -2.371 | -1.570 |
| *Zscore* | 50737 | 5.043 | 3.172 | 12.149 | 1.556 | 5.637 |

## Table 2 Correlations

The sample period is from 1992 to 2010. All variables are defined in Appendix 1. *, ** and *** denote significance at 10%, 5% and 1%, respectively.

| Panel A Correlations | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | [1] | [2] | [3] | [4] | [5] | [6] | [7] |
| [1] | *Trust* | 1.00 | | | | | | |
| [2] | *Delta* | -0.06 | 1.00 | | | | | |
| [3] | *Vega* | -0.07 | 0.21 | 1.00 | | | | |
| [4] | *% Ded Inv* | -0.04 | 0.01 | 0.00 | 1.00 | | | |
| [5] | *PPE Growth* | -0.03 | 0.08 | -0.02 | 0.04 | 1.00 | | |
| [6] | *CAR[-2,2]* | 0.03 | -0.04 | -0.06 | -0.02 | -0.01 | 1.00 | |
| [7] | *Tobin* | 0.07 | 0.23 | 0.02 | -0.02 | 0.07 | -0.04 | 1.00 |
| Panel B Correlations with Social-Demographic Variables | | | | | | | | |
| | | [1] | [2] | [3] | [4] | [5] | [6] | [7] |
| [1] | *Trust* | 1.00 | | | | | | |
| [2] | *Religiosity* | -0.02 | 1.00 | | | | | |
| [3] | *Population* | -0.11 | -0.28 | 1.00 | | | | |
| [4] | *%Female* | -0.13 | 0.15 | -0.19 | 1.00 | | | |
| [5] | *Labor Force PR* | 0.19 | 0.29 | -0.42 | -0.08 | 1.00 | | |
| [6] | *Education* | 0.23 | 0.16 | -0.26 | 0.00 | 0.68 | 1.00 | |
| [7] | *Income* | 0.16 | 0.09 | -0.20 | 0.08 | 0.44 | 0.86 | 1.00 |

## Table 3 Monitoring

The sample period is from 1992 to 2010. All variables are defined in Appendix 1. Constants are included but not reported in the regressions. T-statistics are presented beneath the coefficients within parentheses, except for Column 3, where z-statistics are presented for the logit regression. *, ** and *** denote significance at 10%, 5% and 1%, respectively. Standard errors are corrected for heteroscedasticity and clustered at the firm level.

| | (1)<br>*Delta* | (2)<br>*Vega* | (3)<br>*% Ded Inv* |
|---|---|---|---|
| *Trust* | -0.991 | -0.050 | -0.523 |
| | (-3.95)*** | (-2.42)** | (-5.04)*** |
| *Log Firmage* | -0.718 | 0.005 | -0.110 |
| | (-2.95)*** | (0.28) | (-1.17) |
| *Firm Size* | 1.275 | 0.303 | 1.132 |
| | (10.25)*** | (21.81)*** | (28.29)*** |
| *Leverage* | -3.396 | -0.119 | -0.961 |
| | (-3.35)*** | (-1.58) | (-2.89)*** |
| *ROA* | 2.629 | 0.153 | 0.345 |
| | (3.70)*** | (2.95)*** | (3.96)*** |
| *Capex/AT* | 6.748 | 0.218 | -0.823 |
| | (3.06)*** | (1.14) | (-0.94) |
| *Log Vol* | -0.090 | -0.119 | -0.764 |
| | (-0.29) | (-5.25)*** | (-7.00)*** |
| *Zscore* | 0.251 | -0.018 | -0.048 |
| | (2.44)** | (-1.61) | (-2.02)** |
| Observations | 15,841 | 15,841 | 38,619 |
| R-squared | 0.086 | 0.261 | 0.303 |
| Industry FE | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes |

## Table 4 Outcome

The sample period is from 1992 to 2010. All variables are defined in Appendix 1. Constants are included but not reported in the regressions. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote significance at 10%, 5% and 1%, respectively. Standard errors are corrected for heteroscedasticity and clustered at the firm level.

| | (1)<br>*PPE Growth* | (2)<br>*CAR[-2,2]* |
|---|---|---|
| *Trust* | -0.045 | 0.006 |
| | (-8.05)*** | (3.39)*** |
| *Log Firmage* | -0.091 | 0.002 |
| | (-20.31)*** | (2.13)** |
| *Firm Size* | -0.000 | -0.005 |
| | (-0.12) | (-9.77)*** |
| *Leverage* | -0.148 | 0.012 |
| | (-9.06)*** | (2.52)** |
| *ROA* | -0.060 | -0.002 |
| | (-3.72)*** | (-0.85) |
| *Capex/AT* | 0.163 | -0.019 |
| | (3.00)*** | (-1.09) |
| *Log Vol* | -0.012 | 0.002 |
| | (-1.67)* | (1.27) |
| *Zscore* | 0.027 | 0.001 |
| | (9.78)*** | (0.76) |
| *D(Target Public)* | | -0.014 |
| | 54,337 | (-6.25)*** |
| *D(Cash Deal)* | 0.057 | 0.002 |
| | | (1.25) |
| Observations | 56,017 | 10,224 |
| R-squared | 0.056 | 0.041 |
| Industry FE | Yes | Yes |
| Year FE | Yes | Yes |

## Table 5 Performance

The sample period is from 1992 to 2010. All variables are defined in Appendix 1. Constants are included but not reported in the regressions. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote significance at 10%, 5% and 1%, respectively. Standard errors are corrected for heteroscedasticity and clustered at the firm level.

| | (1)<br>*Tobin* | (2)<br>*SGA/Sale* |
|---|---|---|
| *Trust* | 0.133 | -0.042 |
| | (6.21)*** | (-2.70)*** |
| *Log Firmage* | -0.166 | -0.044 |
| | (-9.66)*** | (-4.30)*** |
| *Firm Size* | -0.025 | -0.047 |
| | (-2.77)*** | (-9.36)*** |
| *Leverage* | -0.472 | -0.220 |
| | (-5.27)*** | (-3.05)*** |
| *ROA* | -0.131 | -0.436 |
| | (-3.49)*** | (-10.87)*** |
| *Capex/AT* | 1.298 | -0.195 |
| | (7.59)*** | (-1.41) |
| *Log Vol* | 0.026 | 0.050 |
| | (1.24) | (3.19)*** |
| *Zscore* | -0.112 | -0.078 |
| | (-9.76)*** | (-8.52)*** |
| Observations | 54,544 | 54,555 |
| R-squared | 0.155 | 0.134 |
| Industry FE | Yes | Yes |
| Year FE | Yes | Yes |

## Table 6 Endogeneity

The sample period is from 1992 to 2010. All panels include the same set of controls as in Tables 3 and 4. All variables are defined in Appendix 1. Constants are included but not reported in the regressions. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote significance at 10%, 5% and 1%, respectively. Standard errors are corrected for heteroscedasticity and clustered at the firm level.

| Panel A Controlling for Social-Demographic Variables | | | | | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| | *Delta* | *Vega* | *% Ded Inv* | *PPE Growth* | *CAR[-2,2]* | *Tobin* |
| *Trust* | -1.046 | -0.044 | -0.551 | -0.040 | 0.006 | 0.084 |
| | (-3.80)*** | (-2.07)** | (-5.14)*** | (-6.97)*** | (3.32)*** | (3.99)*** |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 15,776 | 15,776 | 38,421 | 53,994 | 10,176 | 54,208 |
| R-squared | 0.088 | 0.264 | 0.304 | 0.058 | 0.041 | 0.158 |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Panel B State of Location-Year Joint Fixed Effects | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| | *Delta* | *Vega* | *% Ded Inv* | *PPE Growth* | *CAR[-2,2]* | *Tobin* |
| *Trust* | -0.738 | -0.057 | -0.598 | -0.045 | 0.006 | 0.150 |
| | (-3.45)*** | (-2.35)** | (-5.10)*** | (-7.10)*** | (3.25)*** | (6.17)*** |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 15,841 | 15,841 | 38,619 | 54,337 | 10,224 | 54,544 |
| R-squared | 0.134 | 0.299 | 0.323 | 0.068 | 0.085 | 0.171 |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes |
| State-year joint FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Panel C Firm Fixed Effects | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| | *Delta* | *Vega* | *% Ded Inv* | *PPE Growth* | *CAR[-2,2]* | *Tobin* |
| *Trust* | -0.569 | -0.062 | -0.422 | -0.032 | 0.002 | 0.044 |
| | (-3.41)*** | (-2.45)** | (-3.94)*** | (-4.45)*** | (0.68) | (2.30)** |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 15,841 | 15,841 | 38,619 | 54,337 | 10,224 | 54,544 |
| R-squared | 0.676 | 0.552 | 0.626 | 0.294 | 0.434 | 0.556 |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |

## Table 6 Endogeneity Continued

| Panel D R&D, Retirement and Trust | | |
|---|---|---|
| | (1)<br>High-Trust<br>R&D | (2)<br>Low-Trust<br>R&D |
| *D(Near)* | -0.033 | -0.180 |
| | (-1.04) | (-1.75)* |
| Control | Yes | Yes |
| Observations | 2,057 | 2,198 |
| R-squared | 0.247 | 0.169 |
| Industry FE | Yes | Yes |
| Year FE | Yes | Yes |
| Equality of coefficients cross samples | | |
| p-value | 0.0966 | |

| Panel E Instrumental Variable Regression | | | | | | |
|---|---|---|---|---|---|---|
| | (1)<br>*Delta* | (2)<br>*Vega* | (3)<br>*% Ded Inv* | (4)<br>*PPE Growth* | (5)<br>*CAR[-2,2]* | (6)<br>*Tobin* |
| *Trust* | -7.326 | -0.578 | -3.631 | -0.298 | 0.035 | 0.874 |
| | (-1.99)** | (-2.16)** | (-2.86)*** | (-5.18)*** | (1.90)* | (3.70)*** |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 15,579 | 15,579 | 38,213 | 53,752 | 10,145 | 53,958 |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Kleibergen-Paap F Stat | 34.43 | 34.43 | 75.41 | 110.31 | 52.01 | 109.45 |
| Hansen J Test P-value | 0.93 | 0.27 | 0.49 | 0.31 | 0.63 | 0.20 |

| Panel F Propensity Score Matching Sample | | | | | | |
|---|---|---|---|---|---|---|
| | (1)<br>*Delta* | (2)<br>*Vega* | (3)<br>*% Ded Inv* | (4)<br>*PPE Growth* | (5)<br>*CAR[-2,2]* | (6)<br>*Tobin* |
| *Trust* | -1.000 | -0.064 | -0.560 | -0.049 | 0.005 | 0.123 |
| | (-4.01)*** | (-2.67)*** | (-4.62)*** | (-5.78)*** | (2.50)** | (5.09)*** |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 15,092 | 15,092 | 37,284 | 52,962 | 10,136 | 53,168 |
| R-squared | 0.098 | 0.229 | 0.303 | 0.059 | 0.050 | 0.156 |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |

## Table 7 Robustness Tests

The sample period is from 1992 to 2010 for Panel A and Panel C. The sample period for Panel B is from 1994 to 2010 for firms for which historical 10-K filings are available from Edgar. All variables are defined in Appendix 1. Constants are included but not reported in the regressions. All panels include the same set of controls as in Tables 3 and 4. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote significance at 10%, 5% and 1%, respectively. Standard errors are corrected for heteroscedasticity in all panels and clustered at the firm level in Panels A and B and clustered at the county level in Panel C.

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| **Panel A Limited Sample** | | | | | | |
| | *Delta* | *Vega* | *% Ded Inv* | *PPE Growth* | *CAR[-2,2]* | *Tobin* |
| *Trust* | -1.050 | -0.051 | -0.272 | -0.059 | 0.004 | 0.152 |
| | (-3.62)*** | (-2.02)** | (-2.28)** | (-6.90)*** | (1.75)* | (6.11)*** |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 7,233 | 7,233 | 17,156 | 24,975 | 4,494 | 25,137 |
| R-squared | 0.088 | 0.243 | 0.305 | 0.056 | 0.055 | 0.148 |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| **Panel B Historical HQ Locations** | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| | *Delta* | *Vega* | *% Ded Inv* | *PPE Growth* | *CAR[-2,2]* | *Tobin* |
| *Trust* | -0.859 | -0.052 | -0.595 | -0.039 | 0.006 | 0.129 |
| | (-3.19)*** | (-2.30)** | (-5.64)*** | (-6.70)*** | (3.20)*** | (5.54)*** |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 13,592 | 13,592 | 32,011 | 42,874 | 8,330 | 42,957 |
| R-squared | 0.088 | 0.262 | 0.305 | 0.056 | 0.041 | 0.152 |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| **Panel C County-Year Analysis** | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| | *Delta* | *Vega* | *% Ded Inv* | *PPE Growth* | *CAR[-2,2]* | *Tobin* |
| *Trust* | -0.771 | -0.108 | -0.831 | -0.062 | 0.006 | 0.169 |
| | (-2.10)** | (-2.95)*** | (-3.28)*** | (-5.54)*** | (2.50)** | (3.60)*** |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 2,768 | 2,768 | 3,480 | 3,764 | 1,925 | 3,766 |
| R-squared | 0.054 | 0.170 | 0.454 | 0.112 | 0.066 | 0.169 |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| **Panel D Firm-Level Analysis** | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| | *Delta* | *Vega* | *% Ded Inv* | *PPE Growth* | *CAR[-2,2]* | *Tobin* |
| *Trust* | -0.765 | -0.093 | -0.188 | -0.078 | 0.015 | 0.094 |
| | (-1.96)* | (-2.51)** | (-0.81) | (-4.67)*** | (4.54)*** | (2.31)** |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 2,044 | 2,044 | 6,480 | 7,658 | 3,308 | 7,674 |
| R-squared | 0.114 | 0.3309 | 0.120 | 0.056 | 0.044 | 0.229 |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes |

## Table 8 Betrayal of Trust

The sample period is from 1992 to 2010. All variables are defined in Appendix 1. Constants are included but not reported in the regressions. All panels include the same set of controls as in Tables 3 and 4. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote significance at 10%, 5% and 1%, respectively. Standard errors are corrected for heteroscedasticity and clustered at the firm level.

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| **Panel A High-Trust Subsample** | | | | | | |
| | *Delta* | *Vega* | *% Ded Inv* | *PPE Growth* | *CAR[-2,2]* | *Tobin* |
| *D(Affected)* | 0.401 | 0.026 | 0.414 | 0.020 | -0.005 | -0.035 |
| | (2.23)** | (1.04) | (2.88)*** | (2.75)*** | (-1.72)* | (-0.87) |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 7,851 | 7,851 | 19,595 | 27,078 | 5,336 | 27,444 |
| R-squared | 0.110 | 0.292 | 0.306 | 0.083 | 0.054 | 0.155 |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| **Panel B Low-Trust Subsample** | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| | *Delta* | *Vega* | *% Ded Inv* | *PPE Growth* | *CAR[-2,2]* | *Tobin* |
| *D(Affected)* | -0.285 | -0.026 | 0.246 | 0.018 | -0.000 | 0.034 |
| | (-0.51) | (-0.60) | (1.31) | (1.55) | (-0.05) | (1.31) |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 7,916 | 7,916 | 18,852 | 27,021 | 4,818 | 26,862 |
| R-squared | 0.100 | 0.270 | 0.307 | 0.053 | 0.047 | 0.160 |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Test of difference in coefficients on *D(Affected)* | | | | | | |
| P-value | 0.049 | 0.042 | 0.079 | 0.853 | 0.084 | 0.049 |

## Table 9 CEO Change

The sample period is from 1992 to 2010.The dependent variable is the trust of the county where the new employer is located (*Trust Joining*). *Diff in XX* is the difference in the county-level characteristics XX between the joining firm and the leaving firm. *XX Leaving* is the firm-level characteristics XX of the leaving firm. All the other variables are defined in Appendix 1. Constants are included but not reported in the regressions. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote significance at 10%, 5% and 1%, respectively. Standard errors are corrected for heteroscedasticity.

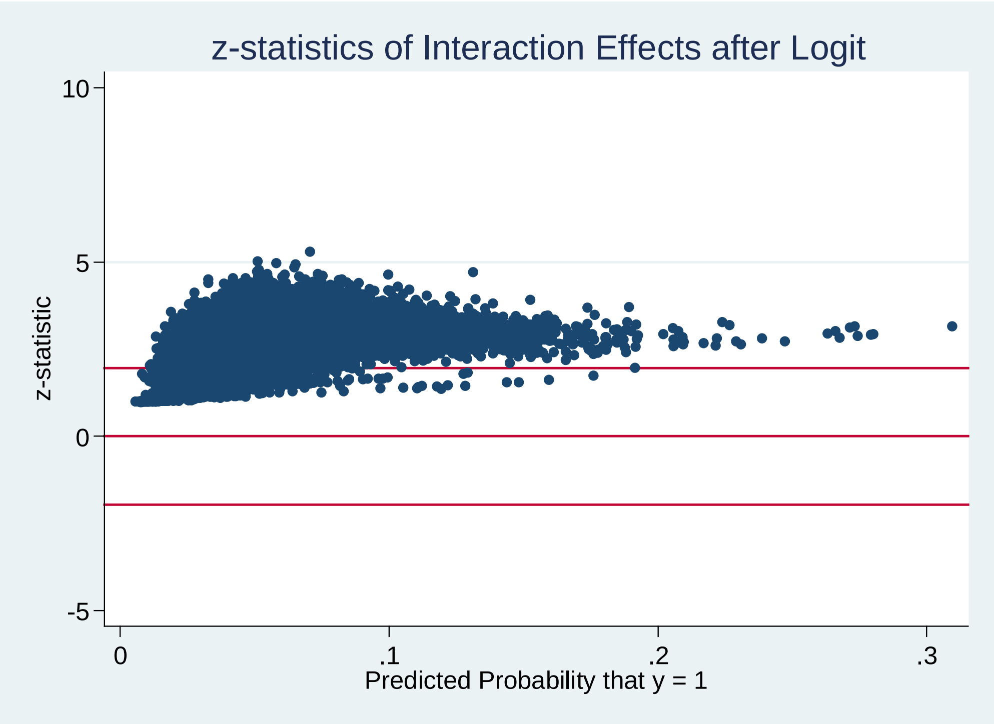
| | (1)<br>*Trust Joining* | (2)<br>*Trust Joining* | (3)<br>*Trust Joining* |
|---|---|---|---|
| *Trusting Leaving* | 0.250 | 0.542 | 0.640 |
| | (2.27)** | (4.63)*** | (3.40)*** |
| *Diff in Religiosity* | -0.268 | 0.860 | 0.272 |
| | (-0.59) | (1.17) | (0.22) |
| *Diff in Population* | 0.035 | 0.072 | 0.103 |
| | (1.33) | (2.21)** | (2.38)** |
| *Diff in % Female* | 1.440 | 7.027 | 2.836 |
| | (0.24) | (0.76) | (0.24) |
| *Diff in Labor Force Participation* | 4.193 | 4.965 | 5.891 |
| | (1.99)** | (1.78)* | (1.63) |
| *Diff in Education* | -0.010 | 0.003 | -0.006 |
| | (-0.85) | (0.18) | (-0.26) |
| *Diff in Income* | 0.129 | 0.178 | 0.266 |
| | (1.02) | (1.09) | (1.30) |
| *Leverage Leaving* | | | -0.354 |
| | | | (-1.06) |
| *ROA Leaving* | | | 0.373 |
| | | | (0.91) |
| *Capex/AT Leaving* | | | -0.773 |
| | | | (-0.65) |
| *Log Vol Leaving* | | | 0.039 |
| | | | (0.31) |
| *Zscore Leaving* | | | -0.027 |
| | | | (-0.47) |
| Observations | 117 | 117 | 104 |
| R-squared | 0.309 | 0.824 | 0.850 |
| Year FE | Yes | Yes | Yes |
| Leaving-State FE | No | Yes | Yes |
| Joining-State FE | No | Yes | Yes |

**Graph 1 Plot of the Interaction Between Past Stock Returns and Trust Employing the Ai and Norton (2003) Procedure**

The graph plots the interaction effects of *Past Stock Return* and *Trust*, employing the Ai and Norton (2003) procedure. Specifically, we estimate the following logit regression:

$$D(CEO\ Fired)_{i,t} = \alpha_1 + \beta_1 Trust_{i,t-1} + \beta_2 StockRet_{i,t-1} + \beta_3 Trust*StockRet_{i,t-1} + \delta_k Controls_{i,t-1} + \varepsilon_{i,t},$$

where i indexes firms, t indexes years, j indexes industry j and Control is a vector of firm-specific control variables, which include *ROA*, *Log Vol*, *CEO Age*, *CEO Ownership*, *Log Firmage*, *Firm Size* and industry (SIC 2-digit) and year fixed effects. All the variables are defined in Appendix 1.



**Graph 2 Plot of the Interaction Between Past Fraud and Trust Employing the Ai and Norton (2003) Procedure**

The graph plots the interaction effects of *D(Fraud)* and *Trust* employing the Ai and Norton (2003) procedure. Specifically, we estimate the following logit regression:

$$D(CEO\ Fired)_{i,t} = \alpha_1 + \beta_1 Trust_{i,t-1} + \beta_2 D(Fraud)_{i,t-1} + \beta_3 Trust*D(Fraud)_{i,t-1} + \delta_k Controls_{i,t-1} + \varepsilon_{i,t},$$

where i indexes the firm, t indexes years, j indexes industry j and Control is a vector of firm-specific control variables, which include *StockRet, the interaction between Trust* and *StockRet, ROA, Log Vol, CEO Age, CEO Ownership, Log Firmage, Firm Size* and industry (SIC 2-digit) and year fixed effects. All the variables are defined in Appendix 1.