Personal Determinants of External Finance[*]

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Abstract

We study the link between individual propensity to violate social norms and demand for finance based on two datasets – the World Values Survey and a dataset with the legal records of CEOs of U.S. publicly traded companies. We find that individuals who are more likely to violate social norms are more likely to borrow. Executives with legal records are also more likely to borrow at the personal level as well as raise external capital for their firms. The results cannot be attributed to greater risk-tolerance of non-compliant individuals. We argue that non-compliance relaxes participation constraints in capital markets by lowering the psychological costs for entering and breaking a contract.

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1. Introduction

Most financial contracts, no matter how complex, are about the exchange of resources over extended periods of time. As a result, the propensity of each party to honor the terms of the contract is an important aspect in financial markets. To internalize these non-compliance problems societies develop a set of external controls (institutions) that monitor the behavior of economic agents.[1] However, the monitoring provided by these institutions is imperfect. First of all, most financial contracts are inherently incomplete (Grossman and Hart (1986), Hart and Moore (1990)). Second, even if contracts outline well all contingencies, society exhibits limited resources to enforce the law. As a consequence, the internal controls of individuals and their tendency to comply with the existing norms in society are an important factor for finance (Guiso et al. (2013), Erhard et al. (2016)). Despite this, the empirical evidence on compliance and finance is still limited.

In this paper, we explore how individual propensity to comply with existing social norms affects demand for external finance based on two data sets – the World Values Survey (WVS) and a data set with the legal records of US CEOs. We find that individuals who are more likely to violate social norms are more likely to borrow. CEOs who have broken the law are more likely to borrow personally, as well as to raise external capital for their firms. The capital-raising results are well-pronounced for both debt- and equity-financing.

The most general explanation of our findings is that non-compliant individuals face lower costs of external financing.[2] We consider two different dimensions of these costs – monetary and psychological. Financial contracts impose explicit and implicit obligations on the issuer – for example, to deliver returns that are consistent with market expectations. On the monetary side, people who deviate from social norms could be more likely to misrepresent investment information and obtain more favorable terms on their financing contracts. On the psychological side, people who are more likely to break social norms could

[1] North (1990) defines these institutions as the "humanly devised constraints that shape human interaction" and classifies them as formal (e.g., the legal system) and informal (e.g., social norms).
[2] We rule out more trivial explanations, such as reverse causality and attitudes towards risk. We evaluate these alternative explanations in Section 5.

find it (psychologically) easier to violate both the explicit and implicit clauses of financial contracts. Consistent with the latter explanation is the idea that people's desire to be perceived as trustworthy could explain why bankruptcy-aversion continues to be strong (White (1998), Guiso et al. (2013)).

In the first part of the paper, we utilize data from the WVS to construct measures for individual propensity to break social norms for a large cross-section of individuals from 86 countries and explore how non-compliance relates to borrowing decisions. The survey contains a series of questions assessing individual willingness to claim government benefits to which they are not entitled, to avoid a fare on public transport, to cheat on taxes if they have a chance, and to accept a bribe in the course of their duties. Based on this information, we construct a non-compliance metric assessing the individual tendency to violate social norms in an economic context. The WVS also provides information on the borrowing activity of individuals over the previous year which allows us to study how self-declared attitudes towards compliance relate to borrowing decisions.

We start our analysis by exploring the demographic and institutional determinants of non-compliance. Consistent with the literature on deviant behavior, we find that younger people and men are more likely to break social norms (Farrington (1986), Steffensmeier and Streifel (1991)). Next, we show that religiosity and risk-aversion tend to restrict (but do not eliminate) deviant behavior. More sociable and happier individuals are also less likely to misbehave. Interestingly, one's propensity to violate social norms tends to be positively associated with measures of status, such as employment and income, which are particularly relevant when analyzing CEOs.

Next, we explore how individual attitudes towards norm violation relate to borrowing. We find that individuals who are more likely to violate social norms are more likely to borrow. The result is both statistically and economically significant. In all model specifications, we include demographic and regional fixed effects to control for both personal and local economic conditions. Our finding is also well pronounced across individuals with different income and risk-tolerance levels.

In the second half of the paper, we focus on the revealed preferences for norm violation of corporate executives and study how these preferences relate to their demand for external finance. In

particular, we compile a data set with legal infractions of CEOs of U.S. publicly traded firms from 1990-2012. We find that 15 percent of the corporate executives in our sample have broken the law at least once during the period, including driving under the influence of alcohol, other drug-related charges, domestic violence, sexual assault, and speeding tickets. Based on this information, we explore whether this group of executives (Non-compliant CEOs) exhibits different financial behavior relative to the rest of the sample (Compliant CEOs).

We find that Non-compliant CEOs are associated with higher personal leverage than Compliant CEOs as reflected in the size of their mortgage (in absolute terms and relative to their wealth). The result is robust to the inclusion of a wide range of personal and regional controls. Next, we show that Non-compliant CEOs raise more external finance during their tenure than Compliant CEOs; the result is well pronounced for both debt and equity financing. Non-compliant CEOs spend most of the capital they raise on capital expenditures and dividends.

To assess the relative importance of the monetary and psychological explanations of our findings, we next explore the borrowing terms of Compliant and Non-compliant CEOs. We find that the loans of Non-compliant CEOs have shorter maturities and a larger number of covenants. More importantly, Non-compliant CEOs also pay higher interest rates on their loans. We also show that the stock market and operating performance of Non-compliant CEOs is not significantly different from the performance of Compliant CEOs. In sum, the financing decisions of non-compliant executives do not benefit their firms. Their decisions also do not seem to benefit the executives personally given that the compensation of Non-compliant CEOs is not significantly different form the compensation of Compliant CEOs. Thus, our results are more consistent with the psychological explanation, suggesting that non-compliant executives are more active in capital markets because they are more comfortable entering (and breaking) financial contracts. Consistent with this idea, we also show that Non-compliant CEOs exhibit a stronger tendency violate debt covenants.

The paper contributes to our understanding of the micro-foundations of financial markets. The need for better understanding of individual borrowing decisions is strengthened by the alarming trend of

personal over-indebtedness that has contributed to the most severe financial crisis since the Great Depression (Mian and Sufi (2009), Lusardi and Tufano (2009)).[3] We show that individual propensity for compliance with social norms restricts the use of leverage. Many authors (e.g., Putnam (2000)) have expressed concern that the quality of many informal institutions in society has been deteriorating over the last few decades. Our results suggest a possible link between the erosion of certain norms in society and the overuse of leverage. This line of interpretation is related to the work of Guiso et al. (2013) who show that households' likelihood of default on mortgages even if they can afford to pay them (strategic default) is related to both pecuniary and non-pecuniary factors, such as views about fairness and morality.

Traditionally, the academic literature has been framing the capital structure discussion in terms of firm and industry characteristics. Starting with Bertrand and Schoar (2003), a growing literature in corporate finance shows that top executives person-specific managerial styles contribute to differences in firm policies across firms (Bennedsen et al. (2007), Malmendier and Nagel (2011), Kaplan et al., (2012), Benmelech and Frydman (2015)). Building on this insight, we show that one important personal trait of corporate executives – the compliance with existing social norms – affects their propensity to use external financing.

Our findings indicate a complex relation between institutional quality and finance. The predominant understanding among economists has been that compliance with social norms promotes contracting and economic exchange.[4] The intuition is straightforward – compliance reduces the anxiety that people could be cheated and expropriated which relaxes participation constraints in economic interactions (Knack and Keefer (1996), Guiso et al. (2008)). However, this intuition is derived solely from the supply-side of finance. While a greater level of civic cooperation in a community is expected to promote lending and investment, its implications for the demand for finance are not straightforward.

[3] The rate of personal bankruptcies has more than quadrupled between 1980 and 2005, culminating in the Bankruptcy Abuse Prevention and Consumer Protection Act of 2005, one of the most significant legislative changes to impact households' financial decisions in recent U.S. history (The American Bankruptcy Institute).

[4] The literature has identified various aspects of compliance with social norms under the names social capital (Guiso et al. (2004)), civic cooperation (Putnam (1993)), and interpersonal trust (La Porta et al. (1997), Knack and Keefer (1996)), among others.

Trustworthy and cooperative individuals can be expected to make an effort to live up to promises. Such individuals may also avoid situations in which adversity reduces their ability to fulfill a promise, especially if adversity is hard to observe for those who invest trust in them. Hence, while stronger institutions in society could promote investment; such institutions could also adversely affect the demand for finance.

2. Social Norms, Compliance, and Financial Contracting

In this section, we review the literature on social norms and discuss the link between social norms and financial contracting.

2.1. Social norms

Social norms are the laws that govern individual behavior in society. Many economists currently believe that understanding these laws is crucial for our understanding of economic interactions. According to Fukuyama (1995), economic activity is "knit together by a wide variety of norms, rules, moral obligations, and other habits that together shape society." North (1990) refers to these laws as institutions and defines them as "the rules of the game in a society or more formally, the humanly derived constraints that shape human interaction." North also advocates the view that institutions can be formal and informal. Formal norms are written down and formally enforced (e.g., laws and codes); informal norms are rules that people follow in everyday life (e.g., values and moral obligations).

Social norms are constantly violated in every society. However, the concept of deviance is complex because norms vary considerably across groups, times, and places.[5] Perhaps the most general view on deviant behavior is the control theory advocated by Hirshi (1969) and Reckless (1973). According to this theory, the personal tendency for violation is regulated by two sets of controls – internal and external. *Internal controls* include conscience, values, integrity, morality, and the desire to be a "good

[5] The individual tendency for compliance is also considered a major psychological trait. See the agreeableness-dimension in McCrae and John (1992).

person". These internal controls, if broken, do not invite formal punishments or sanctions. *External controls*, on the other hand, include factors such as police, family, friends, and religious authorities.[6]

A major distinction between internal and external controls is that the latter are enforced externally, for example through the legal system. Some scholars have emphasized the importance of external controls for compliant behavior (Becker (1968)). According to Becker, potential offenders respond to both the probability of detection and the severity of punishment. However, others have argued that the law is incomplete, as it enforces inherently incomplete contracts with limited resources (Grossman and Hart (1986), Glaeser, et al. (2001)). Thus, external controls exhibit only limited ability to deter deviant behavior. There is also extensive evidence in the literature that people tend to learn both compliant and deviant behavior from their interactions with others (Hirschi and Gottfredson (1983), Sutherland and Cressey (1970)).

2.2. Compliance and financial contracting

In most financial contracts, one party (an investor or a lender) provides funds to another party (an issuer or a borrower). The contract outlines the terms under which the issuer will compensate the investor. In the case of debt contracts, the repayment schedule is well-defined. In the case of equity contracts, the issuer exhibits greater flexibility 'repaying' the investor.

Financial contracts set some explicit constraints on the behavior of the issuer (e.g., restrictive covenants in the case of debt contracts), as well as some implicit constraints (e.g., the obligation to deliver returns that are consistent with market expectations). The explicit side of the contract is usually enforced by the legal system. If a borrower violates the terms of a lending contract – the lender could press formal charges against the borrower; if an issuer fails to disclose material information to equity investors – investors could also take the issuer to court in order to recover any damages they have incurred. The

[6] Along this line, some legal scholars divide the basic logic of human actions into the "logic of consequences" (choosing rationally among alternatives) and the "logic of appropriateness" (following a set of norms) (e.g., March and Olsen (1998)).

implicit side of the contract is not formally enforced. For example, if an issuer takes excessive risk and, as a consequence, destroys shareholder value his action does not necessarily invite formal legal sanctions.

The enforcement mechanism of financial contracts is imperfect. Explicit contracts are incomplete because they fail to outline all future contingencies facing both parties (Grossman and Hart (1986)). The legal system also exhibits limited resources to enforce the law (Glaeser, et al. (2001)). Implicit contracts are more incomplete and difficult to enforce than explicit contracts. As a result, the enforcement of most economic contracts relies heavily on the internal controls of the individual, such as their ability to be honest, loyal, and trustworthy.

We expect that non-compliance could relax participation constraints for issuers (borrowers) by lowering their participation costs. We consider two particular costs – monetary and psychological. On the monetary-side, people who deviate from social norms could be more likely to misrepresent investment information and obtain more favorable terms on their financing contracts.[7] On the psychological-side, people who violate social norms could find it (psychologically) easier to violate the explicit and implicit clauses of financial contracts. Compliant individuals can be expected to make more effort to live up to promises. As a result, compliant individuals could be more constrained in their demand for finance.

The psychological constraints in financial contracting are well illustrated in the concept of bankruptcy stigma. Throughout history, bankruptcy was considered a violation of an almost sacred debtor-creditor trust relationship. McIntyre (1989) comments that "bankruptcy is an indication that one has betrayed (or is betraying) a trust that is judged to be important by many. Thus, the debtor contemplating bankruptcy anticipates that betrayal of this trust will lead to a shared outrage and stigma." Bankruptcy stigma has declined substantially over time but even now many more households could benefit financially from filing for bankruptcy than the number that actually files (White (1998)). In a recent study, Guiso et al. (2013) also document that within the current financial crisis eighty two percent of people still think that it is morally wrong to engage in a strategic default.

[7] Davidson, et al. (2015) provide evidence consistent with this conjecture. They show that corporate executives with legal records are more likely to misrepresent accounting information.

Since compliance is not directly observable investors would not be able to identify non-compliant behavior ex ante. It is also possible that issuers themselves are not fully aware about their degree of compliance and some of them could "mistakenly" perceive themselves as being more compliant than they actually are. However, while investors cannot effectively screen issuers at the individual-level, we expect that the perceived degree of compliance in the market could guide investor behavior at the aggregate level – when non-compliance increases, market activity would contract; when non-compliance decreases, market activity would intensify.

3. Compliance and Finance: Evidence from the World Values Survey

In this section, we explore the link between non-compliance and borrowing decisions based on the World Values Survey.

3.1. Data and summary statistics

The WVS is a cross-country project coordinated by the Institute for Social Research of the University of Michigan, which carries out representative national surveys of the basic values and beliefs of individuals in a large cross-section of countries.[8] The WVS is possibly the most comprehensive international survey of political and sociocultural values and has been used extensively in academic research across a wide range of social sciences.[9] A key feature of the WVS data is that it contains individual responses on a wide set of personal values and attitudes. In addition to the attitude variables, the WVS also provides information on respondent personal characteristics, such as religiosity, age, education, employment, income, gender, and marital status. Detailed definitions of all variables are provided in the Appendix. The data is derived from five surveys performed between 1981 and 2008 and

[8] See www.worldvaluessurvey.org

[9] For example, many academics have employed the survey for the study of happiness and the relation between subjective well-being and economic characteristics (e.g., Frey and Stutzer (2002), Bruni and Stanca (2006)). Others have used the survey to study the impact of religious beliefs on economic attitudes (e.g., Guiso et al. (2003)). Numerous authors have also implemented the WVS to construct country-level measures of individual values, such as interpersonal trust (e.g., Knack and Keefer (1997), Glaeser et al. (2000)).

covers close to 250,000 individuals from 86 countries. The scope of the data varies across countries and surveys.

The WVS contains four questions assessing the propensity of each respondent to violate social norms. In particular, respondents are asked whether they find justifiable "*claiming government benefits to which you are not entitled*", "*avoiding a fare on public transport*", "*cheating on taxes if you have a chance*", and "*accepting a bribe in the course of their duties*". Answers to all four questions are in the range from 1 to 10, where 1 corresponds to "*never justifiable*" and 10 corresponds to "*always justifiable*". Given that the majority of the respondents choose 1, i.e. they find the actions in the questions never justifiable; we construct four indicator variables for each one of the four questions indicating tolerance for deviant behavior (responses 2 and higher).

Table 1 reports the correlations of the non-compliance measures across respondents. We observe that all four measures are highly positively correlated – correlations between 0.42 and 0.57. In other words, respondents that are willing to violate social norms in one direction are also more likely to violate social norms in other directions.

We construct a composite index of non-compliance equal to 1 if the respondent indicates propensity for deviant behavior in at least one of the four dimensions and equal to 0 if the person responds negatively to all four question. This definition allows for the most robust identification of preferences. The most important distinction for an individual is whether he justifies deviant behavior, while the actual degree of justification could be noisy and less informative. We have also calculated alternative versions of the measure and all major results in the paper are qualitatively similar.

Table 2 reports the average non-compliance measure across all 86 countries in the sample and the total number of respondents in each country. We observe that non-compliance exhibits significant variation across countries – while in Thailand more than 90 percent of the respondents indicate willingness to break social norms, in Iraq this fraction is only 10 percent. The table also suggests that residents of countries with less freedom of expression could skew their answers and under-report non-compliance. While this bias is not necessarily problematic in a single country, it could make cross-

country comparisons less reliable. It is also possible that the non-compliance questions could be interpreted differently across countries. As a result, we include country-fixed effects in all of our tests. We discuss these issues in greater detail in sub-sections 3.3 and 3.4.

Table 3 reports summary statistics for all major variables in the study and the number of different countries reporting the corresponding variable. At the top of the table are the non-compliance measures. We observe that 57 percent of all respondents indicate willingness to break at least one of the social norms listed in the survey. Avoiding fare on public transportation exhibits the highest non-compliance rate (41.7 percent), while accepting a bribe, the lowest (24.7 percent).

We measure borrowing activity based on responses to the following question: *"During the past year, did your family: 1. 'Save money'; 2. 'Just get by'; 3. 'Spent some savings and borrowed money'; 4. 'Spent savings and borrowed money.'"* In particular, we construct an indicator variable equal to 1 for responses 3 and 4, indicating that the respondent has borrowed money over the previous year. As Table 3 shows, around 27 percent of the respondents borrowed some funds during the previous year.

The average age of the respondents is 40 years and women are approximately 50 percent of the sample. Around 14 percent of the individuals have a university degree and 57 percent of them are married. The largest religious group in the sample is Catholics (25.7 percent), followed by Muslims (19.5 percent), Protestants (10.5 percent), Hindus (3.2 percent), and Jews (0.7 percent).

Throughout the paper, we also use variables assessing the respondent's attitude towards risk, propensity to save, degree of sociability, trust, and happiness. In particular, we measure individual risk-taking attitude on a scale from 1 to 10 based on responses to the question whether "*[o]ne should be cautious about making major changes in life vs. you will never achieve much unless you act boldly*". We assess the respondent's propensity to save (thrift) with a variable indicating whether the respondent considers "*thrift saving money and things*" an important quality. We measure sociability with an assessment on a scale from 1 to 4 of the importance of friends in the respondent's life, where 1 indicates that friends are "*not at all important*", while 4 indicates that friends are "*very important*". We measure trust with an indicator for a positive response on the question: "*Generally speaking, would you say that*

most people can be trusted or that you need to be very careful in dealing with people?" Finally, we use a variable for self-declared level of happiness on a scale from 1 to 4.

As Table 3 indicates, the average person exhibits moderate level of risk-taking (average of 5.18 out of 10), relatively high degree of happiness and sociability (averages of 3 and 3.3 out of 4), and relatively low trust in others (only around 27 percent of the respondents indicate that other people could be trusted).

3.2. The determinants of non-compliance

In this section, we explore how individual propensity to break social norms relates to basic demographic characteristics. Table 4 reports the results. The dependent variable in all models is the non-compliance index defined in the previous subsection.

We observe that one's propensity to break social norms declines progressively with age. Women are also less likely to exhibit deviant behavior than men. These results are consistent with the sociology literature which finds that involvement in crime diminishes with age and that females are less likely to commit crime than males at every age (Farrington (1986), Steffensmeier and Streifel (1991))[10]. We also find that married people are less likely to break social norms than single people. Interestingly, there are no gender differences in the marriage results, i.e. both males and females are more likely to comply with social norms if they are married (these interactions are not tabulated).

Next, we find that religiosity promotes compliance with social norms. The effect is well pronounced across all major religions and is most robust for Protestants and Muslims. Several authors have suggested that religiosity exhibits an impact on economic behavior, for example through anti-usury laws (Stulz and Williamson (2003)) or through a set of values that promotes virtuous behavior such as Weber's "protestant ethic" (Weber (1905)). Guiso et al. (2003) and Barro and McCleary (2003) also show that stronger religious beliefs are associated with less rent seeking and a higher rate of economic growth.

[10] Some authors have suggested that the age-crime relation is non-linear – first increases and then decreases with age (e.g. Farrington (1986)). We have also replicated all major tests in the paper including both a linear and a non-linear term for the age-variable. All major inferences in the paper are unaffected by this adjustment.

Consistent with our results, Grullon et al. (2010) also find that firms located in regions with higher levels of religiosity are less likely to engage in financial misbehavior.

Next, we show that non-compliance does not decrease with the accumulation of status in society as measured by education, employment, and income. On the contrary, employed and higher income individuals appear more likely to violate social norms. Some sociologists have suggested that people with lower social status could be more likely to violate social norms to attain their goals or simply retaliate against society (Merton (1938)). Our findings do not support this view. Lack of success and opportunities does not seem to promote deviant behavior, at least within the economic context analyzed in this paper.

Model 2 of Table 4 extends Model 1 by adding an additional set of personal attitudes. The model shows that more risk-tolerant people are more likely to deviate from social norms. More sociable and happier individuals, on the other hand, tend to be more compliant. All demographic characteristics exhibit similar economic and statistical significance across the two models.

The main takeaway from this subsection is that our measure of non-compliance correlates with demographic characteristics in a way that is consistent with the theoretical and empirical literature on deviant behavior. The results also suggest possible endogeneity issues with the non-compliance measure. We elaborate on these issues in Sub-section 3.4.

3.3. Non-compliance and borrowing decisions

In Table 5, we regress individuals' borrowing activity (an indicator for a loan over the previous year) on their willingness to break social norms and a set of personal characteristics. In all model specifications, the non-compliance measure is significantly positively related to borrowing. The economic significance of non-compliance also exceeds the economic significance of all other personal characteristics. For example, the effect of non-compliance on borrowing is three times larger than the effects of gender and education.

The control variables indicate that wealthier individuals are less likely to borrow. This is not surprising since these individuals have more disposable income. Education tends to be negatively

associated with borrowing. We also find that women and married individuals are more likely to borrow. Religiosity tends to discourage borrowing activity, especially among Catholics and Protestants. Finally, we show that more risk taking individuals are more likely to take a loan, while more sociable individuals are less likely to borrow.

One selection bias that could potentially affect the borrowing results is related to the supply of finance. If non-compliance is positively correlated with the supply of credit, a positive association of borrowing activity with non-compliance could significantly reflect the availability of credit. To control for this effect, we employ proxies for local credit supply in the analysis. In the first two models of Table 5, we control for the availability of credit at the country level with the introduction of country fixed effects.

Credit supply could also vary within countries. The data does not disclose the exact place of residence within the corresponding countries but contains information on the income decile of each respondent. Given that people with similar incomes tend to share similar places of residence and socio-economic status, income could capture potentially important variation with respect to credit supply (Borjas (1995)). In the last two models of Table 5, we introduce 850 fixed effects for each country and income-decile combination. We observe that the positive association of borrowing with non-compliance is not significantly affected by the country- and county-income-fixed effects.

We also believe that omitted credit supply-effects are more likely to create a bias against a positive association of borrowing with non-compliance. As shown in the previous section, non-compliant behavior is predictable based on observable characteristics. If some lenders can predict the non-compliant behavior of some borrowers, non-compliance would correlate *negatively* with the supply of credit. Despite this, we document a significant positive relation between non-compliance and borrowing activity, suggesting that the association between non-compliance and the demand for credit could be substantially stronger than our results indicate.

3.4. Robustness

Here we perform a series of robustness tests of the effect of non-compliance (the treatment) on individual borrowing decisions. In a well-designed experiment, all individuals are randomly allocated across treatment groups and such randomization enables unbiased estimation of the treatment effects (Montgomery (2005)). Unfortunately, in most observational studies, the assignment of treatments to subjects is not randomized.

One general way to address the selection bias in uncontrolled experiments is Propensity Score Matching (PSM), a technique first published by Rosenbaum and Rubin (1983). PSM compares the outcomes among individuals that received the treatment versus those who did not after accounting for the covariates that predict receiving the treatment. In essence, PSM is a multi-dimensional matching and in one of its simplest forms could be implemented in two stages. Stage 1: Run a logistic model predicting the probability that an individual would receive the treatment; in this case, non-compliance. Stage 2: Estimate the treatment effect across groups of individuals with similar propensity scores (probability for receiving the treatment).

To implement the PSM methodology, we first estimate a Logit-version of the first model in Table 4, assessing the probability for noncompliance. Afterwards, in Panel A of Table 6, we estimate the baseline model from the first column of Table 5 within five quintiles with similar non-compliance propensity scores. We observe that, as expected, the fraction of non-compliant individuals increases across propensity score-quintiles. Most importantly, for all five subsamples, the relation between non-compliance and borrowing remains positive and significant.

In Panel B of Table 6, we stratify the sample into quintiles with respect to personal income. As noted above, income could capture variation with respect to credit supply. Consistent with the results in Table 4, we observe that the fraction of non-compliant individuals increases slightly with income. The relation between non-compliance and borrowing remains significant in all five quintiles.

In Panel C of Table 6, we stratify the sample into quintiles with respect to personal risk-tolerance. As expected, the fraction of non-compliant individuals tends to increase with risk-tolerance. However, the

relationship appears non-linear – both extremely risk-averse and extremely risk-taking individuals tend to be relatively more compliant. The relation between non-compliance and borrowing remains significant in all five quintiles. Interestingly, the association between deviant behavior and borrowing is stronger among more risk-tolerant individuals.

One concern with the estimation is measurement error of the non-compliance variable. It is possible that individual willingness to openly justify deviant behavior varies systematically across countries. In particular, respondents from countries with less freedom of expression could be more reluctant to provide honest responses to the compliance-questions. While this concern is largely mitigated by the inclusion of country fixed effects, in Panel D of Table 6, we estimate the baseline model within quintiles of countries with a similar freedom of expression. We measure freedom of expression with the Voice and Accountability index in the WB Worldwide Governance Indicators.

As expected, the percentage of people justifying non-compliant behavior tends to be higher in countries with more freedom of expression. We also observe that the association between non-compliance and borrowing becomes insignificant within the quintile of countries with the least freedom of expression. The relatively high standard error of the non-compliance variable in this subsample is consistent with the conjecture that lack of freedom of expression could indeed introduce measurement error to the non-compliance variable. In all four remaining quintiles, non-compliance significantly predicts borrowing.

4. Compliance and Finance: Evidence from the Legal Records of CEOs

In this section, we study the capital raising activities of corporate executives conditional on their legal history. In particular, we identify all CEOs with a legal record during the sample period and investigate their propensity to raise capital both at their personal-level, as well as at the level of their firms.

4.1. Data and summary statistics

To construct our sample, we start with all firms with CEO information on ExecuComp, Thomson Reuters, and BoardEx over 1990-2012. To avoid interim CEOs, we exclude CEO/Firm combinations for which the CEO has spent less than two full years at the firm, which, for practical purposes, restricts our sample to CEOs who were in office during the 1994-2010 period. We also exclude CEOs with missing biographical information on Boardex such as age (or date of birth) and a work history (used to determine cities of residence). To be included in our sample, a firm must also have headquarters in the US because we cannot acquire additional data for people outside of the US.

Our data on executives' legal infractions are obtained from numerous federal, state and county databases accessed by licensed private investigators. The legal infractions include traffic violations, driving under influence and other drug and alcohol related charges, domestic violence, and sexual assault. Given the extensive costs associated with the purchases of background checks, we restrict our final sample to 760 randomly-selected CEOs from the initial sample.

We set an indicator variable, Non-compliant CEO, equal to 1 if the executive has at least one legal violation as of December 31, 2012, and 0 otherwise. The variable is a static measure indicating whether the person has committed a crime at any point in time during the sample period. We do not measure the variable in real time because we do not think that the revelation of the crime represents a dramatic change of the underlying values of individuals. 35 percent of Non-compliant CEOs in our sample have multiple offenses. To mitigate any potential concerns, we investigated our baseline models for any potential structural changes following the first infraction of a record-holder. We find that the statistical association between CEO type and their financing decisions is unaffected by the event of their first infraction.

Non-compliance is not directly observable and our measure identifies a non-compliant individual conditionally on being caught. It is likely that some of the executives in the control sample also exhibit a significant degree of non-compliance but were able to conceal their type during the sample period. As a

result, our approach is conservative and biased against finding any significant differences in the behavior of the two groups of CEOs.

The data also allows us to breakdown the record-holding executives into two groups – executives with relatively serious crimes versus executives with speeding tickets only. Out of the 180 CEOs with a legal record, 44 of them (24%) have violations more serious than traffic violations. We replicate our baseline results by separating the effect of serious offenders. We find that the financing behavior of CEOs with relatively serious violations is not statistically different from the behavior of CEOs with only speeding tickets.

For all CEOs who purchase a home during the 1990-2012 period, we also obtain information whether the purchase was financed with a mortgage and the size of the mortgage. In our mortgage regressions, we exclude CEOs for which mortgage information is not available because it is possible that some of them have a mortgage which is not covered in the data[11]. If we include all these CEOs in our analysis and treat them as having no mortgage, the economic and statistical significance of our results is largely unchanged.

We obtain firm-level accounting information from Compustat and information on individual stock returns from CRSP. The number of analysts following a stock is derived from I/B/E/S. We also use detailed data on syndicated loans, including loan interest rate spread (over LIBOR), from Dealscan and information on covenant violations from Michael Roberts.[12]

Finally, we derive information about the home ownership rate, the average mortgage amount, the fraction of people employed in finance, and the average income in the county of residence of each CEO from the 2000 U.S. Census. The five percent sample of the 2000 Census is available from the Integrated Public Use Microdata Series (IPUMS) project from the Minnesota Population Center at the University of Minnesota (see Ruggles et al. (2010)). Respondents are identified by a household and a person number as well as their geographic location, which includes the state and the "Public Use Microdata Area" (PUMA).

[11] CEOs may be excluded because property is held in the name of a trust, the home may have been built with a construction loan without available mortgage terms, or the executive may rent instead of own.
[12] See http://finance.wharton.upenn.edu/~mrrobert/styled-9/styled-11/index.html

There are a total of 2,071 PUMAs, which were created to maintain a level of geographic detail while protecting the anonymity of respondents in small counties. PUMAs have about 150,000 inhabitants on average and most of the PUMAs can be linked to a unique county.

Our final sample, described in Table 7, consists of 4,358 firm-year observations for which we purchase background checks to determine the legal record of the CEO (760 CEOs in total). Table 7 reports average CEO personal characteristics, CEO firm characteristics, and the CEO county-of-residence characteristics across Non-compliant CEOs and the rest of the sample. We observe that both groups of CEOs exhibit similar personal characteristics. CEOs who began their professional career during an NBER-defined recession are significantly more compliant than CEOs who did not. It is unlikely that this result is behavioral because we do not observe a significantly different degree of compliance among CEOs who were born in recessions and early childhood experiences are more likely to inform adult behavior than adult experiences.[13] We also find that Non-compliant CEOs are associated with larger mortgages than Compliant CEOs.

Next, we compare the firm characteristics of Non-compliant and Compliant CEOs. We observe that Non-compliant CEOs are more likely to use external financing than Compliant CEOs; their firms also maintain higher leverage ratios over the sample period. Non-compliant CEOs manage smaller firms and firms with more tangible assets. Otherwise, the firms managed by the two types of CEOs are similar in terms of profitability, market valuations, past returns, R&D expenditures, and analyst coverage. In Table 7, Panel C, we show that Non-compliant executives live in smaller, less wealthy, and less financially developed areas.

4.2. CEO compliance and personal borrowing

We start our analysis by exploring the link between CEO compliance and their propensity to borrow at the personal level. In Table 8, we regress the CEO mortgage amount, measured in the year it is taken out, on an indicator variable for a Non-compliant CEO and personal and regional control

[13] See Malmendier and Nagel (2011).

variables.[14] We observe that in both model specifications, Non-compliant CEOs are associated with larger mortgages. We also estimate the following alternative versions of the mortgage regressions: a model expressing all mortgages in $2010 dollars; a model incorporating the value of all known refinances into the dependent variable; and a logit-model predicting the probability for a large mortgage (top 25% of the mortgage distribution). In all model specifications, Non-compliant CEOs are associated with larger mortgages than Compliant CEOs.

The US financial system is well developed and we do not anticipate dramatic differences in the supply of finance across regions. In many markets, such as the mortgage market, residents could also borrow nationally. This is particularly true for CEOs, who are wealthy and well-connected. Nevertheless, to control for potential supply effects, we include the homeownership rate, the average mortgage amount, and the fraction of people employed in finance in the neighborhood of the CEOs as additional control variables. These variables capture various aspects of the local mortgage market. None of these variables is statistically significantly different from zero. Most personal characteristics of the CEOs are also not significantly related to their personal leverage. The only exception is MBA degree – CEOs with MBA degrees are more likely borrow.

4.3. CEO compliance and external capital-raising of their firms

In Table 9, we examine the propensity of Non-compliant CEOs to raise external capital for their firms. We consider three dependent variables – an indicator variable equal to 1 if the firm issued external equity or debt in a given year; an indicator variable equal to 1 if the firm issued external equity in a given year; and an indicator variable equal to 1 if the firm issued debt in a given year. The main independent variable of interest is the indicator variable for a Non-compliant CEO. We include a wide set of firm variables predicting external financing, as well as the CEO personal characteristics from Table 8 (unreported). We also consider three separate models estimated over a reduced subsample with financial

[14] We estimate the non-firm based portion of an executive's wealth following Dittmann and Maug (2007).

analyst information. All models include industry and year fixed effects and standard errors in all models are adjusted for clustering at the firm–level.

Myers and Majluf (1984) predict that firms with greater informational asymmetries would be less likely to issue external capital and the effect would be particularly strong for external equity. The intuition is that such capital raisings would signal to the market that the firm is in a relatively less productive state, which would decrease the value of the firm (or increase its cost of capital). Consistent with this prediction, we show that firms that are more likely to have more information asymmetries such as small firms and firms with smaller number of analysts are less likely to issue external equity.

We also show that firm with higher Market-to-book ratios and R&D expenditures are more likely to issue equity. High Market-to-book firms and high R&D firms have more growth opportunities. Myers (1977) predicts that firms with debt could underinvest in such growth options in certain states of the world. Thus, high growth firms would tend to issue equity more aggressively than low growth firms to minimize their underinvestment costs.

Next, we find that firms with more tangible assets are more likely to issue debt. Tangible assets are more collateralize-able than intangible assets which allows firms with more tangible assets to lower their cost of debt. There is some evidence that profitability predicts equity issuance over the sample period. To control for the possibility that firms could time the equity market and issue equity following strong performance, we include the firm stock return over the previous year as an additional control variable but the variable is generally not significantly different from zero.

In all model specifications, we find that firms with Non-compliant CEOs raise external capital more aggressively than firms with Compliant CEOs. The results are well pronounced for both external equity and external debt.

In Table 10, we evaluate the uses of cash in the year a firm had net positive funds raised from debt and equity, eliminating all cases where a firm did not issue new securities or issued new securities to pay off old debt or repurchase outstanding equity. The dependent variables are the amounts spent on capital expenditures, acquisitions, research and development, and dividends. The independent variables

include an indicator variable for a Non-compliant CEO and other firm characteristics. Tobin's Q controls for the firm's investment opportunities, while firm operating income and cash flows control for profitability and available funds, respectively. Firm past returns control for the possibility of market timing. Firm interest coverage ratio controls for the current ability of the firm to service its liabilities.

We find that non-compliant CEOs are more likely to use the proceeds from their external financing for capital expenditures and dividends. Research and development and acquisitions expenditures are not significantly related to CEO compliance. More profitable firms generally invest more. Tobin's Q correlates negatively with capital expenditures. However, we note that this association is estimated over years of significant capital-raising by firms.

4.4. CEO compliance and the terms of loan contracts

Why would record-holders borrow more? One of the main explanations that we consider is the possibility that non-compliant individuals can obtain lower cost of financing (for example by misrepresenting information to investors). To shed more light on this possibility, we evaluate the terms of the loan contracts of Non-compliant CEOs relative to Compliant CEOs.

We obtain a primary sample of syndicated loans from Loan Pricing Corporation's Dealscan, which contains detailed information on syndicated loan contract terms. The data is derived from attachments on SEC filings, reports from loan originators, and the financial press (see Sufi (2009) for additional information). Since firms often enter multiple loan contracts simultaneously, we restrict our sample only to the largest loan originated in a given package of loans.

In Table 11, we regress four major loan characteristics – maturity, loan spread over LIBOR, number of loan covenants, and an indicator for a secured loan on an indicator variable for a Non-compliant CEO, and a set of firm and loan characteristics. All four models are estimated independently via OLS. We have also estimated all four models as a system of simultaneous equations to allow for the possibility for all four major loan characteristics to be determined simultaneously and all major inferences in the table remain unchanged under the alternative specification.

We find that Non-compliant CEOs are more likely to borrow short-term. The loans of Non-compliant CEOs also have higher spreads and larger number of covenants than the loans of compliant CEOs. The loans of larger firms have lower spreads and a smaller number of covenants; larger firms are also less likely to securitize their loans. Issuers with higher leverage are more likely to borrow short-term.

In Table 12, we regresses firm annual stock return, return on assets, and the number of covenant violations in a given year on an indicator variable for a Non-compliant CEO and a set of control variables. We find that firm performance is not significantly related to the CEO type. We present some evidence that Non-compliant CEOs are more likely to violate covenants on their loan contracts. We note that the latter result needs to be interpreted with a caution, given the relatively small number of covenant violation events in our sample (40).

5. Discussion

We find that individuals and corporate executives who are more likely to violate social norms are also more likely to raise external capital. Why does non-compliance relax participation constraints in financial markets?

One possible explanation is reverse-causality – high leverage may increase fraud incidence by providing the incentives for individuals and firms to violate debt covenant violations. There is also some statistical evidence that leverage correlates with fraud (Dechow, Sloan and Sweeney (1996), Agrawal, Jaffe, and Karpoff (1999), Khanna, Kim and Lu (2015)). We argue that reverse causality is an unlikely explanation in our setting. All of our non-compliance variables are measured outside of economic context. The WVS asks people about their fundamental values and attitudes and it seems unlikely that borrowing activity over the previous year has changed fundamentally the views of the respondents on compliance with social norms. If anything, the WVS results suggest that non-compliance tends to correlate positively with employment and income. Most of the infractions of corporate executives are also detached from their economic behavior and are not conditional on financial distress (e.g., traffic violations, sexual assault).

Another possible explanation of our findings is attitudes towards risk. Is it possible that non-compliance simply proxies for risk-tolerance? We argue that the propensity for violation of social norms is fundamentally different from the propensity to take risks. Following social norms imposes significant constraints, disutility, and often risk to individuals. In this regard, Elster (1989), paraphrasing Max Weber, notes that "a social norm is not like a taxi from which one can disembark at will." Followers of a social norm abide by it even when it is not in their interest to do so. Thus, compliance (and non-compliance) with social norms appears to be a more fundamental psychological factor than the decision to engage in a risky activity.

Our empirical results also indicate that attitudes towards risk is an unlikely explanation of the link between non-compliance and external financing. For example, the models in Table 5 indicate that the addition of the risk-aversion-variable exhibits no substantial impact on the significance of the non-compliance variable. The association of non-compliance and borrowing also persists across individuals with similar levels of risk-tolerance. The CEO data also shows that Non-compliant CEOs are more likely to issue both external debt as well as external equity. While the risk-tolerance explanation of our findings would predict more intense debt-issuance for non-compliant individuals, it would also predict less intense equity-issuance, and we show that this is not the case.

The most general explanation of our findings is that non-compliance reduces participation costs in financial markets. There are two types of costs of external financing – monetary and psychological. The monetary cost includes all monetary obligations of the issuer to the investor (e.g., interest payments, dividends, disclosure costs). The psychological cost is the expected disutility of breaking the contract in the future. As noted in Section I, in the case of debt, throughout history, bankruptcy was considered a violation of a trust relationship resulting in a stigma for the borrower. Existing research has suggested that even now the bankruptcy stigma is a significant consideration in the lending market – for example, Guiso et al. (2013) show that within the current financial crisis eighty-two percent of people think that it is morally wrong to engage in a strategic default.

Our findings broadly support the psychological explanation. We find no evidence that non-compliant individuals extract some private benefits from their capital raisings. The loans of Non-compliant CEOs have shorter maturities and higher interest rates. The performance of firms managed by Non-compliant CEOs is also not statistically different from the performance of firms managed by Compliant CEOs. Finally, Non-compliant CEOs do not enjoy higher compensation than non-record-holding CEOs. It seems that less compliant individuals participate more actively in financial markets because they are less constrained psychologically, possibly because they internalize less the possibilities of future contract violations. Consistent with this idea is the fact that Non-compliant CEOs exhibit a greater propensity for covenant violations on their existing loans.[15]

One question that emerges from our analysis is whether investors (lenders) are able to internalize the costs associated with non-compliant issuers (borrowers)? We argue that there are at least two reasons this cannot be accomplished effectively. The first one is observability. Compliance is not directly observable and investors would never be able to identify non-compliant behavior ex ante. Indeed, it is quite possible that even borrowers themselves are not fully aware about their degree of compliance with social norms. As a result, investors are expected to "pool" issuers and offer financing conditional on the perceived probability for non-compliance in the market. The second reason non-compliance might not be internalized by the market is agency problems in financial intermediaries. Bank managers and lending officers do not necessarily maximize the long-term value of their lending institutions (e.g., Allen and Gorton (1993); Allen and Gale (2000)). Equity investment is also often intermediated and institutional investors and investment advisors do not necessarily represent the interest of their clients (e.g., Ross (1989)).

Our results suggest that changes in social norms could account for some of the time-series variation in financing activity. Indeed, many authors (most notably, Putnam (2000)) have advocated the

[15] Nini et al. (2012) show that in any given year, between 10% and 20% of firms report being in violation of a financial covenant in a credit agreement but violations are more common among smaller firms. Violations are followed by a decline in acquisitions and capital expenditures and amended credit agreements. However, firm operating and stock price performance improves post-violation.

decline of social capital in America over the last fifty years. Our results suggest that this trend could account for some of the excessive use of leverage in recent history.

6. Conclusion

What determines the demand for external finance? The answer to this question is important for two reasons. First, individual borrowing is a significant factor in the economy with direct implications for financial markets, economic welfare, and public policy. Second, many economic decisions are centralized within economic organizations and the personal attitudes towards external financing of the people in charge could affect the financial behavior of their organizations in a significant way. The need for better understanding of borrowing decisions is further strengthened by the alarming trend of personal over-indebtedness that has contributed to the most severe financial crisis since the Great Depression. Not surprisingly, consumer and organizational leverage has been the center of heated public debates.

In this paper, we study how individual propensity to comply with social norms relates to the demand for finance. We find that people who are more likely to break social norms are also more likely to borrow. Corporate executives with legal infractions are also more likely to raise external capital for the companies they manage.

Why are non-complying individuals more active in financial markets? The general explanation is that non-compliance reduces the costs of external financing. We consider two particular costs – monetary and psychological. Monetary costs include all monetary obligations of the issuer to investors, such as delivering a certain expected return. Psychological costs include the adverse personal and social consequences associated with the possible act of breaking the financing contract in the future. The findings of this paper are more consistent with the psychological explanation. They suggest that the internal controls of individuals are an important factor in financial markets.

Appendix: Variables Description

Variable	Description and Data-sources
World Values Survey Variables	
Non-compliance	An indicator for positive response to at least one of the indicator variables Claiming government benefits, Avoiding fare, Cheating on taxes, and Accepting a bribe, defined below. *Source:* The World Value Survey
Claiming government benefits	An indicator for a response that justifies "Claiming government benefits to which you are not entitled." *Source:* The World Value Survey
Avoiding fare	An indicator for a response that justifies "Avoiding a fare on public transport." *Source:* The World Value Survey
Cheating on taxes	An indicator for a response that justifies "Cheating on taxes if you have a chance." *Source:* The World Value Survey
Accepting a bribe	An indicator for a response that justifies "Someone accepting a bribe in the course of their duties." *Source:* The World Value Survey
Borrow	An indication for borrowing money over the previous year. *Source:* The World Value Survey
Age	Respondent's age. *Source:* The World Value Survey
Education	An indicator variable for college degree. *Source:* The World Value Survey
Employment	An indicator variable for employment status (1, if employed). *Source:* The World Value Survey
Income	Income decile (country-specific). *Source:* The World Value Survey
Female	An indicator variable for a female respondent. *Source:* The World Value Survey
Married	An indicator variable for a married respondent. *Source:* The World Value Survey
Protestant	An indicator for a Protestant. *Source:* The World Value Survey
Catholic	An indicator for a Catholic. *Source:* The World Value Survey
Muslim	An indicator for a Muslim. *Source:* The World Value Survey
Hindu	An indicator for a Hindu. *Source:* The World Value Survey
Jewish	An indicator for a Jew. *Source:* The World Value Survey
Risk taking	An indication on a scale from 1 to 10 of the respondent willingness to take risks; in particular, response (1) states that "[o]ne should be cautious about major changes in life," while response (10) states that "[o]ne should act boldly to achieve". *Source:* The World Value Survey
Thrift	An indicator for a positive answer to the question whether "thrift saving money and things" is an important child quality. *Source:* The World Value Survey
Sociability	An assessment on a scale from 1 to 4 of the importance of friends in the respondent's life. *Source:* The World Value Survey
Trust	An indicator for the response: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" *Source:* The World Value Survey
Happiness	An assessment of personal level of happiness on a scale from 1 to 4. *Source:* The World Value Survey

Appendix (contd.)

Variable	Description and Data-sources
CEO Personal Characteristics	
Non-compliant CEO	A dummy variable that equals 1 if an executive has any legal infractions, and 0 otherwise. Legal infractions include driving under the influence of alcohol, other drug-related charges, domestic violence, reckless behavior, sexual assault, and speeding tickets. *Source:* FindOutTheTruth.Com
Mortgage (millions)	Largest mortgage in dollars the CEO had (listed in millions). *Source:* FindOutTheTruth.Com
Wealth	An estimate of the executive's wealth including the value of all stock and option holdings at their firm plus an estimate of non-firm wealth following An estimate of CEO wealth. *Source:* Execucomp and Dittman and Maug (2007)
Military	An indicator set to 1 if the CEO served in the military. *Source:* Public records
Female	An indicator set to 1 if the CEO served in female. *Source:* Public records
MBA degree	An indicator set to 1 if the CEO has an MBA. *Source:* Public records
Born in Recession	An indicator set to 1 if the CEO was born during an NBER defined recession. *Source:* Public records
Worked in Recession	An indicator set to 1 if the CEO began their career during an NBER defined recession. *Source:* Public records
CEO Firm Characteristics	
External capital	Indicator set to 1 if the firm issued stock or debt in a given year. *Source:* Compustat
External equity	Indicator set to 1 if the firm issued stock in a given year. *Source:* Compustat
External debt	Indicator set to 1 if the firm issued debt in a given year. *Source:* Compustat
Total debt-to-assets	Total debt scaled by book value of total assets. *Source:* Compustat
Market-to-book	Ratio of market value of assets to book value of assets. *Source:* Compustat, CRSP
Assets (log)	Natural log of total assets. *Source:* Compustat
Profitability	Operating income before depreciation and amortization scaled by total assets. *Source:* Compustat
Tangible assets	Net PPE scaled by total assets. *Source:* Compustat
R&D	R&D expense scaled by total assets. *Source:* Compustat
Past return	Annual stock return over the previous year. *Source:* CRSP
Number of analysts	Number of analysts following the stock at the end of the previous year. *Source:* I/B/E/S

Appendix (contd.)

Variable	Description and Data-sources
Leverage	The firm's long-term debt and current portion of long-term debt scaled by the book value of the firm's assets. *Source:* Compustat
Interest coverage	The firm's earnings before interest and taxes scaled by the firm's interest expense. *Source:* Compustat
Capital expenditures	The amount of the firm's capital expenditures. *Source:* Compustat
Acquisitions	The amount the firm spent on acquisition activities. *Source:* Compustat
R&D	The firm's research and development expense. *Source:* Compustat
Dividends	The amount the firm paid in common dividends. *Source:* Compustat
CEO Regional Characteristics	
Average home-ownership	Average home-ownership rate in the PUMA of the CEO residence. *Source:* IPUMS
Average mortgage (log)	(Log) of the average annual mortgage payment in the PUMA of the CEO residence. *Source:* IPUMS
Fraction employed in Finance	The fraction of people employed in Finance in the PUMA of the CEO residence. *Source:* IPUMS
Average income (log)	(Log) of the average household income in the PUMA of the CEO residence. *Source:* IPUMS
Loan Characteristics	
Maturity	Loan months to maturity. *Source:* DealScan
Spread	Loan spread above LIBOR. *Source:* DealScan
Covenants	Number of covenants in the loan contract. *Source:* DealScan
Secured loan	An indicator for a secured loan. *Source:* DealScan
Covenant violations	An indicator for a covenant violation on existing debt contract. *Source:* Roberts and Sufi (2009)

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Table 1
Correlations of Individual Non-compliance Measures

The table reports correlations of the following variables from the World Value Survey: Claiming government benefits (an indicator for a response that justifies "Claiming government benefits to which you are not entitled"); Avoiding fare (an indicator for a response that justifies "Avoiding a fare on public transport"); Cheating on taxes (an indicator for a response that justifies "Cheating on taxes if you have a chance"); and Accepting a bribe (an indicator for a response that justifies "Someone accepting a bribe in the course of their duties"). (***), (**), and (*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	(1)	(2)	(3)	(4)
Claiming government benefits	1	0.524***	0.486***	0.422***
Avoiding fare		1	0.572***	0.448***
Cheating on taxes			1	0.521***
Accepting a bribe				1

Table 2
Country-level Averages

The table reports the average Non-compliance index (an indicator for positive response to at least one of the indicator variables: Claiming government benefits, Avoiding fare, Cheating on taxes, and Accepting a bribe, defined in Table 1) and the total number of individuals across all countries in the sample.

#	Country Name	Non-compliance Index	Num. Obs.	#	Country Name	Non-compliance Index	Num. Obs.
1	Thailand	0.916	1,532	45	Nigeria	0.587	5,017
2	Slovakia	0.887	1,552	46	Switzerland	0.586	3,825
3	Malaysia	0.881	1,200	47	Hong Kong	0.580	1,248
4	Czech Republic	0.875	2,053	48	South Africa	0.566	13,163
5	Croatia	0.873	1,194	49	Bulgaria	0.561	2,047
6	Latvia	0.854	1,199	50	Georgia	0.557	3,489
7	Philippines	0.836	2,398	51	Saudi Arabia	0.552	1,487
8	Guatemala	0.808	1,000	52	Australia	0.548	4,667
9	Albania	0.807	1,991	53	Iran	0.548	5,175
10	Moldova	0.799	2,996	54	Cyprus	0.545	1,047
11	Rwanda	0.791	1,506	55	Spain	0.536	5,078
12	Zambia	0.791	1,485	56	Uganda	0.536	999
13	Ukraine	0.789	3,736	57	Venezuela	0.535	2,389
14	Belarus	0.775	3,091	58	Dominican Republic	0.533	413
15	France	0.768	1,000	59	New Zealand	0.527	2,090
16	Armenia	0.764	1,990	60	Italy	0.525	1,005
17	Azerbaijan	0.757	1,932	61	Canada	0.523	4,084
18	Mexico	0.747	8,712	62	Bosnia	0.522	2,399
19	Estonia	0.731	1,014	63	United States	0.517	3,923
20	Lithuania	0.723	1,009	64	China	0.512	5,407
21	Sweden	0.716	3,023	65	Romania	0.512	2,948
22	Brazil	0.714	4,424	66	Netherlands	0.511	1,047
23	Chile	0.711	4,679	67	Argentina	0.510	5,232
24	Slovenia	0.697	2,008	68	Japan	0.495	5,535
25	Russia	0.694	5,961	69	Indonesia	0.478	3,001
26	Peru	0.683	2,675	70	Uruguay	0.458	1,979
27	Norway	0.674	2,144	71	Ethiopia	0.447	1,499
28	Serbia	0.670	4,901	72	Egypt	0.438	6,050
29	Ghana	0.661	1,515	73	Colombia	0.424	9,028
30	Germany	0.648	4,065	74	Puerto Rico	0.418	1,879
31	Finland	0.638	3,002	75	Vietnam	0.395	2,482
32	Poland	0.638	3,071	76	India	0.393	8,285
33	Andorra	0.634	1,003	77	Turkey	0.368	2,362
34	Burkina Faso	0.620	1,434	78	El Salvador	0.359	1,233
35	Taiwan	0.618	1,996	79	Zimbabwe	0.355	1,002
36	Mali	0.616	1,454	80	Morocco	0.333	3,452
37	Trinidad &Tobago	0.609	1,002	81	Pakistan	0.298	1,996
38	Kyrgyzstan	0.607	1,043	82	Jordan	0.282	2,411
39	Singapore	0.603	1,511	83	Tanzania	0.240	1,163
40	United Kingdom	0.599	1,032	84	Bangladesh	0.160	3,024
41	Macedonia	0.598	2,022	85	Israel	0.139	1,196
42	Korea	0.592	5,842	86	Iraq	0.102	4,987
43	Algeria	0.592	1,279				
44	Hungary	0.589	2,080		Average [Total]	0.588	[246,499]

Table 3
Summary Statistics

The table reports summary statistics of the following variables: Non-compliance (an indicator for positive response to at least one of the indicator variables Claiming government benefits, Avoiding fare, Cheating on taxes, and Accepting a bribe, defined below); Claiming government benefits (an indicator for a response that justifies "Claiming government benefits to which you are not entitled"); Avoiding fare (an indicator for a response that justifies "Avoiding a fare on public transport"); Cheating on taxes (an indicator for a response that justifies "Cheating on taxes if you have a chance"); Accepting a bribe (an indicator for a response that justifies "Someone accepting a bribe in the course of their duties"); an indicator for borrowing activity over the previous year; respondent's age, education, employment, income decile within the country, gender, and marital status; indicators for Protestant, Catholic, Muslim, Hindu, and Jewish religion; the respondent's willingness to tolerate risk and propensity to save (thrift); an assessment for the importance of friends in respondent's life (sociability); interpersonal trust; and self-declared level of happiness. The last column reports the number of countries represented for each variable. Precise definitions of the variables are outlined in the Appendix.

	Mean	Min	Max	Num. Countries
Non–compliance	0.570	0	1	86
Claiming government benefits	0.404	0	1	84
Avoiding fare	0.417	0	1	83
Cheating on taxes	0.363	0	1	83
Accepting a bribe	0.247	0	1	86
Borrow	0.273	0	1	82
Age	40	14	99	86
Education	0.143	0	1	84
Employment	0.538	0	1	86
Income	4.577	1	10	85
Female	0.516	0	1	86
Married	0.573	0	1	86
Protestant	0.105	0	1	86
Catholic	0.257	0	1	86
Muslim	0.195	0	1	86
Hindu	0.032	0	1	86
Jewish	0.007	0	1	86
Risk taking	5.186	1	10	51
Thrift	0.363	0	1	86
Sociability	3.283	1	4	85
Trust	0.268	0	1	86
Happiness	3.029	1	4	86

Table 4
Determinants of Non-compliance

The table reports coefficient estimates and t-values from OLS regressions of individual non–compliance (an indicator for positive response to at least one of the indicator variables Claiming government benefits, Avoiding fare, Cheating on taxes, and Accepting a bribe, defined in Table 3) on the following variables: (log of) respondent's age, education, employment, income decile within the country, gender, and marital status; indicators for Protestant, Catholic, Muslim, Hindu, and Jewish religion; the respondent's willingness to tolerate risk and propensity to save; an assessment for the importance of friends in respondent's life (sociability); interpersonal trust; and self–declared level of happiness. Precise definitions of the variables are outlined in the Appendix. All models included country- and year-fixed effects. Standard errors in all models are adjusted for clustering at the country–level. The last two rows report the number of observations and R–squared in each regression. (***), (**), and (*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	(1)	T-Value	(2)	T-Value
Age	–0.150***	(–13.09)	–0.182***	(–12.58)
Education	0.003	(0.39)	0.012	(1.20)
Employment	0.019***	(3.85)	0.022***	(3.60)
Income	0.002	(1.28)	0.005**	(2.56)
Female	–0.027***	(–7.45)	–0.027***	(–4.87)
Married	–0.021***	(–4.06)	–0.035***	(–5.55)
Protestant	–0.039**	(–2.25)	–0.048***	(–2.84)
Catholic	–0.005	(–0.59)	–0.012	(–0.86)
Muslim	–0.039**	(–1.89)	–0.053**	(–2.11)
Hindu	–0.032*	(–1.69)	–0.009	(–0.34)
Jewish	–0.032	(–0.41)	–0.003	(–0.04)
Risk taking			0.005***	(3.26)
Thrift			–0.006	(–0.71)
Sociability			–0.016***	(–3.25)
Trust			0.018	(1.33)
Happiness			–0.034***	(–4.70)
Adj. R–squared	12.86		12.59	
Num. Observations	188,394		54,758	

Table 5
Non-Compliance and Borrowing Decisions

The table reports coefficient estimates from individual–level OLS regressions of an indicator for respondent's borrowing activity over the previous year on the respondent's non–compliance index (an indicator for positive response to at least one of the indicator variables Claiming government benefits, Avoiding fare, Cheating on taxes, and Accepting a bribe, defined in Table 3); (log of) respondent's age, education, employment, income decile within the country, gender, and marital status; indicators for Protestant, Catholic, Muslim, Hindu, and Jewish religion; the respondent's willingness to tolerate risk and propensity to save; an assessment for the importance of friends in respondent's life (sociability); and interpersonal trust. Precise definitions of the variables are outlined in the Appendix. The first two models include country and year fixed effects, while the last two models include (country) x (income decile) and year fixed effects. Standard errors in all models are adjusted for clustering at the country–level. (***), (**), and (*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	(1)	(2)	(3)	(4)
Non–compliance	0.030***	0.037***	0.029***	0.033***
Age	–0.009	–0.027**	–0.011*	–0.034***
Education	–0.013**	–0.016	–0.008*	–0.004
Employment	–0.010**	–0.018**	–0.011**	–0.011*
Income	–0.018***	–0.012***		
Female	0.013***	0.010**	0.012***	0.010**
Married	0.009*	0.013**	0.008*	0.014*
Protestant	–0.018**	–0.009	–0.013	–0.007
Catholic	–0.012***	–0.015*	–0.010**	–0.013
Muslim	–0.014	0.004	–0.013	–0.004
Hindu	–0.020	–0.016	–0.015	–0.010
Jewish	–0.017	0.010	–0.016	–0.007
Risk taking		0.005***		0.005***
Thrift		–0.001		–0.002
Sociability		–0.011**		–0.009*
Trust		0.001		–0.001
Country Fixed Effects	Yes	Yes	No	No
(Country) X (Income) Fixed Effects	No	No	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Adj. R–squared	6.01	7.00	8.07	8.98
Num. Observations	163,747	43,896	163,747	43,896

Table 6
Non-Compliance and Borrowing Decisions: Robustness

The table reports coefficient estimates and standard errors from individual–level OLS regressions of an indicator for respondent's borrowing activity over the previous year on the respondent's non–compliance index (an indicator for positive response to at least one of the indicator variables Claiming government benefits, Avoiding fare, Cheating on taxes, and Accepting a bribe, defined in Table 3). The models in Panel A are estimated over quintiles based on non-compliance propensity scores, calculated as the predicted probability for non-compliance based on the variables in the first model of Table 4. The models in Panel B are estimated over respondent's income quintiles. The models in Panel C are estimated over quintiles based on respondent's risk–tolerance. The models in Panel D are estimated over quintiles of country-level freedom of expression (based on the Voice and Accountability index in the WB Worldwide Governance Indicators). All models also include individual controls and country- and year-fixed effects. Standard errors are adjusted for clustering at the country–level. Precise definitions of the variables are outlined in the Appendix. (***), (**), and (*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	Quintile 1 (Low)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (High)
Panel A: Non-compliance Propensity Score					
Non–compliance	0.042***	0.022**	0.027***	0.025***	0.029***
Standard Error	(2.88)	(2.49)	(3.87)	(3.28)	(4.07)
% Non-compliant	29.64	45.76	55.93	66.97	79.92
Adj. R–squared	11.10	5.40	4.58	4.57	5.31
Num. Observations	29,181	33,344	33,337	32,807	35,078
Panel B: Personal Income					
Non–compliance	0.040***	0.019***	0.027***	0.035***	0.029***
Standard Error	(5.77)	(2.98)	(4.13)	(3.51)	(3.47)
% Non-compliant	55.83	55.27	56.44	59.45	58.64
Adj. R–squared	6.83	7.42	6.26	5.89	4.27
Num. Observations	37,800	45,174	43,293	24,942	12,538
Panel C: Personal Risk-tolerance					
Non–compliance	0.024*	0.028*	0.049***	0.037***	0.058***
Standard Error	(1.83)	(1.96)	(3.59)	(3.66)	(3.23)
% Non-compliant	55.69	68.94	65.67	70.69	58.94
Adj. R–squared	8.19	5.96	6.17	7.95	9.10
Num. Observations	10,476	7,646	10,829	9,260	7,605
Panel D: Country Freedom of Expression					
Non–compliance	0.015	0.031***	0.041***	0.049***	0.010**
Standard Error	(1.55)	(3.40)	(5.96)	(3.85)	(2.22)
% Non-compliant	47.14	54.09	65.48	58.55	58.86
Adj. R–squared	8.53	6.54	7.36	4.00	3.18
Num. Observations	33,380	35,549	26,833	27,947	30,396

Table 7
Personal, Firm, and Regional Characteristics across CEOs with Different Levels of Compliance

The table reports average personal, firm, and regional characteristics across CEOs with a legal record (Non-compliant CEOs) and the rest of the sample (Compliant CEOs). The last column reports the differences of the corresponding characteristics across the two CEO types. Precise definitions of the variables are outlined in the Appendix. (***), (**), and (*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	Non-compliant CEOs	Compliant CEOs	Difference
A. Personal Characteristics			
Number of CEOs	180	580	400
Mortgage (millions)	2.20	1.30	–0.90***
Wealth	1.08	1.75	0.67
Military	0.12	0.08	–0.04
Female	0.02	0.05	0.03
MBA degree	0.38	0.4	0.02
Born in Recession	0.35	0.34	–0.01
Worked in Recession	0.12	0.19	0.07***
B. Firm Characteristics			
Number of firm years	976	3,382	2,406
Number of firm years with analyst data	784	2,813	2,029
External capital	0.85	0.77	–0.08***
External equity	0.76	0.65	–0.11***
External debt	0.62	0.54	–0.08***
Total debt-to-assets	0.26	0.24	–0.02***
Market-to-book	1.47	1.31	–0.16
Assets (log)	8.05	8.43	0.38***
Profitability	0.10	0.11	0.01
Tangible assets	0.24	0.19	–0.05***
R&D	0.20	0.21	0.01
Past return	0.17	0.19	0.02
Number of analysts	15.17	15.40	0.23
C. Regional Characteristics			
Average home-ownership	0.58	0.57	–0.01
Average mortgage (log)	8.59	8.71	0.12***
Fraction employed in Finance	0.05	0.06	0.01***
Average income (log)	11.18	11.30	0.12***

Table 8
CEO Compliance and Personal Home Mortgage

The table reports coefficient estimates from individual–level OLS regressions of CEO mortgage amount (measured at the time of origination) on an indicator variable for a Non-compliant CEO (an executive with at least one legal infraction); estimated CEO wealth; indicators for military service, female gender, an MBA-degree, people born during an NBER defined recession, and people who began their career during an NBER defined recession; and the average home-ownership rate, (Log) of average annual mortgage payments, the fraction of people employed in Finance, and (Log) of the average household income in the CEO PUMA of residence over the 1988-2011 period. Precise definitions of the variables are outlined in the Appendix. (***), (**), and (*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	(1)	(2)
Non-compliant CEO	1.161***	1.384***
	(3.68)	(3.85)
Wealth	–0.007	–0.012
	(–0.42)	(–0.61)
Military	–0.449	–0.522
	(–1.00)	(–0.98)
Female	0.010	0.153
	(0.01)	(0.18)
MBA degree	0.810***	0.848***
	(3.02)	(2.77)
Born in Recession	–0.124	–0.146
	(–0.45)	(–0.47)
Worked in Recession	–0.166	–0.213
	(–0.53)	(–0.59)
Average home-ownership		–1.275
		(–0.94)
Average mortgage (log)		–0.468
		(–0.70)
Fraction employed in Finance		–6.156
		(–0.76)
Average income (log)		1.314
		(1.32)
Intercept	1.074***	–8.645
	(4.71)	(–1.23)
Adj. R–squared	0.03	0.03
Num. Observations	760	760

Table 9
CEO Compliance and External Capital

The table reports coefficient estimates from individual–level OLS regressions of indicator set to 1 if the firm issued stock or debt, stock, and debt in a given year on an indicator variable for a Non-compliant CEO (an executive with at least one legal infraction) and the following firm characteristics: total debt scaled by book value of total assets; ratio of market value of assets to book value of assets; natural log of total assets; operating income before depreciation and amortization scaled by total assets; net PPE scaled by total assets; R&D expense scaled by total assets; annual stock return over the previous year; and number of analysts following the stock at the end of the previous year over the 1990-2012 period. All models also include the following CEO characteristics: estimated CEO wealth; indicators for military service, female gender, an MBA-degree, people born during an NBER defined recession, and people who began their career during an NBER defined recession. Precise definitions of the variables are outlined in the Appendix. All models include industry and year fixed effects. Standard errors in all models are adjusted for clustering at the firm–level. (***), (**), and (*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	Capital	Equity	Debt	Capital	Equity	Debt
Non-compliant CEO	0.066***	0.088***	0.068***	0.056***	0.072***	0.069***
	(3.29)	(3.23)	(2.41)	(2.72)	(2.50)	(2.20)
Total debt-to-assets	0.136***	0.039	0.538***	0.117**	0.053	0.519***
	(2.68)	(0.57)	(8.92)	(2.26)	(0.74)	(7.27)
Market-to-book	0.009***	0.012***	0.002	0.006*	0.007*	0.003
	(3.76)	(3.74)	(0.61)	(1.85)	(1.72)	(0.47)
Assets (log)	–0.011*	–0.032***	0.046***	–0.021***	–0.053***	0.043***
	(–1.73)	(–3.85)	(6.80)	(–2.49)	(–4.52)	(4.25)
Profitability	0.296***	0.397***	–0.065	0.145	0.235*	–0.164
	(3.40)	(3.50)	(–0.69)	(1.44)	(1.90)	(–1.37)
Tangible assets-to-assets	0.202***	0.083	0.565***	0.155***	0.013	0.541***
	(3.87)	(0.84)	(7.53)	(2.88)	(0.12)	(6.12)
R&D-to-assets	0.413***	0.469***	–0.276	0.358*	0.424	–0.616**
	(2.78)	(2.35)	(–1.25)	(1.68)	(1.54)	(–1.99)
Past return	–0.006	–0.014	–0.004	–0.003	–0.017	–0.002
	(–0.96)	(–1.20)	(–0.44)	(–0.58)	(–1.66)	(–0.17)
Number of analysts				0.003**	0.005***	0.001
				(2.08)	(2.94)	(0.84)
CEO Personal characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R–squared	0.32	0.24	0.23	0.32	0.25	0.21
Num. Observations	4358	4358	4358	3597	3597	3597

Table 10
CEO Compliance and Uses of Cash

The table evaluates the uses of cash in the year a firm had net positive funds raised from debt and equity (eliminating all cases where a firm issued new securities to pay off old debt or repurchase outstanding equity). The dependent variables are the amounts spent on capital expenditures, acquisitions, research and development, and dividends. The independent variables include an indicator variable for a Non-compliant CEO (an executive with at least one legal infraction), the natural logarithm of the book value of the firm's assets (firm size), Tobin's Q, operating income, operating cash flow, stock return over the previous year, and interest coverage ratio. Precise definitions of the variables are outlined in the Appendix. All models include industry and year fixed effects. Standard errors in all models are adjusted for clustering at the firm–level. (***), (**), and (*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	Capex	Acquisitions	R&D	Dividends
Non-compliant CEO	278.35**	–2.67	–11.96	86.94***
	(2.20)	(–0.03)	(–0.46)	(2.78)
Size	131.81***	146.74***	81.74***	–9.70
	(3.06)	(3.31)	(4.77)	(–0.59)
Tobin's Q	–21.95**	–54.69***	–6.26	–1.43
	(–2.22)	(–2.37)	(–1.56)	(–0.32)
Operating income	0.04	0.11*	0.01	0.14***
	(0.76)	(2.02)	(1.22)	(4.75)
Operating cash flow	0.14*	0.05*	0.01	0.06**
	(1.91)	(1.76)	(1.54)	(1.99)
Past return	–12.86	44.98	–25.92*	–22.65***
	(–0.78)	(1.08)	(–2.22)	(–2.34)
Interest Coverage	–0.03	–0.12	–0.02**	0.10***
	(–0.50)	(–1.57)	(–2.08)	(2.90)
Adj. R–squared	0.43	0.24	0.26	0.80
Num. Observations	1912	1912	1912	1912

Table 11
CEO Compliance and Loan Characteristics

The table regresses four major loan characteristics (maturity, loan spread over LIBOR, number of loan covenants, and an indicator for a secured loan) on the following firm characteristics: an indicator variable for a Non-compliant CEO (an executive with at least one legal infraction); the natural logarithm of the book value of the firm's assets (firm size); Tobin's Q; operating cash flow; leverage; net Property, Plant, and Equipment (PPE). All models also include a set of loan characteristics as additional controls. Precise definitions of the variables are outlined in the Appendix. All models include industry and year fixed effects. Standard errors in all models are adjusted for clustering at the firm–level. (***), (**), and (*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	Maturity	Spread	Covenants	Secured
Non-compliant CEO	–4.631***	29.896***	0.190**	–0.036
	(–2.61)	(2.85)	(2.11)	(–0.95)
Size	0.158	–12.531***	–0.163***	–0.028***
	(0.23)	(–4.20)	(–5.51)	(–2.50)
Tobin's Q	–0.126	–2.184	–0.003	–0.015***
	(–0.87)	(–0.82)	(–0.28)	(–2.29)
Operating cash flows	0.000	0.000	0.000	0.000**
	(–0.77)	(–0.59)	(–0.36)	(–2.19)
Leverage	0.001***	0.000	0.000	0.000
	(–4.92)	(0.76)	(0.41)	(1.60)
Net PPE	0.000	0.001	0.000	0.000
	(–1.10)	(1.42)	(–0.23)	(0.63)
Maturity		–0.009	0.009***	0.002***
		(–0.05)	(5.02)	(3.73)
Spread	0.000		0.000	0.002***
	(–0.05)		(–0.62)	(11.40)
Covenants	3.606***	–2.354		0.049***
	(4.95)	(–0.61)		(3.27)
Secured loan	6.558	128.241	0.369	
	(3.80)	(11.63)	(3.18)	
Adj. R–squared	0.24	0.43	0.24	0.32
Num. Observations	1,399	1,399	1,399	1,399

Table 12
The Performance of Firms with Non-Compliant CEOs

The table regresses firm annual stock return, return on assets, and the number of covenant violations in a given year on the following firm characteristics: an indicator variable for a Non-compliant CEO (an executive with at least one legal infraction); the natural logarithm of the book value of the firm's assets (firm size); Tobin's Q; operating cash flow; and leverage. Precise definitions of the variables are outlined in the Appendix. All models include industry and year fixed effects. Standard errors in all models are adjusted for clustering at the firm–level. (***), (**), and (*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	Stock Return	Return on Assets	Covenant Violations
Non-compliant CEO	-0.040	-0.007	0.313**
	(-1.55)	(-0.58)	(1.81)
Size	0.012*	0.020***	-0.660***
	(1.67)	(4.17)	(-14.20)
Tobin's Q	0.076***	-0.001	-0.096
	(16.36)	(-0.12)	(-0.68)
Operating cash flow	0.000**	0.000**	0.000***
	(-2.15)	(-1.82)	(-4.23)
Leverage	0.000	0.000***	-0.036***
	(1.04)	(2.66)	(-2.84)
Adj. R–squared	0.14	0.09	0.13
Num. Observations	3,526	3,526	3,526