Social Stigma and Executive Remuneration:

The Compensation Premium in "Sin" Industries

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Abstract

We document that executives in alcohol, gambling, and tobacco industries (sin industries) earn a statistically and economically significant compensation premium. Compensation premium in sin industries cannot be attributed to (1) higher complexity of sin industries, which requires more skilled managers, (2) higher compensation risk, (3) higher executive entrenchment, or (4) higher likelihood of dismissal due to poor performance. Rather, the premium compensates for social stigma related to employment in sin industries. Consistent with this prediction, we document that (1) executive compensation in sin industries is higher in periods and in states with higher social aversion to sin and (2) sin firms executives hold less outside board seats, which indicates their lower social prestige. Together, our evidence suggests that executives at sin firms demand a compensation premium for bearing negative personal and professional costs of working in industries perceived negatively in light of prevailing social norms.

Keywords: Executive compensation, sin firms, social norms

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Introduction

This study examines how social norms and perceptions affect executive remuneration contracts.[1] Social economics literature has long recognized that social norms shape economic behavior, e.g. through the effect social norms have on acceptance of racial discrimination at workplace (Altonji & Blank 1999; Levitt 2004). However, there is little evidence on how negative social perception affects executive compensation. We address this question by examining executive compensation in "sin" industries: alcohol, gambling, and tobacco. These industries have long been perceived to violate social norms as their products are harmful to consumers' physical and mental health.[2] We propose that negative public perception of sin industries can adversely affect social recognition of their executives, which may affect their utility both directly by impairing their social status and indirectly by limiting their opportunities to earn from lucrative outside appointments. If an executive is shunned by the society he or she will receive less invitations to boards of other firms, which are earmarks of social status. At the same time a sin firm executive forgoes income from board memberships that may be significant. Thus, we expect managers in sin industries to demand a compensation premium for the negative consequences sin industries stigma have on their personal and professional life. This study is first to examine how negative social perception of the nature of economic activities in a firm affect executive compensation.

Our empirical tests identify a significant premium in executive compensation of sin firm: an executive in these industries can expect to earn $331,300 more in annual inflation-adjusted income, compared to non-sin industry executives. The premium is paid to both CEOs and other executives, and is present in all components of total remuneration (salary, bonus and equity-based compensation). The premium is largest in the tobacco industry, which is arguably the most stigmatized (Beneish et al. 2008; Gerstein et al. 2004; Anielski & Braaten 2008), followed by the gambling and the alcohol industry. Finally, we document that the premium is not sensitive to alternative definitions of sin industries, subsample splits, and a number of other robustness tests.

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[1] We follow Akerlof (1980) and Hong and Kacperczyk (2009) and define social norms as behavior where utility is dependent on beliefs or actions of other members of the community.

[2] Early codification of social norms on consumption of alcohol and gambling are found in many Christian, Hindu and Islam texts (Fam et al. 2004). Negative public attitude towards tobacco relate to medical evidence in 1960s on the link between cigarette smoking and cancer. Social stigma stems from addictive and pathological effects sin industry products have on consumers, their families and communities (Gerstein et al. 2004; Anielski & Braaten 2008; Leventis et al. 2013; Galvin et al. 2004; Grinols 2004; Hudson 2008).

We argue that remuneration premium compensates for adverse effects that social stigma of working in the sin industry has on manager's personal and professional life. To support this proposition we provide two corroborating pieces of evidence. First, we show that the premium increases following periods of heightened negative social attitude to sin industries, which we proxy by (1) state-level smoking prevention spending per capita and (2) large legal settlements in the tobacco industry. This implies that executives demand higher compensations in places and in times of higher negative public pressures on sin industries. Second, we examine the number of personal connections available to sin executives through seats on boards of directors of other firms. We find that executives from sin firms sit on fewer outside boards and on smaller boards. As board seats are an earmark of social status (Kaplan and Reishus, 1990; Maug et al., 2012), our evidence suggests that stigmatized executives of sin firms receive them less often.[3] Together, our evidence suggests that sin firms pay a compensation premium to their executives to compensate for social stigma working in sin industries entails.

We perform a number of additional tests to ensure our conclusions are not driven by confounding effects. First, we show that the compensation premium cannot be attributed to higher complexity and operating risk in sin industries, which requires appointments of more skilled managers who demand higher compensation. Specifically, following Demerjian et al. (2012), we calculate the firm-level measure of the average ability of the executive team and show that it does not explain the compensation premium. Second, executive compensation at sin firms does not exhibit signs of greater income risk, which could explain the premium. Specifically, there is no evidence that (1) managers in sin industries are more likely to be let go because of poor performance compared to other industries, and (2) the pay-performance sensitivity of executives at sin firms is not different than that of other firms. Third, the compensation premium in sin industries is not due to higher entrenchment of executives, thus their ability to extract a premium when negotiating their employment contracts. Together, our results provide strong support for the explanation that social norms affect executive compensation at sin firms.

This study offers an important contribution to the literature on the determinants of executive compensation as well as to the literature on the impact of social norms on economic activities.

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[3] The prediction that certain firms do not wish to be associated with executives from sin firms is consistent with the evidence in Hong and Kacperczyk (2009) that a significant number of institutional investors avoid investing in sin industries.

Standard compensation theories ignore the effect social context has on managerial compensation contracts. We show that higher executive compensation in sin firms compensates for the social stigma executives at these firms bear. Our evidence is important as Graham et al. (2012) highlight that a large proportion of the cross-sectional variation in executive compensation remains still unexplained. Our evidence complements the results in Maug et al. (2012), who document that CEOs of companies ranked as prestigious by specialized industry press earn lower compensation than executives at non-prestigious firms. The authors argue their evidence reflects that social status garnered by working for a prestigious firm has value to CEOs that compensates for their lower financial remuneration package. Our emphasis on the compensation premium in sin industries highlights how negative social perception of the nature of economic activities in these industries affect executive compensation. Further, our study adds new evidence to the emerging literature that examines how social norms affect firm economic performance (Chong et al., 2006; McGuire et al., 2012; Hong and Kacperczyk, 2009; Leventis et al., 2013). We highlight a new link between the social context a firm operates in and economic outcomes—the labor force compensation premium in firms engaging in activities deemed socially undesirable. The remainder of this paper is organized as follows: Section 2 reviews prior research and develops hypotheses, Section 3 presents the research design, Section 4 describes data, Section 5 discusses results, and Section 6 concludes.

1. Literature review and hypotheses

Only a handful of studies to date examined the impact of social norms on the economic activity in industries that have a negative social perception. Hong and Kacperczyk (2009) investigate the value and ownership structure of sin firms. They find that firms in the tobacco, gambling, and alcohol industries are valued consistently lower than their returns would imply, and that these firms have smaller ownership by norm-constrained institutions such as pension funds, and less analyst following. Chong et al. (2006) and Salaber (2009) also report that institutional investors underinvest in sin firm because of the social stigma such investments entail. The evidence of underpricing and lower institution ownership suggests that social norms lead to significant costs for sin firms.

Leventis et al. (2013) find that sin firms pay higher fees for external audit. They propose three alternative explanations for their results: (1) auditors work more diligently on sin firm contracts because the costs of failure in the form of reputation loss for the auditor is greater, (2) auditors do not work harder but extract (an insurance-like) premium to insulate themselves from reputation costs, and (3) sin firms themselves demand more rigorous audit in order to assure the public of the quality of their reporting and thus improve their public perception. Beneish et al. (2008) document that tobacco firms engage in acquisitions to protect against expropriation and litigation by public authorities and private claimants. Acquisitions help (1) divest firm excess cash, which is easier to claim then physical assets in the event of an expropriation attempt, and (2) they expand the firms' political connections and influence, which can reduce the likelihood of expropriation. Together, these studies provide early evidence that social norms can lead to costly structural and operational changes at sin firms, particularly among tobacco firms. Kim and Venkatachalam (2011) report that sin firms have higher quality financial reporting, which they attribute to higher litigation and regulatory risk these firms face.

Maug et al. (2012) examine compensation of CEOs at firms identified as "prestigious" by their placement in several rankings in business and specialized press. They find that CEOs of prestigious firms are willing to accept lower compensation, which they attribute to non-monetary benefits CEOs gain from working for prestigious firms and improved career opportunities. Maug et al. (2012) do not examine if executives demand a premium for bearing negative social costs of working at firms deemed to break social norms. *Ex-ante*, it is unclear if compensation premium at sin firms should exist in competitive labor markets. First, country-wide and international job markets allow sin industries to attract executives who, at a margin, do not demand a compensation premium for social stigma. Second, compensation premium that does not reward better skill or performance means a wealth transfer from shareholders to executives. In competitive financial markets shareholders could (1) penalize board of directors that allow wealth transfer to executives or (2) choose alternative investments with same expected return but absent wealth transfers. Thus, in contrast to lower executive compensation that benefits shareholders at prestigious firms, it is unclear if social norms are strong enough to induce a compensation premium in sin industries.

Prior research suggests that social norms have significant economic impact. We expand this literature by examining how social norms affect executive compensation at sin firms. We expect

that firms that violate social norms suffer from a loss of social status, which in return adversely affects executives' personal utility (through a social stigma these executives face) and less developed personal networks. Higher salary at sin firms compensates executives for these negative effects of social stigma. This prediction leads to our first empirical hypothesis:

> ***Hypothesis 1****: There is a premium in executive compensation at sin firms.*

Previous evidence suggests that tobacco firms face a higher level of public animosity (Beneish et al., 2008; Hong and Kacperczyk, 2009), which can increase the average premium tobacco firms have to pay to their managers. Research and anecdotal evidence shows increasing pressure of various social, health and governmental bodies to limit the production and distribution of cigarettes in the US[4]. This leads to an extension of our main research hypothesis:

> ***Hypothesis 1a****: The premium in executive compensation is larger in tobacco industry compared to other sin industries.*

We argue that premium in executive compensation exists because it compensates for the negative effect stigma of sin firms has on personal welfare and social standing. Specifically, sin executives may be less desirable as outside directors. This is because outside directorships is considered a mark of status among executives (Kaplan and Reishus, 1990) and certain firms may prefer to avoid being associated with directors from sin industries. Further, outside directorships brings additional financial compensation, which, can be non-trivial if an individual holds multiple directorships (Yermack, 2004). The negative social stigma related to employment at sin firms can make their executives less attractive as outside directors in other firms, particularly for larger boards. This in return can translate into less personal prestige and lower financial gain. In a similar way, certain firms may be less willing to hire sin executives into their management team to avoid negative social impact such an appointment can have. These predictions lead to two hypotheses:

> ***Hypothesis 2a****: Sin firm executives sit less frequently as outside directors on boards of other firms.*

> ***Hypothesis 2a****: Sin firm executives sit on smaller outside boards.*

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[4] See for example the U.S. Public Health Service Surgeon General report on tobacco use and the health of the American people http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4916a1.htm

2. Research Design

This section first describes our measures of executive compensations, then we present our definitions of sin industries, and finally the regression models we use to test if a compensation premium exists in the sin industry.

3.1 Measures of executive compensation and definitions of the sin industries

We follow prior research (Roulstone, 2003; Gabaix and Landier, 2008; Maug et al., 2012) and use total direct compensation as measured in the ExecuComp database, *Comp*, as our main compensation measure. We further decompose total executive compensation into salary (*Salary*), bonus (*Bonus*), and other direct compensation (*ODC*) components. This decomposition allows us to examine if the compensation premium is channeled through all components or only specific remuneration elements.

To identify sin industries, we define an indicator variable *SIN_1*, which takes a value of one if a firm belongs to alcohol, gambling or tobacco industries, and is zero otherwise. Specifically, firms with SIC codes in the range 2100–2199 are allocated to the alcohol industry. Firms with SIC codes in the range 2080–2085 are in the gambling industry, and the tobacco industry includes firms with NAICS codes 7132, 71312, 713210, 71329, 713290, 72112, and 721120.

To sharpen the analysis, we disaggregate the sin group into the three individual industries that constitute the *SIN_1* sample. Specifically, the indicator variable *ALCOHOL* takes a value of one for firms in the alcohol industry, and zero otherwise. *GAMBLING* is an indicator variable for firms in the gambling industry, and *TOBACCO* is and indicator variable for firms in the tobacco industry. We expect the compensation premium to be the largest in the tobacco industry, which has been under the strongest public pressure (Hamilton et al. 2002), followed by the gambling and the alcohol industries.

In sensitivity tests, we use two other definitions of the sin industry. Specifically, our second definition of the sin industry (*SIN_2*) includes all firms classified in *SIN_1* as well as firms which

have at least one segment belonging to the sin industries defined above. This definition of sin industries corresponds to the sample used in Hong and Kacperczyk (2009). Our third definition of the sin industry, *SIN_3*, enlarges *SIN_2* by adding firms flagged with 'alcohol concern', 'gambling concern', or 'tobacco concern' in the MSCI ESG STATS database (formerly KLD). We use alternative definitions of sin industries to ensure our main results are not driven by misclassification of sin stocks based on SIC and NAICS codes.

3.2 Control variables

We base our set of control variables on the determinants of executive compensation identified in past research. Previous studies document that executives earn higher compensation when working for larger and faster growing firms (Maug et al. 2012; Gabaix and Landier, 2008; Hartzell and Starks, 2003). As in Maug et al. (2014), we measure firm size by its market capitalization (*MV*), which is the product of the number of shares outstanding and the closing price at the last trading day of the fiscal year, and by firm total revenue (*Sales*). We measure firm growth by growth in sales (*SALES_GR*), which is the ratio of total dollar sales for fiscal year *t* over total sales for fiscal year *t-1*. We control for firm profitability and return performance because Hartzell and Starks (2003), Engel et al. (2010), and Roulstone (2003) document that executives at better performing stocks earn higher compensation. Return on assets (*ROA*) measures firm's profitability and is defined as the ratio of income before extraordinary items to book value of assets. We measure firm return performance by the market-adjusted returns (*XRET*), which is the difference between the firm's and the S&P 500 index returns in a fiscal year *t*.

Executive remuneration may increase with business risk, which compensates the executive for (1) higher variability in compensation and (2) higher likelihood of bankruptcy and employment termination, which increases the risk of executive's compensation (Maug et al. 2012, Rousltone 2003). We measure business risk by the firm's standard deviation of monthly stock returns over fiscal year *t* (*SD_RET*). We distinguish between the CEO and other executives since the former can expect to earn on average higher compensation. Specifically, *CEO* is an indicator variable that takes a value of one if the executive has been CEO in a fiscal year, and zero otherwise. We include an indicator variable for female executives (*Female*) as Bertrand and Halock (2001) and Carter et

al. (2014) find that females are on average paid less than males. We measure executive tenure at the firm (*Tenure*) because more tenured executives earn on average higher compensation (Finkelstein and Hambrick 1989). Finally, we include a set of year effects (*Year effects*) to capture trends in the labor market over time.

We adjust all dollar amounts (compensation, firm size and firm sales) for inflation, with the average value of the US CPI for 1982–1984 being the baseline. All continuous variables are Winsorized at 1% level. As is standard in the literate, compensation and accounting data are for the same fiscal year.[5] Our main model specification is:

$$Comp_t = \beta_0 + \beta_1 Sin_{1_t} + \beta_2 CEO + \beta_3 Female + \beta_4 Tenure + \beta_5 \ln MV_t +$$
$$\beta_6 \ln Sales + \beta_7 Sales\_GR_t + \beta_8 ROA_t + \beta_9 XRET_t + \beta_{10} SD\_RET_t +$$
$$\sum_{k=1}^{20} \beta_{10+k} Year\ effects + \varepsilon_t \quad (1)$$

The regression standard errors are dual-clustered at the executive and firm level (Petersen, 2009). To facilitate interpretation of the regression results, we report the 'economic magnitude' of the estimates as 'percentage abnormal compensation' (*PAC*), which is the mean residual/fitted ratio in an auxiliary regression estimated with the same controls and on the same sample (including any restrictions that may be in effect), but with the sin dummy of interest excluded. *PAC* assumes that the mean of the random noise in residuals is zero and that any nonzero elements in the mean are attributable to the excluded variable (the sin dummy).

Because we expect that social stigma is higher in the tobacco industry compared to alcohol and gambling industries, we run a variation of model (1) where we use indicator variables for the three sin industries instead of the sin dummy. This model's specification is:

$$Comp_t = \beta_0 + \beta_1 TOBACCO + \beta_2 ALCOHOL + \beta_3 GAMBLING + \beta_4 CEO + \beta_5 Female +$$
$$\beta_6 Tenure + \beta_7 \ln MV_t + \beta_8 \ln Sales + \beta_9 Sales\_GR_t + \beta_{10} ROA_t + \beta_{11} XRET_t + \beta_{12} SD\_RET_t +$$
$$\sum_{k=1}^{20} \beta_{12+k} Year\ effects + u_t \quad (2)$$

We expect that the coefficient on TOBACCO is significant and higher in magnitude compared to the other two sin industries.

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[5] Our conclusions are unchanged when we use lagged values of independent variables.

3. Data

We collect information on executive compensation from ExecuComp. Accounting data is from Compustat, and market data from CRSP. The sample period is 1992–2012 as covered by ExecuComp. As in past studies (e.g. Yermack, 2006), we exclude the financial sector (SIC codes 6000–6999) as the capital structure and compensation rules are different compared to other industries. We drop observations where book equity is negative, as these are typically firms in distress and may be under a non-standard management contracts. We further drop observations where total direct compensation is negative for the year. Our final sample includes 147,284 firm-executive-fiscal year observations, which represents 2,520 firms, and 30,638 executives (not tabulated). Of this, there are 1,929 firm-executive-fiscal year observations in sin industries, 325 in tobacco, 830 in gambling and 774 in alcohol (Table 2).

We present descriptive statistics for the variables in Table 1. Mean and median values are comparable with earlier studies (e.g. Carter et al. 2014). Average total executive compensations in our sample is $1.935m, with the interquartile range of $0.843m. Around 1.31% of the sample observations are executive-firm-years for sin industries, 17.63% of observations are for CEOs and 5.73% are for females. Average executive tenure is close to 5 years, firm size is $1.326b and sales are $1.187b. Average sales growth is close to 14.5% and firm profitability is around 9.4%. Market-adjusted returns calculated over the fiscal year are 7.5% and their volatility equals 2.54%. In unreported result, we find that the correlations between the explanatory variables in Table 1 are on average small, with all correlations comfortably below 0.8, which is the rule-of-thumb level for the potential multicollinearity problem.

[Insert Table 1 around here]

To shed light on the existence of compensation premium in sin industries, Figure 1 plots total compensations over time for sin and non-sin industries. We observe that executives in sin industries earn a significantly higher total compensation compared to other industries over our sample period. As a first-cut test for weather higher average compensation in sin industries reflects a premium, we also highlight periods following large, highly publicized legal cases against the tobacco industry in

1998, 2000 and 2002.[6] We observe that during the one year period following the lawsuit, sin firms pay (1) higher compensation compared to the period just before the legal case (i.e. there is an upward trend in the year following the legal cases) and (2) the trend in compensation in sin firms is on average the opposite to the trend in compensation in other industries. The latter result suggests that higher compensation in sin industries is unlikely due to general market trends and is likely more consistent with increased compensation required by executives due to increases social stigma related to employment in sin industries.

[Insert Figure 1 around here]

Figure 2 replicates the analysis from Figure 1 for individual sin industries. We observe a pecking order in sin industry salaries: compensation in the tobacco industry is the highest and in the gambling industry it is the lowest. This result is consistent with our prediction that the premium is largest in the tobacco industry, which is arguably the most stigmatized (Beneish et al., 2008). All sin industries have higher average compensation compared to non-sin industries. As before, we also highlight periods of heightened legal and media attention on the tobacco industry. We confirm earlier result that executives in tobacco industry demand on average a higher premium following periods of higher legal and media attention, consistent with these periods coinciding with higher negative social costs of employment in this industry.

[Insert Figure 2 around here]

4. Regression results

Higher compensation in sin industries evident in Figure 1 could potentially reflect normal compensation levels that are due to the type of executives working in sin industries or a higher compensation risk in these industries, rather than due to social stigma. To distinguish the two explanations, Table 2 reports regression results for model (1), where the indicator variable *Sin*

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[6] Year 1998 saw the Tobacco Master Settlement Agreement between the largest tobacco companies and the attorneys general of 46 states. Year 2000 includes the high profile Florida smoking case where the jury awarded $23 billion in punitive damages. Year 2002 saw a number of legal cases against tobacco companies, which include David Burton vs. R.J. Reynold's Tobacco (awarded $15 million in punitive damages), Lukacs vs. Philip Morris ($37.5 million in damages) and Betty Bullock vs. Philip Morris ($28 billion in punitive damages).

captures the incremental compensation beyond the normal level that we would expect based on firm and executive characteristics. We document a significant and consistent premium in executive compensation in sin firms, which amounts to $331,094 per annum, inflation-adjusted. This premium is present for each definition of the sin industry we use (*Sin*_1, *Sin*_2 and *Sin*_3), which suggests that our results are not due to the particular industry definition we use. Disaggregating the sin industry into its three components, we find that the premium is largest in the tobacco industry ($479,647), followed by the gambling ($304,980) and alcohol ($297,738) industries (the pairwise differences in coefficients are significant at 1% level). This pecking order is consistent with the perceived harm of products offered by each industry (Beneish et al., 2008), and consistent with the proposition the premium reflects compensation for social stigma.

The latter columns of Table 2 show results for model (1) where we decompose compensation into salary, bonus and other direct compensation (ODC). We observe a significant premium in all three components. Executives working salary compensation is $54,249 per annum, bonus $74,777 and other direct compensation is $192,589.[7] Overall, regressions results for model (1) provide strong support for a higher premium in sin industries due to social stigma.[8]

[Insert Table 2 around here]

The coefficients on other explanatory variables are consistent with past evidence (Core et al., 1999; Bizjak et al., 1993; Guay, 1999). We find that CEOs earn on average higher compensation compared to other executives and that females earn on average around $50,000 less than males, consistent with the evidence in Bertrand and Hallock (2001) and Carter et al. (2014). Total compensation tends to increase with executive tenure, and is higher for larger firms with high growth in sales. Executives are paid more following better share price performance and when volatility in abnormal returns is higher. The latter evidence reflects that executives demand higher remuneration to compensate for higher risk their compensation may reduce due to unexpected market shock. Similar to past research (Core et al. 2008, Maug et al. 2014), we find that executives'

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[7] In unreported results, we also find that the premium is paid to both CEOs and other executives, thought the CEO premium is higher compared to other executives. This result is consistent with (1) all employees at sin firms are subject to social stigma and require higher compensation and (2) higher public visibility of the CEO compared to other executives makes the negative consequences of social stigma higher for the CEO leading to a higher premium.
[8] In unreported results, we find that the conclusions from Table 2 remain unchanged when we split the sample period into subsamples.

compensation reduces with profitability. Maug et al. (2014) attribute this result to ratcheting effect where profitability sets a benchmark for current performance and pay declines with higher past performance because it resets the benchmark.

5.1. Compensation premium in periods of heightened social stigma

To sharpen the analysis and corroborate Table 2 evidence that higher compensation in sin industries reflects a premium due to social stigma, we examine if the premium increases following periods of higher negative social attitude towards sin industries. As we cannot directly measure individual perceptions, we proxy for them using periods of heightened legal and media pressure on sin industries. Higher negative legal and media attention can correlate and augment negative attitudes to sin industries, thus should act as a valid instrument for the unobserved individual perceptions.

We expect that compensation in sin industries should increase following periods of more negative social attitude to sin industries. To test this prediction, we first run a conditional specification of model (2) when we interact the indicator variables for the three sin industries with (1) an indicator variable that takes a value of zero for years 2001–2002 (the most recent period following intense anti-tobacco legislation in 2001) and a value of one for periods 2003–2004, which is the post-legislation period where the negative consequences of negative public attitude to sin firms are experienced by executives (i.e. *Legal_D*TOBACCO*, *Legal_D*GAMBLING* and *Legal_D*ALCOHOL*). Further, as an alternative test, we include in model (2) interaction terms between sin industries and the amount of money spend on smoking prevention per capita (measured using population counts in 2010) across states (*Smoke_prev*TOBACCO*, *Smoke_prev*GAMBLING* and *Smoke_prev*ALCOHOL*).[9]

We expect that higher social stigma in states with higher per-capital spending on smoke prevention and in periods following publicized anti-tobacco legislation will lead to an increase in executive compensation premium in the tobacco industry. Alternatively, if the compensation premium reflects competitively negotiated labor contracts between the firm and management, we should expect the premium to reduce as profits of tobacco firms are negatively affected by the smoke-

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[9] Smoking prevention data is from the Center for Disease Control.

prevention activities and legal outcomes, i.e. executive pay reduces in line with a reduction in shareholder wealth.

As tobacco lawsuits do not bear on legislation in other sin industries, the interaction terms between *Legal_D* and the gambling and alcohol industries should be indistinguishable from zero. We use the coefficients on *Legal_D*GAMBLING* and *Legal_D*ALCOHOL* as a placebo test to ensure the coefficient *Legal_D*TOBACCO* does not pick up market trends in compensation across industries.

The first column of Table 3 reports regression results for model (2) where we include the interaction terms between legal outcomes in the tobacco industry and the three sin industries. We find that following legal settlements, the premium in tobacco industry tends to increase. This is consistent with the increase in social stigma, which increases the overall compensation the firm has to offer to its executives. Consistent with our prediction, the coefficient on *Legal_D*GAMBLING* is indistinguishable from zero, and the coefficient on *Legal_D*ALCOHOL* is negative, which reflects generally a downward trend in normal compensation level over time that we observe in Figure 1. Overall the results for the interaction terms between *Legal_D* and industry dummies confirm the prediction that social stigma explains higher compensation premium in the tobacco industry. Our falsification tests using the interaction terms between legal settlements in the tobacco industry and alcohol and gambling industries suggest our results do not pick up time-trends in executive compensation.

[Insert Table 3 around here]

To provide further corroborating evidence on the premium in sin industries, the second column of Table 3 reports results for model (2) where we include interaction terms between the three sin industries and spending on smoke prevention across states. We find a significant coefficient on the interaction term between tobacco industry and spending on smoke prevention, consistent with an increase in premium in settings where the state spends more on advertising against smoking. The coefficient on *Smoke_prev*GAMBLING* is indistinguishable from zero and we find a negative coefficient on *Smoke_prev*ALCOHOL*, consistent with earlier results that executive compensation (inflation-adjusted) tends to reduce over time. These results further support our explanation that the premium in sin industries is due to the social stigma.

Rather than paying a higher premium to executives, companies can try to reduce their negative image among the public, which would in return reduce the social stigma. These activities can take a form of public relations management or charity spending. Because we do not have direct measures of the amounts spend on the image building by sin industries, we proxy for them by assets-scaled advertising expenses (*Advertising*). We then interact the advertising spending with the sin indicator variable. We expect that higher spending reduces the premium in sin industries as companies actively engaging in improving their image with the public alleviate the negative consequences stigma has on executives' personal utility, which should reduce the premium they pay to their executives. The last columns of Table 3 report results for model (2) when we include advertising spending and its interaction with the sin industry dummy (*Advertising*Sin_1*). Controlling for advertising spending, we continue to find a significant positive coefficient on the indicator variable for sin industries. Further, consistent with our prediction, we find that the premium reduces with advertising spending. Together, Table 3 results confirm that the compensation premium in sin firms reflects the negative social stigma work in those firms involves.

5.2 Executives professional networks

Next, we examine the number of personal connections available to sin executives through seats on boards of directors of other firms. As board seats are an earmark of social status (Kaplan and Reishus, 1990; Maug et al., 2012), stigmatized executives of sin firms should receive them less often. Thus, a negative likelihood of outside board membership for executives from sin industries illustrates one aspect of social costs these executives bear.

Our first test examines the likelihood of executives sitting on outside boards as directors. For this test, we focus on CEOs in sin industries who suffer more from the negative social stigma as they epitome the negative characteristics of the firms they work for.[10] Our model has the form

$$Probability(outside\ director)_t = \beta_0 + \beta_1 Sin\_1 + \sum \beta_i CEO\ characteristics +$$
$$\sum \beta_j Firm\ characteristics + \sum \beta_k Year\ effects + \varepsilon_t \tag{3}$$

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[10] In unreported results we find similar results for non-CEO executives.

where *CEO characteristics* include the indicator variable for females and CEO tenure, and *Firm characteristics* include the firm variables from model (1).[11] We expect lower likelihood of outside directorship among CEOs from sin industries.

To examine if the likelihood of outside board membership varies across sin industries, we also estimate a variation of model (3) where we include indicator variables for the three sin industries

$$Probability(outside\ director)_t = \beta_0 + \beta_1 TOBACCO_t + \beta_2 GAMBLING +$$
$$\beta_3 ALCOHOL + \sum \beta_i CEO\ characteristics + \sum \beta_j Firm\ characteristics +$$
$$\sum \beta_k Year\ effects + \varepsilon_t. \tag{4}$$

We expect that CEOs from tobacco firms will have marginally lower likelihood of outside board sits compared to CEOs from other sin industries as the social stigma for this industry is higher compared to other sin groups.

In addition to a lower likelihood of sitting on outside boards, we also expect that (1) the number of outside boards CEOs from sin industries sit on is lower and that (2) the size of these boards is smaller. These two predictions reflect that CEOs from sin firms are less likely to benefit from multiple directorship roles and if they are able to find an outside seat, these are usually in smaller, less prestigious firms. To test these two predictions, we use a variation of model (3) to predict the number of outside director seats CEOs from sin industries have

$$\#outside\ director_t = \beta_0 + \beta_1 Sin\_1_t + \sum \beta_i CEO\ characteristics +$$
$$\sum \beta_j Firm\ characteristics + \sum \beta_k Year\ effects + \varepsilon_t \tag{5}$$

and the average size of outside boards CEOs from sin industries sit on

$$size\ of\ outside\ board_t = \beta_0 + \beta_1 Sin\_1_t + \sum \beta_i CEO\ characteristics +$$
$$\sum \beta_j Firm\ characteristics + \sum \beta_k Year\ effects + \varepsilon_t. \tag{6}$$

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[11] Executive board membership comes from the IRRC Directors. This sample has 170,000 firm-director-year observations over 1996–2012 and includes 24,600 directors. The cross-section of our main sample and of IRRC Directors produces 33,600 observations, i.e. observations of executives who also serve as directors. We base our analysis of the directorial activities of executives on this combined sample.

As a final test, we also examine the overall size of networks sin CEOs enjoy. We measure this as the sum of all other board members for the external board a CEO sits on (controlling for duplicates)

$$size\ of\ outside\ network_t = \beta_0 + \beta_1 Sin\_1_t + \sum\ \beta_i CEO\ characteristics +$$
$$\sum\ \beta_j Firm\ characteristics + \sum\ \beta_k Year\ effects + \varepsilon_t \qquad\qquad (7)$$

As for model (3), we also estimate variants of models (5)–(7) where we include indicator variables for the three sin industries in place of *Sin_1*. We expect that (1) the number of outside director seats, (2) the size of outside boards CEOs from sin industries sit on and (3) the overall size of these CEOs network is smaller for CEOs from tobacco industry compared to the other two sin groups.

5.2.1 Regression results for executives professional networks

The first column of Table 4 reports results for model (3), which predicts the likelihood the CEO from a sin firm will sit on an outside board. CEOs from sin firms have lower likelihood of sitting on outside boards, consistent with the stigma attached to these CEOs making them less desirable members of boards of other firms. Splitting the sin dummy into individual industries, we observe that the coefficient on *TOBACCO* is higher compared to the other sin industries. This result is consistent with the prediction that CEOs from tobacco industry suffer more from social stigma attached to their firms making them undesirable members on other boards.

[Insert Table 4 around here]

Next, we examine if the number of outside director seats is lower for CEOs from sin industries, and in particular, for CEOs from the tobacco industry. Regression results for model (5) confirm that executives from sin firms sit on fewer boards. Further, including indicator variables for individual sin industries in model (5), we find that CEOs from tobacco firms are marginally less likely to sit on a large number of outside boards. This confirms that the outside opportunities for board membership are smaller for CEOs from sin firms, particularly if they represent the tobacco industry.

CEOs from sin firms may have few outside board seats, however, if the boards they sit on are on average larger, their overall network size may not be smaller compared to CEOs from other

industries. Model (6) reports the results where we estimate average board size CEOs sit on. Though on average there is no correlation between origin of the CEO at a sin firm and the size of outside boards, the correlations are negative for tobacco and gambling industries. This confirms that CEOs from most stigmatized industries can only find seats on smaller boards. The positive coefficient for alcohol in predicting outside board size likely reflects the attempts of the alcohol industry to diversify into other food and drink sectors, e.g. through flavored alcoholic beverages.[12]

Our final test examines the overall network size of CEOs form sin firms. Results for model (8) show that CEOs from sin firms enjoy in aggregate smaller professional networks and this result is strongest for the two most stigmatized industries tobacco and gambling industries. Together, Table 4 results confirm that professional networks of CEOs from sin industries are smaller than those of peers in otherwise comparable companies. Less developed professional networks and lower prestige associated with board membership help explain why executives at sin firms demand a compensation premium for the social stigma their work entails.

5.3 Alternative explanations for the compensation premium in sin industries

Our tests suggests that social stigma explains the compensation premium in sin industries. To exclude alternative explanations for the premium, we perform three additional tests. First, we examine if the premium is driven by higher average ability of executives in sin industries. To attract and retain more skilled managers, sin firms may have to pay a premium, which would explain our results. Second, we test if managers in sin industries face higher income risk. Higher sensitivity of compensation to performance in sin firms would suggest the premium rewards high risk born by executives in these industries. Third, the premium may reflect higher managerial entrenchment and ability to extract a rent when working at sin industries. Thus, the premium may reflect uncompetitive employment contracts in sin firms.

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[12] See for example the KPMG report "Sharing knowledge on topical issues in the Food, Drink and Consumer Goods Industry" available at http://www.kpmg.com/global/en/issuesandinsights/articlespublications/issues-monitor-food-drink-consumer-goods/documents/issues-monitor-food-drink-and-consumer-goods-july-2012.pdf

5.3.1 Managerial ability

To examine if compensation premium in sin industries rewards more talented managers, we require a measure of executive ability. We follow Demerjian et al. (2012) and use their *MA Score* to measure executive ability. The score represents the share of firm efficiency not attributable to firm-specific factors, thus likely attributable to the ability of the management team. We then include this measure in model (1) to examine if the compensation premium in sin industries persists once we control for managerial ability.

Table 5 reports results for model (1) when we include executive ability among the independent variables. We do not find a positive correlation between *MA Score* and compensation. Further, controlling for ability, we continue to find a significant premium paid to executives in sin industries. This evidence is present for our main variable capturing sin industries, *Sin_1*, and alternative definitions we consider in Table 2. Further, we continue to find that the premium is present for all three sin industries. The evidence in Table 5 suggests that the compensation premium in sin industries does not reward higher managerial ability in these firms.

[Insert Table 5 around here]

5.3.2 Compensation risk

Next, we examine if executives at sin firms are subject to higher compensation risk. Higher risk that negative shocks to the firm's cash flows will also negatively affect managerial pay can explain why executives at sin firms demand a premium. To capture compensation risk, we examine pay performance sensitivity following Jensen and Murphy (1993). Specifically, we regress the change in total compensation ($\Delta Comp_{t,t-1}$) on the current and past change in shareholder wealth ($dWealth_t$ and $dWealth_{t-1}$) measured by the inflation-adjusted stock returns multiplied by company value in the beginning of the year. Further, we interact changes in shareholder wealth with the indicator variable for sin firms ($Sin\_1_t * dWealth_t$ and $Sin\_1_t * dWealth_{t-1}$). Higher sensitivity of sin executives' compensation to changes in shareholder wealth suggest more risky compensation contract. The model has the form:

$$\Delta Comp_{t,t-1} = \beta_0 + \beta_1 Sin\_1_t + \beta_2 Sin\_1_t * dWealth_t + \beta_3 Sin_{1_t} * dWealth_{t-1} +$$

$$\beta_4 dWealth_t + \beta_5 dWealth_{t-1} + \sum \beta_i CEO\ characteristics +$$

$$\sum \beta_j Firm\ characteristics + \sum \beta_k Year\ effects + \varepsilon_t. \tag{8}$$

As a robustness check, we also estimate model (8) using market returns (*MrkRet*) instead of changes in shareholder wealth. This is because shareholders may use the return on the market as a benchmark of executive performance. This model specification is

$$\Delta Comp_{t,t-1} = \beta_0 + \beta_1 Sin\_1_t + \beta_2 Sin\_1_t * dWealth_t + \beta_3 Sin_{1_t} * dWealth_{t-1} +$$

$$\beta_4 dWealth_t + \beta_5 dWealth_{t-1} + \sum \beta_i CEO\ characteristics + \sum \beta_j Firm\ characteristics +$$

$$\sum \beta_k Year\ effects + \varepsilon_t. \tag{9}$$

We exclude growth of sales and ROA from model (8) to avoid collinearity with *XRET*.

Table 6 reports results for model (8). We find that on average executive compensation is sensitive to changes in shareholder wealth, as evident by positive coefficients on $dWealth_t$ and $dWealth_{t-1}$. However, the interactions between changes in shareholder wealth and the indicator variable for sin industries are not statistically different from zero. This suggests that compensation risk in sin industries is not different compared to other sectors. A corroborating result is provided by model (9), which shows that compensation in sin industries is not more sensitive to market performance compared to pay in other sectors. Together, evidence from models (8) and (9) suggest that higher compensation premium in sin industries is unlikely due to higher executive compensation risk.

[Insert Table 6 around here]

As an additional test, we also estimate the likelihood the sin executive employment contract will be terminated due to poor performance. This is because sin companies may be more willing to let go of underperforming managers rather than adjust the salary level to reflect poor performance. Executive turnover can be affected by both good and bad performance: badly performing executives leave the firm (e.g. Coughlan and Schmidt, 1985; Jenter and Lewellen, 2010) and well-performing executives are offered more competitive positions at other firms (Fee and Hadlock, 2003). To distinguish between the two explanations for contract termination, we split the changes

in shareholder wealth for the current and previous year into terciles ($dWealthHi_t$ and $dWealthLo_t$) and ($dWealthHi_{t-1}$ and $dWealthLo_{t-1}$) and include to two extreme terciles in model (8). High positive changes in shareholder wealth can entice executives to search for better paying jobs outside the firm and negative changes in shareholder wealth will lead to a termination of the contract by the firm. We also interact the two variables with the indicator for sin firms. Higher compensation risk in sin industries would suggest the coefficients on the interaction terms are positive. The full model specification is

$$Probability\ (Stay_{t,t+1}) = \beta_0 + \beta_1 Sin\_1_t + \beta_2 Sin\_1_t * dWealthHi_t + \beta_3 Sin_{1_t} *$$
$$dWealthLo_t + \beta_4 Sin_{1_t} * dWealthHi_{t-1} + \beta_5 Sin_{1_t} * dWealthLo_{t-1} + \beta_6 dWealthHi_t +$$
$$\beta_7 dWealthLo_t + \beta_8 dWealthHi_{t-1} + \beta_9 dWealthLo_{t-1} + \sum \beta_i CEO\ characteristics +$$
$$\sum \beta_j Firm\ characteristics + \sum \beta_k Year\ effects + \varepsilon_t \qquad (10)$$

The last columns of Table 6 present results for model (10). We find that better performance increases the likelihood the executive will stay at the firm. However, poor performance increases the probability the employment contract will be terminated, consistent with previous research (Coughlan and Schmidt, 1985; Jenter and Lewellen, 2010). There is no evidence that executives at sin firms are more likely to lose their positions compared to executives in other industries. This suggest that the compensation premium in sin industries cannot be explained by higher risk of the employment contract terminating due to poor executive performance. Together, Table 6 results suggest that the compensation premium in sin firms is unlikely due to higher compensation risk executives in these firms face.

5.3.3 Corporate governance quality

Managers at sin firms may be more entrenchment, thus may be able to extract a premium from the firms they work for when negotiating their employment contracts. To test the proposition that the premium reflects higher entrenchment, thus bargaining power of executives, we repeat model (1) after including a measure of the managerial entrenchment. Specifically, we use the entrenchment index from Bebchuk, Cohen, Ferrell (2009), which we normalize and invert so that higher values

imply lower entrenchment and better corporate governance (E_Index_{t-1}).[13] Further, we repeat model (2) after including the entrenchment index since particular industries may be more prone to executive entrenchment.

Table 7 reports regression results for models (1) and (2), which include the entrenchment index. There is no evidence that higher entrenchment affects executive compensation. Further, controlling for executive entrenchment, we continue to find a significant premium in sin industries. This evidence suggests that our conclusions on the existence of a compensation premium in sin firms are not due to higher bargaining power of executives at these firms.

[Insert Table 7 around here]

5. Conclusion

This study examines executive compensation in sin firms. We document statistically and economically significant premium in compensation paid to CEOs and other executives employed in tobacco, gambling and alcohol industries. The premium is not related to executive income risk, pay performance sensitivity, managerial ability, or higher executive entrenchment at sin firms. Rather, the premium seems to reflect negative social stigma executives at sin firm bear. Consistent with this prediction, we find that the compensation premium in sin industries increases in periods of higher negative social attitude towards sin firms. Further, we document that executives at sin firms have less diverse professional networks, which reflects that social stigma makes sin executives less desirable as outside directors in other firms.

Further tests reveal that the premium is largest in the tobacco industry, which is arguably the most stigmatized (Beneish et al., 2008), followed by the gambling and the alcohol industry. Further, CEOs are compensated with a higher premium compared to non-CEO executive, which reflects that the burden of negative social stigma is more sever for them as they epitome the negative characteristics of the firms they work for. Our evidence offers important contribution to the literature on the determinants of executive compensation as we highlight the effect social context has on managerial compensation contracts.

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[13] We normalize the index by dividing by six-the number of factors Bebchuk, Cohen, Ferrell (2009) consider.

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Table 1 – Descriptive Statistics

	Mean	Median	STD	Q1	Q3
Comp	1,033.95	541.96	1,441.08	281.80	1,125.15
Sin_1	1.31%	0.00%	11.37%	0.00%	0.00%
CEO	17.63%	0.00%	38.10%	0.00%	0.00%
Female	5.73%	0.00%	23.23%	0.00%	0.00%
Tenure	4.91	4.00	3.52	2.00	7.00
MV	5,260	1,149	13,331	430.72	3,604
Sales	4,118	1,110	8,860	406.71	3,354
Sales_GR	14.45%	9.52%	20.40%	3.37%	19.52%
ROA	9.39%	9.28%	9.95%	5.48%	14.29%
Xret	7.50%	-0.49%	51.74%	-22.44%	24.87%
SD_RET	2.54%	2.24%	1.27%	1.63%	3.13%

Descriptive statistics of the executive compensation sample. Number of executive-firm-year observations $N = 147,284$. *Comp* is the *CPI*-adjusted value of total compensation (*ExecuComp* variable *TDC1*) that comprises salary, bonus, restricted stock grants, stock option grants, long term incentives, and other annual compensation. *Sin_1* is a dummy variable equal to 1 if a company industry classification belongs to one of the sin industries, *SIC* code 2100 – 2199 for tobacco, *NAICS* code 7132, 71312, 713210, 71329, 713290, 72112, or 721120 for gambling, and *SIC* code 2080 – 2085 for alcohol. *CEO* is a dummy equal to 1 if the *ExecuComp* annual CEO indicator is equal to 1 or the executive is has the highest pay in the firm year and at the same time the title description includes either "CEO" or "Chief Executive Officer". *Female* is a dummy variable equal to 1 if the *ExecuComp* gender variable is equal to "female". *Tenure* specifies the number of years given executive has worked for the company. We re-set the year counter if the executive is re-employed by the company after more than two years. *MV* is the market value of equity measured as the number of shares outstanding multiplied by the stock price at the end of the fiscal year. *Sales* are the company net annual sales. *Sales_GR* is the growth in sales in past 5 years. If the lagged sales are not available we replace the variable with growth in past 4 or respectively 3 years. *ROA* is the return on company assets defined as the operating income after depreciation (*Compustat* variable *OIADP*) normalized for 12 months divided by the total assets at the end of the fiscal year. *Xret* is the excess return computed as the raw return on company stock over the fiscal year less the value-weighted market return including dividends (*CRSP* variable *VWRETD*). *SD_RET* is the standard deviation of daily excess returns on company stock over the fiscal year. All continuous variables are Winsorized at 1% level.

Table 2 – Number of Observations

	Normal	Sin_1	TOBACCO	GAMBLING	ALCOHOL	Total
Fiscal Year						
1992	3 457	49	9	15	25	3 506
1993	5 493	84	13	40	31	5 577
1994	6 097	99	14	48	37	6 196
1995	6 429	111	11	63	37	6 540
1996	6 786	120	11	73	36	6 906
1997	6 843	106	10	58	38	6 949
1998	7 072	85	11	38	36	7 157
1999	7 294	92	11	44	37	7 386
2000	7 022	91	10	44	37	7 113
2001	6 802	101	16	48	37	6 903
2002	7 024	95	19	41	35	7 119
2003	7 499	92	16	40	36	7 591
2004	7 310	87	16	33	38	7 397
2005	6 905	75	15	26	34	6 980
2006	7 236	92	16	32	44	7 328
2007	8 345	101	23	31	47	8 446
2008	8 153	92	20	31	41	8 245
2009	7 885	89	16	32	41	7 974
2010	7 729	92	23	32	37	7 821
2011	7 428	92	22	31	39	7 520
2012	6 546	84	23	30	31	6 630
CEO						
non-CEO	119 739	1 585	267	688	630	121 324
CEO	25 616	344	58	142	144	25 960
Female						
Male	137 032	1 818	295	779	744	138 850
Female	8 323	111	30	51	30	8 434
Total	145 355	1 929	325	830	774	147 284

The table shows the number of observations in sin and non-sin firms. *Normal* are firms that do not belong to *Sin_1*. *Sin_1* is a dummy variable equal to 1 if a company industry classification belongs to one of the sin industries, *SIC* code 2100 – 2199 for tobacco, *NAICS* code 7132, 71312, 713210, 71329, 713290, 72112, or 721120 for gambling, and *SIC* code 2080 – 2085 for alcohol. *TOBACCO* is a dummy variable equal to 1 if a company has *SIC* code 2100 – 2199. *GAMBLING* is a dummy variable equal to 1 if a company has *NAICS* code 7132, 71312, 713210, 71329, 713290, 72112, or 721120. *ALCOHOL* is a dummy variable equal to 1 if a company has *SIC* code 2080 – 2085. *CEO* is a dummy equal to 1 if the *ExecuComp* annual CEO indicator is equal to 1 or the executive is has the highest pay in the firm year and at the same time the title description includes either "CEO" or "Chief Executive Officer". *Female* is a dummy variable equal to 1 if the *ExecuComp* gender variable is equal to "female".

Table 3 - Premium in Executive Compensation

	Comp	Comp	Comp	Comp	Salary	Bonus	ODC1
	coef/t	coef/t	coef/t	coef/t	coef/t	coef/t	coef/t
Intercept	-3 383.0***	-3 385.7***	-3 381.8***	-3 380.9***	-121.8***	-235.2***	-2 929.0***
	(-19.55)	(-19.49)	(-19.46)	(-19.52)	(-21.53)	(-6.05)	(-16.55)
Sin_1	331.3***				54.3***	74.8***	192.8***
	(4.78)				(7.56)	(4.51)	(3.46)
Sin_2		327.9***					
		(5.91)					
Sin_3			305.1***				
			(6.01)				
Tobacco				480.1**			
				(2.42)			
Gambling				305.7***			
				(3.49)			
Alcohol				297.4***			
				(2.65)			
CEO	1 220.0***	1 220.1***	1 220.0***	1 220.0***	156.7***	127.1***	912.9***
	(20.78)	(20.77)	(20.78)	(20.78)	(71.87)	(8.29)	(14.41)
Female	-49.3**	-48.7**	-49.2**	-49.5**	-2.8	-10.0***	-34.4**
	(-2.50)	(-2.47)	(-2.50)	(-2.51)	(-1.41)	(-3.62)	(-2.09)
Tenure	21.9***	21.9***	21.9***	21.9***	5.9***	1.8*	15.5***
	(7.08)	(7.08)	(7.09)	(7.08)	(11.52)	(1.87)	(4.78)
ln MV	424.0***	424.5***	423.9***	423.7***	17.6***	21.9***	374.3***
	(16.39)	(16.38)	(16.33)	(16.38)	(19.50)	(8.79)	(14.78)
ln Sales	92.0***	91.6***	91.7***	92.1***	25.9***	24.1***	36.0***
	(9.90)	(9.84)	(9.84)	(9.91)	(35.56)	(6.92)	(3.45)
Sales_GR	326.3***	327.4***	328.9***	327.9***	-13.1***	4.3	313.5***
	(7.26)	(7.30)	(7.33)	(7.19)	(-4.42)	(0.57)	(7.54)
ROA	-470.3***	-467.1***	-466.7***	-474.5***	-48.2***	-12.5	-380.6***
	(-3.62)	(-3.61)	(-3.60)	(-3.64)	(-6.12)	(-0.78)	(-3.32)
XRET	70.1**	69.9**	70.5**	70.3**	-1.1	17.2***	49.0*
	(2.46)	(2.45)	(2.47)	(2.46)	(-0.90)	(4.64)	(1.86)
SD_RET	17 267.2***	17 317.6***	17 323.1***	17 245.7***	588.0***	598.4***	15 703.1***
	(12.90)	(12.95)	(12.97)	(12.85)	(6.76)	(2.95)	(11.55)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	146 732	146 732	146 732	146 732	163 902	163 902	146 732
Adjusted R2	0.377	0.378	0.378	0.377	0.559	0.254	0.325

The table shows the premium in executive compensation in sin firms. The dependent variable is either the total compensation or its component. *Comp* is the *CPI*-adjusted value of total compensation (*ExecuComp* variable *TDC1*) that comprises salary, bonus, restricted stock grants, stock option grants, long term incentives, and other annual compensation. *Salary, Bonus* and *ODC* are the total compensation components where *ODC* is the other direct

compensation the is equal to *Comp – Salary – Bonus*. *Sin_1* is a dummy variable equal to 1 if a company industry classification belongs to one of the sin industries, *SIC* code 2100 – 2199 for tobacco, *NAICS* code 7132, 71312, 713210, 71329, 713290, 72112, or 721120 for gambling, and *SIC* code 2080 – 2085 for alcohol. *Sin_2* is a dummy variable equal to 1 if *Sin_1* is equal to 1 or at least one of the company segments as reported in the *Compustat* is classified in one of the two industries. *Sin_3* is a dummy variable equal to 1 if *Sin_1* or *Sin_2* are equal to 1 or the company is classified in the *MSCI ESG STATS* database as having tobacco involvement (*TOB-con-A*), gambling involvement (*GAM-con-A*), or alcohol involvement (*ALC-con-A*). *TOBACCO* is a dummy variable equal to 1 if a company has *SIC* code 2100 – 2199. *GAMBLING* is a dummy variable equal to 1 if a company has *NAICS* code 7132, 71312, 713210, 71329, 713290, 72112, or 721120. *ALCOHOL* is a dummy variable equal to 1 if a company has *SIC* code 2080 – 2085. *CEO* is a dummy equal to 1 if the *ExecuComp* annual CEO indicator is equal to 1 or the executive is has the highest pay in the firm year and at the same time the title description includes either "CEO" or "Chief Executive Officer". *Female* is a dummy variable equal to 1 if the *ExecuComp* gender variable is equal to "female". *Tenure* specifies the number of years given executive has worked for the company. We re-set the year counter if the executive is re-employed by the company after more than two years. *Ln MV* is the natural logarithm of market value of equity measured as the number of shares outstanding multiplied by the stock price at the end of the fiscal year. *Ln Sales* is the natural logarithm of company net annual sales. *Sales_GR* is the growth in sales in past 5 years. If the lagged sales are not available we replace the variable with growth in past 4 or respectively 3 years. *ROA* is the return on company assets defined as the operating income after depreciation (*Compustat* variable *OIADP*) normalized for 12 months divided by the total assets at the end of the fiscal year. *XRET* is the excess return computed as the raw return on company stock over the fiscal year less the value-weighted market return including dividends (*CRSP* variable *VWRETD*). *SD_RET* is the standard deviation of daily excess returns on company stock over the fiscal year. All continuous variables are Winsorized at 1% level. We use 2-way clustering of standard errors based on executive and year. ***, **, * indicate statistical significance at 1%, 5% and 10% level respectively.

Table 4 - Sensitivity Tests

	Comp	Comp	Comp
	coef/t	coef/t	coef/t
Intercept	-3 783.7***	-3 632.4***	-3 366.7***
	(-10.65)	(-20.89)	(-19.34)
Post2002 * TOBACCO	844.8**		
	(2.09)		
Post2002 * GAMBLING	2.4		
	.		
Post2002 * ALCOHOL	-634.3		
	(-1.53)		
Post2002	108.9***		
	(6.98)		
Tobacco	-199.5	-365.2	
	(-0.49)	(-0.89)	
Gambling	521.7	485.4***	
	.	(2.64)	
Alcohol	1 010.3**	688.1***	
	(2.36)	(2.75)	
SmokePrevention * TOBACCO		453.1**	
		(2.28)	
SmokePrevention * GAMBLING		-53.3	
		(-0.83)	
SmokePrevention * ALCOHOL		-157.5*	
		(-1.93)	
SmokePrevention		9.0*	
		(1.71)	
Advertising * Sin_1			-3 321.1***
			(-4.36)
Advertising			2 585.0***
			(9.40)
Sin_1			427.3***
			(4.93)
CEO	1 355.3***	1 380.8***	1 218.1***
	(27.27)	(42.14)	(20.80)
Female	-70.3**	-40.1*	-61.8***
	(-2.33)	(-1.77)	(-3.14)
Tenure	12.0***	18.3***	22.4***
	(3.03)	(7.70)	(7.27)
ln MV	466.3***	449.3***	418.6***
	(13.00)	(23.67)	(16.29)
ln Sales	87.4***	103.1***	92.9***

	(6.45)	(9.86)	(10.06)
Sales_GR	235.1*	232.0***	327.1***
	(1.82)	(3.23)	(7.08)
ROA	-60.8	-651.9***	-561.5***
	(-0.68)	(-4.41)	(-4.27)
XRET	33.8**	6.9	77.6***
	(2.25)	(0.34)	(2.73)
SD_RET	16 192.8***	15 769.4***	16 635.0***
	(7.54)	(10.44)	(12.53)
Year FE	Yes	Yes	Yes
Number of observations	28 892	88 032	146 732
Adjusted R2	0.386	0.419	0.380

The table shows the sensitivity of the premium in executive compensation to characteristics that reflect various degree of social aversion to sin. The dependent variable *Comp* is the *CPI*-adjusted value of total compensation (*ExecuComp* variable *TDC1*) that comprises salary, bonus, restricted stock grants, stock option grants, long term incentives, and other annual compensation. *Post2002* is a dummy variable equal to 1 for fiscal years 2003 and 2004, equal to 0 for fiscal years 2001 and 2002, and else missing. *SmokePrevention* is the per capita smoking prevention spending in a US state where the company is headquartered. *Advertising* are the advertising expenditures scaled by net sales. *TOBACCO* is a dummy variable equal to 1 if a company has *SIC* code 2100 – 2199. *GAMBLING* is a dummy variable equal to 1 if a company has *NAICS* code 7132, 71312, 713210, 71329, 713290, 72112, or 721120. *ALCOHOL* is a dummy variable equal to 1 if a company has *SIC* code 2080 – 2085. *Sin_1* is a dummy variable equal to 1 if a company industry classification belongs to one of the sin industries, *SIC* code 2100 – 2199 for tobacco, *NAICS* code 7132, 71312, 713210, 71329, 713290, 72112, or 721120 for gambling, and *SIC* code 2080 – 2085 for alcohol. *CEO* is a dummy equal to 1 if the *ExecuComp* annual CEO indicator is equal to 1 or the executive is has the highest pay in the firm year and at the same time the title description includes either "CEO" or "Chief Executive Officer". *Female* is a dummy variable equal to 1 if the *ExecuComp* gender variable is equal to "female". *Tenure* specifies the number of years given executive has worked for the company. We re-set the year counter if the executive is re-employed by the company after more than two years. *Ln MV* is the natural logarithm of market value of equity measured as the number of shares outstanding multiplied by the stock price at the end of the fiscal year. *Ln Sales* is the natural logarithm of company net annual sales. *Sales_GR* is the growth in sales in past 5 years. If the lagged sales are not available we replace the variable with growth in past 4 or respectively 3 years. *ROA* is the return on company assets defined as the operating income after depreciation (*Compustat* variable *OIADP*) normalized for 12 months divided by the total assets at the end of the fiscal year. *Xret* is the excess return computed as the raw return on company stock over the fiscal year less the value-weighted market return including dividends (*CRSP* variable *VWRETD*). *SD_RET* is the standard deviation of daily excess returns on company stock over the fiscal year. All continuous variables are Winsorized at 1% level. We use 2-way clustering of standard errors based on executive and year. ***, **, * indicate statistical significance at 1%, 5% and 10% level respectively.

Table 5 - Outside Networks

	P(outside director)	P(outside director)	#outside directors	#outside directors	outside board size	outside board size	outside network size	outside network size
	coef/t	coef/t	coef/t	coef/t	coef/t	coef/t	coef/t	coef/t
Intercept	-8.1***	-8.0***	-0.9***	-0.9***	8.6***	8.6***	-9.8***	-9.9***
	(-30.79)	(-30.81)	(-9.09)	(-9.15)	(20.52)	(20.50)	(-9.18)	(-9.23)
Sin_1	-0.5***		-0.1**		0.7		-1.3*	
	(-3.11)		(-2.12)		(1.23)		(-1.74)	
Tobacco		-1.8***		-0.6***		-2.3***		-6.2***
		(-3.58)		(-6.17)		(-7.55)		(-6.22)
Gambling		-0.9***		-0.2***		-0.3		-2.2***
		(-2.82)		(-3.99)		(-0.78)		(-3.84)
Alcohol		0.0		0.1		1.0		1.5
		(0.01)		(0.74)		(1.50)		(1.03)
Female	0.5***	0.5***	0.2***	0.2***	1.1***	1.2***	2.6***	2.7***
	(3.28)	(3.31)	(3.11)	(3.12)	(3.67)	(3.85)	(3.41)	(3.42)
Tenure	0.0***	0.0***	0.0***	0.0***	0.0***	0.0***	0.1***	0.1***
	(4.34)	(4.30)	(4.50)	(4.47)	(3.32)	(3.29)	(4.41)	(4.37)
ln MV	0.1***	0.1***	0.0***	0.0***	0.0	0.0	0.6***	0.6***
	(3.87)	(3.89)	(4.31)	(4.36)	(0.50)	(0.50)	(4.56)	(4.61)
ln Sales	0.2***	0.2***	0.1***	0.1***	0.5***	0.5***	0.8***	0.8***
	(9.40)	(9.43)	(7.05)	(7.01)	(7.40)	(7.39)	(7.35)	(7.30)
Sales_GR	-0.6***	-0.6***	-0.2***	-0.2***	-1.1***	-1.1***	-2.3***	-2.3***
	(-5.63)	(-5.61)	(-4.14)	(-4.18)	(-2.70)	(-2.67)	(-4.13)	(-4.17)
ROA	-0.4**	-0.4**	-0.2***	-0.2***	-1.0	-1.0*	-2.7***	-2.6***
	(-2.35)	(-2.28)	(-3.52)	(-3.37)	(-1.59)	(-1.65)	(-3.92)	(-3.77)
XRET	-0.1**	-0.1**	-0.0**	-0.0**	-0.0	-0.0	-0.3**	-0.3**
	(-2.16)	(-2.15)	(-2.29)	(-2.31)	(-0.35)	(-0.34)	(-2.08)	(-2.09)
SD_RET	-1.4	-1.2	-0.7	-0.6	-38.8***	-38.9***	-15.4*	-14.4
	(-0.69)	(-0.61)	(-0.89)	(-0.79)	(-4.20)	(-4.21)	(-1.72)	(-1.63)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Number of observations	23 063	23 063	26 231	26 231	7 027	7 027	26 231	26 231
Adjusted R2	.	.	0.161	0.162	0.185	0.185	0.178	0.180

The table reports the presence of a company's CEO on boards on other companies. The dependent variables are *P(outside director)* is a dummy variable equal to 1 if the CEO has at least one seat on boards of other companies and 0 otherwise. *# outside directors* is the number of board seats a CEO has on boards of other companies. *outside board size* is the mean size of the other boards a CEO is a member of. *Size of outside network* is the sum of other board members a CEO is on a board with (disregarding potential duplicities). *Sin_1* is a dummy variable equal to 1 if a company industry classification belongs to one of the sin industries, *SIC* code 2100 – 2199 for tobacco, *NAICS* code 7132, 71312, 713210, 71329, 713290, 72112, or 721120 for gambling, and *SIC* code 2080 – 2085 for alcohol. *Sin_2* is a dummy variable equal to 1 if *Sin_1* is equal to 1 or at least one of the company segments as reported in the *Compustat* is classified in one of the two industries. *Sin_3* is a dummy variable equal to 1 if *Sin_1* or *Sin_2* are equal to 1 or the company is classified in the *MSCI ESG STATS* database as having tobacco involvement (*TOB-con-A*), gambling involvement (*GAM-con-A*), or alcohol involvement (*ALC-con-A*). *TOBACCO* is a dummy variable equal to 1 if a company has *SIC* code 2100 – 2199. *GAMBLING* is a dummy variable equal to 1 if a company has *NAICS* code 7132, 71312, 713210, 71329, 713290, 72112, or 721120. *ALCOHOL* is a dummy variable equal to 1 if a company has *SIC* code 2080 – 2085. *Female* is a dummy variable equal to 1 if the *ExecuComp* gender variable is equal to "female". *Tenure* specifies the number of years given executive has worked for the company. We re-set the year counter if the executive is re-employed by the company after more than two years. *Ln MV* is the natural logarithm of market value of equity measured as the number of shares outstanding multiplied by the stock price at the end of the fiscal year. *Ln Sales* is the natural logarithm of company net annual sales. *Sales_GR* is the growth in sales in past 5 years. If the lagged sales are not available we replace the variable with growth in past 4 or respectively 3 years. *ROA* is the return on company assets defined as the operating income after depreciation (*Compustat* variable *OIADP*) normalized for 12 months divided by the total assets at the end of the fiscal year. *Xret* is the excess return computed as the raw return on company stock over the fiscal year less the value-weighted market return including dividends (*CRSP* variable *VWRETD*). *SD_RET* is the standard deviation of daily excess returns on company stock over the fiscal year. All continuous variables are Winsorized at 1% level. We use 2-way clustering of standard errors based on executive and year. ***, **, * indicate statistical significance at 1%, 5% and 10% level respectively.

Table 6 – Ability

	Comp	Comp	Comp	Comp
	coef/t	coef/t	coef/t	coef/t
Intercept	-3 337.3***	-3 340.1***	-3 337.8***	-3 335.4***
	(-19.48)	(-19.44)	(-19.42)	(-19.45)
Ability	26.7	30.1	28.5	28.0
	(0.53)	(0.60)	(0.57)	(0.56)
Sin_1	288.5***			
	(4.23)			
Sin_2		283.7***		
		(5.13)		
Sin_3			249.5***	
			(4.82)	
Tobacco				432.6**
				(2.21)
Gambling				286.2***
				(3.38)
Alcohol				230.8**
				(2.04)
CEO	1 241.1***	1 241.2***	1 241.2***	1 241.1***
	(22.37)	(22.37)	(22.37)	(22.38)
Female	-46.4**	-45.8**	-46.3**	-46.6**
	(-2.16)	(-2.13)	(-2.16)	(-2.17)
Tenure	20.8***	20.7***	20.7***	20.8***
	(6.63)	(6.62)	(6.63)	(6.63)
ln MV	435.3***	435.8***	435.4***	435.0***
	(17.26)	(17.25)	(17.21)	(17.26)
ln Sales	93.7***	93.3***	93.4***	93.8***
	(9.64)	(9.58)	(9.58)	(9.66)
Sales_GR	323.3***	323.7***	325.0***	324.1***
	(8.27)	(8.29)	(8.31)	(8.20)
ROA	-727.1***	-725.0***	-722.7***	-731.6***
	(-5.49)	(-5.49)	(-5.47)	(-5.51)
XRET	77.1***	76.7***	77.2***	77.2***
	(2.69)	(2.67)	(2.69)	(2.69)
SD_RET	14 618.3***	14 676.2***	14 694.0***	14 591.3***
	(11.64)	(11.70)	(11.72)	(11.57)
Year FE	Yes	Yes	Yes	Yes
Number of observations	133 750	133 750	133 750	133 750
Adjusted R2	0.386	0.386	0.386	0.386

The table reports the executive's ability on their compensation. The dependent variable *Comp* is the *CPI*-adjusted value of total compensation (*ExecuComp* variable *TDC1*) that comprises salary, bonus, restricted stock grants, stock option grants, long term incentives, and other annual compensation. *Ability* is the MA ability Score as measured by Demerjian, Lev, McVay (2012). *Sin_1* is a dummy variable equal to 1 if a company industry classification belongs to one of the sin industries, *SIC* code 2100 – 2199 for tobacco, *NAICS* code 7132, 71312, 713210, 71329, 713290, 72112, or 721120 for gambling, and *SIC* code 2080 – 2085 for alcohol. *Sin_2* is a dummy variable equal to 1 if *Sin_1* is equal to 1 or at least one of the company segments as reported in the *Compustat* is classified in one of the two industries. *Sin_3* is a dummy variable equal to 1 if *Sin_1* or *Sin_2* are equal to 1 or the company is classified in the *MSCI ESG STATS* database as having tobacco involvement (*TOB-con-A*), gambling involvement (*GAM-con-A*), or alcohol involvement (*ALC-con-A*). *TOBACCO* is a dummy variable equal to 1 if a company has *SIC* code 2100 – 2199. *GAMBLING* is a dummy variable equal to 1 if a company has *NAICS* code 7132, 71312, 713210, 71329, 713290, 72112, or 721120. *ALCOHOL* is a dummy variable equal to 1 if a company has *SIC* code 2080 – 2085. *CEO* is a dummy equal to 1 if the *ExecuComp* annual CEO indicator is equal to 1 or the executive is has the highest pay in the firm year and at the same time the title description includes either "CEO" or "Chief Executive Officer". *Female* is a dummy variable equal to 1 if the *ExecuComp* gender variable is equal to "female". *Tenure* specifies the number of years given executive has worked for the company. We re-set the year counter if the executive is re-employed by the company after more than two years. *Ln MV* is the natural logarithm of market value of equity measured as the number of shares outstanding multiplied by the stock price at the end of the fiscal year. *Ln Sales* is the natural logarithm of company net annual sales. *Sales_GR* is the growth in sales in past 5 years. If the lagged sales are not available we replace the variable with growth in past 4 or respectively 3 years. *ROA* is the return on company assets defined as the operating income after depreciation (*Compustat* variable *OIADP*) normalized for 12 months divided by the total assets at the end of the fiscal year. *Xret* is the excess return computed as the raw return on company stock over the fiscal year less the value-weighted market return including dividends (*CRSP* variable *VWRETD*). *SD_RET* is the standard deviation of daily excess returns on company stock over the fiscal year. All continuous variables are Winsorized at 1% level. We use 2-way clustering of standard errors based on executive and year. ***, **, * indicate statistical significance at 1%, 5% and 10% level respectively.

Table 7 – Risk

	dComp	dComp	P(stay)
	coef/t	coef/t	coef/t
MrkRet(t) * Sin_1	-149.9		
	(-0.35)		
MrkRet(t-1) * Sin_1	-45.2		
	(-0.14)		
MrkRet(t)	97.7		
	(1.08)		
MrkRet(t-1)	32.4		
	(0.31)		
Sin_1	-9.3	-8.3	0.0
	(-0.08)	(-0.12)	(0.25)
dWealth(t) * Sin_1		-0.2	0.0
		(-1.50)	(0.26)
dWealth(t-1) * Sin_1		0.0	-0.0
		(0.22)	(-0.95)
dWealth(t)		0.2***	0.0***
		(5.73)	(7.38)
dWealth(t-1)		0.1***	0.0***
		(4.09)	(6.68)
CEO	57.3***	56.7***	0.7***
	(3.51)	(3.35)	(45.04)
Female	11.2*	12.9*	-0.0***
	(1.77)	(1.65)	(-2.88)
Tenure	-0.0	0.3	-0.0***
	(-0.01)	(0.12)	(-19.96)
ln MV	0.8	-18.1	-0.0***
	(0.03)	(-0.91)	(-4.42)
ln Sales	9.3	4.8	-0.0***
	(0.87)	(0.53)	(-7.64)
SD_RET	-1 906.1	-2 161.8	-6.4***
	(-1.10)	(-1.38)	(-15.31)
Year FE	Yes	Yes	Yes
Intercept	-12.8	145.3	6.5***
	(-0.08)	(1.13)	(233.55)
Number of observations	118 020	115 597	166 878
Adjusted R2	0.008	0.020	0.052

The table reports sensitivity of executive compensation and of their survival in a firm conditional on economic conditions and on their performance. The dependent variable *Comp* is the *CPI*-adjusted value of total compensation (*ExecuComp* variable *TDC1*) that comprises salary, bonus, restricted stock grants, stock option grants, long term incentives, and other annual compensation. The dependent variable *P(Stay)* is a dummy variable equal to 1 if an

executive retained his/her employment in the company till the following year. *MrkRet* is the value-weighted market return including dividends (*CRSP* variable *VWRETD*). Variable *dWealth* is the change in shareholder wealth defined following Jensen and Murphy (1990) as $r(t) - V(t\text{-}1)$, where $r(t)$ is the *CPI*-adjusted rate of return on common stock realized in fiscal year *t*, and $V(t\text{-}1)$ is the firm value at the end of the previous year. Variables *dWealthHi* and *dWealthLo* are the dummy variables for the top and bottom terciles of the change in shareholder wealth. *Sin_1* is a dummy variable equal to 1 if a company industry classification belongs to one of the sin industries, *SIC* code 2100 – 2199 for tobacco, *NAICS* code 7132, 71312, 713210, 71329, 713290, 72112, or 721120 for gambling, and *SIC* code 2080 – 2085 for alcohol. *CEO* is a dummy equal to 1 if the *ExecuComp* annual CEO indicator is equal to 1 or the executive is has the highest pay in the firm year and at the same time the title description includes either "CEO" or "Chief Executive Officer". *Female* is a dummy variable equal to 1 if the *ExecuComp* gender variable is equal to "female". *Tenure* specifies the number of years given executive has worked for the company. We re-set the year counter if the executive is re-employed by the company after more than two years. *Ln MV* is the natural logarithm of market value of equity measured as the number of shares outstanding multiplied by the stock price at the end of the fiscal year. *Ln Sales* is the natural logarithm of company net annual sales. *Sales_GR* is the growth in sales in past 5 years. If the lagged sales are not available we replace the variable with growth in past 4 or respectively 3 years. *ROA* is the return on company assets defined as the operating income after depreciation (*Compustat* variable *OIADP*) normalized for 12 months divided by the total assets at the end of the fiscal year. *Xret* is the excess return computed as the raw return on company stock over the fiscal year less the value-weighted market return including dividends (*CRSP* variable *VWRETD*). *SD_RET* is the standard deviation of daily excess returns on company stock over the fiscal year. All continuous variables are Winsorized at 1% level. We use 2-way clustering of standard errors based on executive and year. ***, **, * indicate statistical significance at 1%, 5% and 10% level respectively.

Table 8 - Corporate Governance

	Comp	Comp	Comp
	coef/t	coef/t	coef/t
Intercept	-3 735.6***	-3 745.0***	-3 735.6***
	(-16.13)	(-15.96)	(-16.13)
E_Index(t-1)	35.9	39.0	35.9
	(0.91)	(0.99)	(0.91)
Sin_1	786.4***	564.5***	
	(3.59)	(5.36)	
Tobacco	-253.4		532.9**
	.		(2.25)
Gambling	-323.3		463.1***
	(-1.27)		(3.90)
o.alc1	0.0		786.4***
	(0.00)		(2.87)
CEO	1 293.4***	1 293.7***	1 293.4***
	(19.63)	(19.62)	(19.63)
Female	-56.0*	-55.7*	-56.0*
	(-1.96)	(-1.95)	(-1.96)
Tenure	22.0***	21.9***	22.0***
	(5.94)	(5.89)	(5.94)
ln MV	443.9***	445.0***	443.9***
	(13.25)	(13.11)	(13.25)
ln Sales	90.8***	90.8***	90.8***
	(7.13)	(7.13)	(7.13)
Sales_GR	280.2***	273.5***	280.2***
	(3.62)	(3.56)	(3.62)
ROA	-402.7**	-397.8**	-402.7**
	(-2.01)	(-2.01)	(-2.01)
XRET	104.0***	103.1***	104.0***
	(2.77)	(2.74)	(2.77)
SD_RET	20 387.6***	20 416.8***	20 387.6***
	(12.53)	(12.52)	(12.53)
Year FE	Yes	Yes	Yes
Number of observations	76 921	76 921	76 921
Adjusted R2	0.386	0.386	0.386

The table reports dependence of executive compensation on a firm's corporate governance. The dependent variable *Comp* is the *CPI*-adjusted value of total compensation (*ExecuComp* variable *TDC1*) that comprises salary, bonus, restricted stock grants, stock option grants, long term incentives, and other annual compensation. *E_Index* is the is normalized (by dividing by 6), and inverted (multiplied by -1 and adding 1) entrenchment index as defined reported by Bebchuk, Cohen, Ferrell (2009) for which higher values imply lower entrenchment and better corporate governance. *TOBACCO* is a dummy variable equal to 1 if a company has *SIC* code 2100 – 2199. *GAMBLING* is a dummy variable equal to 1 if a company has *NAICS* code 7132, 71312, 713210, 71329, 713290, 72112, or 721120. *ALCOHOL* is a

dummy variable equal to 1 if a company has *SIC* code 2080 – 2085. *CEO* is a dummy equal to 1 if the *ExecuComp* annual CEO indicator is equal to 1 or the executive is has the highest pay in the firm year and at the same time the title description includes either "CEO" or "Chief Executive Officer". *Female* is a dummy variable equal to 1 if the *ExecuComp* gender variable is equal to "female". *Tenure* specifies the number of years given executive has worked for the company. We re-set the year counter if the executive is re-employed by the company after more than two years. *Ln MV* is the natural logarithm of market value of equity measured as the number of shares outstanding multiplied by the stock price at the end of the fiscal year. *Ln Sales* is the natural logarithm of company net annual sales. *Sales_GR* is the growth in sales in past 5 years. If the lagged sales are not available we replace the variable with growth in past 4 or respectively 3 years. *ROA* is the return on company assets defined as the operating income after depreciation (*Compustat* variable *OIADP*) normalized for 12 months divided by the total assets at the end of the fiscal year. *Xret* is the excess return computed as the raw return on company stock over the fiscal year less the value-weighted market return including dividends (*CRSP* variable *VWRETD*). *SD_RET* is the standard deviation of daily excess returns on company stock over the fiscal year. All continuous variables are Winsorized at 1% level. We use 2-way clustering of standard errors based on executive and year. ***, **, * indicate statistical significance at 1%, 5% and 10% level respectively.

Figure 1. Total Compensation in Sin and Non-sin Industries over Time
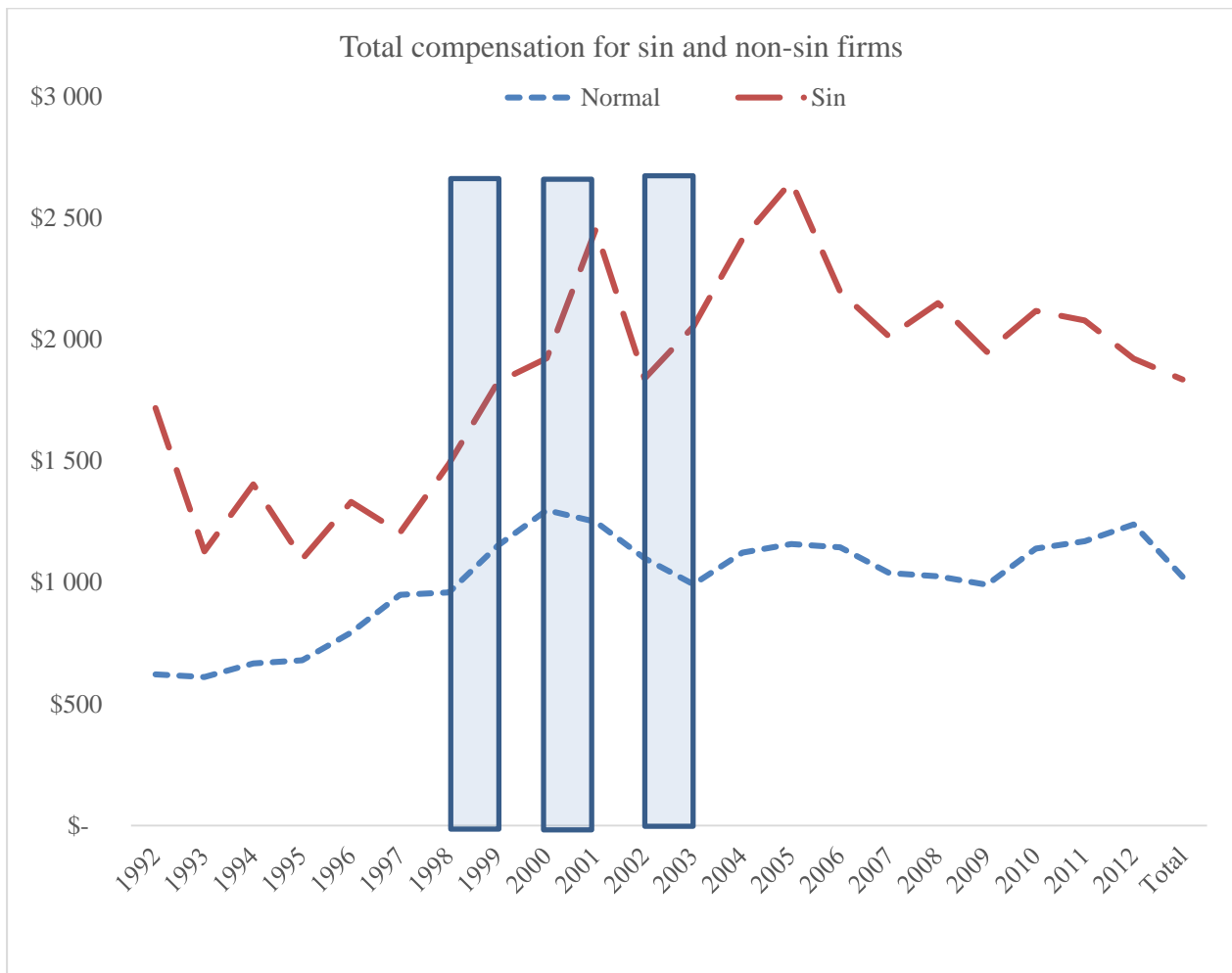
The figure shows the development of total compensation (*Comp*) over time in sin firms (*Sin_1*) and other firms (*Normal*). The boxes indicate the time important lawsuits affecting the tobacco industry.

Figure 2. Total Compensation in Tobacco, Alcohol and Gambling Industries over Time
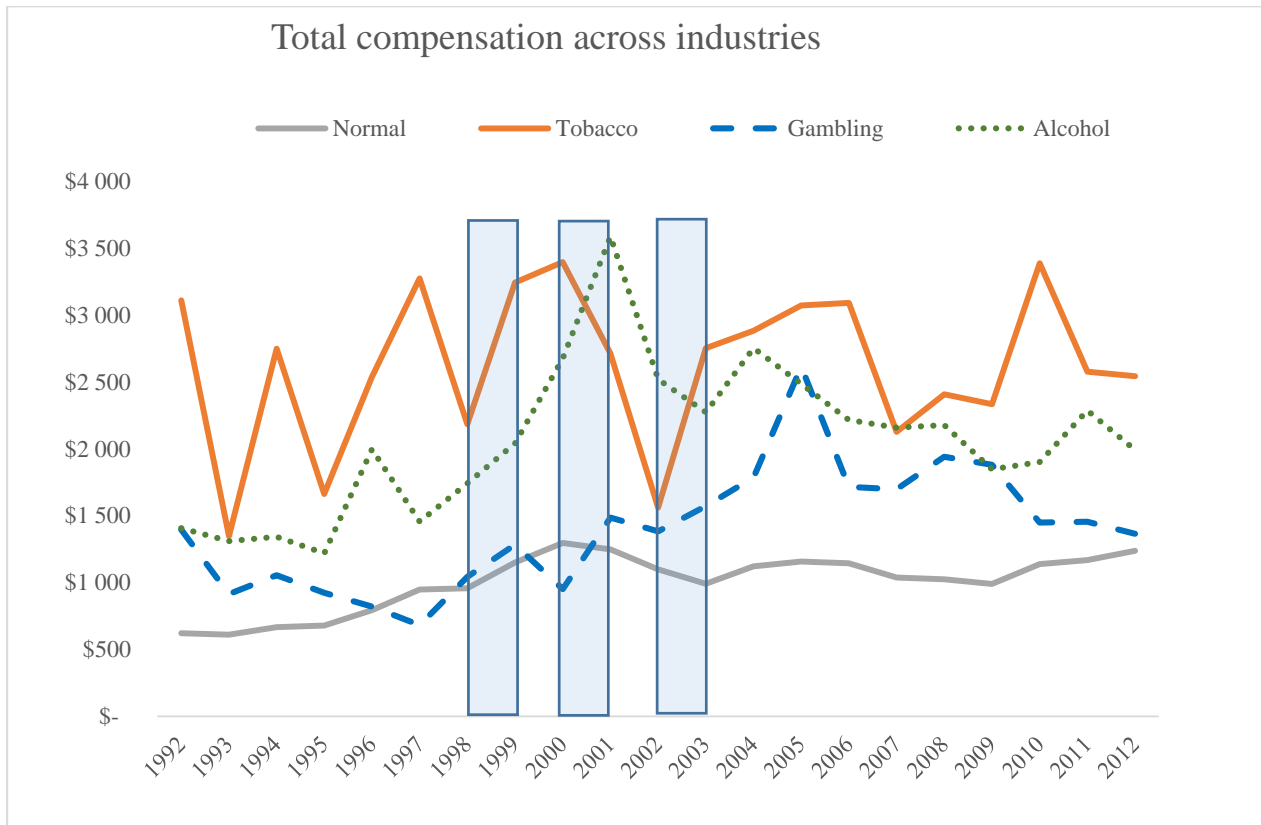
The figure shows the development of total compensation (*Comp*) over time in sin tobacco firms (*TOBACCO*), gambling firms (*GAMBLING*), alcohol firms (*ALCOHOL*) and other firms (*Normal*). The boxes indicate the time important lawsuits affecting the tobacco industry.