The Price of Integrity*

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Abstract

This paper examines the effect of integrity culture on financing costs. We construct four measures to capture firms' integrity culture based on two different data sources, the first one collects employees' comments on firms' integrity culture from Glassdoor.com and the second one is Asheley Maison, a website designed to facilitate extramarital affairs. We find a negative relationship between financee's integrity and its financing costs, i.e. bank loan spread and cost of equity. Using the Massachusetts' Alimony Reform Law of 2011 as an exogenous shock to integrity culture, forced departures of CEOs due to managerial indiscretions as a quasi-natural experiment, and instrumental variable approach, we establish a causal effect of financee's integrity on financing costs. In addition, we find that our integrity measures can predict future stock returns. We further show that lower integrity level can increase the financing costs through opaque accounting information and excessive corporate risk taking.

JEL classifications: M14, G21, G12, G30

Keywords: Integrity, Bank Loan Spread, Cost of Equity

"I am sure that in estimating every man's value either in private or public life, a pure integrity is the quality we take first into calculation, and that learning and talents are only the second."

-- Thomas Jefferson

1. Introduction

Corporate culture has been addressed as an essential element in business. Due to the difficulties in defining the concept and the absence of high quality data to measure corporate culture, there are limited empirical studies on corporate culture. A recent development in the literature is the paper by Guiso, Sapienza, and Zingales (2015), in which they emphasize integrity as one dimension of corporate culture that matters for firms. Integrity, meaning to keep one's word and to have strong moral principles, is ranked as the second most important corporate value by the Standard and Poor's 500 companies (Guiso, Sapienza, and Zingales, 2015). Integrity is also among the most crucial factors that financial market participants consider when they enter into a financial contract. When financiers perceive the financee as a party with integrity, they spend fewer resources on collecting information and protecting their rights, leading to lower external financing costs. Therefore, integrity should have major effects on capital prices. However, there is no empirical research providing evidence on whether and how much integrity affects capital prices. Our paper constitutes an attempt to fill this gap in literature.

In this paper, we investigate whether financee's integrity can affect its financing costs. Financial contracts are incomplete contracts where the financiers are unable to contract on a financee's all future activities (Christensen, Nikolaev, and Wittenberg-Moerman, 2016). A firm with the culture of "keeping one's word" can help mitigate the moral hazard problem in financial contracts, and thereafter the financiers should charge less in terms of financing costs. Implied from the incomplete contract theory, we expect the risk premiums required by financiers to be lower for the firms with higher integrity compared to those with lower integrity.

To empirically test our conjecture, we construct four different measures of integrity, including two firm-year level measures and two region-year level measures, by using two different data sources. The first data source is Glassdoor.com, a website collects employees' comments on their employers. Using the web crawling techniques and textual analysis, we are able to extract reviewers' comments on the integrity dimension of corporate culture. As there are both positive and negative comments from the employees, we calculate the net negative comments. We first develop a measure at the firm-year level by aggregating the comments on a firm within the fiscal year. The more net negative comments on a firm's integrity culture

indicates less trustworthy, honest and ethical corporate culture the firm has. Then we develop a measure at the region level by aggregating the comments within the same region over the year. Our Glassdoor measures are similar to Guiso, Sapienza, and Zingales (2015)'s integrity measures which use the employee's perception of executives' ethical standards from the questionnaire conducted by the Great Place to Work Institute.

Our second data source is Ashley Madison (AM) website, which provides paid matching services for married people to seek for extramarital affairs. In 2015, a widely publicized hack resulted in the public release of name, address, and billing information of approximately 40 million Ashley Madison users[1]. Although marital infidelity is one of the off-the-job behaviors, it could be reflected in on-the-job decisions given that integrity is embedded in one's mind. Prior literature has argued and found evidence that executives' off-the-job behavior can reflect their innate personal traits which can affect their on-the-job behaviors, such as financial misconduct (Davidson, Dey, and Smith, 2015; Parsons, Sulaeman and Titman, 2018) and income diversion (Mironov, 2015). Moreover, compared to on-the-job behaviors, employees' extramarital affair is less likely to be affected by characteristics of the firm such as the incentive plans, the internal control environment, and corporate governance systems, facilitating a better identification of the effects of integrity. To capture the measure of integrity culture at firm-year level, we merge the registrants' email domains with the companies' email domains and calculate the number of AM website users within a company. As pointed out by Schneider (1987), a firm is more likely to attract, select, and retain employees who match its culture, we expect that firms that do not emphasize and value integrity in their cultures are more likely to employ individuals who display a lack of integrity in their daily lives. Therefore, the greater the number of a firm's employees who register with the website and actively use its service indicates the lower the degree of the integrity. To capture the measure of integrity culture at region level, we follow Parsons, Sulaeman and Titman (2018) to aggregate the registrants' accounts within a region over the year.

Our empirical analyses are based on the Glassdoor data during years 2008 -2015 and AM membership data during years 2002–2015. After controlling for various firm characteristics as well as firm and year fixed effects, we find results supporting our hypothesis that firms with lower level of integrity (i.e., more net negative comments on integrity culture or greater number of AM users) or firms located in the regions lack of integrity receive higher bank loan spreads

[1] Ashley Madison account data are available at http://fusion.net/story/185853/the-united-states-of-ashley-madison/.

and higher cost of equity. In terms of economic significance, we find that one standard deviation increase of integrity measured by *Ln(1+NegComment)* or *Ln(1+AMActUser)* reduces the average *Loan Spread* by 8.28 basis points or 16.28 basis points and reduces the average $ICOC_{Avg}$ by 35.04 basis points or 24.08 basis points.

One concern with our main results is that the observed relation between integrity culture and capital pricing could be endogenous even though we include firm fixed effects in the regression to control for time-invariant unobservable firm characteristics. To further address the omitted and correlated variable issue, we perform several tests as follows.

In the first test, we implement a difference-in-difference (DID) analysis around the Massachusetts' Alimony Reform Law of 2011. Massachusetts' Alimony Reform Law was passed on September 26, 2011 and took effect in March, 2012. It set limits on the amount and duration of spousal support upon divorce. We argue that such a law change reduces the expected alimony if divorce happens, thus reducing the expected cost of extramarital infidelity. This change will either attract persons with lower ethical standards to move to Massachusetts or encourage the unethical off-the-job behaviors of the existing residents in Massachusetts. As a result, it could increase the unethical on-the-job behaviors for firms in Massachusetts. Empirically, we find that, after the Reform Law, integrity level of the firms located in Massachusetts significantly decreases compared to those in the surrounding states, validating our experiment. We then show that, compared to the firms in surrounding states, firms in Massachusetts experience larger increases in both cost of bank loan and cost of equity after the shock. Our results are not sensitive to different control samples and different event windows.

Next, we utilize a quasi-natural experiment based on executives' forced turnovers due to their personal indiscretions to identify the causal evidence. Cline, Walkling and Yore (2018) find that executives with personal indiscretions, including sexual misadventure, substance abuse, violence and dishonesty face significant labor market consequences, including forced turnover once the indiscretions information becomes available to the public. We use this setting as an exogenous change to firm's integrity culture value. Research in organizational studies have found consistent evidence that leadership is the main shaper and builder of organizational culture (Schein, 1985; Bennis, 1986). Prior literature (Davis, 1984; Quinn and McGrath, 1984; Schein, 1985; Bennis, 1986; Trice and Beyer, 1993) show that a strong visionary or charismatic leader accounts for the unique character of an organization's values. We posit that, after the forced departure of executives with personal indiscretions, integrity culture of the firm becomes significantly better, thus lowering the external financing costs of the firm. Empirically, we validate our conjecture that firm level measure of integrity becomes significantly higher. We

then perform a difference-in-difference test to show that firms which force their executives to step down due to personal indiscretions have significantly lower cost of bank loan and cost of equity after the shock compared to the control firms.

We further strengthen the analysis by employing the instrumental variable approach. In particular, we use the social capital in the firm's home county as our instrumental variable. Social capital in the firm's home county directly curbs people's tendency and incentive to cheat on their partners, friends and colleagues as it provides a community-based governance mechanism (Bowles and Gintis, 2002). Research in sociology documents that as social capital in US decreases, the divorce rates increase significantly (Putnam, 1995). And there is no evidence showing that social capital can directly affect cost of capital via other channels. The 2SLS regression results support our hypothesis that social capital is negatively associated with our integrity measures. More importantly, we find in the second stage that the predicted value of integrity measures are negatively related to bank loan spread and cost of equity.

We then perform analysis using realized stock returns. Specifically, we estimate monthly Fama and MacBeth (1973) cross-sectional regressions of stock returns on our measures of integrity and find that lower integrity predicts higher future return. In addition, we find that the market reacts more negatively for the firms in Massachusetts when the Alimony Reform Law was passed compared to the control firms, which is consistent with the results of Fama and MacBeth (1973) regressions.

The other potential concern is that how the capital providers, such as banks, analysts, and financial institutions, gauge the integrity culture of one firm. We argue that the outsiders can gauge or infer integrity culture of the firm from various public information sources indirectly. Our two natural experiments and comments from Glassdoor are good examples showing how the outsiders of the firms can use the public information to infer integrity culture of the firms. To further strengthen our argument, we investigate channels through which integrity culture affects financing costs. One potential channel is increased information risks as financees with lower integrity are more likely to hide negative information or provide spurious information. We first establish that higher integrity level is associated with better accounting information quality and then show that the predicted accounting information quality from our integrity measures is negatively associated with financing costs. The other possible channel is financees' excessive risk taking behavior. Literature in phycology suggests that integrity and risk taking is inversely related to each other (Gino and Ariely, 2012). Firms display lack of integrity culture are more likely to take excessive risk, as a result, the financiers will charge higher risk premium. Our results also support this channel. We find that our integrity measures are

positively associated with default risk and the predicted default risk explained by integrity is positively associated with financing costs.

Our study makes several contributions to the literature. First, we show that financees' integrity corporate culture is an important priced factor in financial contracts. Most of the prior studies focus on the traditional risk factors or financial fundamentals as the determinants of capital prices. We are among the first to show that, integrity corporate culture has also been considered by the capital providers. Second, our study broadens the current research in cultural finance. Guiso, Sapienza, and Zingales (2015) use the survey data for S&P 500 firms and show that integrity affects firms' performance positively. Cline, Walkling, and Yore (2018) find that personal managerial indiscretions are related to several negative outcomes such as significant wealth deterioration, reduced operating margins, lost business partners, increased probability of unrelated shareholder-initiated lawsuits, Department of Justice and Securities and Exchange Commission investigations, and earnings management. Using a large sample, we construct integrity measures which capture both executives' and non-executive employees' behavior and find that integrity can affect not only the numerator (cash flow) but also the denominator, in particular, investors' perceptions of risks. Third, our study provides direct evidence that financees' integrity affects sophisticated capital providers. Although prior studies have shown the importance of trust in affecting individuals willingness to participate in the stock market (Guiso, Sapienza, and Zingales, 2008), few studies investigate whether and how financee's integrity affects professional investors' (banks') attitudes in making their investment decisions. Our study fills this void by providing ample empirical evidence.

The rest of the paper is arranged as follows. Section 2 describes the data and research design. Section 3 reports our main results. Section 4 discusses the tests to address endogeneity. Section 5 presents the additional tests. Section 6 concludes.

2. Data and variable construction

2.1 Sample selection

The sample construction starts with a comprehensive list of US public firms between 2008 and 2015 for Glassdoor sample and 2002 and 2015 for AM sample[2]. We obtained the Glassdoor user comment data from Glassdoor.com, released Ashley Madison accounts data from the internet, syndicated bank loan data from LPC's DealScan database, firm financial

[2] The sample period is selected because of the constraints imposed by the availability of Glassdoor data and Ashley Madison accounts data.

statement data from Compustat, and stock return data from the Center for Research in Security Prices (CRSP) stock file. Implied cost of equity capital is estimated from the Institutional Brokers' Estimate System (IBES) data. We exclude financial firms [i.e. standard industrial classification (SIC) codes between 6000 and 6999] from our sample. The bank loan sample is created by matching bank loan data with Glassdoor comment data and Ashley Madison accounts data and other related firm fundamentals data, containing 2,783, 7,663, 2,465 and 8,030 firm-fiscal year observations for samples with different integrity measures respectively. The intersection of Glassdoor, Ashley Madison, IBES, CRSP, and Compustat databases creates our cost of equity capital sample which consists of 6,473, 17,145, 5,798 and 18,701 firm-fiscal year observations for samples with different integrity measures respectively. We winsorize all variables except for indicator variables at the 1st and 99th percentiles to mitigate the influences of outliers. All variable definitions are in Appendix Table A1.

2.2 Glassdoor data

Glassdoor is a website launched in 2008 which allows current and former employees voluntarily and anonymously review their companies, working environment, salaries, senior management, and corporate culture. To avoid company self-promotion, Glassdoor requires email verification from an active email address or a valid social networking account. Glassdoor employer reviews include employees' one to five stars overall rating of the firm as well as other optional ratings for Career Opportunities, Compensation & Benefits, Work/Life Balance, Senior Management, and Cultures & Values. In addition to the numerical ratings, employees are also able to enter separate textual comments for Pros and Cons of their employer. Glassdoor's guidelines require that reviews should be about the organization rather than any identified individuals. To capture integrity culture of the company, we focus on employees' comments on integrity culture of the firm. We search key words related to integrity in our textual analysis to identify employees' comments on firms' integrity culture.[3] After we identify the key words in the Pros and Cons, we develop a dummy variable *Con_Int* equaling to one if one review contains negative comments (Cons) on the firm's integrity culture and zero otherwise. We also construct a dummy variable *Pro_Int* equaling to one if one review has negative comments (Cons) on the firm's integrity culture and zero otherwise. Then we

[3] The key words are integrity; thief; bipolar; two faces; trust; lack of trust; back stab; dishonest; lie(s); liar; honest(y); dishonest(y); moral(ity); ethic(al); stabbed in the back; despite what they say; despite what it is said; overstate; backstabbing; propaganda; keep your words; keep the promise; words are worth; cheat; faithful; truth; tell the truth; break the promise.

summarize *Con_Int* and *Pro_Int* in one given firm-year, respectively, and label the aggregated *Con_Int* as *Con_Int_A* and aggregated *Pro_Int* as *Pro_Int_A*. Our final measure of integrity "*NegComment*" in one firm-year is developed as the difference between *Con_Int_A* and *Pro_Int_A* (*Con_Int_A-Pro_Int_A*). In the regression analysis, we transform this variable in the logarithm format and label the variable as *Ln(1+NegComment)*[4]. Our second measure of integrity is a measure at the region level. In particular, we group firms in the same Core-based statistical area (CBSA) and aggregate the firm level *NegComment*. At last, we transform this variable in the logarithm format and label the variable as $Ln(1+NegComment_{CBSA})$.

2.3 Ashley Madison (AM) accounts data

Ashley Madison accounts data are collected from AshleyMadison.com which was hacked on July 15, 2015. We obtain subscribers' information for the majority of AM accounts from the internet. To protect personal privacy, we discard all information regarding personal identification and keep the email domain information (i.e., the suffix after the "@" sign) of email addresses people use to register for the AM service and the zip codes of their mailing addresses when they fill out the registration form. We then manually collect email domains for the companies from their websites, excluding any email domains that appear to be associated with a company but are not in reality, such as *yahoo.com*, *facebook.com*, *aol.com*, and *verizon.com*. After matching the AM users' email domains to companies' email domains, we are able to identify the firm that the AM users are currently affiliated with. An individual who use the AM service to seek extramarital affair is considered lack of integrity. We then calculate the number of AM users within a firm as firm level integrity measure. The underlying assumption is that a firm is more likely to attract and employ individuals who match the firm's culture (Schneider, 1987), thus firms that do not emphasize integrity in their cultures are more likely to employ individuals who display a lack of integrity. Greater number of AM users within a firm indicate that the firm's culture does not emphasize integrity.

One concern with relying on the registration information on Ashley Madison is that some subscribers may never use the AM service since they registered. To mitigate this concern, we construct our main measure of integrity, *AMActUser*, based on whether a registered user is actively using the AM website. A subscriber is defined as an active user if some activities are recorded, such as chatting or sending messages. The "active period" is defined as the period

[4] When we transform this variable in the logarithm format, if the raw value of *NegComment* is positive or zero, the logarithm value is the *Ln(1+NegComment)*. If the raw value is negative, the logarithm value is actually $-1\times Ln(1+(NegComment\times(-1)))$.

between the date of an individual's registration for AM website and the last activity was recorded. For instance, if David of a firm registered on March 1, 2006, and his last recorded activity took place on December 16, 2010, he will be included in calculating the *AMActUser* for the firm from 2006 to 2010. If there is no AM active users within the firm over the year, then *AMActUser* equals to zero.

In addition, we construct another two measures of integrity. *AMUser* is the number of all AM users who have registered with AM service that are affiliated with a firm over a given fiscal year. For instance, if David of a firm registered with AM on March 1, 2006, he will be included in calculating *AMUser* from 2006 to the end of our sample period, but not the years before 2006. *AMNewUser* is defined as the number of new AM users who registered with AM website during the year. We take the natural logarithm of 1 plus all the three measures denoted by *Ln(1+AMUser)*, *Ln(1+AMActUser)*, and *Ln(1+AMNewUser)* respectively. We report the results using *AMActUser* as one of our main integrity measures and the results using *AMUser* and *AMNewUser* are reported in the appendix tables.

Our last measure of integrity is a measure using Ashley Madison data at the region level. From the user data of Ashley Madison website, we are able to gauge the location information of each user. Hence, we aggregate the number of Ashley Madison active users from the same Core-based statistical area (CBSA) over a year. This measure is similar as the one used by Parsons, Sulaeman and Titman (2018).

2.4 Cost of bank loans

Our bank loan data are extracted from Loan Pricing Corporation (LPC)'s DealScan database. The bank loan data is at facility or tranche level. Facilities are grouped into a package (i.e. a deal), one deal could have multiple facilities. In the case of multiple facilities within a deal, we take the largest facility as an observation. For each loan origination date, we are able to obtain the various loan information at the deal level, including spread, maturity, loan amount, purpose of the loan, and type of the loan. We capture cost of bank loans using the all-in-drawn spread (in percentage) measured as the spread over the London Interbank Offered Rate (LIBOR) or LIBOR equivalent on a loan plus associated loan origination fees. We take the natural logarithm of the loan spread, denoted as *Ln(Loan Spread)*, to mitigate the skewness problem in the data.

2.5 Implied cost of equity capital

We estimate the cost of equity capital which is implied in the current stock price and future earnings. Specifically, we use consensus earnings forecasts from the IBES database to estimate future earnings. Then we employ the methodologies outlined in in Gebhardt, Lee, and Swaminathan (2001), Claus and Thomas (2001), Easton (2004), and Ohlson and Juettner-Nauroth (2005) to calculate four implied cost of equity measures, denoted as $ICOC_{GLS}$, $ICOC_{CT}$, $ICOC_{Easton}$, and $ICOC_{OJ}$ respectively. We follow the literature to use the mean of the four cost of equity estimates, denoted as $ICOC_{Avg}$, as our main measure of the cost of equity.

2.6 Control variables

To investigate the effect of integrity on cost of bank loans, we follow the bank loan literature (e.g. Graham, Li, and Qiu, 2008) to control for other loan contract-specific and borrower-specific factors that might affect loan spread. Loan characteristics that we control for include natural logarithm of loan facility amount, loan maturity measured in months, whether the loan facility uses performance-based pricing, different loan types (term loans, acquisition facility, bridge loans, revolvers, and etc.), and different purpose of loan facility (acquisition, commercial paper backup, corporate purposes, debt repay, exit financing, mergers, securities purchase, stock buyback, takeover, working capital, and etc.). We also control for borrower characteristics which include the natural logarithm of total assets (*AT*), market-to-book ratio calculated as market value of assets divided by book value of assets, return on asset calculated as operating income before depreciation (*OIBDP*) divided by total assets (*AT*), leverage ratio calculated as the sum of long term debt (*DLTT*) and debt in current liabilities (*DLC*) divided by total assets (*AT*), asset tangibility captured by net property, plant and equipment (*PPENT*) divided by total assets (*AT*), cash flow volatility measured as the standard deviation of operating income before depreciation (*OIBDP*) divided by total assets (*AT)* over the 20 quarters before the quarter containing the loan origination date, Altman (1968) 's Z-Score, and the natural logarithm of the number of people (in thousand) employed by the firm.

To study the impact of integrity culture on cost of equity capital, we control for variables which are used in prior literature (e.g. Dhaliwal, Judd, Serfling, and Shaikh, 2016). Market beta is estimated by regressing daily stock returns on the CRSP value-weighted daily market returns over the fiscal year, idiosyncratic risk is the annualized standard deviation of the residuals from the regression of daily stock returns on the CRSP value-weighted daily market returns over the fiscal year, maket capitalization is calculated by multiplying stock price (*PRCC_F*) by number of shares outstanding (*CSHO*), book-to-market ratio is book value of equity (*CEQ*) divided by maket capitalization, leverage ratio is the same as used in bank loan regressions, stock return

momentum is stock return over the fiscal year, return on asset is calculated as income before extraordinary items (*IB*) divided by total asset (*AT*), the forecasted long-term growth rate is the median analyst forecast of the long-term earnings growth rate, analyst forecast dispersion is the standard deviation of the analysts' forecast for the next period's earnings within 90 days before earnings announcement divided by the consensus forecast for the next period's earnings. When the Glassdoor integrity measures are used, we control for the natural logarithm of number of total comments a firm (CBSA) received over a year and the average Glassdoor employee rating indexes at the firm (CBSA) level over a year. When the Ashley Madison measures are used, we control for the natural logarithm of the number of employees (population) at the firm (CBSA) level.

2.7 Summary statistics

Panel A of Table 1 reports the summary statistics for the bank loan sample. An average firm in the Glassdoor sample has the *Loan Spread* of 198.90 basis points and *Loan Spread* of 176.40 basis points in the AM sample. The descriptive statistics of the control variables are largely consistent with the prior literature (Campello, Lin, Ma, and Zou, 2011; Campello and Gao, 2017). For instance, *Ln(Loan Size)* of 5.619, maturity of 51 months, market-to-book of 1.774, return on asset of 0.139, leverage ratio of 0.272, asset tangibility of 0.301, cash flow volatility of 0.015, and Z-Score of 3.558.

In terms of the descriptive statistics of the measures of our integrity, we have *Ln(1+NegComment)* ranges from 0 to 2.708 with a mean value of 0.792, indicating that on average, there are 1.2 net comments that criticize the corporate integrity of the firm[5]. The *Ln(1+ $NegComment_{CBSA}$)* variable gives us larger variation, ranging from 0 to 6.050 with a mean value of 3.711. This means that on average there are 40 net negative comments on the integrity culture of the firms located in certain area. Our measures using Ashley Madison data show similar patterns. The *Ln(1+AMActUser)* measure ranges from 0 to 4.143 with a mean value of 0.682, indicating that on average, there are 0.97 active Ashley Madison user account within a firm over a year. The *Ln(1+ $AMActUser_{CBSA}$)* variable gives us larger variation, ranging from 0.693 to 12.574 with a mean value of 8.023. This means that on average there are 3,052 active Ashley Madison accounts within a CBSA area over one year.

[5] Note that this measure is the net comments (the difference between Cons and Pros). There are 15 observations with negative *Ln(1+NegComment)*. After winsorizing, the minimum value of *Ln(1+ NegComment)* becomes 0.

The summary statistics for the cost of equity sample are reported in Panel B of Table 1. Gebhardt, Lee, and Swaminathan (2001)'s GLS method generates the lowest average cost of equity of 0.065 while the Ohlson and Juettner-Nauroth (2005)'s OJ method gives the highest estimation of the average cost of equity of 0.238. The mean value of the cost of equity estimated using Claus and Thomas (2001)'s and Easton (2004)'s methods are 0.090 and 0.111 respectively. The $ICOC_{Avg}$ which is the average of the four cost of equity measures has a mean value of 0.126. All these cost of equity measures are comparable to the prior literature (Dhaliwal, Judd, Serfling, and Shaikh, 2016). The other firm variables also have reasonable statistics. The average market beta, idiosyncratic risk, and momentum are 1.144, 0.368, and 0.140 respectively. The average firm has a market capitalization of $7.327 billion, book-to-market ratio of 0.499, and leverage ratio of 0.220. On average, the forecasted long-term growth rate is 0.156 and the analyst forecast dispersion is 0.211.

[Insert Table 1 About here]

2.8 Univariate Analysis

Given we have four measures of integrity measures, in this section, we examine the univariate correlation of the four different measures of interigity. Panel A of Table 2 reports the Pearson correlation for the bank loan sample in which the firm level integrity measures are reported. Panel B of Table 2 presents results for the bank loan sample for the region level integrity measures. Panel C and Panel D of Table 2 report the Pearson correlation for the cost of equity sample for firm-level and region-level integrity measures, respectively. In all correlation matrixes, the four measures of intergrity are all signficanly positively correlated with each other.

[Insert Table 2 About here]

3 Baseline regression analysis

In this section, we examine the relationship between financee's integrity and its financing costs. Overall, the multivariate regressions show that firms with higher integrity level tend to have lower costs of both bank loan and equity capital.

3.1 Effect of integrity on the cost of bank loans

To study the effect of integrity on the cost of bank loan, we rely on the multivariate regression analysis. We follow prior literature (Graham, Li, and Qiu, 2008; Campello, Lin, Ma, and Zou, 2011; Campello and Gao, 2017) to include both loan and firm characteristics as the determinants of bank loan spread. To mitigate the reverse causality issue, for each loan deal, we link it to the integrity measures and firm characteristics variables measured over the fiscal year before loan deal origination date. We also control for loan type, loan purpose, and firm and year fixed effects. Standard errors are clustered at firm level. To capture the effect of integrity, we add one of the integrity measures as the independent variable. The baseline specification for bank loan is as follows:

$$Ln(Loan\ Spread) = \alpha_1\ Integrity + \beta' Controls + \gamma' Firm + \theta' Year + \varepsilon, \quad (1)$$

where *Integrity* is measured by either *Ln(1+NegComment)*, *Ln(1+AMActUser)*, *Ln(1+ $NegComment_{CBSA}$)*, or *Ln(1+ $AMActUser_{CBSA}$)*, *Controls* include a set of control variables including both loan and firm characteristics as mentioned above, *Firm* and *Year* stand for vectors of firm and year fixed effects.

Panel A of Table 3 presents the results from the bank loan spread regression analysis. Columns (1) and (2) report the results of regressions with *Ln(1+NegComment)* and *Ln(1+AMActUser)* as integrity measures, respectively. The results suggest that lower level of integrity (i.e. more negative employee comments on firms' integrity culture or greater number of AM accounts) is associated with higher bank loan spread. The results are consistent across all measures of integrity. All of the point estimates are statistically significant at the 1% or 5% level. The coefficients are also economically important. For instance, the coefficient on *Ln(1+NegComment)* is 0.048, meaning that a one standard deviation increase in *Ln(1+ NegComment)* raises the average *Loan Spread* by 4.162% (i.e., 0.048×0.867), which is equivalent to an increase of 8.28 (i.e., 4.162%×198.9) basis points over of the sample's average *Loan Spread*[6]. The coefficient on *Ln(1+AMUser)* is 0.091, meaning that a one standard deviation increase in *Ln(1+AMUser)* raises the average *Loan Spread* by 9.227% (i.e., 0.091×1.014), which is equivalent to an increase of 16.28 (i.e., 9.227%×176.4) basis points over of the sample's average *Loan Spread*. The regression results with the other two region level measures, i.e., *Ln(1+ $NegComment_{CBSA}$)* and *Ln(1+ $AMActUser_{CBSA}$)*, as independent

[6] Since the bank loan spread is in natural logarithm, the coefficient on integrity measure can be interpreted as a percentage change in loan spread as the integrity measure raises by one unit.

variables are reported in Column (3) and Column (4). The coefficients on both measures are positive and significant.

With regard to the control variables, most of the results are consistent with prior literature. Larger firm size, higher market-to-book and return on asset, lower leverage ratio, higher asset tangibility, and larger loan facility amounts are associated with lower loan spreads.

3.2 Effect of integrity on the cost of equity

We then look at the impact of integrity on the cost of equity using similar panel regression analysis. We control for the factors that might determine cost of equity. Likewise, we add one of the integrity measures as the independent variable. As in Equation (1), we also control for firm and year fixed effects in all regressions. Standard errors are clustered at firm level. The baseline specification for implied cost of equity is as follows:

$$Cost\ of\ Equity\ Capital = \alpha_1\ Integrity + \beta' Controls + \gamma' Firm + \theta' Year + \varepsilon, \qquad (2)$$

where *Integrity* is measured by *Ln(1+NegComment)*, *Ln(1+AMActUser)*, *Ln(1+ $NegComment_{CBSA}$)*, or *Ln(1+ $AMActUser_{CBSA}$)*, *Controls* include a set of control variables including the firm characteristics that we have discussed before, *Firm* and *Year* stand for vectors of firm and year fixed effects.

Panel B of Table 3 presents the results from the regression analysis with $ICOC_{Avg}$ as dependent variable. Columns (1) and (2) report the results of regressions with *Ln(1+NegComment)* and *Ln(1+AMActUser)* as integrity measures, respectively. Consistent with the bank loan estimates, the results indicate that lower level of integrity is associated with higher cost of equity. The coefficient on *Ln(1+ NegComment)* is 0.004, indicating that a one standard deviation increase in *Ln(1+ NegComment)* is associated with a 35.04 basis points (i.e., $0.004 \times 0.876 \times 10^4$) increase in average $ICOC_{Avg}$. The coefficient on *Ln(1+AMActUser)* is 0.004, meaning that a one standard deviation increase in *Ln(1+ AMActUser)* is associated with a 24.08 basis points (i.e., $0.004 \times 0.602 \times 10^4$) increase in average $ICOC_{Avg}$. The regression results with *Ln(1+ $NegComment_{CBSA}$)* and *Ln(1+ $AMActUser_{CBSA}$)* as independent variables are reported in Column (3) and Column (4). Again, the coefficients on both measures are positive and significant.

With regard to the control variables, most of the results are consistent with prior literature. Larger firm size, lower long-term growth rates, and lower idiosyncratic risks are associated with lower cost of equity. The results of the four individual implied cost of equity

measures as dependent variables are reported in Appendix Table A3. All the coefficients on the integrity measures are positive and significant.

[Insert Table 3 About Here]

4 Tests to address endogeneity

The prior section suggests a significant relationship between financee's integrity and financing costs (loan spread and cost of equity), but the multivariate regression analyses are subject to several concerns regarding estimation biases. One of the major concerns is the endogeneity issue. We try to control for time-invariant unobservable omitted variables at firm level by including firm fixed effects in our main regressions. However, it is still possible that there might be some time-variant firm characteristics omitted from our regression specifications which can affect both the firm-level integrity measures and the cost of capital, leading to biased results. Although it is extremely difficult to completely overcome the endogeneity concern, we attempt to address this issue in three separate ways in this section. The first identification strategy we implement is to use Massachusetts' Alimony Reform Law as an exogenous shock that either changes the local resident's attitude towards extramarital affairs and integrity or attracts people with lower integrity standards to move to Massachusetts. In the second test, we utilize forced departures of CEOs due to their personal indiscretions as a quasi-natural experiment which bring exogenous change to the firm's integrity culture as it's indicated in prior literature that the top executives are the key determinant of the culture value of the firms (e.g., Schein 1985; Bennis 1986). The last approach we employ is a standard two-stage least squares regression analysis with the social capital in the firm's home county as instrumental variable.

4.1 Differnece-in-Difference analysis using Alimony Reform in Massachusetts as natrual experiment

To address the endogeneity issue, we first conduct a difference-in-difference test in the context of an exogenous event to identify the effect of integrity on cost of bank loan and cost of equity. The exogenous event we examine is the Massachusetts' Alimony Reform Law[7] which was passed on September 26, 2011 and then took effect in March 2012. Alimony,

[7] More information on the Massachusetts' Alimony Reform Law can be found via the following link: https://www.massalimonyreform.org/reformlaw/.

or spousal support, is a court-ordered payment from higher-earning partner to the lower-earning partner upon divorce. The courts have discretions in determining the amount and duration of alimony award. Prior to the reform, Massachusetts employed typical alimony laws in which there was no cap for the amount of alimony and no guideline as to when the alimony should end. The Alimony Reform Law in Massachusetts then set limits on the amount and duration of alimony. Specifically, the Alimony Reform limits the cap of spousal support into 30% to 35% of the difference between the parties' gross incomes, sets durational limits which are based on the length of the marriage, and allows the termination of spousal support under some new circumstances. For instance, before the reform, all alimony in Massachusetts was alimony for life. After the reform, the paying party can terminate their alimony when they reach retirement age so as to save money to prepare for retirement. Another example is that before the reform, if the paying spouse got remarried, the receiving spouse could take them back into court to receive an increase in their alimony, based on the second spouse's income. After the reform, if the person who pays alimony gets remarried, their new spouse's income and assets are not considered in a re-determination of the alimony. These changes in the alimony law will significantly reduce the divorce costs for the betrayed party. As a result, it will induce more incentives for the unethical people to conduct extramarital affairs or attract more unethical people to move to Massachusetts. We believe this law change can serve as a good candidate for an exogenous shock to study whether the integrity culture affects cost of capital for three reasons. First of all, the event is unlikely to be driven by firm fundamentals or cost of capital. The reform was proposed to provide more specific guidelines on how to determine the reasonable amount and duration of spousal support based on the length of the marriage and the individual circumstances of the couple's relationship and the firms in Massachusetts have litter control of it. Hence, it satisfies the exogeneity assumption. Second, the reform is relevant to the change of integrity culture at firm level. As we discuss before, such a reform does have side effects which reduce divorce costs and thereafter the cost of cheating in marriage. In other words, the reform reduces the cost of dishonesty in people's daily life and it may create two unintended consequences. The first one is that it may cultivate the norm of cheating in people's daily life for the existing employees. The second one is that it may attract more unethical people moving to Massachusetts and change the ethical culture at firm level. Some employee reviews from the Glassdoor supports our second conjecture. We find that the number of negative comments on the new employees in Massachusetts significantly increases after the reform. For instance, one employee commented in 2013 that a firm in Massachusetts should "Implement a comprehensive background check program for potential new hires. Some new hires have low

or no work ethic". Another employee commented in 2015 that "The new management team is incredibly disrespectful and unprofessional. Everything they do is always morally questionable. Be accountable to your employees, be role models of good behavior vs bad". A comment in 2014 stated that "Some new hired mid-level managers have created a hostile work environment by lying about goals, and objectives … just to make themselves look better." These evidence, taken together, provide support to our conjecture that the Alimony Reform attracted some dishonest people to work in Massachusetts. Last, this event only affects Massachusetts, which allows us to implement a difference-in-difference analysis to test whether an exogenous change in integrity measures for firms in Massachusetts will lead to a greater change in cost of capital.

To conduct the difference-in-difference identification strategy, we construct a treatment group and a control group. The treatment group contains the firms located in Massachusetts, while the control group includes firms located in the states surrounding Massachusetts[8] (i.e. New York, New Jersey, New Hampshire, Vermont, Connecticut, Rhode Island, and Pennsylvania). We focus on the fiscal years before and the fiscal years after the reform (excluding the event period which are the fiscal years between 2011 and 2012). Note that, for the bank loan sample, we don't use the propensity score matching method to identify matches between firms in the treatment group and firms in the control firm because the propensity score matching algorithm requires the firm to have bank loan issues in both pre-event and post-event year, leaving us with too few observations to run the difference-in-difference regression. The propensity score matching method can be implemented in the cost of equity sample and the difference-in-difference results for the propensity score matched cost of equity sample are reported in Appendix Table A4 Panel C. To be consistent for both tests, we report the difference-in-difference tests using all the firms in Massachusetts and the surrounding states.

Before we run the difference-in-difference regressions, we first perform a test to check if the integrity measures used in our study significantly changes for firms in Massachusetts after Alimony reform law compared with the firms in the surrounding states. Our sample includes three years (i.e., fiscal year from 2008 to 2010) before and three years (i.e., fiscal year from 2013 to 2015) after Alimony reform law. Panel A of Table 4 reports the results. Both of our measures of integrity decreases (i.e., more negative comments from Glassdoor or more AM users) for the firms in Massachusetts after Alimony reform law compared to the firms in

[8] We repeat the same test by including firms located in all the other states as control firms, the results still hold and are reported in Appendix Table A4 Panel A and Panel B.

surrounding states. We also perform *t*-tests on the differences between the two groups' pre-event (2010) characteristics. Panel B and Panel C of Table 4 show that there are no statistically significant differences between the treatment group and the control group for all of the factors that affect bank loan spread and cost of equity.

Second, we compare the change of financing costs for the treatment and control firms over a three-year period centered on the Alimony Reform time (denoted as time 0). The two figures in Figure 1 depict the trends clearly for bank loan spread and cost of equity respectively. Pre-event year is denoted as time -1 and the post-event year is denoted as time 1. As it is shown in the first figure, there is slightly increase in bank loan spread for both treatment and control groups from time -1 to the event time 0. After the event time, the bank loan spread starts to decline for the control group but still goes up for the treatment group, indicating a larger increase in loan spread for the treatment group. The second figure shows the trend for cost of equity. Both the treatment and control groups experience drops in cost of equity before the event time. After the Alimony Reform, the treatment firms show a large increase in cost of equity while the cost of equity for control firms continues to drop.

[Insert Figure 1 About Here]

Next, we perform the difference-in-difference analysis in a regression framework as follows:

$$Ln(Loan\ Spread) or\ Cost\ of\ Equity = \alpha_1\ Treatment \times Post + \alpha_2\ Treatment + \alpha_3 Post + \beta' Controls + \varepsilon, \quad (3)$$

where *Treatment* is a dummy variable equaling to one (zero) if a firm is in the treatment (control) group, *Post* is a dummy variable equaling to one for post-event fiscal year and zero for pre-event fiscal year, and *Treatment* × *Post* is the interaction between these two variables. The control variables are the same as those used in baseline model.

The results are in Table 4, Panel D and Panel E. In both panels, Column (1) reports the results for the sample with one year before (fiscal year=2010) and one year after (fiscal year=2013) the reform, Column (2) shows the results for the sample with two years before (fiscal year=2009 and 2010) and two years after (fiscal year=2013 and 2014) the reform, and Column (3) presents the results for the sample with three years before (fiscal year=2008, 2009, and 2010) and three years after (fiscal year=2013, 2014, and 2015) the law change. As

expected, for both samples, the coefficients on *Treatment* × *Post* are statistically significant and positive, indicating that, compared with the control firms, the treatment firms experience a larger increase of 19.7% and 2.8% in loan spread (measured by *Ln(Loan Spread*) and cost of equity (measured by $ICOC_{Avg}$) after the Alimony Reform. The results consistently show that a drop in integrity level raises both loan spread and cost of equity.

To testify that the results we find by using the Massachusetts' Alimony Reform Law as exogenous event are not random, we first conduct tests to examine the parallel trend. We add a *Pseudo Post* variable and the interaction term *Treatment* × *Pseudo Post* in which we use other year as a pseudo-event year. The results are presented in Column (4) and (5) of Panel C and Panel D in Table 4. In Column (4) we use 2010 as a pseudo-event, and 2009 is chosen as a pseudo-event in Column (5). The coefficients of *Treatment* × *Pseudo Post* in both columns are insignificant whereas the coefficients of *Treatment* × *Post* remain statistically significant. Then we perform a general placebo test. More specifically, we replace the event state Massachusetts with a randomly selected state from all the other 49 states and randomly choose one fiscal year between 2008 and 2013 as the event year and rerun our difference-in-difference regressions. The firms located in the randomly selected state is called "pseudo treatment" firm and the randomly selected fiscal year is called "pseudo event year". We repeat this randomly choosing process and run the difference-in-difference regressions for 200 times. The distribution of the coefficients on the interaction term *Pseudo Treatment* × *Pseudo Post* and the corresponding t-statistics are reported in Panel E of Table 3. The average coefficient estimate is insignificant and much smaller in magnitude compared to those in Panel C and D. For instance, the coefficient estimate on the interaction term for the bank loan specification in Column (3) of Panel C is 0.139 and significant at 5% level, while the placebo estimates are insignificant and only have a mean value of -0.004 and a median value of 0.000. For the cost of equity tests, compared to the coefficient estimate on the interaction term in Column (3) of Panel D which is 0.022 and significant at 5% level, the mean and median value of the placebo estimates are -0.001 and 0.002 respectively. Both placebo tests support that our findings in the context of the Massachusetts' Alimony Reform Law are unique, suggesting the identification of the effect of financee's integrity on cost of capital.

[Insert Table 4 About Here]

4.2 Difference-in-Difference analysis using forced CEO turnover as a quasi-natural experiment

We utilize a quasi-natural experiment based on forced departures of CEOs due to their personal indiscretions which bring exogenous changes to the integrity culture of the firm. Cline, Walkling and Yore (2018) find that executives with personal indiscretions, such as sexual misadventure, substance abuse, violence and dishonesty face significant labor market consequences, including forced turnover once the indiscretion information becomes available to the public. Prior literature in organizational studies show that corporate leaders play an essential role in shaping an organization's culture value (Davis, 1984; Quinn and McGrath, 1984; Schein, 1985, Bennis, 1986; Trice and Beyer, 1993). Therefore, we posit that after the executives with personal indiscretions are forced to leave the company, the integrity culture in that company will be improved, thus lowering the financing costs of the company. We collect the forced CEO turnover cases in S&P 1500 and search the reasons for the turnover in news databases such as Factiva and LexisNexis for the period between 2002 and 2010.[9] Then we focus on the CEO turnover events due to the exposure of personal indiscretions. For instance, in our treatment sample, Harry C. Stonecipher, the CEO of the Boeing Company, was forced to resign on March 7th, 2005 after admitting an affair with a female Boeing executive. Dennis Kozlowski, the CEO of Tyco International PLC, was under criminal investigation for several months by the office of the Manhattan district attorney before he left the company. Taken together we have found 18 treatment firm with bank loan issues in both pre- and post-event years in our bank loan sample and 30 treatment firms with available cost of equity data in both pre- and post-event years in our cost of equity sample. The control group include firms with available bank loan issues or cost of equity data in both pre- and post-event years but don't experience forced CEO turnover due to CEO's personal indiscretions.[10] We match each treatment firm to a control firm in the same pre-event year using propensity score matching method. Specifically, we estimate a probit model in which the dependent variable equals to one for firms in the treatment group and zero for firms in the control group and the independent

[9] Our CEO sample for this particular test ends in 2010 as the data from Ashley Madison ends in the middle of 2015. We have to show our measure of integrity improves (the number of Ashley Madison users decreases) after the CEO forced turnover event compared with the control sample. It is worth mentioning that we are not able to use the integrity measures from the Glassdoor data as our treatment sample doesn't have enough reviews on Glassdoor website. We thank Dirk Jenter for providing us the CEO forced turnover data.

[10] Note that, if we restrict that the control firms also experience CEO turnover, most treatment firms cannot be matched to a control firm with similar characteristics, leaving us with too few observations to run the difference-in-difference regressions.

variables are the same set of control variables used in our baseline regressions measured in pre-event year. Then we use the propensity score predicted from the probit model to match each firm in the treatment group to a firm in the control firm with the closest propensity score.

We first compare the change of our integrity measure for the treatment and control firms following the event. Panel A of Table 5 report the results. After the event, compared to the control firms, the treatment firms have larger drop in *Ln(1+ AMActUser)*, indicating the greater improvement in integrity culture of the treatment firms. Before we run the difference-in-difference regressions, we perform *t*-tests on the differences between the two groups' pre-event (2010) characteristics. Panel B and Panel C of Table 5 show that there are no statistically significant differences between the treatment group and the control group for most of the factors that affect bank loan spread and cost of equity.

[Insert Table 5 About Here]

Next, we perform the difference-in-difference analysis in a regression framework as follows:

$$Ln(Loan\ Spread) or\ Cost\ of\ Equity = \alpha_1\ Treatment \times Post + \alpha_2\ Treatment + \alpha_3 Post + \beta' Controls + \varepsilon, \quad (4)$$

where *Treatment* is a dummy variable equaling to one (zero) if a firm is in the treatment (control) group, *Post* is a dummy variable equaling to one for post-event fiscal year and zero for pre-event fiscal year, and *Treatment* × *Post* is the interaction between these two variables. The control variables are the same as those used in baseline model.

The results are reported in Panel D, Table 5. Column (1) reports the results for the bank loan sample and Column (2) reports the results for the cost of equity sample. As expected, for both samples, the coefficients on *Treatment* × *Post* are statistically significant and negative, indicating that, compared with the control firms, the treatment firms experience a larger decrease in both loan spread and cost of equity after the CEOs are forced to step down due to personal indiscretions.

4.3 Instrumental variable approach

To further address the endogeneity concern, we perform a two-stage least square (2SLS) regression by using an instrumental variable. A valid instrument must be correlated with

integrity measures but unrelated to any unobservable variables that may affect firm's financing cost independently. We use social capital in the firm's home county as an instrument for integrity measures. Social capital, as a major community governance mechanism, can reduce residents' incentives to do something dishonest by imposing a reputational loss (Bowles and Gintis, 2002), and thus increases the costs of cheating. In fact, research in sociology documents that as social capital in US decreases, the divorce rates due to extramarital affairs increase significantly (Putnam, 1995). We contend that the social capital in the firm's home county is a valid instrumental variable as there is no sound evidence showing that it affects loan pricing and cost of equity through other channels except for perceived integrity. In other words, it affects firm's financing cost mainly through its integrity culture channel.

Empirically, we measure social capital at the county level. It is constructed as the first principal component of four inputs: *Assn*, *Nccs*, *Pvote* and *Respn*. The data are collected from the Northeast Regional Center for Rural Development (NERCRD) surveys. *Assn* is the sum of the religious organizations, civic and social associations, business associations, political organizations, professional organizations, labor organizations, bowling centers, physical fitness facilities, public golf courses, sport clubs, managers and promoters membership sports and recreation clubs (no data for 2005 or 2009), and membership organizations not elsewhere classified (no data for 2005 or 2009), then divided the number by 12 (10 for 2005 or 2009) and scaled by the population of the county (measured per 10,000 people). *Nccs* is the total number of nongovernment organizations excluding the ones with an international focus, scaled by the population (measured per 10,000 people). *Pvote* is the number of votes casted scaled by the population above 18 years old (measured per 10,000 people). *Respn* is the census response rate. As the NERCD surveys are not conducted every year, we linearly interpolate and fill the social capital data for years between two adjacent surveys.

In the first-stage, we regress our integrity measures on the instrumental variable and other control variables. In the second-stage, we regress the financing costs measures on the fitted value of integrity measures obtained from the first-stage. The 2SLS regressions are as follows:

$$
\begin{aligned}
&1st\ Stage\colon\ Integrity \\
&\qquad = \alpha_1\ Social\ Capital + \beta' Controls + \gamma' Year + \varepsilon, \\
&2nd\ Stage\colon\ Ln(Loan\ Spread) or\ Cost\ of\ Equity \\
&\qquad = \alpha_1\ Fit\_Integrity + \beta' Controls + \gamma' Year + \varepsilon, \qquad (5)
\end{aligned}
$$

where *Integrity* is measured by either *Ln(1+NegComment)*, *Ln(1+AMActUser)*, *Ln(1+NegComment$_{CBSA}$)*, or *Ln(1+AMActUser$_{CBSA}$)*, *Fit_Integrity* is the fitted value of *Ln(1+NegComment)*, *Ln(1+AMActUser)*, *Ln(1+NegComment$_{CBSA}$)*, or *Ln(1+AMActUser$_{CBSA}$)*, *Controls* is a set of control variables used in the baseline regressions, and *Year* stand for vectors of year fixed effects. We cannot include firm fixed effects because the social capital is measured at county level and is not time variant at firm level.

The results of 2SLS regressions are tabulated in Table 6. Panel A and Panel B show the results for our bank loan sample. Panel C and Panel D show the results for our cost of equity sample. Across four different measures of integrity, the coefficients in the first stage are all negative and significant, indicating that social capital is highly correlated with integrity culture. The results in the second stage further confirms that the instrumented integrity measures are positively related to both the loan spread and cost of equity. Thus, our results are robust to the controlling for endogeneity issue using instrumental variable approach..

[Insert Table 6 About Here]

5 Additional tests

In this section, we perform several additional tests to strenghern our analysis. First, we investigate whether integrity culture can affect realized stock returns. Second, we explore channels through which intergrity affects financing costs.

5.1 Tests using realized stock return

After establishing a causal effect of integrity on capital pricing, one potential question is whether our results can survive for the realized stock return analysis. We first perform monthly Fama and MacBeth (1973) cross-sectional regressions of returns on our measures of integrity. In the regressions, we control for variables used in Novy-Marx (2013), i.e. the natural logarithm of maket capitalization, the natural logarithm of book-to-market ratio, and past returns for the prior month and for the prior 12-month excluding the prior month. We also control for several additional risk factors included in the implied cost of equity tests, the results with additional factors are reported in Appendix Table A5.

Next, we examine the stock market reaction to the announcement of Alimony Reform law in Massachusetts. Specifically, we calculate cumulative abnormal returns as cumulative raw returns minus cumulative benchmark returns using the Fama and French (1993) 3-factor model with an estimation window of [-255, -46] trading days prior to the event date and

compare the cumulative abnormal returns of treatment firms to those of the control firms. Results are reported in Appendix Table A6.

Table 7 reports the results of Fama and MacBeth (1973) cross-sectional regressions. Across different model specifications, our integrity measures are consistently positively correlated with future stock returns. This is consistent with our conjecture that firms with lower integrity earn excessive risk premium in the future as requested by the shareholders. Appendix Table A6 reports the cumulative abnormal returns for both treatment and control firms in different event windows around September 26, 2011, i.e. the announcement date of Alimony Reform law in Massachusetts. We find the treatment group (firms in Massachusetts) experiences significantly negative cumulative abnormal stock returns using different event windows. Compared with the market reactions to the control firms in surrounding states, the negative market reactions in the treatment group are significantly stronger. Therefore, these results in the short windows support our conjecture that stock market discounts the firms if their integrity level decrease.

[Insert Table 7 About Here]

5.2 Channels that integrity affects capital pricing

Since captial prvodiers can not fully observe intergirty culture within a company, a potential questions is how the capital providers gauge a firm's integrity culture. Banks, as sophisticated capital providers, have access to more private information about the borrowing firms (e.g., Ramakrishan and Thakor, 1984). For the stock market, our data from Glassdoor website provide some answer to this question. This publicly available information may convey important information for the stock market investors to evaluate a firm's internal corporate culture. Whereas Green, Huang, Wen and Zhou (2018) documentthat the stock market can not incorporate the information contained in employer ratings on Glassdoor in a timely manner. Our identification settings using Massachusetts' Alimony Reform Law and forced departures of CEOs due to personal indiscretions as exogenous shocks also imply that capital providers can obtain information through other publich information sources. In this sub-section, we further explore the channels through which integrity culture affects capital pricing.

5.2.1 Information quality

The first channel we attempt to test is information opaqueness. Prior research has found that accounting information quality has a singifcant role in loan contracting terms as well as

equity prices (Francis, Lafond, Olsson and Schipper, 2004; Graham, Li, and Qiu, 2008). Karpoff, Lee, and Martin (2008) find that unethical behavior affects the credibility of corporate disclosure. Implied from prior literature, firms diaplay lack of integrity culture tend to provide more opaque information, as a result, the financier will charge a larger price premium for bearing the higher informational risk. To empirical test this conjecture, we conduct the two-step analysis. Specifically, in the first step, we show that integrity improves information quality The second step tests whether information quality affects loan spreads and cost of equity. Following Hutton, Marcus, and Tehranian (2009), we use discretionary accruals to proxy for information quality. Discretionary accruals are defined as the abnormal level of accruals, captured by the residual estimated from the following modified version of Jones (1991) model:

$$\frac{IB_{i,t} - OANCF_{i,t}}{AT_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{AT_{i,t-1}} + \beta_2 \frac{\Delta Sale_{i,t}}{AT_{i,t-1}} + \beta_3 \frac{PPEGT_{i,t}}{AT_{i,t-1}} + \varepsilon_{i,t}, \quad (6)$$

where $IB_{i,t}$ is income before extraordinary items, $OANCF_{i,t}$ indicates cash flow from operations, and $PPEGT_{i,t}$ is gross property, plant and equipment.

Table 8 reports results from our two-step analysis. Column (1) and (3) in Panel A show that firms with lower level of integrity is associated with higher level of discretional accurals. Column (2) and (4) in Panel A show results that higher predicted value of discretionary accrual is associated with higher bank loan spreads. Panel B of Table 8 confirms these findings using the regional level of integrity measures. Panel C and Panel D of Table 8 presents the results for cost of equity samples. Again, the results confirm that the higher predicted value of discretionary accrual using different measures of integrity is associated with higher cost of equity.

[Insert Table 8 About Here]

5.2.2 Excessive risk taking

The second channel we investigate is excessive risk taking. Prior study has found that less integrity culture can encourage more risk taking behaviors. Research in psychology and behavioral economics finds a robust positive association between dishonesty and creativity. Gino and Ariely (2012) find that creativity is a strong determinant of unethical behavior in an experimental setting. Creative people are more likely to break the existing rules and more able

to develop rationalizations for unethical behavior. In a controlled experiment, Gino and Wiltermuth (2014) find that acting dishonestly leads to greater creativity in subsequent tasks within the same individual. They argue that acting dishonestly leads to a heightened feeling of being unconstrained by rules. In the finance literature, Grieser, Kapadia, Li, and Simonov (2016) find that a less-honest corporate culture can sometimes be advantageous to innovation as dishonest individuals are more rule-breaking and willing to take more risks. Given unethical behavior and risk taking is intercorrelated, we conjecture that capital providers may charge the finencees' more for their excessive risk taking behavior stemming from dishonesty. To empirically test this channel, we first show that the dishonesty culture within the firm encourages risk taking. The subsequent analysis tests whether the risk taking affects loan spreads and cost of equity. We use distance-to-default to proxy for firm's risk taking beahvior. We follow Bharath and Shumway (2008) to compute distance-to-default as follows:

$$Distance\ to\ Default_{i,t} = \frac{log\left(\frac{Equity_{i,t}+Debt_{i,t}}{Debt_{i,t}}\right)+\left(r_{i,t-1}-\frac{\sigma_{Vi,t}^2}{2}\right)\times T_{i,t}}{\sigma_{Vi,t}\times\sqrt{T_{i,t}}},$$

$$\sigma_{Vi,t} = \frac{Equity_{i,t}}{Equity_{i,t}+Debt_{i,t}} \times \sigma_{Ei,t} + \frac{Debt_{i,t}}{Equity_{i,t}+Debt_{i,t}} \times \left(0.05 + 0.25 \times \sigma_{Ei,t}\right), \quad (7)$$

where $Equity_{i,t}$ is the market capitalization; $Debt_{i,t}$ is the face value of debt computed as the sum of debt in current liabilities and one-half of long-term debt at the end of the year; r_{it-1}, firm *i*'s past annual return, is calculated from monthly stock returns over the previous year; $\sigma_{Ei,t}$ is the stock return volatility for firm *i* during year *t* estimated using the monthly stock return from the previous year; $\sigma_{Vi,t}$, calculated from $\sigma_{Ei,t}$, is an approximation of the volatility of firm assets; and $T_{i,t}$ is set to one year.

Table 9 presents the results. Column (1) and (3) in Panel A and Panel B show that lower level of intergrity culture is associated with lower distance-to-default (i.e., higher default risk). Column (2) and (4) in Panel A show that the predicted value of distance-to-default negatively affects bank loan spreads. Panel C and Panel D of Table 8 present the results for cost of equity samples, showing that the predicted value of distance-to-default using different measures of integrity is negatively associated with cost of equity.

[Insert Table 9 About Here]

6 Conclusion

This paper examines whether and how integrity culture affects cost of bank loan and cost of equity. We capture integrity culture using employee comments on corporate integrity culture from Glassdoor and the number of employees who register for AM website at both the firm and region level and find a strong negative relationship between financee's integrity and financing costs. To overcome endogeniety concerns, we first rely on the Massachusetts' Alimony Reform Law of 2011 as an exogenous shock to integrity measures and conduct difference-in-difference analysis to establish a negative causal effects of integrity on financing costs, i.e., the drop in integrity increases both bank loan spread and cost of equity. Next we utilize a quasi-natural experiment based on forced CEOs turnovers due to personal indiscretions which changes firms' integrity culture. Using the difference-in-difference analysis, we find that, compared to control firms, the treatment firms experience larger drop financing costs following the events. We also employ the instrumental variable method by using social capital in the firm's home county as an instrumental variable for integrity measures and find results that support our hypothesis. In additional tests, we show that stock market penalizes firms with lower integrity in the short run and demands excess future abnormal return. Last but not the least, this study explores the possible mechanisms through which financee's integrity affect financing costs. We show that the firm with lower integrity level can increase the financing costs through opaque accounting information and excessive risk taking.

Integrity culture plays a crucial role in virtually every financial transaction. Our findings may be of interest to firms and investors who are concerned about the determinants of capital prices and have important implications for regulators and policymakers when they attempt to emphasize the importance of integrity culture in business.

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Table 1: Summary Statistics

Panel A reports summary statistics for the bank loan sample. Panel B reports summary statistics for the implied cost of equity sample. The summary statistics include the sample mean, minimum, median, maximum, and standard deviation of the key variables used in this study. These variables are defined in Appendix A. The sample period is between 2002 and 2015 (The Glassdoor variables are only available from 2008).

Panel A: Bank Loan Sample

Variable	N	Mean	Minimum	Median	Maximum	Std. Dev.
Ln(Loan Spread)	8,030	0.381	-1.743	0.560	1.872	0.768
Ln(1+NegComment)	2,783	0.792	0.000	0.693	2.708	0.867
Ln(1+NegComment$_{CBSA}$)	2,465	3.711	0.000	3.989	6.050	1.649
Ln(1+AMActUser)	7,663	0.682	0.000	0.000	4.143	1.014
Ln(1+AMActUser$_{CBSA}$)	8,030	8.023	0.693	8.754	12.547	2.904
Ln(1+TotComment)	2,783	2.709	0.693	2.565	8.017	1.475
Ln(1+TotComment$_{CBSA}$)	2,465	6.397	2.485	6.672	9.000	1.807
GD_Rate	2,783	3.042	1.000	3.000	5.000	0.714
GD_Rate_CBSA	2,465	3.027	1.000	3.034	5.000	0.293
Ln(Asset)	8,030	7.460	3.927	7.389	11.414	1.618
Market-to-Book	8,030	1.774	0.725	1.507	5.835	0.903
Return on Asset	8,030	0.139	-0.081	0.133	0.374	0.074
Leverage	8,030	0.272	0.000	0.246	0.986	0.202
Asset Tangibility	8,030	0.301	0.018	0.224	0.912	0.241
Cash Flow Volatility	8,030	0.015	0.002	0.010	0.090	0.014
Ln(Loan Size)	8,030	5.619	2.303	5.704	8.648	1.313
Maturity	8,030	51.441	1.000	60.000	240.000	19.782
Z-Score	8,030	3.558	-1.178	3.003	15.905	2.713
Ln(Employee)	7,663	3.412	-0.924	2.854	15.608	2.711
Ln(Population)	8,030	14.892	11.185	14.972	16.817	1.132

Table 1: Summary Statistics - Continued

Panel B: Implied Cost of Equity Sample						
Variable	N	Mean	Minimum	Median	Maximum	Std. Dev.
$ICOC_{GLS}$	18,644	0.065	0.004	0.050	0.381	0.064
$ICOC_{CT}$	18,647	0.090	0.013	0.080	0.352	0.056
$ICOC_{Easton}$	16,534	0.111	0.042	0.101	0.275	0.047
$ICOC_{OJ}$	17,271	0.238	0.049	0.207	0.690	0.141
$ICOC_{Avg}$	18,701	0.126	0.029	0.113	0.381	0.065
Ln(1+NegComment)	7,032	0.715	0.000	0.693	2.944	0.864
$Ln(1+NegComment_{CBSA})$	6,299	3.802	0.000	4.143	6.001	1.632
Ln(1+AMActUser)	17,145	0.270	0.000	0.000	5.727	0.602
$Ln(1+AMActUser_{CBSA})$	18,701	8.304	1.386	8.975	12.187	2.741
Ln(1+TotComment)	7,032	2.484	0.693	2.197	5.720	1.441
$Ln(1+TotComment_{CBSA})$	6,363	6.497	2.485	6.882	9.000	1.816
GD_Rate	7,032	3.027	1.000	3.000	4.500	0.735
GD_Rate_CBSA	6,363	3.037	2.642	3.049	3.443	0.196
Market Beta	18,701	1.144	0.219	1.101	2.333	0.470
Idiosyncratic Risk	18,701	0.368	0.123	0.329	1.013	0.184
Ln(Market Capitalization)	18,701	7.327	3.838	7.224	11.116	1.641
Book-to-Market	18,701	0.499	0.000	0.426	1.703	0.332
Leverage	18,701	0.220	0.000	0.202	0.753	0.192
Momentum	18,701	0.140	-0.768	0.098	1.707	0.476
Return on Asset	18,701	0.038	-0.506	0.049	0.216	0.103
Long-term Growth Rate	18,701	0.156	-0.060	0.147	0.505	0.100
Analyst Forecast Dispersion	18,701	0.211	0.024	0.110	1.741	0.309
Ln(Employee)	17,145	1.275	-6.908	1.305	7.696	1.862
Ln(Population)	18,701	14.926	11.180	15.046	16.817	1.103

Table 2: Correlation between Integrity Measures

Panel A reports Pearson correlation coefficients for the bank loan sample, and Panel B reports Pearson correlation coefficients for the implied cost of equity capital sample. *, **, and *** indicates the statistical significance at the 10%, 5%, and 1% level, respectively. The integrity measures are defined in Appendix A. The sample period is between 2002 and 2015 (The Glassdoor variables are only available from 2008).

Panel A: Bank Loan Sample

Variable	*Ln(Loan Spread)*	*Ln(1+NegComment)*	*Ln(1+NegComment$_{CBSA}$)*	*Ln(1+AMActUser)*	*Ln(1+AMActUser$_{CBSA}$)*
Ln(Loan Spread)	1				
Ln(1+NegComment)	0.038**	1			
Ln(1+NegComment$_{CBSA}$)	0.085***	0.249***	1		
Ln(1+AMActUser)	0.127***	0.365***	0.138***	1	
Ln(1+AMActUser$_{CBSA}$)	0.100***	0.113***	0.628***	0.063***	1

Panel B: Implied Cost of Equity Capital Sample

Variable	*ICOC$_{Avg}$*	*Ln(1+NegComment)*	*Ln(1+NegComment$_{CBSA}$)*	*Ln(1+AMActUser)*	*Ln(1+AMActUser$_{CBSA}$)*
ICOC$_{Avg}$	1				
Ln(1+NegComment)	0.029**	1			
Ln(1+NegComment$_{CBSA}$)	0.052***	0.214***	1		
Ln(1+AMActUser)	0.120***	0.265***	0.073***	1	
Ln(1+AMActUser$_{CBSA}$)	0.029***	0.121***	0.611***	0.050***	1

Table 3: Baseline Regressions

Panel A presents results for the ordinary least squares (OLS) regressions of bank loan spread on integrity measures. The dependent variable is bank loan spread, *Ln(Loan Spread)*. Columns 1 to 4 reports the regression results with *Ln(1+NegComment)*, *Ln(1+AMActUser)*, *Ln(1+NegComment$_{CBSA}$)*, and *Ln(1+ AMActUser$_{CBSA}$)* as integrity measures, respectively. In addition to regular loan and firm charateristics, we control for loan type, loan purpose, firm, and year fixed effects in all regressions. In Panel B, the dependent variable is the implied cost of equity capital (*ICOC$_{Avg}$*), calculated by taking the mean of the four implied cost of equity capital measures following the methodologies outlined in Gebhardt, Lee, and Swaminathan (2001), Claus and Thomas (2001), Easton (2004), and Ohlson and Juettner-Nauroth (2005). Columns 1 to 4 reports the regression results with *Ln(1+NegComment)*, *Ln(1+AMActUser)*, *Ln(1+NegComment$_{CBSA}$)*, and *Ln(1+ AMActUser$_{CBSA}$)* as integrity measures, respectively. We control for firm and year fixed effects in all regressions. Standard errors are clustered at the firm level. *t*-statistics are presented in parentheses. *, **, and *** indicates statistical significance at the 10%, 5%, and 1% level, respectively. The variables are defined in Appendix A. The sample period is between 2002 and 2015 (The Glassdoor variables are only available from 2008).

Panel A: Bank Loan Sample				
	Dependent Variable: *Ln(Loan Spread)*			
Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment)	**0.048*** **			
	(2.687)			
Ln(1+AMActUser)		**0.091*** **		
		(6.295)		
Ln(1+NegComment$_{CBSA}$)			**0.056** **	
			(2.241)	
Ln(1+AMActUser$_{CBSA}$)				**0.033*** **
				(3.187)
Ln(Asset)	-0.186***	-0.087***	-0.090***	-0.134***
	(-4.069)	(-3.117)	(-2.647)	(-6.611)
Market-to-Book	-0.134***	-0.036*	-0.033	-0.044**
	(-3.487)	(-1.889)	(-0.947)	(-2.434)
Return on Asset	-0.598**	-1.079***	-0.374	-1.067***
	(-1.977)	(-6.916)	(-1.119)	(-7.074)
Leverage	0.409***	0.518***	0.233**	0.523***
	(2.990)	(6.699)	(2.003)	(7.480)
Asset Tangibility	-0.325	-0.460***	-0.225	-0.363***
	(-1.612)	(-3.560)	(-1.258)	(-3.157)
Ln(Loan Size)	-0.031**	-0.046***	-0.028*	-0.053***
	(-2.068)	(-4.671)	(-1.927)	(-4.674)
Maturity	0.000	-0.001**	0.000	-0.002***
	(0.103)	(-2.166)	(0.060)	(-3.828)
Cash Flow Volatility	1.842*	-0.091	1.894*	-1.185
	(1.727)	(-0.079)	(1.933)	(-1.238)
Z-Score	0.003	-0.004	-0.033*	-0.004
	(0.187)	(-0.518)	(-1.842)	(-0.661)
Performance Pricing	0.006	0.001	-0.014	-0.000
	(0.411)	(0.087)	(-1.069)	(-0.012)
Ln(Employee)	0.085**	-0.033		
	(2.040)	(-1.364)		
Ln(1+TotComment)	-0.097***			
	(-6.378)			
GD_Rate	-0.002			
	(-0.126)			
Ln(1+TotComment$_{CBSA}$)			-0.132***	
			(-4.102)	
GD_Rate_CBSA			0.010	
			(0.338)	
Ln(Population)			0.090	-0.199**
			(0.294)	(-2.534)
Loan Type	Yes	Yes	Yes	Yes
Loan Purpose	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Number of Obs	2,783	7,663	2,465	8,030
Adj. R-squared	0.334	0.536	0.453	0.536

Table 3: Baseline Regressions - Continued

Panel B: Implied Cost of Equity Capital Sample				
	Dependent Variable: $ICOC_{Avg}$			
Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment)	**0.004****			
	(2.576)			
Ln(1+AMActUser)		**0.004*****		
		(2.903)		
Ln(1+NegComment$_{CBSA}$)			**0.003****	
			(2.121)	
Ln(1+AMActUser$_{CBSA}$)				**0.001*****
				(5.249)
Market Beta	0.001	0.003	-0.001	0.001
	(0.500)	(1.136)	(-0.482)	(0.730)
Idiosyncratic Risk	-0.010	0.028***	-0.010	0.022***
	(-1.160)	(3.192)	(-1.401)	(5.064)
Ln(Market Capitalization)	-0.020***	-0.014***	-0.009***	-0.010***
	(-6.008)	(-5.135)	(-3.966)	(-5.815)
Book-to-Market	-0.002	-0.006	0.013**	-0.004
	(-0.281)	(-1.338)	(2.564)	(-1.271)
Leverage	0.014	0.030***	0.037***	0.025***
	(1.504)	(3.532)	(4.394)	(4.729)
Momentum	0.004**	-0.002	-0.001	-0.005***
	(2.063)	(-0.959)	(-0.527)	(-5.177)
Return on Asset	0.011	-0.019	-0.010	-0.006
	(1.023)	(-1.364)	(-0.716)	(-0.617)
Long-term Growth Rate	0.012***	0.003*	0.048***	0.050***
	(3.541)	(1.929)	(6.273)	(7.887)
Analyst Forecast Dispersion	0.000	0.000	0.000	0.000
	(0.786)	(0.441)	(0.070)	(1.370)
Ln(Employee)	0.022***	0.010***		
	(5.806)	(3.356)		
Ln(1+TotComment)	-0.011***			
	(-9.687)			
GD_Rate	-0.001			
	(-0.859)			
Ln(1+TotComment$_{CBSA}$)			-0.008***	
			(-3.739)	
GD_Rate_CBSA			-0.001	
			(-0.225)	
Ln(Population)			0.004	-0.094***
			(0.204)	(-7.217)
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Number of Obs	6,473	17,145	5,798	18,701
Adj. R-squared	0.235	0.057	0.311	0.057

Table 4: Diff.-in-Diff. analysis using the Alimony Reform Law in Massachusetts

This table reports the results for the difference-in-difference analysis around the Alimony Reform law in Massachusetts in 2011. The analysis is based on the sample of firms located in Massachusetts and the states surrounding Massachusetts (New York, New Jersey, New Hampshire, Vermont, Connecticut, Rhode Island, and Pennsylvania). *Treatment* is a dummy variable that equals one if the firm is located in Massachusetts and zero otherwise. *Post* is a dummy that equals one for the pre-event year and equals zero for the post-event year. Panel A reports the difference-in-difference regression results of the effect of Alimony Reform law on integrity measures. Panel B and Panel C report the control variable averages in 2010 (the pre-event year) for treatment and control groups, the differences in the average value of control variables, and the corresponding *t*-statistics. Panel D and Panel E report the difference-in-difference regression results of bank loan spread and the implied cost of equity capital, respectively. Column (1) reports the results for the sample one year before (fiscal year=2010) and one year after (fiscal year=2013) the law change. Column (2) shows the results for the sample two years before (fiscal year=2009&2010) and two years after (fiscal year=2013&2014) the law change. Column (3) presents the results for the sample three years before (fiscal year=2008&2009&2010) and three years after (fiscal year=2013&2014&2015) the law change. Column (4) adds a *Pseudo Post* variable, for which we use 2010 as a pseudo event and the interaction term between *Treatment* and *Pseudo Post*. Column (5) adds the *Pseudo Post* variable, for which 2009 is used as the pseudo-event year, and the interaction term between *Treatment* and *Pseudo Post*. Panel F presents the coefficient distribution on the interaction term between Pseudo Treatment and Pseudo Post, for which we randomly choose any state (excluding Massachusetts) and any year (between 2008 and 2013) as the event state and year and run 200 regressions. We control for loan type and loan purpose fixed effects in all bank loan regressions. Standard errors are robust standard errors. *t*-statistics are presented in parentheses. *, **, and *** indicates statistical significance at the 10%, 5%, and 1% level, respectively. The variables are defined in Appendix A. The sample period is between 2002 and 2015 (The Glassdoor variables are only available from 2008).

Panel A: Alimony Reform Law and Integrity Measures

	Dependent Variable:	
	Ln(1+NegCommet)	*Ln(1+AMActUser)*
Variable	(1)	(2)
Treatment×Post	**0.242*** **	**0.175*** **
	(5.349)	**(3.008)**
Treatment	-0.092**	-0.129**
	(-2.331)	(-2.546)
Ln(Employee)	-0.045***	0.160***
	(-9.643)	(29.122)
Ln(1+TotComment)	0.366***	
	(59.714)	
GD_Rate	-0.143***	
	(-16.506)	
Firm fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Number of Obs	5,629	5,866
Adj. R-squared	0.651	0.321

Table 4: Diff.-in-Diff. analysis using the Alimony Reform Law in Massachusetts - Continued

Panel B: Control Variables in 2010 (the Pre-event Year) for the Bank Loan Sample					
	Treatment	Control	Difference	*t*-Value	Pr > |*t*|
Ln(Asset)	7.685	7.891	-0.206	-0.72	0.479
Market-to-Book	2.052	1.723	0.416	1.48	0.142
Return on Asset	0.156	0.134	0.021	1.27	0.212
Leverage	0.230	0.278	-0.049	-1.36	0.182
Asset Tangibility	0.155	0.216	-0.061	-1.59	0.113
Ln(Loan Size)	5.935	6.016	-0.081	-0.37	0.716
Maturity	49.520	56.622	-7.102	-1.57	0.128
Cash Flow Volatility	0.011	0.011	0.000	0.17	0.863
Z-Score	3.635	3.227	0.407	0.94	0.355
Performance Pricing	0.240	0.353	-0.113	-1.16	0.255
Ln(Employee)	1.595	2.000	-0.405	-1.19	0.243

Panel C: Control Variables in 2010 (the Pre-event Year) for the Implied Cost of Equity Capital Sample					
	Treatment	Control	Difference	*t*-Value	Pr > |*t*|
Market Beta	1.179	1.167	0.011	0.26	0.795
Idiosyncratic Risk	0.347	0.362	-0.015	-0.97	0.334
Ln(Market Capitalization)	6.927	7.270	-0.343	-1.53	0.127
Book-to-Market	0.476	0.495	-0.019	-0.63	0.532
Leverage	0.096	0.100	-0.004	-0.34	0.735
Momentum	0.357	0.342	0.015	0.33	0.745
Return on Asset	0.035	0.027	0.007	0.59	0.554
Long-term Growth Rate	0.116	0.104	0.012	0.67	0.504
Analyst Forecast Dispersion	0.343	0.467	-0.124	-1.24	0.216
Ln(Employee)	0.750	0.519	0.231	1.40	0.163

Table 4: Diff.-in-Diff. analysis using the Alimony Reform Law in Massachusetts - Continued

Panel D: DID Regressions for the Bank Loan Sample					
	Dependent Variable: *Ln(Loan Spread)*				
	{2010, 2013}	{2009-2010, 2013-2014}	{2008-2010, 2013-2015}	{2008-2010, 2013-2015}	{2008-2010, 2013-2015}
Variable	(1)	(2)	(3)	(4)	(5)
Treatment×Post	**0.197***	**0.122***	**0.139****	**0.163****	**0.144****
	(1.911)	**(1.674)**	**(2.122)**	**(2.488)**	**(2.227)**
Treatment	-0.126*	-0.116**	-0.131**	-0.043	-0.095
	(-1.755)	(-2.009)	(-2.454)	(-0.569)	(-0.676)
Post	-0.120**	-0.160***	-0.199***	-0.100***	-0.162***
	(-2.584)	(-4.941)	(-6.909)	(-3.237)	(-5.648)
Treatment×Pseudo Post				**-0.110**	**-0.040**
				(-1.220)	**(-0.277)**
Pseudo Post				-0.244***	-0.317***
				(-5.464)	(-5.314)
Ln(Asset)	-0.025	-0.076***	-0.070***	-0.062***	-0.070***
	(-0.743)	(-3.250)	(-3.827)	(-3.358)	(-3.844)
Market-to-Book	-0.108***	-0.058**	-0.046**	-0.044**	-0.035*
	(-3.271)	(-2.165)	(-2.284)	(-2.269)	(-1.745)
Return on Asset	-1.356***	-1.084***	-0.631***	-0.692***	-0.732***
	(-4.300)	(-3.725)	(-3.256)	(-3.483)	(-3.545)
Leverage	0.779***	0.328***	0.242**	0.227**	0.193**
	(5.368)	(2.767)	(2.338)	(2.355)	(1.994)
Asset Tangibility	-0.002	0.270***	0.288***	0.277***	0.276***
	(-0.014)	(3.072)	(3.652)	(3.618)	(3.506)
Ln(Loan Size)	-0.098***	-0.048*	-0.044**	-0.045**	-0.033
	(-2.771)	(-1.773)	(-2.049)	(-2.164)	(-1.558)
Maturity	0.004**	-0.002	-0.004***	-0.002	-0.003*
	(2.340)	(-1.109)	(-2.737)	(-1.360)	(-1.871)
Cash Flow Volatility	6.810***	6.323***	6.744***	6.344***	6.607***
	(3.056)	(3.927)	(4.408)	(4.242)	(4.495)
Z-Score	-0.012	-0.028**	-0.042***	-0.036***	-0.042***
	(-0.740)	(-2.404)	(-3.748)	(-3.263)	(-3.927)
Ln(Employee)	-0.020	0.009	-0.001	-0.005	-0.002
	(-1.180)	(0.630)	(-0.085)	(-0.405)	(-0.164)
Performance Pricing	-0.087**	0.005	-0.016	-0.044	-0.031
	(-2.001)	(0.144)	(-0.578)	(-1.647)	(-1.171)
Loan Type	Yes	Yes	Yes	Yes	Yes
Loan Purpose	Yes	Yes	Yes	Yes	Yes
Number of Obs	278	472	620	620	620
Adj. R-squared	0.530	0.599	0.600	0.628	0.627

Table 4: Diff.-in-Diff. analysis using the Alimony Reform Law in Massachusetts - Continued

Panel D: DID Regressions for the Implied Cost of Equity Sample					
	Dependent Variable: $ICOC_{Avg}$				
	{2010, 2013}	{2009-2010, 2013-2014}	{2008-2010, 2013-2015}	{2008-2010, 2013-2015}	{2008-2010, 2013-2015}
Variable	(1)	(2)	(3)	(4)	(5)
Treatment×Post	**0.028****	**0.032*****	**0.022****	**0.026****	**0.028*****
	(2.012)	**(2.821)**	**(2.220)**	**(2.226)**	**(2.755)**
Treatment	-0.026***	-0.023***	-0.032***	-0.040***	-0.035***
	(-4.087)	(-4.812)	(-7.473)	(-7.072)	(-7.595)
Post	-0.030***	-0.031***	-0.024***	-0.023***	-0.009
	(-2.955)	(-3.985)	(-3.610)	(-2.597)	(-0.644)
Treatment×Pseudo Post				**-0.005**	**-0.020**
				(-0.393)	**(-1.251)**
Pseudo Post				0.015*	0.012*
				(1.917)	(1.686)
Market Beta	-0.014	-0.006	-0.003	-0.005	-0.004
	(-1.359)	(-0.892)	(-0.505)	(-0.862)	(-0.598)
Idiosyncratic Risk	0.105*	0.055**	0.025	0.039*	0.029
	(1.817)	(2.360)	(1.254)	(1.714)	(1.442)
Ln(Market Capitalization)	-0.004	-0.003	-0.005**	-0.004*	-0.005*
	(-0.886)	(-1.102)	(-1.996)	(-1.757)	(-1.932)
Book-to-Market	0.002	-0.003	-0.004	-0.003	-0.004
	(0.152)	(-0.299)	(-0.455)	(-0.349)	(-0.456)
Leverage	0.049**	0.064***	0.038***	0.039***	0.039***
	(2.533)	(4.210)	(2.911)	(2.941)	(2.970)
Momentum	-0.013	-0.013**	-0.001	-0.002	-0.003
	(-1.226)	(-1.996)	(-0.241)	(-0.457)	(-0.536)
Return on Asset	-0.127**	-0.100**	-0.088***	-0.085***	-0.085***
	(-2.198)	(-2.356)	(-2.777)	(-2.651)	(-2.687)
Long-term Growth Rate	0.017	-0.008	-0.018	-0.017	-0.016
	(0.915)	(-0.522)	(-1.132)	(-1.073)	(-0.996)
Analyst Forecast Dispersion	0.003	0.002	0.002	0.002	0.002
	(0.275)	(0.298)	(0.466)	(0.413)	(0.433)
Ln(Employee)	0.005	0.002	0.003	0.003	0.003
	(1.548)	(0.931)	(1.465)	(1.528)	(1.433)
Number of Obs	666	1,305	1,805	1,805	1,805
Adj. R-squared	0.150	0.115	0.108	0.110	0.109

Panel E: Placebo Tests						
	Mean	5%	25%	Median	75%	95%
Coefficient Estimates	(1)	(2)	(3)	(4)	(5)	(6)
Bank Loan Sample						
Pseudo Treatment×Pseudo Post	-0.004	-0.218	-0.075	0.000	0.072	0.225
	(0.199)	(-1.865)	(-0.866)	(-0.167)	(0.880)	(3.277)
Implied Cost of Equity Capital Sample						
Pseudo Treatment×Pseudo Post	-0.001	-0.051	-0.013	0.002	0.012	0.032
	(-0.408)	(-5.128)	(-1.084)	(0.163)	(1.122)	(2.141)

Table 5:Diff.-in-Diff. Analysis using Forced Departures of CEOs

This table reports the results for the difference-in-difference analysis around forced CEO turnover cases due to managerial indiscretions from 2002 to 2010. A treatment firm, whose CEO was suddenly forced to leave due to managerial indiscretions, is matched to a control firm without CEO turnover using the propensity score matching method. Panel A reports the difference-in-difference regression results of the effect of CEO sudden resignation on integrity measures. Panel B and Panel C report the variable averages in the pre-event year for treatment and control groups, the differences in each variable, and corresponding *t*-statistics. Panel D report the difference-in-difference regression results. Column (1) and (2) reports the regression results for the bank loan and implied cost of equity capital samples, respectively. *Treatment* is a dummy variable that equals one if the firm's CEO is forced to leave due to managerial indiscretions and zero otherwise. *Post* is a dummy that equals one for the pre-event year and equals zero for the post-event year. Standard errors are robust standard errors. *t*-statistics are presented in parentheses. *, **, and *** indicates statistical significance at the 10%, 5%, and 1% level, respectively. The variables are defined in Appendix A. The sample period is between 2002 and 2015 (The Glassdoor variables are only available from 2008).

Panel A: CEO Resignation and Integrity Measures

Variable	Dependent Variable*: Ln(1+AMActUser)*
Treatment×Post	**-0.647***** **(-3.031)**
Treatment	-0.135 (-0.660)
Post	0.927*** (5.307)
Ln(Employee)	0.207*** (3.812)
Industry fixed effects	Yes
Number of Obs	120
Adj. R-squared	0.471

Panel B: Differences in Variables in the Pre-event Year for the Bank Loan Sample

	Treatment	Control	Difference	*t*-Value	Pr > |*t*|
Ln(Asset)	8.609	8.685	-0.076	-0.14	0.892
Market-to-Book	1.660	1.398	0.262	1.30	0.204
Return on Asset	0.115	0.100	0.016	0.97	0.340
Leverage	0.280	0.339	-0.058	-1.09	0.282
Asset Tangibility	0.340	0.322	0.017	0.25	0.802
Ln(Loan Size)	5.841	6.174	-0.334	-0.86	0.398
Maturity	45.889	51.944	-6.056	-0.76	0.453
Cash Flow Volatility	0.013	0.008	0.005	1.48	0.153
Z-Score	2.580	2.107	0.474	1.00	0.327
Performance Pricing	0.333	0.500	-0.167	-1.00	0.324
Ln(Employee)	3.129	3.343	-0.214	-0.45	0.659

Panel C: Differences in Variables in the Pre-event Year for the Implied Cost of Equity Capital Sample					
	Treatment	Control	Difference	*t*-Value	Pr > |*t*|
Market Beta	1.480	1.523	-0.044	-0.27	0.792
Idiosyncratic Risk	0.423	0.373	0.050	0.97	0.335
Ln(Market Capitalization)	7.845	7.979	-0.134	-0.30	0.765
Book-to-Market	0.445	0.426	0.020	0.36	0.722
Leverage	0.227	0.170	0.057	1.10	0.275
Momentum	-0.132	-0.101	-0.031	-0.37	0.716
Return on Asset	0.024	0.041	-0.017	-0.95	0.346
Long-term Growth Rate	0.149	0.168	-0.019	-1.05	0.299
Analyst Forecast Dispersion	0.275	0.257	0.019	0.16	0.870
Ln(Employee)	2.201	2.323	-0.122	-0.24	0.810

Panel D: DID Regressions		
	Dependent Variable:	
	Ln(Loan Spread)	$ICOC_{Avg}$
Variable	(1)	(2)
Treatment×Post	**-1.489*** **	**-0.055*** **
	(-5.030)	**(-3.052)**
Treatment	0.499**	0.019
	(2.564)	(1.613)
Post	0.866***	0.022*
	(4.324)	(1.758)
Control Variables	Yes	Yes
Number of Obs	72	120
Adj. R-squared	0.657	0.129

Table 6: Instrumental Variable Approach

This table reports the two-stage least squares (2SLS) regressions results. In this approach, integrity measures are instrumented using social capital at the county level. Panel A presents the results for the bank loan sample using firm-level integrity measures. Panel B presents the results for the bank-loan sample using CBSA-level integrity measures. Panel C presents the results for the implied cost of equity capital sample using firm-level integrity measures. Panel D presents the results for the implied cost of equity capital sample using CBSA-level integrity measures. We control for loan type and loan purpose fixed effects in all bank loan regressions. Year and industry fixed effects are included in all regressions. Standard errors are robust standard errors. *t*-statistics are presented in parentheses. *, **, and *** indicates statistical significance at the 10%, 5%, and 1% level, respectively. The variables are defined in Appendix A. The sample period is between 2002 and 2015 (The Glassdoor variables are only available from 2008).

Panel A: Bank Loan Spread and Firm-level Integrity Measures

	Ln(1+NegComment)	*Ln(Loan Spread)*	*Ln(1+AMActUser)*	*Ln(Loan Spread)*
	First	Second	First	Second
Variable	(1)	(2)	(3)	(4)
Social Capital	**-0.006****		**-0.012****	
	(-1.960)		**(-2.131)**	
$Ln(1+\widehat{NegComment})$		**0.781*****		
		(6.180)		
$Ln(1+\widehat{AMActUser})$				**2.875*****
				(4.820)
Ln(Asset)	0.023	-0.148***	0.051***	-0.248***
	(1.085)	(-11.077)	(6.817)	(-7.775)
Market-to-Book	0.006	-0.012	0.018***	-0.091***
	(0.317)	(-1.319)	(2.791)	(-6.632)
Return on Asset	0.160	-1.548***	-0.061	-0.345**
	(0.487)	(-7.427)	(-1.085)	(-2.377)
Leverage	-0.104	0.336***	0.062*	0.172***
	(-1.198)	(7.012)	(1.743)	(2.840)
Asset Tangibility	0.139	-0.035	-0.089***	0.236***
	(1.610)	(-0.596)	(-3.610)	(3.485)
Ln(Loan Size)	-0.024	0.029**	0.003	-0.080***
	(-1.172)	(2.052)	(0.379)	(-8.580)
Maturity	-0.001	0.001	-0.001	-0.000
	(-0.975)	(1.416)	(-1.396)	(-0.192)
Cash Flow Volatility	0.747	5.574***	-0.147	2.391***
	(0.361)	(4.562)	(-0.558)	(5.159)
Z-Score	-0.032**	-0.046***	-0.006	-0.050***

	(-2.400)	(-5.040)	(-1.467)	(-7.399)
Performance Pricing	0.029	-0.023	0.020*	-0.035**
	(1.131)	(-1.474)	(1.801)	(-1.999)
Ln(Employee)	-0.001	0.036***	0.072***	-0.250***
	(-0.056)	(3.062)	(13.605)	(-5.785)
Ln(1+TotComment)	0.503***	-0.442***		
	(34.651)	(-6.736)		
GD_Rate	-0.164***	0.117***		
	(-10.122)	(5.113)		
Loan Type	Yes	Yes	Yes	Yes
Loan Purpose	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Number of Obs	2,577	2,577	6,822	6,822
Adj. R-squared	0.633	0.581	0.255	0.655

Table 6: Instrumental Variable Approach - Continued

Panel B: Bank Loan Spread and CBSA-level Integrity Measures				
	Ln(1+NegComment$_{CBSA}$)	*Ln(Loan Spread)*	*Ln(1+AMActUser$_{CBSA}$)*	*Ln(Loan Spread)*
	First	Second	First	Second
Variable	(1)	(2)	(3)	(4)
Social Capital	**-0.004****		**-0.265*****	
	(-1.998)		**(-6.692)**	
$Ln(1 + \widehat{NegComment}_{CBSA})$		**0.367****		
		(2.079)		
$Ln(1 + \widehat{AMActUser}_{CBSA})$				**0.387*****
				(9.710)
Control Variables	Yes	Yes	Yes	Yes
Number of Obs	2,341	2,341	8,590	8,590
Adj. R-squared	0.948	0.605	0.363	0.516

Panel C: Implied Cost of Equity Capital and Firm-level Integrity Measures				
	Ln(1+NegComment)	*ICOC$_{Avg}$*	*Ln(1+AMActUser)*	*ICOC$_{Avg}$*
	First	Second	First	Second
Variable	(1)	(2)	(3)	(4)
Social Capital	**-0.018****		**-0.009*****	
	(-2.219)		**(-3.553)**	
$Ln(1 + \widehat{NegComment}_{CBSA})$		**0.186*****		
		(4.188)		
$Ln(1 + \widehat{AMActUser}_{CBSA})$				**0.180*****
				(2.706)
Control Variables	Yes	Yes	Yes	Yes
Number of Obs	5,877	5,877	15,843	15,843
Adj. R-squared	0.728	0.221	0.704	0.106

Table 6: Instrumental Variable Approach - Continued

Panel D: Cost of equity – CBSA level integrity measures				
	Ln(1+NegComment$_{CBSA}$)	*ICOC$_{Avg}$*	*Ln(1+AMActUser$_{CBSA}$)*	*ICOC$_{Avg}$*
	First	Second	First	Second
Variable	(1)	(2)	(3)	(4)
Social Capital	**-0.004*** **		**-0.069*** **	
	(-3.577)		**(-5.982)**	
$Ln(1 + \widehat{NegComment}_{CBSA})$		**0.298*** **		
		(7.064)		
$Ln(1 + \widehat{AMActUser}_{CBSA})$				**0.002*** **
				(4.816)
Control Variables	Yes	Yes	Yes	Yes
Number of Obs	5,410	5,410	18,995	18,995
Adj. R-squared	0.945	0.182	0.782	0.114

Table 7: Cross-sectional Expected Stock Returns

This reports the average Fama-MacBeth regression slopes and their corresponding *t*-statistics from the cross-sectional regressions of firms' monthly future returns on integrity measures. Columns 1 to 4 reports the results of regressions with *Ln(1+NegComment)*, *Ln(1+AMActUser)*, *Ln(1+NegComment$_{CBSA}$)*, and *Ln(1+AMActUser$_{CBSA}$)* as integrity measures, respectively. *, **, and *** indicates statistical significance at the 10%, 5%, and 1% level, respectively. The variables are defined in Appendix A. The sample period is between 2002 and 2015 (The Glassdoor variables are only available from 2008).

Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment)	**0.009*** **			
	(2.876)			
Ln(1+AMActUser)		**0.004** **		
		(2.062)		
Ln(1+NegComment$_{CBSA}$)			**0.011*** **	
			(3.586)	
Ln(1+AMActUser$_{CBSA}$)				**0.004*** **
				(3.286)
Ln(Book-to-Market)	0.007	0.001	0.009	0.003**
	(0.385)	(0.786)	(0.494)	(2.084)
Ln(Market Capitalization)	0.001	-0.003***	0.001	-0.001
	(1.433)	(-4.281)	(1.052)	(-1.448)
$R_{1,1}$	-0.016**	-0.033***	-0.020***	-0.023***
	(-2.203)	(-4.522)	(-2.922)	(-4.220)
$R_{12,2}$	0.003	-0.052	0.004	-0.014
	(1.087)	(-1.252)	(1.153)	(-0.376)
Ln(Employee)	0.002**	0.001**		
	(2.465)	(2.421)		
Ln(1+TotComment)	0.000			
	(0.052)			
GD_Rate	0.000			
	(-1.060)			
Ln(1+TotComment$_{CBSA}$)			-0.001	
			(-0.969)	
GD_Rate_CBSA			-0.001	
			(-0.532)	
Ln(Population)			0.000	-0.001
			(-0.001)	(-0.615)
Number of Obs	91,139	323,414	79,896	365,301
Adj. R-squared	0.044	0.036	0.039	0.029

Table 8: Economic Mechanisms – Information Quality

This table reports the results for the accounting information quality channel. Panel A and Panel B presents the results of the two-step analysis for the bank loan sample. Column 1 and 3 report the results for the first step regressions of accounting information quality measured by discretional accruals on integrity measures. Column 2 and 4 report the results for the second step regression of bank loan spread (*Ln(Loan Spread)*) on discretional accruals predicted from the first step. Panel C and Panel D presents the results of the two-step analysis for the implied cost of equity capital sample. Column 1 and 3 report the results for the first step regressions of accounting information quality measured by discretional accruals on integrity measures. Column 2 and 4 report the results for the second step regression of the implied cost of equity capital ($ICOC_{Avg}$) on discretional accruals predicted from the first step. We control for firm and year fixed effects in all regressions. Standard errors are robust standard errors. *t*-statistics are presented in parentheses. *, **, and *** indicates statistical significance at the 10%, 5%, and 1% level, respectively. The variables are defined in Appendix A. The sample period is between 2002 and 2015 (The Glassdoor variables are only available from 2008).

Panel A: Bank Loan Spread and Firm-level Integrity Measures				
	Accruals	*Ln(Loan Spread)*	*Accruals*	*Ln(Loan Spread)*
	First	Second	First	Second
Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment)	**0.008***			
	(1.680)			
Ln(1+AMActUser)			**0.023***	
			(1.670)	
$\widehat{\text{Accruals}}$		**5.372****		**0.625****
		(2.272)		**(2.424)**
Ln(Asset)	-0.015	-0.066	-0.110***	-0.008
	(-1.168)	(-0.808)	(-3.130)	(-0.196)
Market-to-Book	-0.011	-0.052	0.042	-0.082***
	(-1.457)	(-1.036)	(0.869)	(-4.000)
Return on Asset	-0.053**	0.183	-0.169	-0.986***
	(-2.480)	(1.161)	(-0.552)	(-5.681)
Leverage	0.132***	-0.245	-0.160	0.542***
	(3.804)	(-0.664)	(-1.541)	(6.707)
Asset Tangibility	-0.028	0.034	0.069	-0.380***
	(-0.504)	(0.118)	(0.931)	(-2.806)
Ln(Loan Size)	-0.000	-0.065***	0.019	-0.066***
	(-0.015)	(-4.323)	(1.340)	(-5.632)
Maturity	-0.000	-0.000	0.000	-0.002***
	(-0.417)	(-0.487)	(0.102)	(-3.548)
Cash Flow Volatility	-0.108	2.217*	-0.479	0.067
	(-0.310)	(1.791)	(-0.238)	(0.049)
Z-Score	0.009***	-0.043	-0.008	0.005
	(3.148)	(-1.446)	(-1.388)	(1.393)
Performance Pricing	0.009**	-0.047*	-0.016	0.015
	(2.218)	(-1.750)	(-1.039)	(1.062)
Ln(Employee)	0.017*	-0.054	0.039	-0.076**
	(1.653)	(-0.743)	(1.092)	(-2.341)
Ln(1+TotComment)	-0.002	-0.083***		
	(-0.379)	(-4.929)		
GD_Rate	0.006	-0.018		
	(1.467)	(-0.925)		
Loan Type	Yes	Yes	Yes	Yes
Loan Purpose	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Number of Obs	2,243	2,243	6,327	6,327
Adj. R-squared	0.031	0.354	0.021	0.551

Table 8: Economic Mechanisms – Information Quality - Continued

Panel B: Bank Loan Spread and CBSA-level Integrity Measures				
	Accruals	*Ln(Loan Spread)*	*Accruals*	*Ln(Loan Spread)*
	First	Second	First	Second
Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment$_{CBSA}$)	**0.018****			
	(2.101)			
Ln(1+AMActUser$_{CBSA}$)			**0.019*****	
			(2.910)	
$\widehat{Accruals}$		**1.459****		**2.304*****
		(1.969)		**(4.161)**
Control Variables	Yes	Yes	Yes	Yes
Number of Obs	1,956	1,956	7,720	7,720
Adj. R-squared	0.031	0.464	0.031	0.535

Panel C: Implied Cost of Equity Capital and Firm-level Integrity Measures				
	Accruals	*ICOC$_{Avg}$*	*Accruals*	*ICOC$_{Avg}$*
	First	Second	First	Second
Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment)	**0.004****			
	(1.978)			
Ln(1+AMActUser)			**0.008****	
			(1.981)	
$\widehat{Accruals}$		**0.390*****		**0.064*****
		(9.715)		**(2.636)**
Control Variables	Yes	Yes	Yes	Yes
Number of Obs	4,721	4,721	15,260	15,260
Adj. R-squared	0.035	0.159	0.058	0.038

Panel C: Implied Cost of Equity Capital and CBSA-level Integrity Measures				
	Accruals	*ICOC$_{Avg}$*	*Accruals*	*ICOC$_{Avg}$*
	First	Second	First	Second
Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment)	**0.040*****			
	(3.004)			
Ln(1+AMActUser)			**0.002****	
			(2.213)	
$\widehat{Accruals}$		**0.215*****		**0.428*****
		(3.606)		**(2.654)**
Control Variables	Yes	Yes	Yes	Yes
Number of Obs	4,776	4,776	17,977	17,977
Adj. R-squared	0.033	0.091	0.021	0.037

Table 9: Economic Mechanism – Excessive Risk Taking

This table reports the results for the excessive risk taking channel. Panel A and Panel B presents the results of the two-step analysis for the bank loan sample. Column 1 and 3 report the results for the first step regressions of risk taking measured by *Distance-to-Default* on integrity measures. Column 2 and 4 report the results for the second step regression of bank loan spread (*Ln(Loan Spread)*) on *Distance-to-Default* predicted from the first step. Panel C and Panel D presents the results of the two-step analysis for cost of equity sample. Column 1 and 3 report the results for the first step regressions of risk taking measured by *Distance-to-Default* on integrity measures. Column 2 and 4 report the results for the second step regression of the implied cost of equity capital ($ICOC_{Avg}$) on *Distance-to-Default* predicted from the first step. We control for firm and year fixed effects in all regressions. Standard errors are robust standard errors. *t*-statistics are presented in parentheses. *, **, and *** indicates statistical significance at the 10%, 5%, and 1% level, respectively. The variables are defined in Appendix A. The sample period is between 2002 and 2015 (The Glassdoor variables are only available from 2008).

Panel A: Bank Loan Spread and Firm-level Integrity Measures				
	Distance-to-Default	*Ln(Loan Spread)*	*Distance-to-Default*	*Ln(Loan Spread)*
	First	Second	First	Second
Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment)	**-0.578****			
	(-2.103)			
Ln(1+AMActUser)			**-0.342****	
			(-2.221)	
$\widehat{Distance-to-Default}$		**-0.038****		**-0.270*****
		(-2.381)		**(-5.579)**
Ln(Asset)	1.341**	-0.170**	0.396	-0.025
	(2.138)	(-2.528)	(1.315)	(-0.662)
Market-to-Book	4.182***	0.016	1.821***	0.443***
	(8.666)	(0.184)	(4.566)	(4.912)
Return on Asset	-0.545	-0.699**	2.906	-0.225
	(-0.147)	(-2.343)	(1.358)	(-0.968)
Leverage	-11.479***	0.040	-8.609***	-1.890***
	(-7.037)	(0.149)	(-7.834)	(-4.505)
Asset Tangibility	2.170	0.007	-4.048***	-1.509***
	(1.003)	(0.027)	(-2.886)	(-5.839)
Ln(Loan Size)	-0.072	-0.056***	-0.238**	-0.122***
	(-0.556)	(-3.754)	(-2.454)	(-7.398)
Maturity	0.018***	-0.000	0.014***	0.002**
	(2.963)	(-0.344)	(3.135)	(2.000)
Cash Flow Volatility	-16.137	0.007	-46.283***	-12.868***
	(-0.731)	(0.003)	(-3.569)	(-4.691)
Z-Score	0.627**	0.023	0.052	0.003
	(2.259)	(1.004)	(0.377)	(0.359)
Performance Pricing	-0.060	0.001	-0.026	0.002
	(-0.302)	(0.068)	(-0.195)	(0.110)
Ln(Employee)	-0.528	0.098*	-0.469*	-0.143***
	(-1.008)	(1.690)	(-1.869)	(-3.714)
Ln(1+TotComment)	0.538***	-0.049***		
	(3.032)	(-2.829)		
GD_Rate	-0.066	-0.001		
	(-0.385)	(-0.062)		
Loan Type	Yes	Yes	Yes	Yes
Loan Purpose	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Number of Obs	2,120	2,120	5,807	5,807
Adj. R-squared	0.478	0.427	0.290	0.569

Table 9: Economic Mechanism – Excessive Risk Taking - Continued

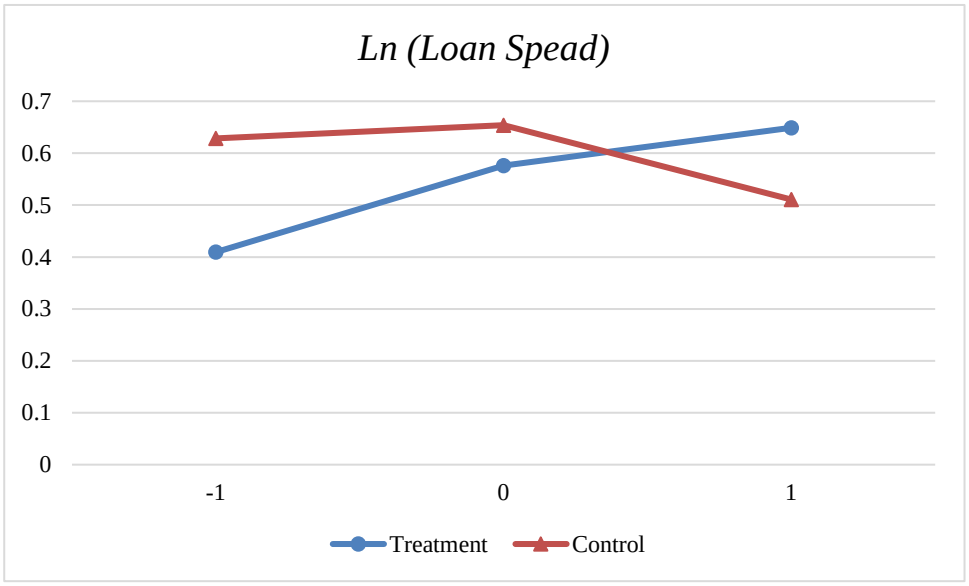
Panel B: Bank Loan Spread and CBSA-level Integrity Measures				
	Distance-to-Default	*Ln(Loan Spread)*	*Distance-to-Default*	*Ln(Loan Spread)*
	First	Second	First	Second
Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment$_{CBSA}$)	-0.744**			
	(-2.250)			
Ln(1+AMActUser$_{CBSA}$)			-0.662***	
			(-3.395)	
$Distance\widehat{-to}-Default$		-0.055***		-0.056***
		(-3.719)		(-3.192)
Control Variables	Yes	Yes	Yes	Yes
Number of Obs	2,018	2,018	6,400	6,400
Adj. R-squared	0.396	0.400	0.210	0.556

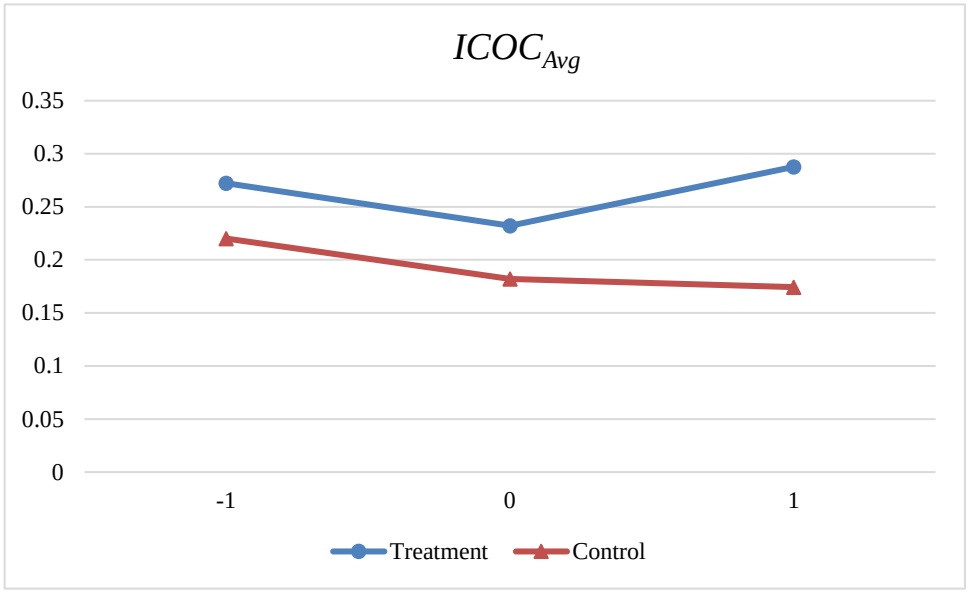
Panel C: Implied Cost of Equity Capital and Firm-level Integrity Measures				
	Distance-to-Default	*ICOC$_{Avg}$*	*Distance-to-Default*	*ICOC$_{Avg}$*
	First	Second	First	Second
Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment)	**-0.511*** **			
	(-3.073)			
Ln(1+AMActUser)			**-0.557*** **	
			(-4.761)	
$Distance\widehat{-to}-Default$		**-0.005*** **		**-0.006*** **
		(-3.251)		**(-2.935)**
Control Variables	Yes	Yes	Yes	Yes
Number of Obs	4,708	4,708	13,232	13,232
Adj. R-squared	0.421	0.136	0.363	0.106

Panel D: Implied Cost of Equity Capital and CBSA-level Integrity Measures				
	Distance-to-Default	*ICOC$_{Avg}$*	*Distance-to-Default*	*ICOC$_{Avg}$*
	First	Second	First	Second
Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment$_{CBSA}$)	-0.306*			
	(-1.654)			
Ln(1+AMActUser$_{CBSA}$)			-0.482***	
			(-4.121)	
$Distance\widehat{-to}-Default$		-0.015***		-0.006**
		(-2.606)		(-2.397)
Control Variables	Yes	Yes	Yes	Yes
Number of Obs	4,236	4,236	16,144	16,144
Adj. R-squared	0.361	0.117	0.310	0.061

Figure 1. Bank Loan Spread and Implied Cost of Equity Capital surrounding the Massachusetts' Alimony Reform Law

The first figure shows the average bank loan spread measured by *Ln(Loan Spread)* for treatment and control firms, from the year before the reform law to the year after reform law. The second figure shows the average cost of equity measured by $ICOC_{Avg}$ for treatment and control firms, from the year before the reform law to the year after the reform law. The reform law year is denoted as year 0.





Appendix A: Variable Definitions

Variable	Definition	Source
Ln(1+NegComment)	Natural logarithm of one plus *NegComment*. *NegComment* is the number of employees' negative comments regarding the integrity of the firm in a fiscal year.	Glassdoor
Ln(1+AMActUser)	Natural logarithm of one plus *AMActUser*. *AMActUser* is the number of active users who have registered for the Ashley Madison (AM) service from a firm in a fiscal year.	Ashley Madison
Ln(1+NegComment$_{CBSA}$)	Natural logarithm of one plus *NegComment$_{CBSA}$*. *NegComment$_{CBSA}$* is the number of employees' negative comments regarding integrity of the firms within the same core-based statistical area (CBSA) in a fiscal year.	Glassdoor
Ln(1+ AMActUser$_{CBSA}$)	Natural logarithm of one plus *AMActUser$_{CBSA}$* . *AMActUser$_{CBSA}$* is the number of active users who have registered for the AM service within the same CBSA in a fiscal year.	Ashley Madison
Ln(1+ AMUser)	Natural logarithm of one plus *AMUser*. *AMUser* is the number of AM users from a firm in a fiscal year.	Ashley Madison
Ln(1+AMNewUser)	Natural logarithm of one plus *AMNewUser*. *AMNewUser* is the number of new AM users from a firm in a fiscal year.	Ashley Madison
Ln(1+AMUser$_{CBSA}$)	Natural logarithm of one plus *AMUser$_{CBSA}$*. *AMUser$_{CBSA}$* is the number of AM users within the same CBSA in a fiscal year.	Ashley Madison
Ln(1+AMNewUser$_{CBSA}$)	Natural logarithm of one plus *AMNewUser$_{CBS}$*. *AMNewUser$_{CBS}$* is the number of new AM users within the same CBSA in a fiscal year.	Ashley Madison
Loan Spread	All-in-drawn spread. The spread over the London Interbank Offered Rate (LIBOR) (or LIBOR equivalent) on a loan plus associated loan origination fees. In percentage.	DealScan
Ln(Loan Spread)	Natural logarithm of the all-in-drawn spread.	DealScan
Ln(Asset)	Natural logarithm of total assets (*AT*).	Compustat
Market-to-Book	Market value of assets (*PRCC_F*×*CSHO* –*CEQ*+*AT*) over the book value of total assets (*AT*).	Compustat
Return on Asset	Operating income before depreciation (*OIBDP*) over book value of total assets (*AT*).	Compustat
Leverage	Leverage ratio is calculated as the sum of long-term debt (*DLTT*) and debt in current liabilities (*DLC*) divided by total assets (*AT*).	Compustat
Asset Tangibility	Net property, plant and equipment (*PPENT*) divided by total assets (*AT*).	Compustat
Cash Flow Volatility	The standard deviation of operating income before depreciation (*OIBDP*) divided by total assets (*AT)* over the 20 quarters before the quarter containing the loan origination date.	Compustat
Ln(Loan Size)	Natural logarithm of loan (facility) amount.	DealScan
Maturity	Loan maturity measured in months.	
Z-Score	Altman's (1968) Z-Score =1.2×(*WCAP/AT*)+1.4×(*RE/AT*) +3.3×(*OIADP/AT*)+0.6×(*PRCC_F*×*CSHO/LT*)+0.999×(*SALE/AT*).	Compustat
Performance pricing	Dummy variable that equals one if the loan uses performance pricing.	DealScan

Ln(Employee)	Natural logarithm of the actual number of people (in thousand) employed by the company and its consolidated subsidiaries.	Compustat
Ln(1+TotComment)	Natural logarithm of one plus *TotCom*. *TotCom* is the total number of employees' comments on a firm in a fiscal year.	Glassdoor
GD_Rate	Average employor star rating obtained from Glassdoor ratings and reviews during the fiscal year.	Glassdoor
Ln(1+ TotComment$_{CBSA}$)	Natural logarithm of one plus *TotComment$_{CBSA}$*. *TotComment$_{CBSA}$* is the total number of employees' comments on the firms within the same CBSA in a fiscal year.	Glassdoor
GD_Rate_CBSA	Average employor star rating obtained from Glassdoor ratings and reviews within the same CBSA during the fiscal year.	Glassdoor
ICOC$_{GLS}$	Implied cost of equity capital measure following the methodology outlined in Gebhardt, Lee, and Swaminathan (2001).	IBES, CRSP
ICOC$_{CT}$	Implied cost of equity capital measure following the methodology outlined in Claus and Thomas (2001).	IBES, CRSP
ICOC$_{Easton}$	Implied cost of equity measure following the methodology outlined in Easton (2004).	IBES, CRSP
ICOC$_{OJ}$	Implied cost of equity capital measure following the methodology outlined in Ohlson and Juettner-Nauroth (2005).	IBES, CRSP
ICOC$_{Avg}$	Mean of the four implied cost of equity capital measures following the methodologies outlined in Gebhardt, Lee, and Swaminathan (2001), Claus and Thomas (2001), Easton (2004), and Ohlson and Juettner-Nauroth (2005).	IBES, CRSP
Market Beta	Estimated by regressing daily stock returns on the CRSP value-weighted daily market returns over a fiscal year.	CRSP
Idiosyncratic Risk	Annualized standard deviation of the residuals from the regression of daily stock returns on the CRSP value-weighted daily market returns over a fiscal year.	CRSP
Ln(Market Capitalization)	Natural logarithm of market capitalization, maket capitalization is calculated as stock price (*PRCC_F*) multiplied by the number of shares outstanding (*CSHO*).	Compustat
Book-to-Market	Book value of equity (*CEQ*) divided by the market capitalization.	Compustat
Momentum	Annual stock returns over a fiscal year.	CRSP
Long-term Growth Rate	Median value of analyst forecasts of the long-term earnings growth rate.	IBES
Analyst Forecast Dispersion	Standard deviation of analysts forecasts for the next period's earnings within 90 days before earnings announcements divided by the consensus forecast for the next period's earnings	IBES
Accruals	Absolute level of accrual-based earnings management is calculated as the absolute value of the residual from the following cross-section regressions for each year and Fama-French 48 industry: $\frac{IB_{i,t}-OANCF_{i,t}}{AT_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{AT_{i,t-1}} + \beta_2 \frac{\Delta Sale_{i,t}}{AT_{i,t-1}} + \beta_3 \frac{PPEGT_{i,t}}{AT_{i,t-1}} + \varepsilon_{i,t}$.	Compustat
Distance-to-Default	Distance to default is calculated following Bharath and Shumway (2008).	CRSP, Compustat
$R_{1,1}$	Stock return over the month *t*-1.	CRSP

$R_{12,2}$	Stock return over the prior 12-month period excluding month t-1.	CRSP

Table A2

Baseline regressions - Alternative AM integrity measures

Panel A presents results for ordinary least squares (OLS) regressions of bank loan spread on alternative AM integrity measures. The dependent variable is the bank loan spread (*Ln(Loan Spread)*). Columns 1 and 2 reports the results of regressions with *Ln(1+ AMUser)* and *Ln(1+ AMNewUser)* as alternative AM integrity measures at firm level, respectively. Columns 3 and 4 reports the results of regressions with $Ln(1+ AMUser_{CBSA})$ and $Ln(1+ AMNewUser_{CBSA})$ as alternative AM integrity measures at CBSA level, respectively. We control for loan type, loan purpose, firm fixed effects, and year fixed effects in all regressions. In Panel B, the dependent variable is the implied cost of equity calculated by taking the mean of the four cost of equity measures following the methodologies outlined in Gebhardt, Lee, and Swaminathan (2001), Claus and Thomas (2001), Easton (2004), and Ohlson and Juettner-Nauroth (2005). Columns 1 and 2 reports the results of regressions with *Ln(1+ AMUser)* and *Ln(1+ AMNewUser)* as alternative AM integrity measures at firm level, respectively. Columns 3 and 4 reports the results of regressions with $Ln(1+AMUser_{CBSA})$ and $Ln(1+AMNewUser_{CBSA})$ as alternative AM integrity measures at CBSA level, respectively. We control for firm and year fixed effects in all regressions. See Table A1 for definitions of all variables. Standard errors are clustered at the firm level. T-statistics are presented in parentheses. *, **, and *** indicates statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A: Bank loan spread

	Dependent Variable: *Ln(Loan Spread)*			
Variable	(1)	(2)	(3)	(4)
Ln(1+ AMUser)	0.095***			
	(6.712)			
Ln(1+ AMNewUser)		0.071***		
		(4.938)		
Ln(1+ AMUser$_{CBSA}$)			0.032***	
			(3.509)	
Ln(1+ AMNewUser$_{CBSA}$)				0.031***
				(3.097)
Ln(Asset)	-0.086***	-0.089***	-0.135***	-0.134***
	(-3.081)	(-3.202)	(-6.664)	(-6.600)
Market-to-Book	-0.034*	-0.038**	-0.045**	-0.044**
	(-1.820)	(-1.977)	(-2.479)	(-2.435)
Return on Asset	-1.079***	-1.067***	-1.061***	-1.066***
	(-6.856)	(-6.835)	(-7.032)	(-7.068)
Leverage	0.497***	0.521***	0.521***	0.523***
	(6.466)	(6.724)	(7.440)	(7.482)
Asset Tangibility	-0.435***	-0.456***	-0.361***	-0.362***
	(-3.347)	(-3.527)	(-3.132)	(-3.145)
Ln(Loan Size)	-0.046***	-0.045***	-0.053***	-0.053***
	(-4.614)	(-4.509)	(-4.679)	(-4.658)
Maturity	-0.001**	-0.001**	-0.002***	-0.002***
	(-2.022)	(-2.205)	(-3.842)	(-3.817)
Cash Flow Volatility	-0.114	-0.114	-1.164	-1.212
	(-0.101)	(-0.098)	(-1.217)	(-1.267)
Z-Score	-0.004	-0.004	-0.004	-0.004
	(-0.653)	(-0.530)	(-0.672)	(-0.669)
Performance Pricing	-0.001	0.002	0.000	-0.000
	(-0.111)	(0.164)	(0.001)	(-0.013)
Ln(Employee)	-0.025	-0.033		
	(-1.051)	(-1.360)		
Ln(Population)			-0.201**	-0.196**
			(-2.559)	(-2.507)
Loan Type	Yes	Yes	Yes	Yes
Loan Purpose	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Number of Obs	7,663	7,663	8,030	8,030
Adj. R-squared	0.539	0.534	0.536	0.535

Panel B: $ICOC_{Avg}$

	Dependent Variable: $ICOC_{Avg}$			
Variable	(1)	(2)	(3)	(4)
Ln(1+ AMUser)	0.003**			
	(2.322)			
Ln(1+ AMNewUser)		0.003***		
		(2.809)		
Ln(1+ $AMUser_{CBSA}$)			0.002***	
			(7.334)	
Ln(1+ $AMNewUser_{CBSA}$)				0.002***
				(7.126)
Market Beta	0.003	0.002	0.002	0.001
	(1.167)	(1.125)	(1.208)	(1.162)
Idiosyncratic Risk	0.028***	0.028***	0.021***	0.020***
	(3.164)	(3.201)	(4.849)	(4.678)
Ln(Market Capitalization)	-0.014***	-0.014***	-0.008***	-0.007***
	(-5.152)	(-5.146)	(-4.488)	(-4.347)
Book-to-Market	-0.006	-0.006	0.000	0.000
	(-1.327)	(-1.340)	(0.069)	(0.156)
Leverage	0.030***	0.031***	0.030***	0.030***
	(3.517)	(3.545)	(5.811)	(5.939)
Momentum	-0.002	-0.002	-0.003**	-0.003***
	(-0.962)	(-0.964)	(-2.562)	(-2.640)
Return on Asset	-0.020	-0.019	-0.008	-0.008
	(-1.366)	(-1.358)	(-0.854)	(-0.923)
Long-term Growth Rate	0.003*	0.003*	1.230***	1.192***
	(1.928)	(1.909)	(23.138)	(22.237)
Analyst Forecast Dispersion	-0.000	-0.000	-0.000	-0.000
	(-0.425)	(-0.437)	(-1.197)	(-1.198)
Ln(Employee)	0.010***	0.010***		
	(3.410)	(3.351)		
Ln(Population)			-0.004	0.002
			(-0.311)	(0.159)
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Number of Obs	17,145	17,145	18,701	18,701
Adj. R-squared	0.057	0.057	0.094	0.093

Table A3

Baseline regressions - Alternative cost of equity measures

Panel A to Panel D presents results for ordinary least squares (OLS) regressions of implied cost of equity on integrity measures. In Panel A, the dependent variable is the implied cost of equity calculated following the methodologies outlined in Gebhardt et al. (2001). In Panel B, the dependent variable is the implied cost of equity calculated following the methodologies outlined in Claus and Thomas (2001). The dependent variable in Panel C is the implied cost of equity calculated following the methodologies outlined in Easton (2004). The dependent variable in Panel D is the implied cost of equity calculated following the methodologies outlined in Ohlson and Juettner-Nauroth (2005). Columns 1 to 4 reports the results of regressions with *Ln(1+NegComment)*, *Ln(1+AMActUser)*, *Ln(1+NegComment$_{CBSA}$)* and *Ln(1+AMActUser_CBSA)* as integrity measures, respectively. We control for firm and year fixed effects in all regressions. See Table A1 for definitions of all variables. Standard errors are clustered at the firm level. T-statistics are presented in parentheses. *, **, and *** indicates statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A: $ICOC_{GLS}$

	Dependent Variable: $ICOC_{GLS}$			
Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment)	0.002*			
	(1.952)			
Ln(1+AMActUser)		0.004***		
		(3.620)		
Ln(1+NegComment$_{CBSA}$)			0.003**	
			(2.387)	
Ln(1+AMActUser$_{CBSA}$)				0.001**
				(2.294)
Market Beta	0.002	0.001	0.002	0.008***
	(0.771)	(0.531)	(1.208)	(5.542)
Idiosyncratic Risk	0.017*	0.036***	0.003	0.002
	(1.823)	(4.020)	(0.560)	(0.440)
Ln(Market Capitalization)	-0.016***	-0.015***	-0.009***	-0.006***
	(-5.320)	(-5.494)	(-4.856)	(-3.560)
Book-to-Market	0.007	0.000	0.024***	0.010**
	(1.137)	(0.042)	(5.182)	(2.575)
Leverage	0.023**	0.014	0.027***	0.020***
	(2.089)	(1.481)	(3.407)	(3.079)
Momentum	0.002	0.000	0.004***	0.004***
	(1.174)	(0.220)	(2.866)	(3.311)
Return on Asset	0.010	-0.006	0.027**	-0.032***
	(0.747)	(-0.498)	(2.411)	(-3.603)
Long-term Growth Rate	-0.000	-0.000	0.003**	-0.022***
	(-0.008)	(-0.018)	(2.099)	(-3.279)
Analyst Forecast Dispersion	0.000***	0.000	0.000***	0.000
	(3.140)	(0.664)	(3.527)	(0.640)
Ln(Employee)	0.009**	0.008***		
	(2.224)	(2.872)		
Ln(1+TotComment)	-0.003**			
	(-2.178)			
GD_Rate	0.001			
	(0.895)			
Ln(1+TotComment$_{CBSA}$)			-0.007***	
			(-3.954)	
GD_Rate_CBSA			0.002	
			(0.977)	
Ln(Population)			-0.009	0.030**
			(-0.439)	(2.527)
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Number of Obs	6,030	18,008	5,393	19,411
Adj. R-squared	0.060	0.033	0.072	0.024

Panel B: $ICOC_{CT}$

	Dependent Variable: $ICOC_{CT}$			
Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment)	0.005***			
	(4.062)			
Ln(1+AMActUser)		0.002*		
		(1.753)		
Ln(1+NegComment$_{CBSA}$)			0.004***	
			(2.588)	
Ln(1+AMActUser$_{CBSA}$)				0.002***
				(8.999)
Market Beta	0.013***	0.001	0.006***	-0.001
	(4.447)	(0.303)	(2.684)	(-0.988)
Idiosyncratic Risk	-0.025***	0.032***	-0.010	0.030***
	(-2.701)	(3.151)	(-1.310)	(7.288)
Ln(Market Capitalization)	-0.018***	-0.017***	-0.005***	-0.004**
	(-6.201)	(-5.436)	(-2.638)	(-2.537)
Book-to-Market	-0.009*	-0.012**	0.005	-0.001
	(-1.684)	(-2.183)	(1.321)	(-0.420)
Leverage	0.002	0.009	0.022***	0.022***
	(0.199)	(0.858)	(3.302)	(4.728)
Momentum	0.001	-0.002	-0.005***	-0.006***
	(0.616)	(-0.785)	(-2.647)	(-5.971)
Return on Asset	0.012	0.001	0.019	0.003
	(0.961)	(0.092)	(1.588)	(0.354)
Long-term Growth Rate	0.016***	0.009***	0.055***	0.122***
	(3.643)	(4.282)	(7.028)	(19.988)
Analyst Forecast Dispersion	0.000	0.000***	-0.000	0.000*
	(0.206)	(3.041)	(-0.043)	(1.926)
Ln(Employee)	0.017***	0.013***		
	(4.932)	(3.874)		
Ln(1+TotComment)	-0.011***			
	(-9.614)			
GD_Rate	0.000			
	(0.251)			
Ln(1+TotComment$_{CBSA}$)			-0.008***	
			(-3.810)	
GD_Rate_CBSA			0.001	
			(0.536)	
Ln(Population)			-0.013	0.020**
			(-0.738)	(1.990)
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Number of Obs	6,492	17,219	5,820	18,772
Adj. R-squared	0.328	0.038	0.509	0.100

Panel C: $ICOC_{Easton}$

	Dependent Variable: $ICOC_{Easton}$			
Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment)	0.002**			
	(2.197)			
Ln(1+AMActUser)		0.002**		
		(2.576)		
Ln(1+NegComment$_{CBSA}$)			0.002*	
			(1.788)	
Ln(1+AMActUser$_{CBSA}$)				0.002***
				(8.359)
Market Beta	0.007***	0.002	0.004**	0.002*
	(2.807)	(1.238)	(2.103)	(1.789)
Idiosyncratic Risk	0.018**	0.037***	0.005	0.028***
	(2.008)	(7.162)	(0.782)	(7.819)
Ln(Market Capitalization)	-0.015***	-0.006***	-0.009***	-0.004***
	(-5.550)	(-3.431)	(-5.235)	(-3.584)
Book-to-Market	-0.007	-0.004	0.000	0.000
	(-1.500)	(-1.195)	(0.109)	(0.167)
Leverage	0.031***	0.026***	0.027***	0.020***
	(4.190)	(4.899)	(4.299)	(5.186)
Momentum	0.001	-0.004***	0.002	-0.001
	(0.792)	(-3.819)	(1.520)	(-1.455)
Return on Asset	-0.048***	-0.065***	-0.093***	-0.079***
	(-3.999)	(-7.858)	(-7.457)	(-10.539)
Long-term Growth Rate	-0.000	0.000	0.013*	0.016***
	(-0.016)	(1.176)	(1.895)	(3.257)
Analyst Forecast Dispersion	0.002	0.008***	-0.000	0.006**
	(0.512)	(2.909)	(-0.166)	(2.058)
Ln(Employee)	0.015***	0.006***		
	(4.329)	(2.768)		
Ln(1+TotComment)	-0.001			
	(-1.336)			
GD_Rate	-0.001			
	(-0.960)			
Ln(1+TotComment$_{CBSA}$)			-0.007***	
			(-4.546)	
GD_Rate_CBSA			0.002	
			(1.076)	
Ln(Population)			-0.016	0.027***
			(-0.842)	(2.875)
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Number of Obs	5,025	14,940	5,143	16,546
Adj. R-squared	0.139	0.130	0.112	0.098

Panel D: $ICOC_{OJ}$

	Dependent Variable: $ICOC_{OJ}$			
Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment)	0.004**			
	(2.108)			
Ln(1+AMActUser)		0.007***		
		(2.587)		
Ln(1+NegComment$_{CBSA}$)			0.006*	
			(1.915)	
Ln(1+AMActUser$_{CBSA}$)				0.002***
				(3.065)
Market Beta	-0.005	-0.008***	-0.018***	-0.006**
	(-0.809)	(-2.699)	(-3.510)	(-2.284)
Idiosyncratic Risk	-0.040**	-0.014	0.052***	0.011
	(-2.150)	(-1.232)	(4.055)	(1.323)
Ln(Market Capitalization)	-0.034***	-0.026***	-0.019***	-0.029***
	(-5.485)	(-5.860)	(-3.844)	(-8.184)
Book-to-Market	0.004	-0.011*	-0.006	-0.029***
	(0.366)	(-1.663)	(-0.542)	(-4.524)
Leverage	0.063**	0.057***	0.044**	0.023**
	(2.510)	(4.323)	(1.982)	(2.053)
Momentum	0.009**	-0.001	0.004	-0.016***
	(2.252)	(-0.458)	(1.087)	(-7.983)
Return on Asset	-0.031	-0.016	-0.067**	0.003
	(-1.114)	(-0.923)	(-2.465)	(0.167)
Long-term Growth Rate	0.039***	0.001	0.084***	0.064***
	(6.216)	(0.508)	(4.496)	(4.926)
Analyst Forecast Dispersion	0.020*	0.026***	0.041***	0.026***
	(1.792)	(4.615)	(2.796)	(5.394)
Ln(Employee)	0.041***	0.018***		
	(4.525)	(3.227)		
Ln(1+TotComment)	-0.002			
	(-0.709)			
GD_Rate	-0.000			
	(-0.130)			
Ln(1+TotComment$_{CBSA}$)			-0.026***	
			(-7.996)	
GD_Rate_CBSA			-0.010**	
			(-1.967)	
Ln(Population)			0.007	-0.466***
			(0.140)	(-14.597)
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Number of Obs	4,466	12,964	4,029	17,288
Adj. R-squared	0.316	0.400	0.250	0.123

Table A4

Other specifications in difference-in-difference regression using Alimony Reform Law in Massachusetts

This table reports the results for difference-in-difference regressions around the divorce law (in terms of spouse' support) change in Massachusetts in 2011. *Treatment* is a dummy variable that equals one if the firm is located in Massachusetts and zero otherwise. *Post* is a dummy which equals one if it is pre-event year and equals zero if it is post-event year. Panel A and Panel B report the difference-in-difference regressions results for the full sample of bank loan and cost of equity respectively. Panel C reports the difference-in-difference regressions results for the propensity score matching sample of cost of equity. Column (1) reports the results for the sample with one year before (fiscal year=2010) and one year after (fiscal year=2013) the law change. Column (2) shows the results for the sample with two years before (fiscal year=2009&2010) and two years after (fiscal year=2013&2014) the law change. Column (3) presents the results for the sample with three years before (fiscal year=2008&2009&2010) and three years after (fiscal year=2013&2014&2015) the law change. Column (4) adds a *Pseudo Post* variable in which we use 2010 as a pseudo-event and the interaction term between *Treatment* and *Pseudo Post*. Column (5) adds the *Pseudo Post* variable in which we use 2009 as a pseudo-event and the interaction term between *Treatment* and *Pseudo Post*. We control for loan type and loan purpose in all bank loan regressions. See Table A1 for definitions of all variables. Standard errors are robust standard errors. T-statistics are presented in parentheses. *, **, and *** indicates statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A: DID regression for bank loan – full sample

	Dependent Variable: *Ln(Loan Spread)*				
Variable	(1)	(2)	(3)	(4)	(5)
*Treatment*Post*	0.127*	0.131**	0.134**	0.170***	0.155***
	(1.719)	(2.145)	(2.138)	(2.768)	(2.605)
Treatment	-0.162***	-0.153***	-0.130**	-0.044	-0.014
	(-3.245)	(-3.107)	(-2.516)	(-0.571)	(-0.096)
Post	-0.095***	-0.181***	-0.222***	-0.102***	-0.191***
	(-5.897)	(-13.638)	(-16.818)	(-7.247)	(-14.632)
*Treatment*Pseudo Post*				-0.124	-0.139
				(-1.344)	(-0.880)
Pseudo Post				-0.282***	-0.248***
				(-14.618)	(-8.858)
Ln(Asset)	-0.109***	-0.108***	-0.105***	-0.099***	-0.106***
	(-9.203)	(-12.028)	(-12.736)	(-12.393)	(-13.142)
Market-to-Book	-0.055***	-0.062***	-0.080***	-0.069***	-0.072***
	(-3.807)	(-5.730)	(-7.843)	(-6.933)	(-7.105)
Return on Asset	-0.697***	-0.399**	-0.342***	-0.353***	-0.381***
	(-4.647)	(-2.352)	(-2.783)	(-2.823)	(-2.854)
Leverage	0.461***	0.400***	0.433***	0.402***	0.412***
	(7.327)	(7.713)	(9.417)	(8.931)	(8.816)
Asset Tangibility	-0.015	-0.053*	-0.072***	-0.083***	-0.078***
	(-0.410)	(-1.860)	(-2.618)	(-3.084)	(-2.850)
Ln(Loan Size)	-0.022	-0.021*	-0.021**	-0.014	-0.012
	(-1.587)	(-1.940)	(-2.173)	(-1.506)	(-1.243)
Maturity	0.002	-0.000	-0.001**	0.000	-0.001
	(1.397)	(-0.417)	(-2.214)	(0.743)	(-0.950)
Cash Flow Volatility	4.148***	4.091***	4.667***	4.310***	4.381***
	(5.738)	(7.317)	(8.995)	(8.517)	(8.450)
Z-Score	-0.020***	-0.029***	-0.026***	-0.025***	-0.027***
	(-3.145)	(-5.506)	(-5.519)	(-5.403)	(-5.592)
Ln(Employee)	-0.005	-0.003	0.004	0.001	0.003
	(-0.641)	(-0.614)	(0.801)	(0.228)	(0.629)
Performance Pricing	-0.018	0.002	0.009	-0.021*	-0.003
	(-1.026)	(0.186)	(0.721)	(-1.687)	(-0.206)
Loan Type	Yes	Yes	Yes	Yes	Yes
Loan Purpose	Yes	Yes	Yes	Yes	Yes
Number of Obs	1,462	2,595	3,168	3,168	3,168
Adj. R-squared	0.577	0.558	0.530	0.565	0.547

Panel B: DID regression for cost of equity – full sample

	Dependent Variable: $ICOC_{Avg}$				
Variable	(1)	(2)	(3)	(4)	(5)
*Treatment*Post*	0.028**	0.035***	0.027***	0.031***	0.031***
	(2.110)	(3.129)	(2.796)	(2.907)	(3.213)
Treatment	-0.025***	-0.022***	-0.036***	-0.043***	-0.037***
	(-8.001)	(-8.947)	(-16.716)	(-15.136)	(-16.022)
Post	-0.031***	-0.033***	-0.028***	-0.027***	-0.018
	(-3.886)	(-4.806)	(-4.326)	(-2.962)	(-1.117)
*Treatment*Pseudo Post*				-0.004	-0.014
				(-0.364)	(-0.844)
Pseudo Post				0.014***	0.003
				(3.850)	(0.808)
Market Beta	-0.010*	-0.007**	-0.001	-0.003	-0.001
	(-1.888)	(-1.987)	(-0.356)	(-1.029)	(-0.415)
Idiosyncratic Risk	0.096***	0.058***	0.029***	0.043***	0.030***
	(4.301)	(4.568)	(2.884)	(3.857)	(2.950)
Ln(Market Capitalization)	-0.002	-0.001	-0.004***	-0.003***	-0.004***
	(-1.073)	(-0.828)	(-3.168)	(-2.667)	(-3.141)
Book-to-Market	0.018**	0.021***	0.010**	0.010**	0.010**
	(2.121)	(3.703)	(2.463)	(2.553)	(2.466)
Leverage	0.072***	0.082***	0.063***	0.063***	0.064***
	(6.709)	(11.144)	(10.383)	(10.348)	(10.409)
Momentum	-0.010**	-0.006*	0.004*	0.003	0.004
	(-2.148)	(-1.866)	(1.659)	(1.288)	(1.353)
Return on Asset	-0.148***	-0.106***	-0.082***	-0.080***	-0.081***
	(-4.793)	(-4.929)	(-5.263)	(-5.174)	(-5.208)
Long-term Growth Rate	0.016	0.005	-0.006	-0.006	-0.006
	(1.431)	(0.612)	(-0.875)	(-0.808)	(-0.830)
Analyst Forecast Dispersion	0.005	0.000	-0.001	-0.002	-0.001
	(1.135)	(0.050)	(-0.570)	(-0.668)	(-0.581)
Ln(Employee)	0.002	-0.001	-0.001	-0.001	-0.001
	(1.208)	(-0.679)	(-0.676)	(-0.522)	(-0.685)
Number of Obs	3,074	5,977	8,286	8,286	8,286
Adj. R-squared	0.137	0.114	0.119	0.121	0.119

Panel C: DID regression for cost of equity – Propensity score matching

	Dependent Variable: $ICOC_{Avg}$		
Variable	(1)	(2)	(3)
*Treatment*Post*	0.019*	0.023***	0.021***
	(1.852)	(2.645)	(2.725)
Treatment	-0.030***	-0.022***	-0.032***
	(-3.362)	(-3.382)	(-5.894)
Post	-0.031***	-0.027***	-0.025***
	(-2.970)	(-3.993)	(-4.558)
Market Beta	0.022***	0.007	0.012**
	(3.592)	(1.147)	(2.149)
Idiosyncratic Risk	-0.049*	-0.016	-0.049***
	(-1.903)	(-1.044)	(-2.723)
Ln(Market Capitalization)	0.001	-0.008	-0.007
	(0.520)	(-1.539)	(-1.629)
Book-to-Market	0.074***	0.016	0.021
	(4.175)	(0.648)	(0.995)
Leverage	0.004	0.055***	0.009
	(0.154)	(2.718)	(0.431)
Momentum	-0.011*	-0.018***	-0.012**
	(-1.672)	(-3.566)	(-2.447)
Return on Asset	-0.068	-0.005	-0.095
	(-1.518)	(-0.151)	(-1.535)
Long-term Growth Rate	0.019***	0.017***	0.020**
	(3.295)	(2.635)	(2.571)
Analyst Forecast Dispersion	0.004	0.006	0.007
	(0.491)	(0.699)	(0.864)
Ln(Employee)	0.002	0.005*	0.006**
	(1.093)	(1.708)	(2.123)
Number of Obs	496	984	1,248
Adj. R-squared	0.206	0.081	0.124

Table A5

Stock return analysis – additional controls

This table reports average Fama-MacBeth regression slopes and their corresponding t-statistics from cross sectional regressions of firms' monthly returns on integrity measures, i.e., *Ln(1+NegComment)*, *Ln(1+AMActUser)*, *Ln(1+NegComment$_{CBSA}$)* and *Ln(1+AMActUser_CBSA)*, by adding additional control variables included in Table 3 Panel B. See Table A1 for definitions of all variables. *, **, and *** indicates statistical significance at the 10%, 5%, and 1% level, respectively.

Variable	(1)	(2)	(3)	(4)
Ln(1+NegComment)	0.009***			
	(3.000)			
Ln(1+AMActUser)		0.004**		
		(2.139)		
Ln(1+NegComment$_{CBSA}$)			0.010***	
			(3.392)	
Ln(1+AMActUser$_{CBSA}$)				0.004***
				(2.814)
Ln(Book-to-Market)	0.006	0.000	0.007	0.002*
	(0.336)	(0.382)	(0.375)	(1.691)
Ln(Market Capitalization)	0.000	-0.002***	0	-0.001***
	(-0.624)	(-2.809)	(-0.779)	(-2.670)
$R_{1,1}$	-0.015**	-0.028***	-0.019***	-0.025***
	(-2.305)	(-5.911)	(-2.979)	(-5.030)
$R_{12,2}$	0.001	0.026	0.003	-0.028
	(0.559)	(1.176)	(1.051)	(-0.926)
Market Beta	0.001	0.000	0.001	-0.002
	(0.289)	(0.078)	(0.563)	(-0.936)
Idiosyncratic Risk	-0.025***	-0.011***	-0.010*	-0.002
	(-4.716)	(-2.703)	(-1.959)	(-0.498)
Leverage	-0.001	-0.005	-0.001	0.002
	(-0.358)	(-1.312)	(-0.242)	(0.576)
Return on Asset	0.024***	0.014***	0.012***	0.011*
	(7.027)	(4.818)	(3.576)	(1.928)
Ln(Employee)	0.000	0.001**		
	(0.568)	(2.116)		
Ln(1+TotComment)	0.000			
	(0.571)			
GD_Rate	0.000			
	(-0.591)			
Ln(1+TotComment$_{CBSA}$)			0.000	
			(-0.197)	
GD_Rate_CBSA			0.000	
			(-0.251)	
Ln(Population)			0.000	0.000
			(-0.420)	(0.125)
Number of Obs	90,700	290,054	79,454	340,411
Adj. R-squared	0.071	0.066	0.066	0.052

Table A6

Cumulative abnormal returns surrounding the announcement of Alimony Reform law

This table reports the cumulative abnormal returns for both treatment and control firms in different event windows surrounding the announcement of Alimony Reform law in Massachusetts on Sep. 26, 2011. Cumulative abnormal returns are calculated as cumulative raw returns minus cumulative benchmark returns using the Fama-French (1993) 3-factor model with an estimation window of [-255, -46] trading days prior to the event date. *, **, and *** indicates statistical significance at the 10%, 5%, and 1% level, respectively.

Variables	Treatment Group		Control Group		Difference
	Mean	T-statistics	Mean	T-statistics	Mean
CAR(0, 1)	-0.710%	-1.803	-0.070%	-0.268	-0.640%***
CAR(0, 2)	-0.780%	-1.614	-0.330%	-1.020	-0.450%***
CAR(0, 3)	-1.210%	-2.183	-0.700%	-1.861	-0.510%***
CAR(0, 4)	-1.350%	-2.181	-0.790%	-1.885	-0.560%***
CAR(0, 5)	-2.070%	-3.042	-1.510%	-3.272	-0.560%***
Number of Obs	112		466		