THE EFFECTS OF MANAGERIAL EXTRAVERSION ON CORPORATE FINANCING DECISIONS

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ABSTRACT

Prior literatures on corporations find that there exists unexplained heterogeneities in corporate financing decisions stemming from the effects of managers. This paper considers a personality trait called Extraversion, which is partially coded in one's genetics of brain physiology, and has associations with one's intelligence, self-introspection, subjective well-being, self-esteem, risk preference, and biased beliefs such as overconfidence and optimism. Using Chief Executive Officers' avocation data and corporate financial data of public, nonfinancial US companies between 1992 and 2011, I identify extravert CEOs and empirically measure its effects on corporate financing choices. My results show that extravert CEOs tend to issue risky debt more when accessing external finance and maintain higher leverage ratios than their peers. I use a fixed effect estimation methodology, a difference-in-difference estimation methodology, and an analysis of changes around CEO turnovers, in order to overcome a potential endogeneity problem and to derive casual inferences.

Traditional corporate financing theories consider firm, industry, and market level factors as primary determinants of corporate capital structures choices. These factors include the trade-off between the tax deductibility of interest payments and costs of bankruptcy, and asymmetric information between firms and the capital market (Miller (1977), Myers (1984), Myers and Majluf (1984)). Although a significant portion of the variation in corporate financing decisions is explained by these factors, a recent study finds that there is a large unexplained firm-specific heterogeneity in leverage. (Lemmon et al. (2008)) This study shows that almost 60% of the variation is explained by the time-constant unobserved effect, while traditional factors such as growth opportunity, profitability, firm size, tangibility, median industry leverage, and expected inflation, only explain about 30% of the variation in leverage ratios. Moreover, modern dynamic capital structure theories lack explanations for how and why firms with similar fundamentals operate away from a common target capital structure. Also, a recent analysis by Cronqvist, Makjija, and Yonker (2012) shows that managers' personal leverage choices are aligned with their corporate leverage choices. Therefore, one interesting question would be whether certain managerial traits can explain differences in corporate leverage choices across firms.

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This paper identifies a specific managerial trait and examines its corporate financing effects empirically. Prior literatures on managerial fixed effects include the examination of the effects of CEO turnovers on firms' investment decisions (Weisbach (1995)), the effects of personal traits of mutual fund managers on their performances (Chevalier and Ellison (1999)), the effects of managerial characteristics on corporate policies (Bertrand and Schoar (2003), Frank and Goyal (2007)). As to corporate financing decisions, a recent study by Lemmon, Roberts, and Zender (2008) finds that a significant portion of the variation in corporate financing choices is explained by unobserved time-constant heterogeneity across firms. Extending their efforts, this paper considers one of managerial traits, called extraversion, and empirically measures its effects on corporate financing decisions.

Extraversion is one of the five factors of the Big Five personality measurement, which is a widely accepted measurement of personality traits. (Goldberg (1981), (1993); John (1990); Costa and McCrae (1990), (1997)) Allport and Odbert (1936) have assembled a list of 17,953 words related to personality traits combing through Webster's dictionary. Subsequently, the list has been reduced into five factors by several different psychologists. The five factors are Extraversion, Openness to Experience, Conscientiousness, Agreeableness, and Neuroticism. According to the studies by John (1990) and Costa and McCrae (1992a), most of personality-related variables in academic research are related to one or more of these five factors. Also, the five-factor model represents the most comprehensive view of understanding fundamental differences in personality. (Barrick and Mount (1991); Costa and McCrae (1997))

The Big Five measurement, specifically extraversion, has also been used in the research of corporations. For example, Peterson et al. (2003) show that CEO personalities measured by the five factors provide statistically significant explanations for top management team dynamics, and that extraversion is related to leader dominance. Although not specifically using the notion of the Big Five, a recent study by Kaplan et al. (2012) also offers an examination of the effect of managers' team-related skills on private equities' hiring decision and performance.[1] This paper attempts to examine the effect of CEO extraversion on

[1] A recent study by Kaplan et al. (2012) offers an examination of the effect of managers' team-related skills on private equities' hiring decision and performance. They show that managers' execution-related and team-related skills are both important in hiring decisions, whereas team-related skills are unrelated to or negatively related to success. Given the significant differences between private equity firms and non-private equity firms, my examination of a dataset of all US public, nonfinancial companies offers a much more generalized test with different scope and focus. Furthermore, my study differs from Kaplan et al. (2012) in econometric treatments: Kaplan et al. (2012) offer correlation analysis which are suitable for the purpose of their study, whereas this paper provides causal implications by using a fixed effect estimation strategy, a difference in difference methodology, and analysis of changes around CEO turnovers. Also, the potential form of dependence in my sample of data arises in a group structure, i.e. leverage choices of different managers of the same firm can be correlated with each other. In such a case where the regressor of interest varies at the group level, standard errors can be

corporate financing decisions.

In particular, extraversion refers to the degree of engagement with the external environment. (Goldberg (2003)) Similarly, Eysenck (1967) describes the difference between extraversion and introversion as the difference in degree to which an individual is interactive with other people. Judge et al. (2002) find that extraverts are more interactive, energetic, and forceful in communications. As to the importance of nature versus nurture in determining the level of extraversion, both of genetics and environments are known to be important determinants. For example, Tellegen et al. (1988) study twins' differences in extraversion and find that a genetic component amounts to 38% to 58%, and that the rest of the variations come from the environmental differences in upbringings, i.e. individual environmental factors rather than the shared family environment. Such genetic differences are found to be in brain physiology. For example, Eysenck (1967) finds that extraversion and introversion come from differences in cortical arousal of brains: Extraverts are chronically less cortically aroused than introverts, thus tend to seek arousal through external activities. Similarly, Johnson (1999) attributes extraversion and introversion to differences in blood flow in brains: Introverts have more blood flow in the anterior of frontal thalamus and frontal lobes, which are areas responsible for problem solving and planning, whereas extraverts have more blood flow in the temporal lobes, posterior thalamus, and anterior cingulate gyrus, which are areas dealing with emotional and sensory processing. In sum, an individual's extraversion, the degree of engagement with external environment, is determined by genetic factors in brain physiology along with environmental factors during upbringing.

Accordingly, one's degree of extraversion has important associations to her self-introspection, intelligence and career choice, happiness (or subjective well-being), self-esteem, risk preference, biased beliefs. According to Carl Jung (1921), introverts recognize their psychological needs and problems more readily than extraverts do, thus, are better in self-introspection or self-examination. Also, introversion is considered to be positively associated with intelligence (Furnham et al. (1998)) or giftedness (Gallagher (1990), Hoehn and Birely (1988)). Introverts therefore tend to do better in academic environments (Eysenck (1971)), whereas extraverts tend to be better in sales or management roles (Barrick and Mount (1991)). Also, extraverts and introverts tend to experience differences in the degree of happiness, subjective well-being, and self-esteem: extraversion is positively associated with happiness (i.e. Pavot (1990), Furnham and Brewin (1990)), subjective well-being (i.e.

overestimated. Thus, I use errors adjusted for clustering at firm level. (Petersen (2005))

McCrae and Costa (1991), Diener (1992)), and self-esteem (i.e. Cheng and Furnham (2003), Swickert (2004)). However, some studies also find that happiness, subjective well-being, and self-esteem are socio-cultural contextual. For example, Fulmer et al. (2010) note that some cultures are extravert on average, i.e. the US, and find that extravert individuals are happier in these cultures, and vice versa. Similarly, Laney (2002) finds that introvert personality is prized in regions such as Central Europe, or cultures where Buddhism or Sufism prevail, i.e. Korea, Japan, etc. Furthermore, extraversion is known to be positively associated with risk-taking behaviors (i.e. Costa, McCrae, and Holland (1984), as well as overconfidence (i.e. (i.e. Schaefer et al. (2004)), where overconfidence is in turn linked to optimism[2] (Wolfe and Grosch (1990)). In sum, extraversion is known to be associated with lower degree of self-introspection and intelligence, better fit for career choices and success in sales or management roles, higher degree of happiness and positive self-esteem although socio-cultural contextual, as well as risk-taking behaviors, and biased beliefs such as overconfidence and optimism.

In order to measure extraversion of managers, this paper uses its unique dataset of managerial hobbies in team sports. The psychology literature generally supports the positive relation between team sports participation and the personality trait called extraversion: team sports players are more extravert than individual sports players or non-athletes. (i.e. Eagleton et al. (2007), Jarvis (1999). Russell (2003)) Therefore, extravert CEOs can be identified by ones with hobbies in team sports.

Corporate financing predictions for CEOs with hobbies in team sports are as follows. The aforementioned relations of extraversion with risk preferences and biased beliefs make specific capital structure predictions for CEOs with hobbies in team sports. Since extraverts exhibit risk-taking preferences (Costa, McCrae, and Holland (1984)), CEOs with hobbies in team sports are likely to have preferences for more aggressive policies. That is, they may

[2] The distinction and use of the terms, overconfidence and optimism, is sometimes blurred in the literature. In the finance literature, it is common to refer to an overestimation of outcomes of exogenous events as 'optimism', and an overestimation of one's capability as 'overconfidence'. In theoretical models, it is common to model optimism as an overestimation of expected future return and overconfidence as a narrow confidence interval. For example, Heaton (2002) models managerial optimism as an inflated expectation arising from the manager's overestimations of the likelihood of good states, in their models of corporate investment and financial contracting. Hackbarth (2008) models managerial overconfidence as tight subjective probability distributions over future events, equivalent to narrow-confidence-intervals. Similarly, Ben-David, Graham, Harvey (2007) measure managerial overconfidence as their confidence intervals on future stock market performance being too narrow. However, I find that exceptions exist where overconfidence is modeled as overestimation of expected future returns when the return is influenced by the manager's capabilities or skills. For example, Malmendier and Tate (2005) define an overconfident CEO as someone who overestimates the firm's expected future performance where the firm's future performance is a function of investment choice made by the manager. Also, it is possible to explicitly model managerial overconfidence as an inflated perception of one's own capability by a certain positive parameter as in Gervais, Heaton, Odean (2011).

access external capital markets and make investments optimally, but their financing plans will contain risky debt more and maintain higher leverage ratios than other CEOs with equal financing needs. Also, similar predictions can be made by the positive association between extraversion and overconfidence (i.e. Schaefer et al. (2004)). According to the models by Heaton (2002) and Hackbarth (2008), as well as the empirical study by Malmendier et al (2011), overconfident CEOs underestimate the likelihood of default or overestimate returns to investments. Thus, conditional on accessing external financing, overconfident CEOs tend to prefer debt to equity because debt allows existing shareholders to remain as the residual claimant on the firm's future cash flows. Therefore, I predict that financing plans of CEOs with hobbies in team sports will contain more risky debt than those of other managers with equal financing needs.

I begin my analysis by collecting CEOs' personal avocation data. I construct the following measure of CEO avocation: *Team Sports*. I use CEO avocation data gathered from *Who's Who Biographies Database*. Relating the CEO-level data with corporate financial data from *Computstat*, I empirically test the predictions on the effect of CEO extraversion on corporate financing choices. Specifically, I use the dataset of CEOs of all public US, nonfinancial companies between 1992 and 2011, for which avocation data are available.

My analysis focuses on data of CEOs rather than Chief Financial Officers (CFOs). The reason for not using data of CFOs is because such data is much more limited than those of CEOs in both of *Who's Who Biographies Database* and Execucomp Annual Compensation Database, which I use extensively in my data collection. This should not cause a problem since it is reasonable to assume that CEOs have the ultimate say for corporate financing decisions. They are the ones who approve and can even overrule CFOs' decisions. Frank and Goyal (2007) find that the CEO and the CFO fixed effects closely resemble each other.

In order to control for a potential endogeneity issue, I use a fixed effect estimation methodology. A fixed effect estimation methodology controls for unobserved confounding factors and compares CEOs with different traits operating the same firm. According to Angrist and Pischke (2008), a fixed effect estimation methodology can be used to partially overcome the engodeneity issue, when an instrumental variable estimation methodology cannot be performed due to difficulties in finding a good instrument. Specifically, a fixed effect estimation methodology controls for a potential omitted variable bias arising from omitted variables that are constant over time. Thus, it serves well for the analysis presented in this paper since many of unobserved CEO-level characteristics are often constant across time,

i.e. personalities, family and personal backgrounds. Also, there exists a study that assure that a significant portion of the variations come from time-constant effect, much more so than from time-variant effects, for corporate financing decisions. (Lemmon et al. (2010)) Thus, a fixed-effect estimation methodology is commonly used in the corporate finance literatures, i.e. Malmendier et al. (2011). In addition, I also present regression results using a difference-in-difference estimation methodology following Chava, Livdan, and Purnanandam (2009) and Wooldrige (2002), as well as an analysis of changes around CEO turnovers following Weisbach (1995), as other remedies for the potential endogeneity issue.

The results of my analysis are consistent with some of my predictions. I find that extravert CEOs issue more debt when accessing external finance, and maintain higher leverage ratios. Specifically, the mean book leverage ratio chosen by CEOs having *Team Sports* hobbies is 31%, which is 5% above the mean leverage of the full sample. In addition, firms with CEOs having hobbies in *Team Sports* tend to operate in physical intensive industries, are larger in firm size, and have higher profitability. Controlling confounding factors as well as firm and year fixed effects, my regression results also show that managerial extraversion predicts a significantly higher debt issuance and a significantly higher level of leverage. For example, CEOs with hobbies in *Team Sports* issue 3-5% more risky debt than other CEOs, which leads to about 2-5% higher levels of leverage. The effects are statistically and economically significant. The implication is the same when tested using accounting data or public security issuance data, or using different measures, i.e. market leverage ratios or book leverage ratios. Also, the regression results using a difference-in-difference methodology and analysis of changes around CEO turnovers support the implications as above. In sum, my findings show that managerial extraversion is a significant predictor of corporate financing policies. On an additional note, my paper also shows that there is no firm-manager matching for extravert managers. That is, certain firms, i.e. aggressive firms with high leverage ratios, do not select extravert managers. Rather, it is the 'more or less random' hirings of extravert CEOs that result in significant changes in firm behavior.

My findings relate to several strands of literature. My results on CEO avocations build on research exploring the effects of CEO characteristics on corporate policies. First, by the notion of "behavioral consistency" which claims that individual behaviors are more or less consistent across situations (Allport (1937, 1966), Epstein (1979, 1980), and Funder and Colvin (1991)), I can make predictions that CEOs' decision makings in corporate environments must be similar to their interests and behaviors in personal contexts. Prior

literatures of finance, economics, and accounting support the notion of behavioral consistency. For example, Barsky, Juster, Kimball, and Shapiro (1997) show positive relations between risky behaviors of individuals, i.e. smoking, alcohol consumption, and pursuing risky entrepreneurial activities, i.e. holding risky assets. Chyz (2010) finds that personal and corporate tax avoidance activities of CEOs exhibit similar patterns. Hong and Kostovetsky (2010) show that mutual fund managers' campaign donations to Democrats versus Republicans predict their investment patterns. Similarly, Hutton, Jiang, and Kumar (2011) find that CEOs' personal political orientations affect their corporate policies. Therefore, I predict that CEOs' behaviors in their corporate environments would be consistent with their behaviors in their personal lives.

Recent studies of corporate finance show that CEOs' preferences and demographic traits matter for corporate leverage choices. Opler and Titman (1994) state that differences in managerial preferences can explain differences in capital structure decisions across firms within an industry. Parsons and Titman (2008) provide an extensive overview of empirical papers on the effects of managerial preferences on capital structures. Recent corporate finance studies have identified several managerial characteristics as significant determinants of corporate leverage. For example, Schoar (2007) finds that CEOs who have commenced their careers in years of economic recessions tend to make more conservative debt policies later in their careers. Similarly, Malmendier and Nagel (2010) report the lasting impacts of experiences of economic shocks on managers' risk-taking behaviors. Similarly, Malmendier, Tate, and Yan (2011) find that CEOs with prior life experiences of the Great Depression are more conservative, whereas CEOs with military experiences are more aggressive in corporate capital structure policies. Furthermore, other managerial characteristics such as age, past educations, and career backgrounds are found to be significant determinants of leverage as well. Bertrand and Schoar (2003) find that CEOs with older age cohorts tend to be more conservative in leverage polices, whereas CEOs with MBA degrees are not. Also, Graham et al. (2009) show that CEOs with financial backgrounds tend to lever up their companies more. There also exist theoretical papers that incorporate managerial heterogeneity in their personal characteristics in corporate capital structure models. For example, Cadenillas, Cvitanic, and Zapatero (2004) provide a capital structure model with managerial risk aversion. In sum, the corporate finance literature shows that risk preference of a manager is a significant determinant of corporate financing decisions.

Also, there exists a large literature on managerial biased beliefs and its effects on

corporate financing decisions. Biased beliefs of managers and their effects on corporate decisions have been initiated by Roll (1986). In the context of corporate financing policies, theoretical models have been developed by Heaton (2002) and Hackbarth (2008). In their models, overconfident or optimistic CEOs are modeled to overestimate future cash flows, thus, use more aggressive leverage policies. Empirical studies are consistent with the predictions of these models. For example, Ben-David, Graham, and Harvey (2007) conduct surveys with U.S. Chief Financial Officers (CFOs) and measure their overconfidence as their narrow confidence intervals on future stock market performance. Then, matching with corporate financial data, they find that overconfident managers pursue aggressive capital structure policies in general. Also, Malmendier and Tate (2011) look at the panel data on personal portfolio investment of Forbes 500 CEOs, and classify CEOs as overconfident if they were net buyers of company equity over five years. Then, matching these with corporate financing data, they find that an overconfident manger follows the pecking-ordering of corporate financing. In sum, the corporate finance literature shows that biased beliefs of a manager significantly affect corporate financing decisions.

The notions of managerial risk preference, overconfidence, and optimism are already well-captured by the existing literature. Although my analysis can be linked to these studies, it offers explanations on corporate financing decisions beyond what these notions explain. According to the psychology literature as mentioned before, extraversion captures and is related to many other latent managerial traits such as differences in genetics, i.e. brain physiology and functions, intelligence, degree of self-introspection, subjective well-being, self-esteem, just to name a few. Therefore, I believe my construct of CEO extraversion explains the complex cognitive and emotional processing of a CEO beyond the notions of risk preference, overconfidence, and optimism.[3]

Furthermore, I provide a marginal contribution by helping to explain the remaining variation that has been difficult to reconcile with either one of pecking-order and trade-off theories. For example, Shyam-Sunder and Myers (1999) argue that firms issue debt to fill financing deficits supporting the pecking-order theory over the static trade-off model. In contrast, Frank and Goyal (2003) argue in favor of the trade-off model. Frank and Goyal (2003) also highlight the puzzle that large firms' financing behaviors are best described by the pecking-order theory, when such behaviors, in theory, arise from information asymmetry

[3] It would be meaningful to separate the effects of risk preference, overconfidence, and optimism, from other effects associated with extraversion. Unfortunately, it is difficult to control for risk preferences and biased beliefs in my empirical study given the limited data availability on CEOs' personal characteristics.

problem from which large firms suffer the least.[4]

The remainder of the paper is organized as follow. Section I predicts capital structure implications of managerial extraversion. Section II explains the data and the construction of my key variables. Section III provides results of empirical tests. Finally, Section IV concludes.

I. Testable Hypotheses

In this section, I derive the corporate financing implications of an empirically identifiable CEO avocation, hobbies in *Team Sports*. I assume that CEOs' personal avocations reflect their behaviors in personal lives, which in turn should reflect their decision-makings in corporate environments, by the notion of behavioral consistency. I do not formally model these effects, but consider predictable variations in CEOs' corporate financing choices.

I define *Team Sports* as sports that are played as a team, i.e. volleyball, basketball, baseball, hockey, or/and soccer. Whether or not the CEO has hobbies in *Team Sports* serves as a proxy of his/her capability or willingness for teamwork and cooperation. The psychology literature supports the positive relation between *Team Sports* participation and the personality trait called extraversion, where extraversion refers to the degree of engagement with the external environment, and implies sociability (Goldberg (2003)). That is to say, *Team Sports* players are more extravert than individual sports players or non-athletes. (i.e. Eagleton et al. (2007), Jarvis (1999). Russell (2003))

The biased beliefs and the risk-taking preference associated with extraversion make specific capital structure predictions as follow. First, according to the psychology literature, extraversion significantly predicts overconfidence, controlling for other Big Five factors. (i.e. Schaefer et al. (2004)) In terms of corporate financing decisions, overconfident managers are reluctant to issue equity as equity issuances dilute the claims of existing shareholders. They are also reluctant to issue risky debt as they believe the interest rate demanded by creditors is too high. Thus, a clear prediction cannot be made on their overall frequencies of accessing external finance. However, conditional on accessing external financing, overconfident CEOs tend to prefer debt to equity because debt allows existing shareholders to remain the residual claimant on the firm's future cash flows. Heaton (2002) and Hackbarth (2008) model managerial overconfidence as an overestimation of future cash flows or underestimation of

[4] Titman and Wessels (1988), Rajan and Zingales (1995) and Fama and French (2002) find that large firms have higher levels of debt.

risk of default, and predict that managerial overconfidence leads to aggressive leverage policies. Therefore, given the positive relation between overconfidence and extraversion (i.e. Schaefer et al. (2004)), I predict that extravert managers would prefer debt over equity when accessing external finance.

The same prediction can also be made using the relation between extraversion and low risk aversion. According to Costa, McCrae, and Holland (1984), extraverts exhibit risk-taking preferences. Therefore, extravert managers are likely to have preferences for aggressive leverage policies. That is, they may access external capital markets and make investments optimally, but their financing plans will contain risky debt more than other CEOs with equal financing needs. Thus, I test whether CEOs with hobbies in *Team Sports* are less likely to issue equity than other CEOs, conditional on accessing public securities markets.

Hypothesis 1: CEOs with hobbies in *Team Sports* may tap external finance more or less often than other CEOs.

Hypothesis 2: Conditional on accessing external finance, CEOs with hobbies in *Team Sports* are likely to issue debt more compared to other CEOs due to their low risk aversion, overestimation of future cash flows, and underestimation of default risk.

In a dynamic setting, these CEOs will be more likely to accumulate debt. Therefore, CEOs with *Team Sports* hobbies would maintain leverage ratios that are higher than other CEOs.

Hypothesis 3: CEOs with hobbies in *Team Sports* maintain higher levels of leverage ratios than other CEOs.

II. Data

The sample consists of publicly traded, nonfinancial US companies, for which CEO avocation information is available from *Who's Who Database*. This comprises 252 firms for the period of 1992-2011. I first download names of CEOs from Execucomp Annual Compensation Database for all publicly traded US companies. I exclude financial firms (Standard Industrial Classification (SIC) codes 6000 to 6999). Execucomp Annual Compensation Database provides data starting from the year 1992, therefore, my sample

period is determined accordingly. I also download Date Became CEO and Date Left CEO in order to determine the years for which the person has served as a CEO. Then, I download avocation data of these CEOs from *Who's Who Database*. Using the CEO avocation data, I construct a CEO avocation variable called *Team Sports*. *Team Sports* is a dummy variable recorded 1 if the CEO's avocation contains one or more of the following sports: volleyball, basketball, baseball, hockey, or/and soccer.

I merge these CEO-level data with corporate financial data from Compustat Fundamentals Annual Database. The firm-level control variables are constructed as follows. Profitability is operating income before depreciation normalized by beginning-of-year total assets. Size is a natural logarithm of beginning-of-year total assets. Market-to-book ratio is market value of assets over book value of assets, where market value of assets is the market value of equity plus debt in current liabilities, long-term debt, preferred-liquidation value minus deferred taxes and investment tax credit. The market value of equity is defined as fiscal year closing price multiplied by shares outstanding. Tangibility is PPE, normalized by beginning-of-year total assets. Book leverage is the sum of debt in current liabilities and long-term debt divided by beginning-of-year total assets. Market leverage is the sum of debt in current liabilities and long-term debt divided by beginning-of-year market value of assets, where the market value of assets is defined as mentioned above. I use the value of book assets taken at the beginning of the fiscal year. Net debt issues are long term debt issuance minus long term debt reduction. Net Equity Issues are sales of common stock minus stock repurchases. All definitions of the aforementioned variables follow Frank and Goyal (2009). Also, I download CEO compensation data from Execucomp Annual Compensation Database. I use Total Compensation, ExecuComp data item TDC1, which is the sum of salary, bonus, other annual, total value of restricted stock granted, total Black-Scholes value of stock options granted, long-term incentive payouts, and all other total.[5]

To measure financing needs, I construct a variable called Net Financing Deficit. Net Financing Deficit measures the amount of external financing the CEO has to raise to cover expenditures in a given firm year. Specifically, Net Financing Deficit is defined as cash dividends plus net investment , which is defined as capital expenditures plus increase in investments plus acquisitions plus other uses of funds minus sale of property, plants and

[5] It is possible to add a governance control such as a Percentage of shares owned by a CEO. However, when I download % of shares owned by CEO from Execomp in Computstat, and add this control to my regression specifications, all CEO-level variables get omitted. That is, this control seems to capture too much of the effects from CEOs such that it wipes out the effects of CEO-level variables, i.e. have multicollinearity issue with CEO-level variables such as Team Sports, Age, Gender. Thus, such a control is not included in my regression specifications.

equipment minus sale of investment[6], plus the change in working capital, which is defined as change in operating working capital plus change in cash and cash equivalents plus change in current debt[7], minus cash flow after interests and taxes defined as income before extraordinary items plus depreciation and amortization plus extraordinary items and discontinued operations plus deferred taxes plus equity in net loss (earnings) plus other funds from operations plus gain (loss) from sales of property, plants and equipment and other investments.[8] All definitions of financing deficit variables follow Frank and Goyal (2009). I normalize the financing deficit by the beginning of the fiscal year book assets.[9] In measuring leverage, I use both book leverage and market leverage, as I believe both are complementary. When the analysis focuses on one, I offer another as a robustness check. One potential discrepancy between the two measures is that market leverage is a forward-looking measure which can fluctuate with financial markets.

The leverage measures, firm controls, and the compensation measures are winsorized at the 1% level in both tails of the distribution before the summary statistics are calculated. I drop observations if data is missing. I deflate or inflate all nominal financial data except ratios to year 2000 dollars by the GDP deflator. Industry median leverage is excluded from the set of firm controls since I include firm fixed effects, which captures industry effects as well, in my estimations. When both are included, collinearity problems can arise.

Table I presents summary statistics of firm-level financial variables and CEO-level variables, as well as the distribution across the 12 Fama and French industries.[10] My sample of 252 firms (1,377 observations) consists of all publicly traded, nonfinancial US companies, for which CEO information are available from *Who's Who Database*. That is, I limit the sample to CEOs for whom I was able to locate a *Who's Who Database* entry, resulting in a lower number of observations. Firms with CEO's profiles in *Who's Who Database* without avocation information are also excluded from my sample. Among the 252 firms with CEO

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[6] Net investment is (*capx* plus *ivch* plus *aqc* plus *fuseo* minus *sppe* minus *siv*) for firms reporting format codes 1 to 3; it is (*capx* plus *ivch* plus *aqc* minus *sppe* minus *siv* minus *ivstch* minus *ivaco*) for firms reporting format code 7. I code any missing items as 0.

[7] Change in working capital is (*wcapc* plus *chech* plus *dlcch*) for firms reporting format codes 1 to 3; (minus *wcapc* plus *chech* minus *dlcch*) for codes 2 and 3; (minus *recch* minus *invch* minus *apalch* minus *txach* minus *aoloch* plus *chech* minus *fiao* minus *dlcch*) for code 7. I code any missing items as 0.

[8] Cash flow after interest and taxes is (*ibc* plus *xidoc* plus *dpc* plus *txdc* plus *esubc* plus *sppiv* plus *fopo* plus *fsrco*) for codes 1 to 3; (*ibc* plus *xidoc* plus *dpc* plus *txdc* plus *esubc* plus *sppiv* plus *fopo* plus *exre*) for codes 7. I code any missing items as 0.

[9] In Computstat, the items mentioned in this paragraph and the previous paragraph are abbreviated as *oibdp, at, dlc, dltt, pstkl, txditc, prcc_f, csho, ppent.dv*

[10] See http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data library.html for definitions of the 12 Fama and French industries.

avocations entries, CEOs are coded as having *Team Sports* hobbies in 5% of firm-years. The restriction of selecting my sample as above should minimize measurement error, although selective reporting may remain as a possible source of bias.

<Insert Table I>

Table I also reports summary statistics by CEO avocation. It shows that firms with CEOs with *Team Sports* hobbies are larger in firm size than the average firm size of the full sample. Specifically, the ln(Assets) of the sample of firms with CEOs having *Team Sports* hobbies is 8.11 which is higher than 7.34, the firm size of the full sample, or 7.30, the firm size of the sample of firms with CEOs without hobbies in *Team Sports*. Also, on average, the sample of firms with CEOs having *Team Sports* hobbies has higher profitability and Market-to-Book ratio (M/B), but lower tangibility. Furthermore, the sample of firms with CEOs having *Team Sports* hobbies has higher leverage ratios than the full sample or the sample of firms run by CEOs without *Team Sports* hobbies. For example, the mean book leverage ratio of the sample of firms with CEOs having *Team Sports* hobbies is 31%, which is higher than 26% of the full sample, or 25% of the sample of firms with CEOs without hobbies in *Team Sports*. I later test these effects in a regression framework, controlling for firm and year fixed effects.

Also, Table I provides distribution across industries. It is interesting to see that firms with CEOs having hobbies in *Team Sports* operate mostly in physical capital intensive industries, i.e. Manufacturing, Business Equipment, Telecommunication, Utilities, etc. than human capital intensive industries, i.e. Consumer Nondurables Industry.

In Table II, I report the pair-wise correlations between my measure of CEO avocation and several financial variables. First, all four of the firm controls are significantly related to measures of leverage, and the directions of the relations are consistent with existing literatures: profitability (−), size (+), market-to-book (−), tangibility (+). Moreover, *Team Sports* is significantly positively correlated with book leverage. The effects are directionally the same for market leverage as well, although statistically insignificant. Furthermore, *Team Sports* is significantly negatively correlated with *Age*. Also, it is positively correlated with *ln(Total Compensation)*, although the relation is statistically insignificant. I later test these effects in a regression framework, controlling for firm and year fixed effects.

<Insert Table II>

III. Empirical Results

I test the capital structure implications of differences in CEO avocations. I test the predictions in a regression framework. In my study, there are potential sources of endogeneity such as reverse causality and an omitted variable problem. In order to control for a potential endogeneity issue, I use a fixed effect estimation methodology instead of performing an instrumental variable estimation, due to difficulties in finding a good instrument given limited data availability. According to Angrist and Pischke (2008), a fixed effect estimation methodology can be used instead of the instrumental variable estimation methodology to control unobserved omitted time-invariant variables when a good instrument cannot be found. Especially, the fixed effect estimation methodology serves well for the analysis presented in this paper since many of unobserved CEO-level characteristics are often constant across time. I also present regression results using a difference-in-difference estimation methodology following Chava, Livdan, and Purnanandam (2009) and Wooldrige (2002) and an analysis of changes around CEO turnovers following Weisbach (1995), as robustness checks.

A. Public Issue

In Section II, I have shown that CEOs with *Team Sports* hobbies are risk-taking, overestimate returns to investments, and underestimate risk of default. Therefore, conditional upon accessing external financing, CEOs with *Team Sports* hobbies would prefer debt to equity because debt allows existing shareholders to remain the residual claimant on the firm's future cash flows. That is, they may access external capital markets and make investments optimally, but they will issue debt more and issue equity less than other CEOs with equal financing needs. However, in terms of access to overall external financing, I do not have a clear prediction for CEOs with *Team Sports* hobbies.

Table III presents the overall frequencies of public issues of any securities, where securities include equity and debt. Also, the table separately presents the frequencies of equity and debt issues. *Equity issue* is a binary variable coded 1 for the positive values of Net Equity Issues. Debt issue is a binary variable coded 1 for the positive values of Net Debt Issues. Net Debt Issues are long term debt issuance minus long term debt reduction. Public

Issue is a binary variable coded 1 if any of Equity Issue or Debt Issue is coded as 1. Net Equity Issues are sales of common stock minus stock repurchases. Frequencies of equity issue and debt issue do not add up to the frequencies of public issue since years with both an equity issue and a debt issue count in both categories.

<Insert Table III>

The results are aligned with my earlier predictions. On average, CEOs with *Team Sports* hobbies conduct public issues at slightly lower frequencies than CEOs without *Team Sports* hobbies. In terms of choice of security, they issue debt more frequently but issue equity less frequently than other CEOs. CEOs with *Team Sports* hobbies issue debt in 46% of all years in the sample compared to 45% among CEOs without *Team Sports* hobbies. CEOs with *Team Sports* hobbies issue equity in 48% of all years in the sample compared to 53% among CEOs without *Team Sports* hobbies. The effects are consistent with my earlier predictions. Although the differences here are statistically insignificant, I later show that the differences are significant when tested in a regression framework, controlling for various confounding factors as well as firm and year fixed effects.

B. Change in Leverage

So far, my empirical examinations have shown that CEO avocations are related to corporate leverage in the manner consistent with my predictions. However, these examinations may lack implications for causality due to a potential endogeniety problem (i.e. Graham, Harvey, and Puri (2009)) arising from firm-manager matching, i.e. a firm with aggressive policies hires a manager with extravert CEOs. In order to control for unobserved confounding factors and to derive a causal relation, I use a fixed effect estimation methodology. Using the fixed effects estimation strategy provides a remedy for a potential firm-manager matching problem by capturing unobserved omitted time-invariant effects as parameters to be estimated. Furthermore, the potential form of dependence in my sample of data arises in a group structure, i.e. leverage choices of different managers of the same firm can be correlated with each other. In the case where the regressor of interest varies at the group level, standard errors can be overestimated. Thus, I use errors adjusted for clustering at firm level. (Petersen

(2005))[11]

Using the fixed effect estimation methodology, this section tests the effects of managerial extraversion on changes in leverage. I use the framework of financing deficit by Shyam-Sunder and Myers (1999). Financing deficit is defined as the amount of external finance required to cover expenditures. Specifically, it is investments plus changes in working capital plus dividends less internal cash flow. According to Shyam-Sunder and Myers (1999), financing deficit should drive debt issue. The test is similar to testing for frequencies of equity issues versus debt issues as in the previous section A, but examines the amount of financing rather than the frequency of financing. I have the following prediction for the effects of managerial *Team Sports* hobbies: CEOs with hobbies in *Team Sports* issue risky debt more than other CEOs when accessing external capital. I estimate the following regression,

$$Change\ in\ Leverage_{\ it} = \beta_1 + \beta_2 FD_{it} + X'_{it}B_3 + \beta_4 M_i + \beta_5 H_i + Leverage_{i(t-1)} + \varepsilon_{it},$$

, where *Change in Leverage* is defined as end-of-year market leverage minus beginning-of-year market leverage, where Market leverage is the sum of debt in current liabilities and long-term debt divided by beginning-of-year market value of assets. *FD* is a financing deficit, *X* is a vector of firm-level control variables, and M is the set of managerial demographic factors (Gender and Age), *H* is the managerial trait of interest. Table IV reports regression results for different regression specifications.

<Insert Table IV>

I first start with the regression with Net Financing Deficit as the only independent variable, controlling for firm and year fixed effects. Net Financing Deficit alone explains 33% of the variation in the Change in Market Leverage, and the effect is significant at 5%. My estimates of the coefficient of Change in Market Leverage in these regressions are consistent with the magnitude of the earlier study by Frank and Goyal (2003): My estimates are around 0.08. The estimate by Frank and Goyal (2003) is 0.12 in their regression with Change in Leverage as the dependent variable for the sample of all publicly traded US nonfinancial

[11] Please note that errors are adjusted for clustering at firm level but not at CEO level, since it can sweep out all the CEO-related time-constant effects including CEO traits. For the same reason, CEO fixed effect should not be included in analyzing my sample of data.

firms for the period of 1971 to 1993. The coefficient of 0.08 means that a 1% increase in Net Financing Deficit results in an 8% increase in Change in Market Leverage. As shown in the specification of the column 2, when the Lagged Leverage is controlled for, Net Financing Deficit remains significant at 10%. Also, Lagged Leverage is significant at 1%. This specification with Net Financing Deficit and Lagged Leverage explain 39% of the variation in Change in Market Leverage.

Next, in the column 3, I run a regression with *Team Sports* as the only independent variable, controlling for firm and year fixed effects. It is surprising to see that *Team Sports* alone explains 30% of the variation in Change in Market Leverage, controlling for firm and year fixed effects. Its effect is both economically and statistically significant. As shown in the columns 3 to 6, *Team Sports* is robust to the inclusion of Net Financing Deficit, Lagged Leverage, changes in standard firm controls, ln(Total Compensation), and Age. ln(Total Compensation) has been included as a control for consistency with other regressions in the paper. Gender has been omitted from the regression results due to the multicollinearity problem with other controls. As shown in column 6, *Team Sports* is significant at 1% and has economically important effects: CEOs with *Team Sports* hobbies increases leverage by 5% compared to CEOs without *Team Sports* hobbies.

I also perform a robustness check using alternative variable definitions, Change in Book Leverage and Net Debt Issuance, where Book leverage is the sum of debt in current liabilities and long-term debt divided by beginning-of-year total assets and *Net Debt Issuance* is long term debt issuance minus long term debt reduction during a fiscal year. The regression results are presented in Table V and VI. First, the regressions with Change in Book Leverage as the dependent variable offer implications similar to those of the regressions with Change in Market Leverage as the dependent variable, but with stronger statistical significance. *Team Sports* is one of the most significant explanatory variables of change in leverage: *Team Sports* and Lagged Leverage are significant at 1% level and Net Financing Deficit and Age are significant at 5% level.

Secondly, the regressions with Net Debt Issuance as the dependent variable also offer implications similar to those of the regressions with Change in Book Leverage or Change in Market Leverage as the dependent variables. Again, *Team Sports* remain significant throughout all specifications. The potential caveat in comparing the corporate leverage implications of using Net Debt Issuance compared to Change in Book or Market Leverage arise the difference in the definitions: Book Leverage and Market Leverage measures include

bank loan and other private financings, which are not included in Net Debt Issuance. Also, my estimated coefficient of Net Financing Deficit in regressions with Net Debt Issuance as the dependent variable is not too far from the estimate by Shyam-Sunder and Myers (1999).

<Insert Table V>
<Insert Table VI>

C. Leverage Ratios

The next question I address is whether managerial extraversion can explain differences in capital structures across firms. I have the prediction that CEOs with hobbies in *Team Sports* accumulate debt more than other CEOs resulting in higher leverage ratios. Therefore, I estimate the following regression,

$$Leverage_{it} = \beta_1 + X'_{it}B_2 + \beta_3 H_i + \beta_4 M_i + \varepsilon_{it}$$

, where *Leverage* is end-of-fiscal-year market leverage, *X* is a vector of firm control variables, and *H* is the managerial trait of interest, and M is the set of managerial demographic factors (Gender and Age), Table VII reports regression results for different regression specifications.

<Insert Table VII>

I begin by estimating a baseline regression with the standard set of firm-level controls: profitability, size, market-to-book ratio, and tangibility. Controlling for firm and year fixed effects, these firm controls explain 81% of the variation in leverage and they have directional effects consistent with the existing literature: profitability (−), size (+), market-to-book (−), tangibility (+). All firm controls except tangibility remain statistically significant at 1% level throughout all specifications.

Next, I estimate a regression specification with *Team Sports* as the only explanatory variable, controlling for firm and year fixed effects. Its explanatory power for the total variation in market leverage is 77%. Also, it is surprising to see that its explanatory power for the within-variation of Market Leverage is about half that of the baseline specification with standard firm controls: Its within R^2 is 8% compared with that the within R^2 of 18% in the

first regression specification in column 1. As shown from the specifications in columns 3 to 6, the effect of *Team Sports* is not robust to the inclusion of the set of standard firm controls, but robust to the inclusion of Age and ln(Total Compensation). In the specification with all controls, *Team Sports* is significant at 15% level, with an upward effect on Market Leverage. In term of economic implications, firms run by CEOs with hobbies in *Team Sports* have about 2% higher Market Leverage than firms run by CEOs without hobbies in *Team Sports*.

I perform a robustness check using an alternative variable definition. When I consider book leverage as the dependent variable, the results are similar to the regression results with market leverage as the dependent variable. The Results are shown in Table VIII. In the specification with all controls, as shown in column 7, *Team Sports* is statistically significant at 15%, and has a coefficient of 0.05: firms run by CEOs with hobbies in *Team Sports* have about 5% higher Book Leverage than firms run by CEOs without hobbies in *Team Sports*.

<Insert Table VIII>

D. Alternative Estimations: Difference-In-Difference, Changes in Leverage around CEO Turnovers

Alternative estimation methodologies to address potential endogeneity concerns are a difference-in-difference estimation strategy and an analysis of changes in firm policies around CEO turnovers. Therefore, I provide robustness checks using these two estimation methodologies.

First, following Chava, Livdan, and Purnanandam (2009), a difference-in-difference estimation strategy can be used to analyze the managerial impact on firm policies when the unobserved firm and manager attributes are constant over time. Specifically, the difference-in-difference estimation strategy attributes changes in firm policies following changes in CEO traits as evidence of managerial impacts. Secondly, I examine corporate capital structure changes around CEO turnover to establish a causal relation. Given the imperfect firm-manager matching, as presented in the following Section E, an extravert CEO can be replaced by an introvert CEO, and vice versa, for the same firm. Such imperfect firm-manager matches provide good settings to analyze causal relation of managerial trait on firm policies. For these regressions, I construct a new variable called *Change in Team Sports*.[12] It is

[12] It would be good to distinguish between the various reasons that a CEO might leave a firm: one might expect it to make a difference whether he was fired or moved of his own accord. However, press releases generally won't make the news except

constructed as a change in *Team Sports* from the old CEO to the new CEO. When a measure of change in leverage is regressed on this variable, I expect that the regression coefficient of this variable to be positive given my earlier predictions. As shown in the Table VIIII, the implications of these regressions are the same as in the earlier analysis with 1% to 5% statistical significance. The regression results presented use *Change in Market Leverage* as the dependent variables. As robustness checks, I also run regressions using *Change in Book Leverage* and *Net Debt Issuance* as dependent variables. In regressions of changes in leverage around CEO turnovers, the directional implication of *Team Sports* is the same as in the earlier analysis when *Net Debt Issuance* is used as the dependent variable, with statistical significance at 1% level. However, when *Change in Book Leverage* is used as the dependent variable, the coefficient of Team Sports is close to 0 and statistically insignificant. In difference-in-difference regressions, the directional implication of *Team Sports* is the same as in the earlier analysis, but at lower statistical significance.

E. Note on Imperfect Firm-Manager Matching

On a different note, it is interesting to examine whether managers of certain traits may self-select into certain types of companies, or vice versa. For example, do some firms tend to hire extravert CEOs than introvert CEOs? Do aggressive firms select extravert CEOs? Do firms of large firm sizes select extravert CEOs? These questions address a potential firm-manager matching problem.[13] In order to test such self-selection, I estimate the following regression.

$$Team\ Sports_i = \beta_1 + X'_{it}B_2 + \beta_3 M_{it} + \beta_4\ Leverage_{\ it} + \varepsilon_{it}$$

, where *Team Sports* is a dummy variable recorded 1 if the CEO's avocations contain one or more of the following sports: volleyball, basketball, baseball, hockey, or/and soccer, *X* is a vector of firm control variables, M is the set of managerial demographic factors (Gender and Age), *Leverage* is end-of-fiscal-year market leverage.

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for the very major high-profile companies, and will not always be revealing the true reason for a CEO's departure, whether they went of their own accord or were pushed. For example, it is possible that the reason of a CEO's departure gets referred to as something like "ill-health" or "new interests" as boards often think that it is wise to not make the fact that a CEO was below performance as public information.

[13] In case there is a strong firm-manager matching problem present in the data, the fixed effects estimation strategy might provide only a partial remedy for causal inferences, since it only captures unobserved 'time-constant' omitted variables, but not unobserved 'time-variant' omitted variable. However, for the policies and firm actions studied in this paper, there are prior literatures that assure that a significant portion of the variations come from time-constant effect, much more so than from time-variant effects. (i.e. See Lemmon et al. (2010))

Regression results of the model above imply that there is no self-selection issue between CEOs with *Team Sports* hobbies and other corporate characteristics. Controlling for firm and year effects, none of leverage measures, executive compensation, and firm controls, have any significant explanatory powers in the variation of *Team Sports*. First, leverage measures (Book Leverage, Market Leverage) do not have any explanatory powers in defining *Team Sports*. That is, there is no causal relation from leverage to managerial extraversion: i.e. highly leveraged firms do not select extravert managers. The effects remain insignificant when controlled for other demographic factors such as Gender and Age, standard firm controls, Lagged Leverage, and ln(Compensation). Similarly, none of firm controls or the compensation measure has a significant explanatory power in the variation of *Team Sports*. My results imply that there is imperfect, or close to random, firm-manager matching between extravert CEOs and firm characteristics. The regression results are not reported due to their statistical insignificances.

IV. Conclusions

I provide evidence that managerial extraversion by their personal avocations significantly affect capital structure decisions above and beyond traditional determinants of firm and industry. This paper uses managerial hobbies in team sports as a proxy for managerial extraversion, and tests its effects on corporate financing decisions empirically, using the data of public US, nonfinancial companies between 1992 and 2011.

The results of my analysis show that extravert CEOs issue more debt when accessing external finance, and maintain higher leverage ratios. Specifically, the mean book leverage ratio chosen by CEOs having *Team Sports* hobbies is 31%, which is 5% above the mean leverage of the full sample. In addition, firms with CEOs having hobbies in *Team Sports* tend to operate in physical intensive industries, are larger in firm size, and have higher profitability. In order to derive causal inferences, I run regressions using a fixed effect estimation methodology, which controls for unobserved confounding factors and compares CEOs with different traits operating the same firm. My regression results show that managerial extraversion predicts a significantly higher debt issuance and a significantly higher level of leverage, controlling for all confounding factors as well as firm and year fixed effects. For example, CEOs with hobbies in *Team Sports* issue 3-5% more risky debt than other CEOs, which leads to about 2-5% higher levels of leverage. The effects are statistically and

economically significant. The implication is the same when tested using accounting data or public security issuance data, or using different measures, i.e. market leverage ratios or book leverage ratios. Also, I run difference-in-difference regressions and analysis of changes around CEO turnovers. The implications are the same.

My results offer several contributions and implications. My results help to explain the remaining variation that has been difficult to reconcile with either one of pecking-order and trade-off theories. For example, Shyam-Sunder and Myers (1999) argue that firms issue debt to fill financing deficits supporting the pecking-order theory over the static trade-off model. In contrast, Frank and Goyal (2003) argue in favor of the trade-off model. They also highlight the puzzle that large firms' financing behaviors are best described by the pecking-order theory, when such behaviors, in theory, arise from information asymmetry problem from which large firms suffer the least.

Also, my results show that the corporate financing implications of managerial extraversion are directionally consistent with the corporate financing implications of managerial risk-preference, overconfidence, and optimism. According to the psychology literature, an individual's extraversion captures many of her cognitive and emotional traits including differences in genetics, i.e. brain physiology and functions, intelligence, types of job in which one excels, self-introspection, happiness (subjective well-being), self-esteem, and cultures, in addition to risk-preferences and biased beliefs such as overconfidence and optimism. However, it is interesting to see that its corporate financing implications are directionally consistent with the corporate financing implications of managerial risk-preference, overconfidence, or optimism, as provided by the existing literature. It would be meaningful to separate the effects from the notions already well-discussed in the literature, i.e. risk preference, overconfidence, and optimism, from other effects associated with extraversion. Although controlling risk preference and biased beliefs is difficult in my empirical study due to the limited data availability for CEO level data, it would be possible to do so using a laboratory experiment going forward.

Moreover, my results offer several other implications as well. For example, the effects of managerial traits will be particularly important for firms with managers with long tenures, i.e. family firms. Also, my analysis can offer meaningful implications for hiring and contracting decision between managers and firms. For example, in case the firm wants to anticipate the effects from particular personality traits of the CEO on corporate policies, the board can offset such effects through certain designs of compensation contracts. A recent study shows

that incentives can be affected by managerial behavioral bias such as overconfidence: the theoretical model by Gervais et al. (2011) show that managerial overconfidence increases value-destroying investments if compensation contracts are performance sensitive and rigid.

Going forward, theoretical and empirical examinations of the incentives of extravert managers, how extraversion interacts with other behavioral biases, and implications for compensation contracts are important avenues for future research. Also, although this paper considers behaviors of CEOs in the US, an extravert culture, it would be interesting to study corporate financing decisions of introverted cultures.

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Table I

Summary Statistics

Assets are beginning-of-year total assets. *Net Financing Deficit* is *Cash Dividends* plus *Net Investment* plus *Change in Working Capital* minus *Cash Flow after interests and Taxes. Net Investment* is capital expenditures plus increase in investments plus acquisitions plus other uses of funds minus sale of property, plants and equipment minus sale of investment. *Change in Working Capital* is change in operating working capital plus change in cash and cash equivalents plus change in debt in current liabilities. *Cash Flow after interests and Taxes* is income before extraordinary items plus depreciation and amortization plus extraordinary items and discontinued operations plus deferred taxes plus equity in net loss (gain) plus other funds from operations plus gain (loss) from sale of property, plants and equipment and other investments. *Net Financing Deficit* is normalized by the beginning of the fiscal year book assets. *Net Debt Issues* are long term debt issuance minus long term debt reduction. *Net Equity Issues* are sales of common stock minus stock repurchases. *Profitability* is operating income before depreciation normalized by beginning-of-year total assets. *ln(Assets)* is natural logarithm of beginning-of-year total assets. *Tangibility* is property, plants and equipment, normalized by beginning-of-year assets. *M/B* is Market-to-book ratio defined as market value of assets over book value of assets, where market value of assets is book value of total assets plus market equity minus book equity. *Profitability, Tangibility, Size, M/B* are measured at the beginning of the fiscal year. *Book leverage* is the sum of debt in current liabilities and long-term debt divided by beginning-of-year assets. *Market leverage* is the sum of debt in current liabilities and long-term debt divided by beginning-of-year market value of assets. Total compensation is the sum of *Salary*, *Bonus*, other annual, *Restricted Stock Grants* (total value of restricted stock granted), *Option Grants* (total Black-Scholes value of stock options granted), *LTIP* (long-term incentive payouts), and all other total. Other annual and all other total compensation are added to the total compensation but are not reported for relative unimportance. Other annual and all other total compensation generally includes various forms of perquisites, gross-ups for tax liabilities, preferential discounts on stock purchases, contribution to benefit plans, severance plans. *ln(Total Compensation)* is natural log of total compensation. *Team Sports* is a dummy variable recorded 1 if the CEO's avocations contain one or more of the following sports: volleyball, basketball, baseball, hockey, soccer. The Fama-French Industry Groups are defined as on (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data library.html).

	Full Sample					
Variable	Obs.	Mean	Median	*SD*	Min.	Max.
Financing Variables						
Assets ($m)	1,377	10,128.41	1,968.66	25,359.42	5.05	279,264.00
Net Financing Deficit ($m)	1,363	-101.36	-0.75	923.24	-4,454.00	3,613.00
Cash Dividends ($m)	1,363	219.36	10.62	1,192.60	0.00	36,112.00
Net Investment ($m)	1,377	633.48	123.87	1,983.86	-15,027.00	20,747.00
Change in Working Capital ($m)	1,377	144.32	14.29	1,126.68	-16,706.00	11,047.00
Cash Flow after Interest and Taxes ($m	1,377	1,169.23	193.31	3,237.45	-428.82	35,911.00
Net Financing Deficit/$Assets_{t-1}$	1,362	0.04	0.00	0.26	-0.43	4.13
Net Debt Issues/$Assets_{t-1}$	1,278	0.02	0.00	0.13	-0.54	2.63
Net Equity Issues/$Assets_{t-1}$	1,272	0.01	0.00	0.18	-0.87	4.18
Profitability	1,374	0.17	0.15	0.12	-0.21	0.58
Δ Profitability	1,142	0.00	0.00	0.07	-0.79	0.40
M/B	1,374	1.70	1.28	1.27	0.36	7.22
Δ M/B	1,142	0.01	0.00	0.88	-6.87	6.87
ln(Assets)	1,377	7.34	7.25	1.80	2.99	11.55
Δ ln(Assets)	1,145	0.11	0.07	0.26	-4.35	1.61
Tangibility	1,374	0.36	0.32	0.24	0.01	0.91
Δ Tangibility	1,142	-0.01	0.00	0.05	-0.36	0.47
I(Issue)	1,377	0.74	1.00	0.44	0.00	1.00
I(Issue Debt)	1,377	0.45	0.00	0.50	0.00	1.00
I(Issue Equity)	1,377	0.53	1.00	0.50	0.00	1.00
Market Leverage	1,377	0.23	0.19	0.21	0.00	0.92
Δ Market Leverage	1,145	0.00	0.00	0.11	-0.92	0.51
Book Leverage	1,377	0.26	0.25	0.18	0.00	0.84
Δ Book Leverage	1,125	0.00	0.00	0.08	-0.44	0.72
Total Compensation ($thousands)	1,377	4,923.46	2,446.11	6,120.31	125.31	24,433.06
ln (Total Compensation)	1,377	8.50	7.80	1.19	4.83	10.10

(Continued)

Table I—(*Continued)*

Variable	Full Sample					
	Obs.	Mean	Median	*SD*	Min.	Max.
CEO Variables						
Team Sports	1,377	0.05	0.00	0.22	0.00	1.00
Gender	1,377	0.97	1.00	0.16	0.00	1.00
Age	1,376	64.29	65.00	8.12	44.00	93.00
	CEO with Team Sports Hobbies Sample					
Variable	Obs.	Mean	Median	*SD*	Min.	Max.
Financing Variables						
Assets ($m)	67	23,585.87	3,820.38	34,324.90	71.14	108,704.00
Net Financing Deficit ($m)	67	-744.24	-13.72	1,752.35	-4,454.00	1,695.75
Net Financing Deficit/Assets$_{t-1}$	67	0.07	-0.01	0.25	-0.29	1.46
Net Debt Issues/Assets$_{t-1}$	62	0.04	0.00	0.13	-0.19	0.72
Net Equity Issues/Assets$_{t-1}$	53	0.02	-0.01	0.24	-0.12	1.52
Profitability	67	0.18	0.15	0.13	-0.15	0.49
M/B	67	2.16	1.90	1.47	0.54	6.53
ln(Assets)	67	8.11	7.92	2.08	2.99	11.22
Tangibility	67	0.41	0.32	0.29	0.03	0.89
Market Leverage	67	0.24	0.22	0.22	0.00	0.82
Book Leverage	67	0.31	0.20	0.29	0.00	0.84
Total Compensation ($thousands)	67	5,291.85	1,713.22	6,959.56	494.81	24,433.06
ln (Total Compensation)	67	8.57	7.45	1.15	6.20	10.10
CEO Variables						
Team Sports	67	1.00	1.00	0.00	1.00	1.00
Gender	67	1.00	1.00	0.00	1.00	1.00
Age	67	55.40	54.00	4.63	50.00	65.00
	CEO without Team Sports Hobbies Sample					
Variable	Obs.	Mean	Median	*SD*	Min.	Max.
Financing Variables						
Assets ($m)	1,310	9,440.13	1,918.59	24,634.69	5.05	279,264.00
Net Financing Deficit ($m)	1,296	-68.12	-0.68	847.04	-4,454.00	3,613.00
Net Financing Deficit/Assets$_{t-1}$	1,295	0.04	0.00	0.26	-0.43	4.13
Net Debt Issues/Assets$_{t-1}$	1,216	0.02	0.00	0.13	-0.54	2.63
Net Equity Issues/Assets$_{t-1}$	1,219	0.01	0.00	0.17	-0.87	4.18
Profitability	1,307	0.17	0.15	0.12	-0.21	0.58
M/B	1,307	1.67	1.27	1.26	0.36	7.22
ln(Assets)	1,310	7.30	7.24	1.77	2.99	11.55
Tangibility	1,307	0.36	0.32	0.24	0.01	0.91
Market Leverage	1,310	0.23	0.19	0.21	0.00	0.92
Book Leverage	1,310	0.25	0.25	0.18	0.00	0.84
Total Compensation ($thousands)	1,310	4,904.62	2,509.89	6,076.68	125.31	24,433.06
ln (Total Compensation)	1,310	8.50	7.83	1.19	4.83	10.10
CEO Variables						
Gender	1,310	0.97	1.00	0.17	0.00	1.00
Age	1,309	64.74	65.00	8.00	44.00	93.00

(Continued)

Table I—(*Continued)*

Distribution across Fama French 12 Industry Groups			
Full Sample (1,377 observations)			
Consumer Nondurables	0.05	Telecommunication	0.07
Consumer Durables	0.02	Utilities	0.11
Manufacturing	0.17	Shops	0.13
Energy	0.03	Health	0.10
Chemicals/Allied Products	0.05	Money	n/a
Business Equipment	0.17	Others	0.11
CEO with Team Sports Hobbies Sample (67 observations)			
Consumer Nondurables	0.00	Telecommunication	0.21
Consumer Durables	0.00	Utilities	0.09
Manufacturing	0.15	Shops	0.24
Energy	0.00	Health	0.15
Chemicals/Allied Products	0.00	Money	n/a
Business Equipment	0.16	Others	0.00
CEO without Team Sports Hobbies Sample (1,310 observations)			
Consumer Nondurables	0.05	Telecommunication	0.06
Consumer Durables	0.02	Utilities	0.11
Manufacturing	0.17	Shops	0.12
Energy	0.03	Health	0.09
Chemicals/Allied Products	0.05	Money	n/a
Business Equipment	0.17	Others	0.12

Table II

Correlations of CEO Extraversion with Firm Characteristics

Team Sports is a dummy variable recorded 1 if the CEO's avocations contain one or more of the following sports: volleyball, basketball, baseball, hockey, or/and soccer. *Book leverage* is the sum of debt in current liabilities and long-term debt divided by beginning-of-year total assets. *Market leverage* is the sum of debt in current liabilities and long-term debt divided by the market value of assets. *Profitability* is operating income before depreciation normalized by beginning-of-year total assets. *Size* is natural logarithm of beginning-of-year total assets. *Tangibility* is property, plants and equipment, normalized by beginning-of-year assets. *M/B* is Market-to-book ratio defined as market value of assets over book value of assets, where market value of assets is book value of total assets plus market equity minus book equity. *Profitability, Tangibility, Size, M/B* are measured at the beginning of the fiscal year. *ln(Total Compensation)* is natural log of total compensation, where total compensation is the sum of salary, bonus, other annual, total value of restricted stock granted, total Black-Scholes value of stock options granted, long-term incentive payouts, and all other total. *p*-values and number of observations are in parentheses.

	Team Sports	Gender	Age	Book Leverage	Market Leverage	Profitability	M/B	ln (Assets)	Tangibility	ln(Total Compensation)
Team Sports	1									
	(0.00; 1,377)									
Gender	0.0376	1								
	(0.16; 1,377)	(0.00; 1,377)								
Age	-0.2476	0.1492	1							
	(0.00; 1,376)	(0.00; 1,376)	(0.00; 1,376)							
Book Leverage	0.0663	0.0354	0.0272	1						
	(0.01; 1,377)	(0.19; 1,377)	(0.31; 1,376)	(0.00; 1,377)						
Market Leverage	0.0031	0.0177	0.002	0.7865	1					
	(0.91; 1,377)	(0.51; 1,377)	(0.94; 1,376)	(0.00; 1,377)	(0.00; 1,377)					
Profitability	0.0287	-0.053	-0.0128	-0.1657	-0.3131	1				
	(0.29; 1,374)	(0.05; 1,374)	(0.64; 1,373)	(0.00; 1,374)	(0.00; 1,374)	(0.00; 1,374)				
M/B	0.0827	0.0179	-0.0597	-0.2252	-0.4617	0.4484	1			
	(0.00; 1,374)	(0.51; 1,374)	(0.03; 1,373)	(0.00; 1,374)	(0.00; 1,374)	(0.00; 1,374)	(0.00; 1,374)			
ln(Assets)	0.0973	0.0646	-0.0805	0.2251	0.2656	-0.033	-0.1965	1		
	(0.00; 1,377)	(0.02; 1,377)	(0.00; 1,376)	(0.00; 1,377)	(0.00; 1,377)	(0.22; 1,374)	(0.00; 1,374)	(0.00; 1,377)		
Tangibility	0.0478	0.0781	0.1445	0.3143	0.3147	-0.046	-0.2117	0.0645	1	
	(0.08; 1,374)	(0.00; 1,374)	(0.00; 1,374)	(0.00; 1,374)	(0.00; 1,374)	(0.09; 1,374)	(0.00; 1,374)	(0.02; 1,374)	(0.00; 1,374)	
ln(Total Compensation)	0.0043	-0.0401	-0.2173	0.1141	0.0963	0.0109	-0.011	0.6351	-0.1185	1
	(0.83; 1,377)	(0.14; 1,377)	(0.00; 1,376)	(0.00; 1,377)	(0.00; 1,377)	(0.69; 1,374)	(0.68; 1,374)	(0.00; 1,377)	(0.00; 1,374)	(0.00; 1,377)

Table III

Public Issues

Team Sports is a dummy variable recorded 1 if the CEO's avocations contain one or more of the following sports: volleyball, basketball, baseball, hockey, or/and soccer. $^{+}$, *, **, *** indicate significance at 15%, 10%, 5%, and 1%, respectively.

	Frequencies			
	Percent of Years with			
	Equity Issue	Debt Issue	Any Security Issue	Obs
CEOs with hobbies in team sports= 0	53%	45%	74%	1,310
CEOs with hobbies in team sports = 1	48%	46%	72%	67
Difference t (Team Sports= 0 - Team Sports = 1)	*0.80*	*-0.22*	*0.49*	

Table IV

Change in Leverage: Market Leverage

Fixed effect regressions with *Change in Market Leverage* as the dependent variable, where *Market leverage* is the sum of debt in current liabilities and long-term debt divided by beginning-of-year market value of assets. *Team Sports* is a dummy variable recorded 1 if the CEO's avocations contain one or more of the following sports: volleyball, basketball, baseball, hockey, or/and soccer. *Net Financing Deficit* is cash dividends plus net investment plus change in working capital minus cash flow after interests and taxes, normalized by beginning-of-year assets. Net investment, change in working capital, and cash flow after interests and taxes are defined in Table I. *Changes in Profitability*, *Size*, *MB*, and *Tangibility* are changes in the four firm controls during a fiscal year defined as in Table I. *ln(Total Compensation)* is natural log of total compensation, where total compensation is the sum of salary, bonus, other annual, total value of restricted stock granted, total Black-Scholes value of stock options granted, long-term incentive payouts, and all other total. Gender is omitted in the regressions due to its multicollinearity issue with other regressors. Standard errors adjusted for clustering at the firm level are provided in parenthesis. $^{+}$, *, **, *** indicate significance at 15%, 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Team Sports			0.0137	0.0588	0.0495	0.0540
			(0.01)$^{+}$	(0.02)***	(0.02)**	(0.02)**
Net Financing Deficit	0.0808	0.0500			0.0518	0.0537
	(0.04)**	(0.03)*			(0.03)*	(0.03)*
Lagged Leverage		-0.4349			-0.4399	-0.4476
		(0.07)***			(0.07)***	(0.07)***
Δ Profitability					-0.0869	-0.0903
					(0.05)$^{+}$	(0.05)*
Δ M/B					-0.0042	-0.0034
					(0.00)	(0.00)
Δ ln(Assets)					0.0213	0.0240
					(0.02)	(0.02)
Δ Tangibility					0.0407	0.0330
					(0.07)	(0.07)
Age				0.0046	0.0058	0.0056
				(0.00)**	(0.00)***	(0.00)**
ln(Total Compensation)						-0.0156
						(0.01)***
Firm Fixed Effects	√	√	√	√	√	√
Year Effects	√	√	√	√	√	√
Observations	1,134	1,134	1,145	1,145	1,131	1,131
Number of Firms	215	215	215	215	215	215
R^2 (within)	0.14	0.33	0.11	0.12	0.33	0.34
R^2	0.33	0.39	0.30	0.31	0.39	0.39

Table V

Change in Leverage: Book Leverage (Robustness Check)

Fixed effect regressions with *Change in Book Leverage* as the dependent variable, where *Book leverage* is the sum of debt in current liabilities and long-term debt divided by beginning-of-year total assets. *Team Sports* is a dummy variable recorded 1 if the CEO's avocations contain one or more of the following sports: volleyball, basketball, baseball, hockey, or/and soccer. *Net Financing Deficit* is cash dividends plus net investment plus change in working capital minus cash flow after interests and taxes, normalized by beginning-of-year assets. Net investment, change in working capital, and cash flow after interests and taxes are defined in Table I. *Changes in Profitability*, *Size*, *MB*, and *Tangibility* are changes in the four firm controls during a fiscal year defined as in Table I. *ln(Total Compensation)* is natural log of total compensation, where total compensation is the sum of salary, bonus, other annual, total value of restricted stock granted, total Black-Scholes value of stock options granted, long-term incentive payouts, and all other total. Gender is omitted in the regressions due to its multicollinearity issue with other regressors. Standard errors adjusted for clustering at the firm level are provided in parenthesis. $^{+}$, *, **, *** indicate significance at 15%, 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Team Sports			0.0266	0.0438	0.0499	0.0512
			(0.01)***	(0.01)***	(0.02)***	(0.02)***
Net Financing Deficit	0.0955	0.0711			0.0730	0.0737
	(0.04)***	(0.03)**			(0.03)**	(0.03)**
Lagged Leverage		-0.3732			-0.3940	-0.3943
		(0.05)***			(0.06)***	(0.06)***
Δ Profitability					-0.0282	-0.0290
					(0.05)	(0.05)
Δ M/B					-0.0032	-0.0030
					(0.00)	(0.00)
Δ ln(Assets)					-0.0049	-0.0041
					(0.02)	(0.02)
Δ Tangibility					0.0003	-0.0018
					(0.05)	(0.05)
Age				0.0017	0.0044	0.0044
				(0.00)**	(0.00)**	(0.00)**
ln(Total Compensation)						-0.0043
						(0.01)
Firm Fixed Effects	√	√	√	√	√	√
Year Effects	√	√	√	√	√	√
Observations	1,134	1,134	1,145	1,145	1,131	1,131
Number of Firms	215	215	215	215	215	215
R^2 (within)	0.08	0.24	0.03	0.03	0.25	0.25
R^2	0.23	0.34	0.18	0.18	0.35	0.35

Table VI

Change in Leverage: Net Debt Issuance (Robustness Check)

Fixed effect regressions with *Net Debt Issuance*, normalized by the beginning of the fiscal year book assets, as the dependent variable. *Net Debt Issuance* is defined as long term debt issuance minus long term debt reduction during a fiscal year normalized by beginning asset of the year. *Team Sports* is a dummy variable recorded 1 if the CEO's avocations contain one or more of the following sports: volleyball, basketball, baseball, hockey, or/and soccer. *Net Financing Deficit* is cash dividends plus net investment plus change in working capital minus cash flow after interests and taxes, normalized by beginning-of-year assets. Net investment, change in working capital, and cash flow after interests and taxes are defined in Table I. *Changes in Profitability*, *Size*, *MB*, and *Tangibility* are changes in the four firm controls during a fiscal year defined as in Table I. *ln(Total Compensation)* is natural log of total compensation, where total compensation is the sum of salary, bonus, other annual, total value of restricted stock granted, total Black-Scholes value of stock options granted, long-term incentive payouts, and all other total. Gender is omitted in the regressions due to its multicollinearity issue with other regressors. Standard errors adjusted for clustering at the firm level are provided in parenthesis. $^{+}$, *, **, *** indicate significance at 15%, 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Team Sports			0.0293	0.0754	0.0339	0.0331
			(0.02)**	(0.03)**	(0.02)*	(0.02)*
Net Financing Deficit	0.3082	0.4140			0.4268	0.4263
	(0.11)***	(0.16)***			(0.16)***	(0.16)***
Lagged Leverage		-0.2185			-0.2239	-0.2236
		(0.07)***			(0.07)***	(0.07)***
Δ Profitability					0.0379	0.0386
					(0.05)	(0.05)
Δ M/B					-0.0030	-0.0031
					(0.01)	(0.00)
Δ ln(Assets)					-0.0216	-0.0223
					(0.02)	(0.02)
Δ Tangibility					-0.0928	-0.0914
					(0.08)	(0.08)
Age				0.0047	0.0038	0.0038
				(0.03) $^{+}$	(0.00)**	(0.00)**
ln(Total Compensation)						0.0030
						(0.01)
Firm Fixed Effects	√	√	√	√	√	√
Year Effects	√	√	√	√	√	√
Observations	1,265	1,048	1,278	1,277	1,045	1,045
Number of Firms	247	211	247	246	211	211
R^2 (within)	0.32	0.48	0.03	0.04	0.50	0.50
R^2	0.43	0.59	0.19	0.19	0.60	0.60

Table VII

Market Leverage

Fixed effect regressions with end-of-fiscal-year *Market leverage* as the dependent variable, measured as the sum of debt in current liabilities and long-term debt divided by beginning-of-year market value of assets. *Team Sports* is a dummy variable recorded 1 if the CEO's avocations contain one or more of the following sports: volleyball, basketball, baseball, hockey, or/and soccer. *Profitability* is operating income before depreciation normalized by beginning-of-year total assets. *Size* is natural logarithm of beginning-of-year total assets. *Tangibility* is property, plants and equipment, normalized by beginning-of-year assets. *M/B* is Market-to-book ratio defined as market value of assets over book value of assets, where market value of assets is book value of total assets plus market equity minus book equity. *Profitability, Tangibility, Size, M/B* are measured at the beginning of the fiscal year. *ln(Total Compensation)* is natural log of total compensation, where total compensation is the sum of salary, bonus, other annual, total value of restricted stock granted, total Black-Scholes value of stock options granted, long-term incentive payouts, and all other total. Gender is omitted in the regressions due to its multicollinearity issue with other regressors. Standard errors adjusted for clustering at the firm level are provided in parenthesis. $^{+}$, *, **, *** indicate significance at 15%, 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Team Sports		-0.0112	0.0454	-0.0211	0.0112	0.0200
		(0.03)	(0.01)***	(0.02)	(0.01)	(0.01)$^{+}$
Age			0.0057		0.0033	0.0032
			(0.00)***		(0.00)**	(0.00)**
Profitability	-0.1997			-0.1990	-0.2010	-0.1933
	(0.06)***			(0.06)***	(0.06)***	(0.06)***
M/B	-0.0274			-0.0275	-0.0273	-0.0253
	(0.00)***			(0.00)***	(0.00)***	(0.00)***
ln(Assets)	0.0515			0.0515	0.0501	0.0530
	(0.02)***			(0.02)***	(0.02)***	(0.02)***
Tangibility	0.0077			0.0063	0.0032	-0.0080
	(0.11)			(0.11)	(0.11)	(0.11)
ln(Total Compensation)						-0.0209
						(0.01)***
Firm Fixed Effects	√	√	√	√	√	√
Year Effects	√	√	√	√	√	√
Observations	1,374	1,377	1,376	1,374	1,373	1,373
Number of Firms	252	252	251	252	251	251
R^2 (within)	0.18	0.08	0.08	0.18	0.18	0.19
R^2	0.81	0.77	0.77	0.81	0.81	0.81

Table VIII

Book Leverage (Robustness Check)

Fixed effect regressions with end-of-fiscal-year *Book leverage* as the dependent variable, measured as the sum of debt in current liabilities and long-term debt divided by beginning-of-year total assets. *Team Sports* is a dummy variable recorded 1 if the CEO's avocations contain one or more of the following sports: volleyball, basketball, baseball, hockey, or/and soccer. *Profitability* is operating income before depreciation normalized by beginning-of-year total assets. *Size* is natural logarithm of beginning-of-year total assets. *Tangibility* is property, plants and equipment, normalized by beginning-of-year assets. *M/B* is Market-to-book ratio defined as market value of assets over book value of assets, where market value of assets is book value of total assets plus market equity minus book equity. *Profitability, Tangibility, Size, M/B* are measured at the beginning of the fiscal year. *ln(Total Compensation)* is natural log of total compensation, where total compensation is the sum of salary, bonus, other annual, total value of restricted stock granted, total Black-Scholes value of stock options granted, long-term incentive payouts, and all other total. Standard errors adjusted for clustering at the firm level are provided in parenthesis. Gender is omitted in the regressions due to its multicollinearity issue with other regressors. Standard errors adjusted for clustering at the firm level are provided in parenthesis. $^{+}$, *, **, *** indicate significance at 15%, 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Team Sports		-0.0229	0.0672	-0.0266	0.0525	0.0517
		(0.03)	(0.04)*	(0.03)	(0.03)$^{+}$	(0.03)$^{+}$
Age			0.0091		0.0080	0.0080
			(0.00)***		(0.00)***	(0.00)***
Profitability	-0.1604			-0.1595	-0.1645	-0.1651
	(0.06)***			(0.06)***	(0.06)***	(0.06)***
M/B	-0.0139			-0.0140	-0.0137	-0.0138
	(0.00)***			(0.00)***	(0.00)***	(0.00)***
ln(Assets)	0.0259			0.0259	0.0226	0.0223
	(0.02)$^{+}$			(0.02)$^{+}$	(0.01)$^{+}$	(0.01)$^{+}$
Tangibility	-0.0233			-0.0251	-0.0327	-0.0317
	(0.12)			(0.12)	(0.12)	(0.12)
ln(Total Compensation)						0.0018
						(0.01)
Firm Fixed Effects	√	√	√	√	√	√
Year Effects	√	√	√	√	√	√
Observations	1,374	1,377	1,376	1,374	1,373	1,373
Number of Firms	252	252	251	252	251	251
R^2 (within)	0.10	0.04	0.06	0.10	0.11	0.11
R^2	0.82	0.80	0.80	0.82	0.82	0.82

Table VIIII

Difference-In-Difference and Change in Leverage around CEO Turnover

Difference-in-difference regressions and regressions of changes around CEO turnover with *Change in Market Leverage* as the dependent variables. Standard Firm Controls include *Profitability, M/B, ln(Assets), Tangibility*. Standard Firm Controls are measured at the beginning of the fiscal year. *Team Sports* is a dummy variable recorded 1 if the CEO's avocations contain one or more of the following sports: volleyball, basketball, baseball, hockey, or/and soccer. For definitions of other variables, refer to the Table I. *CEO Demographic Traits* include gender and age. Standard errors adjusted for clustering at the firm level are provided in parenthesis. $^{+}$, *, **, *** indicate significance at 15%, 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)
Panel A. Difference-in-Difference					
ΔTeam Sports	0.0580	0.0837	0.0593	0.0861	0.0894
	(0.01)***	(0.02)***	(0.01)***	(0.02)***	(0.02)***
Observations	1125	1125	1122	1122	1122
Number of Firms	213	213	213	213	213
R^2	0.10	0.10	0.12	0.12	0.12
Δ Standard Firm Controls			√	√	√
Δ ln(Total Compensation)					√
Δ CEO Demographic Traits					
Industry Effects	√	√	√	√	√
Year Effects	√	√	√	√	√
Panel B. Changes in Leverage around CEO Turnover					
ΔTeam Sports	0.0580	0.0593	0.063	0.0643	0.0609
	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***
Lagged Leverage					-0.0860
					(0.02)***
Financing Deficit					0.0739
					(0.04)*
Observations	1122	1122	1122	1122	1112
Number of Firms	213	213	213	213	213
R^2	0.10	0.10	0.10	0.12	0.16
Δ Standard Firm Controls		√	√	√	√
CEO Demographic Traits			√	√	√
ln(Total Compensation)				√	√
Industry Effects	√	√	√	√	√
Year Effects	√	√	√	√	√