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Essays on REIT Founder CEOs

Michael McGonigle
University of Texas at El Paso

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MICHAEL J MCGONIGLE

Doctoral Program in Business Administration

APPROVED:

Erik Devos, Ph.D., Chair

Zifeng Feng, Ph.D., Co-Chair

Xiaojin (Aaron) Sun, Ph.D.

Stephen L. Crites, Jr., Ph.D.
Dean of the Graduate School

Dedication

To Emmet and Ethan for the many times I was unable to spend with you while I was working on this. To Lali for all the support, encouragement, and patience you provided to me. I hope the sacrifice of this pursuit yields a better life for you all!

ESSAYS ON REIT FOUNDER CEOS

by

MICHAEL J McGONIGLE, MSIM, CPCU, CIC, ARM, CRM, AIC

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Abstract

I explore how founder CEOs influence the firm. In my first chapter I examine how founder CEO risk-aversion affects firm capital structure. Using book and market leverage ratios to proxy for risk aversion, I show that REITs with founder CEOs have less leverage than other REITs. This result holds when controlling for firm size, firm age, tangibility, profitability, growth potential, diversification strategy, property-type fixed effects and year fixed effects. I use a propensity score matching methodology to examine whether the reduced leverage is due to factors other than a CEO's founder status. The results do not support that notion. I use a difference in difference approach to test leverage changes following the replacement of a founder CEO with a non-founder CEO and show that leverage increases following such events.

In my second chapter I examine compensation level of founder CEOs. Prior literature suggests that founder CEOs may be able to extract higher levels of compensation compared to non-founder CEOs. Indeed, my findings support that. First, I show that REITs with founder CEOs are fundamentally different than other REITs. Founder REITs have less total assets, take longer to go public, and generate less funds from operations, and have higher risk, using return volatility and market beta as proxies, than non-founder firms. Tests of mean and median pay suggests that founder CEOs are compensated less than their non-founder counterparts, but the result reverses when controlling for firm performance, dividend income, and year fixed effects. I show that founder CEOs are compensated more than non-founder CEOs at the total compensation, cash compensation, and equity compensation levels. I test residual compensation as a robustness check and my findings hold.

Keywords: Capital Stucture; Executive Compensation; Founders; REIT

JEL Codes: E50, G10, G14, G18, G41

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1 Founder CEOs, Risk Aversion, and Capital Structure: Evidence from the REIT Industry

1.1 Introduction

Worldwide, most companies are either under control or are significantly influenced by an individual shareholder or their family, often related to the founder (Burkart, Panunzi, and Shleifer, 2003). It is, therefore, not surprising that extensive literature has arisen investigating this type of firm. Not only has the prevalence of these firms led to much research, but critical theoretical questions can also be addressed by examining them - for example, inquiries related to the separation of ownership and control and other agency questions.

In this light, the literature suggests that founding families may impose costs on other shareholders, as they may be risk-averse or risk-avoiding, is essential (Shleifer and Vishny, 1986). Despite this notion, Anderson and Reeb (2003) find that debt levels, which proxy for risk averseness, are not different between family and nonfamily firms. The divergence between these papers and many others, consistently suggesting that family (or founding) firms are systematically different from nonfamily (or non-founding) firms in terms of behavior and performance[1], may be explained by several factors. First, the definition of a family or founding firm varies dramatically across the literature (see Villalonga and Amit (2020)), leading to alternative conclusions. Second, the prevalence of family firms varies across industries (e.g., Anderson and Reeb (2003); Villalonga and Amit (2006); Villalonga

[1]See, for example, a review article by Villalonga and Amit (2020)

and Amit (2010)). Consequently, different conclusions may be reached depending on the industries that comprise the sample studied.

So, in this paper, while adding to the literature investigating the relation between family/founding firm status and risk-taking (or its opposite, risk aversion), I focus on an industry with typically long investment horizons, a characteristic common to industries with a relatively high prevalence of family (or founding) firms. Specifically, I examine real estate investment trusts (REITs). Using REITs as my experimental laboratory is vital given the incidence of family/founding firms in the sector. This incidence is not surprising for another reason. REITs, as an industry, are relatively new. Before converting to REIT status, these firms were family dominated, which suggests that founding families may still have an essential role in REITs. The REIT industry is also a sector with a high degree of homogeneity in REIT activity and financing, which aids empirical design as it reduces idiosyncratic effects.

By focusing on firms in this specific industry, I believe that I shed some light on whether founder firms genuinely differ in risk attitude without the confounding effects that plague earlier studies that use more heterogenous samples, which may explain their varying conclusions. Moreover, the growth in the sector over the last 30 years warrants an investigation in its own right. Lastly, by design, REITs are generally widely held, possibly due to the 5/50 rule (see Downs (1998) for more on the 5/50 rule), which may lead REIT CEOs to have less power in determining REIT debt policies when compared to non-REIT CEOs. Alternatively, REITs may be capital-constrained due to the payout rules (see Boudry, Kallberg, and Liu (2011)), forcing them to enter the capital market more frequently to fund investments (Ott, Riddiough, and Yi, 2005). This may potentially constrain their leverage

choices.[2]

To the best of my knowledge, family/founding REITs have not been examined in the literature. Like Anderson and Reeb (2003), I focus on leverage as my measure of interest. Not only is this a well-established proxy for risk-taking, but debt levels for REITs also tend to be relatively high.[3] Therefore debt policy is of vital importance to REITs and investors therein. And as an additional bonus, I add to the literature investigating REIT capital or debt structure.[4]

This paper provides several important insights. First, I document that, during the sample period, spanning from 2006 until 2019, approximately 27 percent of the observations are REIT years in which the CEO is related to (or is) the founder. This evidence is not surprising given that extant work suggests that the REIT industry may be a sector in which founder CEOs are likely to be prevalent. Second, I find that REITs with founder CEOs differ from other REITs. These founder CEO REITs tend to be smaller and younger, which may not be unexpected. But they also tend to have substantially less debt. My empirical tests show that the debt levels of these founder CEO REITs are significantly lower and appear to be economically different. More specifically, founder REITs have debt levels that are about three percent lower than non-founder REITs. These results are robust, even when I employ a propensity score matching methodology to control for age, size, and other differences between founder and non-founder REITs.

[2] I thank one of the referees for this suggestion.

[3] Because REITs are required to pay out most of their net income, external capital is of utmost important to REITs (see for example,Devos et al. (2019), Dogan, Ghosh, and Petrova (2019); Feng and Wu (2021)).

[4] Anderson and Reeb (2003) postulate that the greatest influence of a family/founder can exerted if the CEO is related to the founder/family.

When I investigate the cost of debt, I find that the cost of debt is dramatically lower for founder REITs relative to non-founder REITs. Also, founder firms have significantly lower interest coverage ratios than non-founder REITs. Finally, when I investigate the maturity structure of my sample REITs, I report that founder-led REITs have relatively less long-term debt in their debt structure. This may indicate their higher quality or more financial flexibility.

The empirical findings in this article contribute to a growing strand of literature investigating the difference between family and nonfamily firms. While most studies in this area employ non-real estate firm samples (e.g., Anderson and Reeb (2003); Villalonga and Amit (2006); Villalonga and Amit (2010); Dyck and Zingales (2004); Amore, Minichilli, and Corbetta (2011)), my paper is the first to intensively investigate the extent to which a firm's capital structure is affected by whether it has a founder or non-founder CEO, in a REIT context. Contrary to corporate finance literature, which suggests little to no difference in the debt levels between family and nonfamily firms (e.g., Anderson and Reeb (2003)), my results show that the debt levels of founder CEO REITs are significantly lower than those of non-founder REITs.

Due to the importance of debt policy for REITs, extensive literature exists examining REIT capital structure (e.g., Harrison, Panasian, and Seiler (2011); Pavlov, Steiner, and Wachter (2018); Dogan, Ghosh, and Petrova (2019); Devos et al. (2019)). Theory also suggests that family/founder-owned or led firms may differ in their capital structure choices from others (Berger, Ofek, and Yermack, 1997). By examining the debt policies of founder and non-founder CEOs in REITs, I contribute to this stream of literature.

My paper also adds to the literature investigating REIT CEOs. While the literature regarding CEO characteristics and their influence on REIT activities is still relatively thin, no extant literature has examined the role of CEOs related to the REIT founders. Recent studies have investigated REIT CEOs' overconfidence (Eichholtz and Yönder (2015); Yung, Li, and Sun (2015)), optimism (Eichholtz and Yönder, 2022), and age (Zhang and Ooi, 2022). My paper approaches this research area from a new angle, studying the risk-aversion levels of founder and non-founder CEOs.

Overall, my findings seem to confirm that founder CEOs differ from non-founder CEOs for my REIT sample. The lower debt levels for REITs led by founder CEOs suggest that these CEOs are relatively more risk-averse. However, the corresponding lower cost of debt and higher interest coverage ratio may indicate that this is not necessarily a negative for the REIT.

The next section of the paper consists of a short literature review, followed by my data section. Section four presents my methodology in more detail, whereas section five contains my main results. Section six contains my additional tests on the cost of debt and interest rate coverage ratios, and section seven concludes and summarizes the paper.

1.2 Literature Review

1.2.1 Founding/Family Firms

Combined ownership and control of a firm can be detrimental to a firm. For example, controlling shareholders may expropriate profits from minority shareholders (e.g., Jensen and Meckling (1976); Fama and Jensen (1983)).[5] It is widely believed that founder-family firms, firms with founders or descendants of founder ownership, are prone to such ownership-control issues. As a result, substantial literature investigates the impact of founder-family ownership on the firm. These studies primarily focus on firm performance or value.

Firms with founder-family CEOs exhibit a positive association with accounting profitability measures and show significantly better market performance than non-founder-family CEOs (Anderson and Reeb, 2003). A similar finding is that firm values are higher for firms with founders acting as either CEO or chairman (Villalonga and Amit, 2006). These findings are clearly consistent with the idea that families are likely to retain control of a firm when there is a competitive advantage, benefiting all shareholders (Villalonga and Amit, 2010).

Firms with founding family ownership are also have longer investment horizons (e.g., Casson (1999); Chami (2001)), resulting in less managerial myopia (Stein (1988); Stein (1989)). Relatedly, because of their long-term presence and contact with capital providers, firms with founding family ownership are associated with a lower cost of debt financing (Anderson, Mansi, and Reeb, 2003). Also related to capital structure, family firms issue

[5] Alternatively, combined ownership and control may increase monitoring (Demsetz and Lehn, 1985).

more short-term debt and less long-term debt relative to nonfamily firms (Chen, Dasgupta, and Yu, 2014). And interestingly, during the 07-09 financial crisis, credit to Italian family firms contracted less sharply than that to nonfamily firms (D'Aurizio, Oliviero, and Romano, 2015). Finally, leverage in family firms increases when a nonfamily CEO succeeds a founder, but the change is from spare debt capacity from the pre-succession period (Amore, Minichilli, and Corbetta, 2011).

So, in short, the evidence related to the benefits of being family or founder-owned or led is mixed. This, of course, may not be surprising given, as mentioned in the introduction, the varied definitions of family or founder ownership, the different samples employed, and the various measures of performance, value, and agency problems.

1.2.2 REIT Capital Structure

The capital structure literature on REITs is extensive.[6] The importance of debt policy for REITs is evident given the amount of recent REIT papers investigating debt policy. For example, Harrison, Panasian, and Seiler (2011) outline the hypothesized determinants of REIT capital structures as asset tangibility, REIT growth options, REIT size, profitability, liability structure, interest coverage, and REIT age. Other determinants of REIT capital structure include legal requirements for REIT status (Dogan, Ghosh, and Petrova, 2019). In anticipation of future risk, REIT managers can increase value through dynamic financing choices (Pavlov, Steiner, and Wachter, 2018). Moreover, REITs specializing in the most liquid assets use more leverage and longer maturities, while the opposite is true for REITs

[6]See Wu (2014) for a comprehensive review.

specializing in the least liquid assets (Giambona, Harding, and Sirmans, 2008). Another determinant of a REIT's leverage ratio is the operating performance volatility relative to the median operating volatility of REIT property-type peers (Ertugrul and Giambona, 2011). REIT cash holdings are negatively related to FFO, leverage, and internal advisement and are positively associated with the cost of external financing and growth opportunities (Hardin et al., 2009). Devos et al. (2019) provide evidence that REITs increase disclosure, thus lowering information asymmetry when they access the capital markets. Historically, REITs have large levels of debt, which may reduce their financial flexibility in the event of financial friction. Financial flexibility is enhanced with higher cash holdings (Denis, 2011), underutilized debt capacity, and retention of more cash flows (Almeida, Campello, and Weisbach, 2011).

Theory suggests that family firms are associated with a higher risk of wealth transfer from minority shareholders to controlling shareholders through non-pecuniary benefits (Jensen and Meckling, 1976) or capital structure choices (Berger, Ofek, and Yermack, 1997). Hence, it appears that debt policy differs depending on whether a firm is family/founder owned or led. However, there is no evidence on this issue for REITs.

1.2.3 REIT CEOs

This paper is part of a literature stream investigating whether REIT CEO characteristics matter. Most related to my article is the finding that entrenched CEOs use less leverage and shorter maturity debt, which can be offset by using equity and option ownership (Ghosh

et al., 2011).[7] For example, overconfident REIT CEOs issue more debt than equity than their non-overconfident counterparts, which results in a decline in shareholder wealth (Tan, 2017). Optimistic REIT CEO/CFO teams pay more for asset acquisitions, followed by the inferior stock performance (Eichholtz and Yönder, 2022). Zhang and Ooi (2022) show that amount of asset acquisitions is inversely associated with age; young CEOs make more acquisitions than older CEOs and provide evidence that this behavior is not driven by financial incentives. Yung, Li, and Sun (2015) find that overconfident REIT CEOs use more debt, use longer-term debt, buy back more shares, and issue fewer dividends. In addition, they find that CEO overconfidence is negatively associated with Tobin's q and return on assets. Another finding in this literature is that given enough discretionary cash, overconfident REIT CEOs acquire more assets than other CEOs, are less likely to sell assets, and exhibit lower property investment performance (Eichholtz and Yönder, 2015).

1.2.4 Founder REITs, Risk-averseness, and Debt

So, the central premise of my paper is that founder CEOs could be more risk-averse and therefore have lower debt ratios. The main idea behind this is based on the notion that founder CEOs are entrenched and thus attempt to reduce risk to protect their (human) capital. Following Jensen and Meckling (1976), an influential stream of literature argues that managerial entrenchment is a critical reason firms deviate from their optimal capital structure and use low leverage. Entrenched managers choose low leverage levels to reduce

[7] Another stream of REIT CEO literature is about executive compensation (e.g., Chopin, Dickens, and Shelor (1995); Hardin (1998); Pennathur and Shelor (2002); Feng, Ghosh, and Sirmans (2007); Griffith, Najand, and Weeks (2011); Feng (2021); and Feng, Hardin, and Wu (2022).

firm-specific risk and protect their human capital (e.g., Fama (1980)) or consume private benefits by lowering interest payments and increasing the resources under control (Stulz, 1990). In addition, they may also want to avoid the disciplinary pressures associated with leverage (e.g., Jensen (1986)). That there is a possible link between risk-taking and leverage is also suggested by Coles, Daniel, and Naveen (2006), who note that: *"Finally, CEOs can increase firm risk by altering financial policy, or more specifically, by increasing leverage."* Moreover, my choice to use debt as a measure of interest is even more appropriate as debt and capital structure decisions are not affected by tax implications, as they are in the non-REIT sector.

1.3 Data and Summary Statistics

1.3.1 Data Sources and Sample

I collect data from several data sources to conduct the empirical analysis on the differentials in the capital structure for REITs with founder and non-founder CEOs. First, I collect annual REIT-level accounting-related information, and the individual property level data for every U.S. equity REIT from 2006-2019.[8]Then I collect REITs' CEO information. Based on the first and last names of REITs' CEOs recorded in the S&P's ExecuComp, I then hand-collect data to identify whether the CEO is a founder or non-founder. Specifically, I gather that information from REITs' company websites, LinkedIn, and other places via Google

[8]One may wonder whether the UPREIT structure has any effects on my findings. However, given that my sample period starts in 2006, the number of REITs which may still exhibit this structure during my sample period, appears to be relatively small, limiting some of this concern.

search.[9] Furthermore, I hand-collect CEO share ownership data, institutional ownership data, independent director data, and analyst coverage data from various sources.

There are a total of 135 individual REITs included in my sample. The number is largely consistent with other recent REIT compensation and CEO-related studies (e.g., Feng (2021); Feng, Hardin, and Wu (2022); Eichholtz and Yönder (2022); Zhang and Ooi (2022)) and the number of REITs covered in typical industry reports.[10] Looking at the number of founder and non-founder CEOs for REITs during the sample period (Figure 1), non-founder CEOs are in the majority, and the proportions of CEOs who are non-founder slightly increased in recent years.

[FIGURE 1 HERE]

1.3.2 Variable Construction

Following the REIT literature, the capital structure of a REIT is measured by its market leverage ratio and book leverage ratio (Giacomini, Ling, and Naranjo (2017); Deng et al. (2021)). Market leverage ratio is defined as total debt divided by the sum of total debt and the market capitalization of equity (Dogan, Ghosh, and Petrova, 2019). The market capitalization of equity is calculated as the share price times the common share outstanding. Book leverage ratio is defined as total debt divided by the sum of total debt and total equity (Zhilan, Ghosh, and Sirmans, 2007).

[9]The sample period starts in 2006 because there are limited data about REIT's executive prior to 2006. The SEC and FASB imposed an expanded compensation disclosure requirement in 2006.

[10]For example, see a report from FTI Consulting, "2016 Executive Compensation Report: Real Estate Industry Long-Term Incentive Practices", which includes 125 publicly traded REITs.

The cost of debt for a REIT is measured as its weighted average interest rate and interest-to-debt ratio. While the weighted average interest rate is the average of current debts (Boudry, Kallberg, and Liu (2010); Feng and Hardin (2022)), the interest-to-debt ratio is calculated as the interest expense divided by total debt (Ambrose, Highfield, and Linneman (2005); Feng and Wu (2021)). Long-term debt to total debt ratio is calculated as long-term debt divided by total debt (Feng and Wu, 2021). The interest coverage ratio for a REIT is calculated by dividing earnings before interest, taxes, depreciation, and amortization (EBITDA) by total interest expenses (Harrison, Panasian, and Seiler (2011); Ooi, Wong, and Ong (2012); Deng et al. (2016)). The interest coverage ratio represents a REIT's credit quality, especially in accessing debt markets (Hartzell, Sun, and Titman, 2006). The long-term (short-term) debt to total debt ratio is calculated as long-term (short-term) debt divided by total debt (Feng and Wu, 2021).

Following the REIT and finance capital structure literature, I include some commonly used control variables in the analysis. I control for REIT-level characteristics, which include the natural logarithm of firm size and year listed, the ratio of net real estate investments over total assets (*asset tangibility*), the ratio of funds from operations over total assets (*profitability*), the ratio of the sum of book debt and market capitalization over total assets (*growth opportunity*), the natural logarithm of total assets, the Herfindahl Index of a REIT based on book value assets invested in different NCREIF regions and property types (*geographic concentration and property type concentration*) and the ratio of the REIT's assets invested in Boston, Chicago, Los Angeles, New York, San Francisco, and Washington, D.C. to its total assets (*gateway city focus*). In an additional analysis, I also control for CEO

characteristics, which include the natural logarithm of the CEO's indirect income or cash flow derived from dividends coming from CEO shareholdings (*CEO income from dividend*), CEO tenure duration and CEO age, and REIT's managerial entrenchment, monitoring, and transparency proxies, which include institutional ownership percentage, independent director ratio, and the natural logarithm of the number of analyst coverage. All the variables are defined in the appendix.

1.3.3 Sample Statistics

My sample is restricted to REITs recorded in the S&P's ExecuComp databases from 2006-2019. The sample consists of about 1,423 REIT-year observations. Table 1 reports summary statistics for the variables used in the analysis. The numeric variables are winsorized at the distributions' 1% and 99% tails to avoid the influence of extreme observations. The mean (median) of total assets is USD 5.62 bln. (USD 2.59 bln.). For my two capital structure measures, the mean and median market leverage ratios are 0.392 and 0.373, which are smaller than the mean and median values of book leverage ratio (0.535 and 0.531).

[TABLE 1 HERE]

1.3.4 Differences between Founder and Non-Founder CEO REITs

Table 2 presents the differentials of characteristics between U.S. equity REITs with founder and non-founder CEOs. The results clearly show that founder CEO REITs are smaller and younger than non-founder CEO REITs. There are also statistically significant differ-

ences between the two REIT types in the tangibility, profitability, growth opportunities, and diversification strategy. Thus, controlling for the effects of REIT size and other REIT characteristics is necessary when I compare the capital structure between the founder and non-founder CEO REITs. It is essential only to investigate founder and non-founder CEO REITs of similar sizes and other characteristics.

Table 2 also indicates that founder CEO REITs have lower leverage than non-founder CEO REITs. The spreads of the mean of the market leverage ratio and book leverage ratio between founder CEO and non-founder CEO REITs are 0.012 and 0.053, respectively.

[TABLE 2 HERE]

Figure 2 depicts the leverage disparities between the founder and non-founder CEO REITs based on the annual mean of market leverage and book leverage ratios. The figure shows that non-founder CEO REITs have higher leverage than founder CEO REITs for most sample years. The contrasts in the book leverage ratio are more significant than that in the market leverage ratio. Over the whole sample period, the mean of the market leverage ratio is 0.395 for non-founder CEO REITs and 0.383 for founder CEO REITs, while the mean of the book leverage ratio is 0.550 for non-founder CEO REITs and 0.497 for founder CEO REITs (See Table 2).

[FIGURE 2 HERE]

1.4 Methodology

Using my REIT sample, I start my analyses of the differentials in the capital structure for REITs with a founder CEO and a non-founder CEO. My baseline regression examines the relationship between the leverage and the founder and non-founder CEO status of a REIT. However, there are several econometric issues to deal with. First, while REIT fixed effects are a more canonical way to perform my REIT-level analysis, REIT fixed effect estimation is inappropriate for my sample given the time-invariant nature of the Founder CEO dummy (i.e., the founder status does not change for most REITs). However, REIT-level individual characteristics are not random and may impact the leverage ratios. Therefore, there is a need to control for them. This is because there may exist unobservable factors that determine the leverage ratios in the REIT (i), but these may not change over time. My analysis aims to estimate the effect on leverage ratios of the Founder CEO dummy, holding constant the unobserved firm characteristics. Therefore, I adopt a Panel Regression with a Correlated Random Effect model (Mundlak (1978); Wooldridge (2019)), which can be viewed as complementary to fixed effects/bias adjustment approaches, as follows:

$$\text{Leverage}_{i,t} = \beta_0 + \beta_1 \text{FounderDummy}_{i,t} + \gamma_1 \text{X}_{i,t} + \gamma_2 \bar{\text{X}}_i + \alpha_i + \lambda_t + \varepsilon_{i,t} \tag{1}$$

where $\text{X}_{i,t}$ is the REIT characteristics for REIT i in year t-1 and $\bar{\text{X}}_i$ are the averages of each REIT characteristic for REIT i during the whole sample period (for instance, the

mean of log firm size from 2006 to 2019). The above equation is estimated using a generalized least squares (GLS) approach to obtain unbiased coefficient estimates and standard errors (Wooldridge, 2019). In addition, I cluster the standard errors at the firm level in my regressions.

The key independent variable is FounderDummy$_{i,t}$, which is an indicator variable equal to 1 if the CEO is a founder and zero otherwise. The initial coefficients of interest, β_1, in the cross-section measures the difference in REITs' leverage between the founder CEO and non-founder CEO REITs. $X_{i,t}$ are commonly used control variables for REIT characteristics, which include the natural logarithms of firm size and year listed, tangibility, profitability, growth opportunity, geography, property type diversification, and gateway cities concentration. They are defined earlier in the text and the appendix.

Because there exist substantial differences in the REIT size and other characteristics between founder CEO and non-founder CEO REITs, my baseline regression results could be biased. To address the issue, I adopt a propensity score matching model that investigates a sample of REITs with similar sizes and other characteristics. Specifically, founder CEO REITs are classified as the treatment group. I compare the two leverage ratios for the founder CEO REITs with other REITs that have been matched via the propensity score matching procedure. The control variables include $X_{i,t}$, the REIT characteristics.

1.5 Main Results

1.5.1 Baseline Regressions

I begin my empirical analysis by providing a basic illustration of REIT leverage conditioned on the CEO's founder or non-founder status. The regression results from equation (1) with market leverage ratio as the dependent variable are reported in Columns (1) and (2) of Table 3, with the property type and year fixed effects. The estimated coefficient of the founder CEO dummy variable is negative (-0.034), indicating that a founder CEO REIT, on average, has 3.4 percentage points less debt than a non-founder CEO REIT. Since the t-statistic of the estimated coefficient is -2.67, this difference is statistically significant at the 1 percent level. Columns (3) and (4) present the regression results from equation (1) using book leverage. Here the coefficient is -0.028 and is statistically significant at the 5 percent level. My results show that the negative effect of the founder CEO on firm leverage is not affected by potential confounding variables, including firm size, firm age, tangibility, profitability, growth potential, and diversification strategies. Year-fixed effects are included. The results suggest that, on average, REITs with a founder CEO are associated with lower market and book leverage ratios. A quick back-of-the-envelope calculation suggests annual interest savings of about 3 million USD for the average REIT, depending on whether a founder leads the REIT.[11]

[11] A typical Founder REIT has a USD 2,128 mln. total debt. A typical non-Founder REITs has roughly 3% more debt than A typical Founder REITs. This implies (USD 2,128 mln * 3%) about USD 63.84 mln. Then, based on a weighted interest rate of 4.675% (Table 1), interest differential would be (USD 63.84 mln * 4.675%) about USD 3 mln. While this may seem small, this is about 1.4% of FFO for the average REIT year (USD 217 mln.).

[TABLE 3 HERE]

1.5.2 Propensity Score Matching Analysis

Table 4 presents the propensity score matching results.[12] Panel A reports the logit regression results in which the probability (i.e., the propensity score) is the predicted value. In the pre-match sample, the pseudo-R-square is 0.076. In the post-match sample, the pseudo-R-square is 0.007. All estimated coefficients are statistically insignificant, suggesting no distinguishable REIT characteristics exist between the two groups for the post-match sample. These results indicate that the propensity score matching removes all observable differences among the sample beside the difference in the CEO's founder and non-founder status. In Panel B, none of the differences in REIT characteristics between the treated and the control groups are statistically significant. These results suggest that the propensity score matching analysis removes all the other observable differences. Thus, the difference in capital structure between the two groups is likely due to their CEOs' founder or non-founder status.

Panel C reports the propensity score matching estimates. The matching variables include log firm size, log year listed, tangibility, profitability, growth opportunity, geographic concentration, gateway city focus, and property type concentration. The results indicate that there are significant differences in the market leverage ratio (0.388 vs. 0.433, t-stat = -3.93) and book leverage ratio (0.495 vs. 0.537, t-stat = -4.34) between REITs with a founder CEO and their matched non-founder REITs. The results show that founder CEO REITs have

[12] In Panels A and B, the results are based on the market leverage ratio as the variable of interest. The results are quantitatively and qualitative similar when book leverage ratio is used as the variable of interest. These results are not reported in the paper for brevity.

lower leverage than otherwise indistinguishable non-founder REITs. The propensity score matching analysis provides supporting evidence for the baseline regression results reported earlier in the paper.

[TABLE 4 HERE]

1.6 Additional Analysis

In this section, I provide the results of several robustness checks. These additional analyses include: (1) examining the differential between founder CEO and non-founder CEO on REITs' cost of debt; (2) controlling for CEO characteristics, corporate monitoring, transparency, and entrenchment; (3) investigating the debt maturity differential between founder CEO and non-founder CEO REITs; and (4) controlling for lagged leverage values.

1.6.1 Cost of Debt

The empirical evidence on the relation between a REIT's founder and non-founder CEO status and its cost of debt in the REIT sample is presented in Table 5 . Columns (1) and (2) show the regression results when the weighted average interest rate is used as the dependent variable. The estimated coefficient on the founder CEO dummy variable is -0.236 and is statistically significant at the 5% level. Columns (3) and (4) report the results using the interest-to-debt ratio as the dependent variable. The results are consistent, with the estimated coefficient of -0.269 and the t-statistic of -2.15. These results indicate that the

cost of debt for REITs with a founder CEO is generally lower than that for a non-founder CEO, suggesting that founder-CEO REITs are more cautious about their capital structures.

In Columns (5) and (6), I show the coefficients resulting from the regression of the interest coverage ratio as the dependent variable. I find the founder coefficient to be 0.693. This is statistically significant at the five percent level. These findings confirm my findings when using the weighted average interest rate and the interest-to-debt ratio as cost of debt measures.

[TABLE 5 HERE]

1.6.2 CEO Characteristics & Corporate Entrenchment, Monitoring, and Transparency

To complete the evaluation linking leverage and founder and non-founder CEO status, controlling for CEO characteristics and corporate entrenchment, monitoring, and transparency are necessary. Therefore, I estimate an augmented model based on Equation (1) as follows:

$$\text{Leverage}_{i,t} = \beta_0 + \beta_1 \text{FounderDummy}_{i,t} + \gamma_1 \text{X}_{i,t} + \gamma_2 \bar{\text{X}}_{i,t} + \gamma_1 \text{W}_{i,t} + \gamma_2 \bar{\text{W}}_{i,t} + \gamma_1 \text{Z}_{i,t} + \gamma_2 \bar{\text{Z}}_{i,t} + \lambda_t + \varepsilon_{i,t} \tag{2}$$

Where $\text{W}_{i,t}$ are commonly used control variables for CEO characteristics, including the natural logarithms of the CEO's income from dividends, tenure duration, and age.

$Z_{i,t}$ are commonly used proxies for corporate entrenchment, monitoring, and transparency. Specifically, they are the institutional ownership percentage, the independent director ratio, and the natural logarithm of the number of analysts following the REIT. The other variables are as defined previously.

Columns (1) to (4) of Table 6 report the results for the regressions with the income from dividends to the CEO, duration of CEO tenure, and the age of the CEO as additional control variables. Despite the reduction in the number of observations compared to my earlier results, the critical result on the relation between a REIT's capital structure and its founder and non-founder CEO status is consistent with those shown in Table (3). The estimated coefficients on the founder CEO dummy are negative (-0.035) and are statistically highly significant.

It is argued that institutional investors act as monitors and influence a REIT's financial decisions (see, for example, Devos, Ong, and Spieler (2013); Hartzell, Sun, and Titman (2014))). Previous literature also suggests that independent directors (e.g., Ghosh et al. (2011)) and analyst coverage (e.g., Boudry, Kallberg, and Liu (2010)) can affect a REIT's capital structure. Columns (5) to (8) provide results for the regressions with these additional control variables. Using these control variables further reduces the number of observations relative to my base regressions but allows for a more robust assessment. The negative relation between the founder-CEO dummy and REIT leverage remains, providing consistent evidence that founder-CEO REITs are associated with lower market and book leverage ratios, even when controlling for CEO characteristics and corporate entrenchment, monitoring, and transparency.

[TABLE 6 HERE]

1.6.3 Debt Maturity

In this section, I analyze differences in the maturity of the debt of my sample REITs. Long-term debt mitigates refinancing risk, and therefore one may expect risk-averse CEOs to use more, not less long-term debt. However, suppose one assumes that risk-averse CEOs prefer to maintain financial flexibility. In that case, some recent theoretical models suggest that relatively more short-term debt leads to more flexibility. For example, Dangl and Zechner (2021) present a theoretical model with a setting in which: *"debt maturity significantly influences the expected probability of bankruptcy since short maturities lead to more rapid debt reductions when the firm's profitability starts to decrease. Investors take this into account when they price the debt initially. This implies that firms' debt capacity generally increases as they choose shorter debt maturities. This result is in contrast to the earlier literature (e.g., Leland (1994); Leland (1998); Leland and Toft (1996)), which predicts that short-term debt leads to early and inefficient default and therefore reduces debt capacity, as measured by the firm's initial target leverage"*. That risk is related to debt maturity is also suggested by Chen, Xu, and Yang (2021), who find that systemic risk is positively associated with maturity. Of course, there are other benefits of shortening debt maturity. Huang and Shang (2019) state that the use of short-term debt lessens the opportunities for managers to profit themselves at the expense of other stakeholders, as shorter maturity forces the firm to return to the creditors for renegotiation and, in turn, imposes more discipline on the borrower (see also, for example, Harris and Raviv (1990); Stulz (1990)). Moreover, refinancing and repricing

debt before the expiration of investment options reduce debt overhang problems (Barclay and Smith (1995); Guedes and Opler (1996)). Specifically for REITs, Alcock, Steiner, and Tan (2014) write that *"research into maturity choices in real estate is sparse. Howe and Shilling (1988) find REIT stock prices increase after short-term debt issues. This finding is consistent with the signaling hypothesis proposed in Flannery (1986) who develops an inverse relationship between debt maturity and firm quality. High quality is signaled through issuing short-term debt to exploit favorable refinancing terms. Brown and Riddiough (2003) find a negative relationship between REIT debt maturity and credit ratings. This result resonates the liquidity risk theory (Diamond (1991); Sharpe (1991); Titman (1992)) that predicts an inverse relationship between credit rating and debt maturity as lower-rated firms attempt to avoid risky refinancing events"*. This seems to suggest that shorter debt maturity is not only related to financial flexibility by also higher quality. And these findings are, to some extent, echoed by Alcock and Steiner (2017).

[TABLE 7 HERE]

The results from Table 7 show that a REIT's debt maturity is associated with its founder or non-founder CEO status. The estimated coefficient of the founder CEO dummy is -1.425, with a t-statistic of -1.76, in Columns (1) and (2) for the long-term debt to total debt ratio. The negative coefficient for the long-term debt to total debt ratio suggests that founder CEO REITs tend to have a lower proportion of long-term debt relative to total debt. Regarding the short-term debt to total debt ratio, in Columns (3) and (4), the founder CEO dummy's estimated coefficient is 1.409, with a t-statistic of 1.80. The positive coefficient for

the short-term debt to total debt ratio indicates that founder CEO REITs tend to have a higher proportion of short-term debt relative to total debt. These results provide evidence that REITs' debt maturity is generally related to their founder CEO status. Additionally, this aligns with the literature (Chen, Dasgupta, and Yu, 2014).

1.6.4 Controlling for Lagged Leverage Values

Capital structure is highly persistent. Adjustments to debt levels are costly and slow. Therefore, I also re-estimate equation (1) and include lagged leverage ratios as additional independent variables. Table 8 demonstrates the persistence of capital structure when I incorporate these lagged leverage ratios as additional control variables in the regression analysis. The R-squared values increase significantly when these lagged leverage ratios are included, suggesting that past leverage ratios have explanatory power for the current ones. For example, the R-squared is 0.843 when the dependent variable is the market leverage ratio, as seen in Column (1), compared to a 0.373 R-squared value in Column (1) of Table 3. Although the estimated coefficients of the founder CEO dummy are smaller when these lagged leverage ratios are included (-0.009 for market leverage ratio and -0.008 for book leverage ratio), they remain statistically significant. This result confirms that founder REITs consistently use less debt than non-founder REITs, even when accounting for the persistence of capital structure. This finding reinforces the notion that founder CEOs are more cautious about their capital structures and tend to maintain lower debt levels.

[TABLE 8 HERE]

1.7 Conclusion

It is not surprising that extensive literature has arisen investigating founder and non-founder firms. Not every founder goes on to be the chief executive officer of their company, and a founder's skillset may be different from that of a CEO. Moreover, classical theory on the separation of ownership and control and other agency propositions also provide theoretical guidance on why founder-controlled and non-founder-controlled firms may differ in their approach to risk-taking. However, the literature on whether founder CEOs are risk-averse or risk-avoiding, measured using the debt levels, is mixed (e.g., Shleifer and Vishny (1986); Anderson and Reeb (2003); Chen, Dasgupta, and Yu (2014)). The divergence in findings may be explained as the definition of a family/founding firm varies dramatically across the literature (see Villalonga and Amit (2020)), and the prevalence of family/founding firms varies across industries (e.g., Anderson and Reeb (2003); Villalonga and Amit (2006); Villalonga and Amit (2010)).

This study focuses on the real estate investment trusts (REIT) industry. The REIT industry is relatively new, leading to founding families still having an essential role in the REIT and its policies. It has a high degree of homogeneity in investment activity and financing, which aids empirical design as it reduces idiosyncratic effects. It is generally widely held with no significant large shareholders, which suggests that REIT CEOs may have less power in determining REIT's debt policies than non-REIT CEOs.

My paper shows that founder CEOs in the REIT industry appear risk averse. Based on a sample of REITs and their CEOs from 2006 to 2019, I find that REITs led by founder

CEOs have significantly less debt than their non-founder CEO counterparts. This finding contrasts with some studies on industrial firms that do not show significant differences in debt levels between founder and non-founder firms. Debt levels are not the only difference, as I find that REITs where the CEO is founder related also tend to be smaller and younger, which may not be surprising. However, my results on debt differences remain robust, even when I employ a propensity score matching methodology to control for these factors between founder and non-founder REITs.

In my other analyses, I find that the cost of debt is dramatically lower for founder REITs relative to non-founder REITs. When I examine the interest coverage ratios, I find that these are much lower founder REITs. My conclusion is that founder CEOs are different from non-founder CEOs. The lower debt levels seem to suggest that these CEOs are relatively more risk-averse. But, given the lower cost of debt and higher interest coverage ratio, this may not necessarily be a negative for these REITs. Finally, I analyze the dent maturity structure and find that founder REITs have less long-term debt. These findings are consistent with new theoretical models that suggest that shorter-term debt may increase flexibility or older models that indicate that these firms are of higher quality.

Overall, my study highlights the distinct differences between founder and non-founder CEOs in the REIT industry, emphasizing the importance of considering the risk preferences of CEOs when examining capital structure decisions. My findings also have implications for investors and stakeholders in the REIT industry, as understanding the risk preferences of founder CEOs may help better evaluate their investment strategies and the overall performance of their firms.

2 CEO and REIT Compensation

2.1 Introduction

There is an ongoing debate weather founder-family ownership is beneficial or detrimental to the firm. Prior studies have focused directly on the impact of founder/family ownership on firm performance. Firms with founder/family chief executive officers (CEOs) exhibit a positive association with accounting profitability measures, but only founder CEOs, not descendant CEOs, exhibit significantly better market performance than nonfounder-family CEOs (Anderson and Reeb, 2003). In contrast, Perez-Gonzalez (2006) provides evidence that firms with founder-family CEOs underperform in terms of operating profitability and market-to-book ratios, relative to firms that promote unrelated CEOs.

In this study, I examine the link between founding-family CEOs, referred to as founder CEOs, of Real Estate Investment Trusts (REITs) and their compensation. Many factors have been linked to REIT CEO pay, including firm size (Davis and Shelor (1995), Hardin (1998), Scott, Anderson, and Loviscek (2001),Ghosh and Sirmans (2005), Tervio (2008) and Gabaix and Landier (2008),Griffith, Najand, and Weeks (2011)), ROA of prior year(Ghosh and Sirmans (2005)), EPS (Davis and Shelor (1995), Pennathur, Gilley, and Shelor (2005)), unexpected profit (Chopin, Dickens, and Shelor (1995)), stock returns (Scott, Anderson, and Loviscek (2001), Pennathur and Shelor (2002), Pennathur, Gilley, and Shelor (2005),Griffith, Najand, and Weeks (2011), Feng, Hardin, and Wu (2022)), real estate investment (Pennathur, Gilley, and Shelor (2005)), change in real estate investment (Pennathur

and Shelor (2002), Pennathur, Gilley, and Shelor (2005)), real estate investment to total assets (Ghosh and Sirmans (2005)), funds from operations (Pennathur and Shelor (2002)), change in funds from operations (Pennathur, Gilley, and Shelor (2005), Griffith, Najand, and Weeks (2011)), market value added (Griffith, Najand, and Weeks (2011)), tobin's Q (Griffith, Najand, and Weeks (2011)), debt to equity of prior year (Ghosh and Sirmans (2005)), variability in stock returns (Pennathur, Gilley, and Shelor (2005), Griffith, Najand, and Weeks (2011), Feng (2021)), bid-ask spread (Feng (2021)), age of the CEO (Davis and Shelor (1995), Pennathur and Shelor (2002),Griffith, Najand, and Weeks (2011)), REIT stock ownership by CEO (Hardin (1998), Ghosh and Sirmans (2005),Griffith, Najand, and Weeks (2011)), dividend income to CEO (Hardin (1998), Feng, Hardin, and Wu (2022)), tenure of CEO (Griffith, Najand, and Weeks (2011)), CEO serving as chairman of the board (Griffith, Najand, and Weeks (2011)), age of the REIT (Hardin (1998), Scott, Anderson, and Loviscek (2001)), board size (Ghosh and Sirmans (2005)), and level of institutional ownership (Ghosh and Sirmans (2005), Feng et al. (2010)). Little work has been accomplished regarding the influence of founding-family CEOs on CEO pay.

Founder/family managed firms are thought to be subject to ownership-control issues that can be detrimental to firm value (Jensen and Meckling, 1976). Firms with dispersed ownership have weaker corporate governance. Finally, founder CEOs are likely to be entrenched. Entrenched managers are costly for shareholders to replace (Shleifer and Vishny, 1989). Founders or descendants of a founder may have firm specific knowledge and valuable relationships (Villalonga and Amit (2010)) that are key to a firm's success making the case that founder CEOs should be compensated more. These factors provide an

increased opportunity for the expropriation of shareholders via suboptimal executive compensation contracts. Alternatively, founder CEOs may make decisions that maximize their family's long-term benefits which would destroy firm value. I analyze how compensation is influenced by a CEO's founder status by examining firm performance, firm risk, and CEO characteristics.

I focus on REIT firms for a handful of reasons. First, a large proportion of REIT CEOs are either founders or related to the founders. I find that 37 percent of the firm-years in my sample have CEOs that are either a founder or descendant of a founder. Second, the rules that govern REITs limit concentrated ownership. For example, the 5/50 rule states that the REIT would be designated as closely held if five or less individuals own 50% or more of outstanding stock of the REIT. Interestingly, spouses and certain other family members are aggregated and counted as one individual when applying the 5/50 test.[13] Third, the unique characteristics of REITs create reliable dividend payout and potential long-term capital appreciation. According to the National Association of Real Estate Investment Trusts (NAREIT), the 20-, 25-, and 30-year equity REIT returns outperform the Russell 1000 (large-cap stocks), Russell 2000 (small-cap stocks), and Bloomberg Barclays US Aggregate Bond indices using monthly total returns through June 2021.[14]

I show that REITs managed by founder CEOs are fundamentally different than other REITs. Founder firms tend to have less total assets, take longer to go public, and generate less funds from operations than other firms. In addition, they have higher levels of

[13]See a description of the 5/50 test at https://rsmus.com/insights/industries/real-estate/abcs-of-reits.html

[14]https://www.reit.com/what-reit accessed on October 23, 2022.

risk in terms of return volatility and market beta. CEOs of founder firms tend to be older, more tenured, and generate more firm-related wealth and dividend income. Lastly, CEOs of founder firms are paid less total compensation, cash-based compensation, and equity-based compensation than non-founder firms when comparing mean and median pay of the two groups. This finding reverses when firm performance, firm risk, CEO characteristics, and year fixed-effects are controlled for.

My main results confirm that founder CEOs are compensated differently than their nonfounder counterparts. Specifically, founder CEOs receive more total compensation, cash-based compensation, and equity-based compensation. These results hold when manager ability, firm risk, level of CEO power, and year fixed effects are controlled for. The higher pay does not appear to be due to the higher risk that family firms face because my firm risk variable is not significantly associated with my three compensation measures.

My paper contributes to the literature in several ways. I document a large presence of founder firms in the REIT industry and show that they are fundamentally different than other firms. To my knowledge, this is the first study to examine how a REIT CEO's founder status affects their compensation and make the case that founder status is a determinant of executive compensation.

The rest of the paper is organized as follows. I review relevant literature in section two. I construct my hypotheses in section three. I describe out data sources, key variables, and summary statistics in section four. Section five outlines the empirical findings. I provide robustness checks in section six. Finally, I provide the main conclusions in section seven.

2.2 Literature Review

2.2.1 REIT Compensation

There has been much work on REIT executive compensation of which much of the focus has been on the determinants of executive compensation. A review of the work reveals some interesting insights. First, the definition of executive compensation variable varies across studies. Some focus on cash compensation while others focus on cash, equity, or total compensation. Second, the determinants vary greatly, but they can generally be classified as a firm size, firm performance, firm risk or CEO characteristic variable. Many models focus on only a handful of determinants and have relatively low explanatory, r^2, values.

Firm Size

Total assets or market capitalization is typically used to measure firm size. Davis and Shelor (1995) shows that firm size measured as total assets has a significantly positive association with the sum of salary and annual bonus. Total assets divided by total equity, change in total assets, and change in total assets divided by equity are not significantly associated with sum of salary and annual bonus. Hardin (1998) shows that market value has a significant positive association with the sum of salary, cash bonuses, and cash incentives, but the coefficient is very close to zero. Scott, Anderson, and Loviscek (2001) shows that log of market capitalization has a positive association with the log of total compensation, the sum of annual compensation and long-term compensation, and log of incentive-based compensation, total compensation less base salary.

Firm Performance

Davis and Shelor (1995) shows that firm performance measured as earnings per share (EPS) has a significantly negative association with the sum of salary and annual bonus. Net income, change in net income, and change in EPS are not significantly associated with sum of salary and annual bonus. Chopin, Dickens, and Shelor (1995) show that unexpected profit, the amount of profit above or below the industry average, is generally not associated with executive compensation. This result could be due to small sample sizes used in the analysis, with N ranging from 1 to 13 for CEO samples. Scott, Anderson, and Loviscek (2001) shows that log total return of prior year is positively associated with log of incentive-based compensation measured as total compensation less base salary. No such association exist for log of total compensation. In firm years 1997 through 1999, Pennathur and Shelor (2002) show that the total return of prior year and change in real estate investment is positively associated with CEO pay increases, while prior year EPS has no such association. Ghosh and Sirmans (2005) show that ROA of prior year is positively associated with total compensation, salary, and cash compensation. Real estate investment to total assets has a negative association with total compensation, salary, and cash compensation. Pennathur, Gilley, and Shelor (2005) shows that change in FFO, change in real estate investment, and EPS are all positively associated with option awards, while real estate investment and stock returns have a negative association. Griffith, Najand, and Weeks (2011) shows that three-year total returns, market value added, Tobin's Q, and change in funds from operations are all positively associated with bonus, change in total current compensation, and change in total annual compensation. Griffith, Najand, and Weeks (2011) shows that three-year total returns and change in funds from operations are positively associated with value of stock option grants.

Feng, Hardin, and Wu (2022) shows that stock returns of the prior year have a positive association with the log of total compensation. To summarize, firm performance measures are positively associated with executive compensation.

Firm Risk

Ghosh and Sirmans (2005) show that debt to equity ratio of the prior year is significantly associated with total compensation, but the coefficient sign changes depending on the specification of the model. Pennathur, Gilley, and Shelor (2005) shows that variability in stock returns are positively associated with option awards. Griffith, Najand, and Weeks (2011) shows that the standard deviation of stock returns are positively associated with salary and change in total compensation. Feng (2021) shows that both lagged bid-ask spreads and lagged return volatility are positively associated with total compensation. Studies tend to suggest that firm risk is positively associated with executive compensation.

CEO Characteristics

Davis and Shelor (1995) shows that age of highest paid executive is not significantly associated with sum of salary and annual bonus. Hardin (1998) shows that the percentage of outstanding stock owned by a CEO is positively and significantly associated with the sum of salary, cash bonuses, and cash incentives, while dividend cash flow paid to a CEO has a negative association. 75% of the firms used in Hardin (1998) are run by founders, but being a founder of a REIT is not significantly associated with executive compensation. This could be due to the small sample size used in their analysis. Ghosh and Sirmans (2005) show that percentage of outstanding stock owned by a CEO is negatively and significantly associated with total compensation, salary, and cash compensation. Griffith, Najand, and Weeks (2011)

shows that length of CEO tenure, CEO serving as chairman of the board, percentage of stock owned by a CEO, and CEO age are all positively associated with salary, providing evidence that powerful CEOs may be able to extract higher salaries. Feng, Hardin, and Wu (2022) shows that log of dividend income has a positive association with log of total compensation.

Age is thought to be an important determinant of executive compensation in REITs. One argument for this is because of the fact that REITs must pay 95% of their income as dividends, which forces managers to exert much effort to acquire external capital as time passes (Hardin (1998) and Scott, Anderson, and Loviscek (2001)). Another argument supporting the inclusion of CEO age is the CEO decision horizon problem. As CEOs approach the end of their careers they become more risk averse and may forgo value enhancing projects (Pennathur, Gilley, and Shelor (2005)). The impact of a CEO characteristic depends on the characteristic being examined, but it is clear that there is a positive association with the level of CEO's dividend income to executive compensation.

Other Characteristics

Many other characteristics have been examined as well. Hardin (1998) shows that number of years since REIT IPO, a proxy for firm age, is positively associated with the sum of salary, cash bonuses, and cash incentives at the 1% level. The results of Scott, Anderson, and Loviscek (2001) show that firm age does not have a significant association with log total compensation, the sum of annual compensation and long-term compensation, nor the log of incentive-based compensation, total compensation less base salary. Pennathur and Shelor (2002) show that age has a negative association with changes in CEO pay.

Board size is positively associated with total compensation, salary, and cash compensation, while block ownership is negatively associated (Ghosh and Sirmans (2005)). Feng et al. (2010) show that the level of institutional ownership increases the sensitivity of option grants and the level of cash and total compensation, but these associations may disappear depending on the CEO's level of ownership.

Scott, Anderson, and Loviscek (2001) makes the case that firm performance is just as important determinant as firm size when it comes to explaining CEO compensation. I argue that given the tight labor market for CEOs, characteristics of CEOs are just as important. CEOs that are dependent on the amount of dividend income they receive may demand more equity-based compensation when negotiating compensation contracts.

Many studies include year fixed effects and REIT property-type [15] to control for time variant and industry specific events.

2.2.2 Founder/Family Firms

Combined ownership and control of a firm can be detrimental to the firm. In such a setting, controlling shareholders can expropriate profits from minority shareholders (Jensen and Meckling (1976), Demsetz (1983), Fama and Jensen (1983),and Grossman and Hart (1988)). Alternatively, combined ownership and control can lead to higher monitoring (Demsetz and Lehn, 1985). It is widely believed that founder-family firms, firms with founder or descendant of founder ownership, may be prone to such ownership-control issues. As a result, much

[15] Hardin (1998), Scott, Anderson, and Loviscek (2001)

attention in the literature has been given to the impact of founder-family ownership on the firm. These studies use firm performance or firm value as key variables. The evidence is mixed.

Founding families can provide competitive and reputation advantages. Firms with founding family ownership are associated with longer investment horizons (James (1999), Casson (1999), Chami (2001)) resulting in less managerial myopia (Stein (1988) and Stein (1989)). This is because families want wealth to transfer from generation to generation. Because of their long-term presence and contact with capital providers, firms with founding family ownership are associated with a lower cost of debt financing(Anderson, Mansi, and Reeb, 2003). CEOs are more likely to have long-term investment horizons when they have a male heir since sons, not daughters, are expected to continue the family business (Chen et al., 2021). Firms with founder-family CEOs exhibit a positive association with accounting profitability measures, but only founder CEOs, not descendant CEOs, exhibit significantly better market performance than nonfounder-family CEOs (Anderson and Reeb, 2003). Family firms are more profitable than widely-held firms and those with other types of blockholders (Andres, 2008). Firm values are higher for firms with founders acting as either CEO or as a chairman (Villalonga and Amit, 2006). Families are likely to retain control of a firm when there is a competitive advantage, thus benefiting all shareholders (Villalonga and Amit, 2010). Families with a controlling interest participates actively in firm governance by holding CEO or chair of the board position in 97% of firms used in Bohren et al. (2019), further supporting the idea that family firms increase monitoring, benefiting all shareholders. To further support the notion that families provide monitoring, De Cesari, Gonenc, and

Ozkan (2016) finds that CEOs of family firms do not experience an increase in compensation post-acquisition. Family firms pay out higher amounts of dividends compared to non-family firms (Isakov and Weisskopf, 2015). Employee's rank their companies higher when a founder is actively involved in the company (Huang et al., 2015). Miller et al. (2007) provides evidence that only firms in which the founder is the sole family member involved in the business outperforms while those with multiple family members do not. Firms with active participation of families realize higher profitability and firm valuations than nonfamily firms (Maury, 2006). Lawrence, Nguyen, and Upadhyay (2021) provides evidence that founding families act more as stewards than expropriators using a board structure change that took effect post-SOX to test. Caprio, Croci, and Del Giudice (2011) do not find evidence that family firms make wealth destroying acquisitions.

On the other hand, there is a body of work that provides evidence that family management is inferior to non-family management, especially when it comes to descendant CEOs. Firms with descendant CEOs have lower operating income over assets and sales than firms with non-descendant CEOs (Morck, Stangeland, and Yeung, 2000). Descendant CEOs in small private firms select suboptimal investments and lower profitability (Singell and Thornton, 1997). Firms appointing a family successor realize a 3.2% decrease over a three-day event window surrounding the announcement, but no such effect is present when a non-family successor is announced (Smith and Amoako-Adu, 1999). It may be less likely that an underperforming CEO is replaced timely when they are related to firm owners (Gomez-Mejia, Nuñez-Nickel, and Gutierrez, 2001). The theoretical model of succession in Burkart, Panunzi, and Shleifer (2002) show that founder CEOs choose to hire outside

CEOs over their heir to maximize firm value, suggesting that descendant CEOs are not beneficial to the firm. French firms that are cross-listed in the United Kingdom or US ate less likely to appoint a family member to succeed a family CEO (Ansari, Goergen, and Mira, 2014). Firms with founder ownership have lower operating profitability and market-to-book ratios than those with dispersed ownership, but higher than those with descendant of founder ownership (Perez-Gonzalez, 2006). Pressure from large family equity positions to pay dividends can have a negative impact on the firm's capital expansion plans leading to poor operating and stock price performance (DeAngelo and DeAngelo, 2000). Using a sample of Swedish firms, family firms are likely to use dual-class voting shares to maintain control of the firm resulting in reduction in firm value measured via Tobin's Q compared to nonfamily firms (Cronqvist and Nilsson, 2003). Founding familiy firms in the U.S. have dual-class voting shares, disproportionate board representation, and voting agreements that give families control rights greater than cash-flow rights Villalonga and Amit (2009). In contrast to the "private rents" view, Barclay and Holderness (1992), La Porta et al. (2000) and Dyck and Zingales (2004) find that private benefits are marginal for large blockholders of US firms, likely due to the strong legal protections given to minority shareholders. In addition, Klasa (2007) finds that private benefits are not an important factor in determining whether a family sells their interest in a firm. Family controlled firms are persistent in countries with weak investor protection, less developed financial markets, and inactive markets for corporate control (Franks et al., 2012). In times of crisis, family controlled firms take actions to increase the likelihood of firm survival at the cost of outside shareholders (Lins, Volpin, and Wagner, 2013). Using data from phone interviews, Bandiera et al. (2018) show that CEO labor supply (hours worked) is positively correlated with firm performance and show that family

CEOs work 9% fewer hours than professional CEOs. Family firm's political connectedness is worth 65-109 basis points (Faccio and Parsley, 2009), but it is unknown if this benefits all shareholders. Descendant CEOs immediately succeeding a founder CEO are of less quality than the prior CEO suggesting that managerial skill is only partially inherited (Pinheiro and Yung, 2015). Family firms are slower to seize business opportunities compared to other firms (Cucculelli and Marchionne, 2012). Employee's rank their companies lower when the CEO is a descendant of a founder (Huang et al., 2015). Chinese family firms with excess control rights have high case holdings that are tunneled instead of being invested or paid out to shareholders (Liu, Luo, and Tian, 2015). European family firms are less likely to make acquisitions particularly when the family's stake is not large enough to assure continued family control (Caprio, Croci, and Del Giudice, 2011).

2.2.3 REIT CEOs

Given enough discretionary cash, overconfident REIT CEOs acquire more assets than other CEOs, are less likely to sell assets, and exhibit lower property investment performance (Eichholtz and Yönder, 2015). Overconfident REIT CEOs issue more debt than equity than their non-overconfident counterparts, which results in a decline in shareholder wealth Tan (2017). Optimistic REIT CEO/CFO teams pay more for asset acquisitions, which is followed by inferior stock performance (Eichholtz and Yönder, 2022). Zhang and Ooi (2022) show that amount of asset acquisitions is inversely associated with age; young CEOs make more acquisitions than older CEOs and provide evidence that the behavior is not driven by financial incentives. Yung, Li, and Sun (2015) find that overconfident REIT CEOs use more debt,

use longer-term debt, buy back more shares, and issue less dividends. In addition, they find that CEO overconfidence is negatively associated with Tobin's q and return on assets.

2.2.4 REITs

Public Law 86-779, signed on September 14, of 1960, set up the initial framework for REITs. REIT regulation was subsequently changed via the Tax Reform Act of 1986 (TRA)[16], which allowed REITs to operate and manage real estate. Prior to the passage of the TRA, REITs could only own or finance real estate. Qualified REITs can lower or eliminate corporate income tax liability. At the time of this writing, a company must meet seven criteria to qualify as a REIT.[17] REITs must pay out at least 90% of their taxable income to shareholders. Second, they must invest at least 75% of total assets in real estate. Third, the at least 75% of gross income must come from rents from real property, interest on mortgages financing real property or from sales of real estate. Fourth, the company must be an entity that is taxable as a corporation. Fifth, the company must be managed by a board of directors or trustees. Sixth, the company must have a minimum of 100 shareholders. Seventh, the company cannot have more than 50% of its shares held by five or fewer individuals. Dividends paid by REITs are typically treated as ordinary income creating a tax burden to stockholders if shares are held outside of a tax-deferred account. Individuals can invest in REITs through major stock exchanges, mutual funds, or exchange-traded funds. REITs can be traded publicly or privately.

[16]See Subtitles F §651-657, G §661-669, and H §671-675 on pages 210-215, 215-224, and 224-236 of the TRA, respectively.

[17]See Title 26 USC, Subtitle A, Chapter 1, Subchapter M, Part II, §856-859 for current REIT law

2.3 Hypothesis Development

The first concern is whether founder CEOs are compensated significantly different than non-founder CEOs. As discussed later, founder REIT are associated with greater risk than other REITs. As such, it is expected that founder CEOs would demand greater compensation for their increased exposure to risk. That leads me to my first hypothesis.

HYPOTHESIS 1: Founder CEOs are compensated more than non-founder CEOs.

Boards of founder REITs may be more concerned with CEO investment choices, because they may be more likely to undertake value destroying projects that promote interests of the CEO's family. As a result, boards may compensate CEOs less. If that is the case I expect boards to compensate founder CEOs more favorably in the event of an unexpected profit, which signals that a CEO is making decisions that benefit shareholders. Non-founder CEOs may be prone to pursuing self-enhancing projects as well, but their power to undertake such projects may be more limited than founder CEOs.

HYPOTHESIS 2: Founder CEOs are rewarded more for unexpected profit than non-founder CEOs.

As I will outline when I discuss firm differences, founder REITs are exposed to

more risk than their non-founder counterparts. As such founder CEOs may demand high compensation amounts to offset their increased risk exposure.

HYPOTHESIS 3: Founder CEOs are compensated more for firm risk than non-founder CEOs.

Founder CEOs tend to have long-term investment horizons that span generations. This goal encourages founder CEOs to push for relatively stable, long-term income sources, such as dividend income provided by REITs. I expect that founder CEOs negotiate and are paid for more dividend related income than non-founder CEOs.

HYPOTHESIS 4: Founder CEOs earn more dividend income than non-founder CEOs.

Executive compensation can be examined on many levels; total compensation, cash compensation, and equity compensation. Founder CEOs may influence each level differently. I examine each level of compensation to identify the determinants.

2.4 Data and Sample Selection

I start the sample by collecting executive compensation data for all CEOs of REIT firms in the ExecuComp database. Executive compensation data comes from the *AnnComp* file

(table) of the *comp* library of the ExecuComp database. ExecuComp data range is from January 1, 1992 through December 31, 2021 at the time of collection. The ExecuComp database is updated monthly. I utilize three compensation variables. **Total compensation** is the sum of salary, bonus, other annual, restricted stock grants, LTIP payouts, all other, and the value of option grants (*TDC1* in ExecuComp). **Cash-based compensation** is the sum of salary (*SALARY* in ExecuComp), bonus (*BONUS* in ExecuComp), and non-equity incentive plans (*NONEQ_INCENT* in ExecuComp). **Equity-based compensation** is the sum of stock awards (*STOCK_AWARDS_FV* in ExecuComp) and option grants (*OPTION_AWARDS_FV* in ExecuComp). **Other compensation** is total compensation less the sum of cash-based compensation and equity-based compensation. Missing compensation variables are replaced with a zero. In some parts of the analysis I use the log transformation of compensation variables. I convert zero values to 1 in this case to avoid errors resulting from log transformation.

I then manually review firm history of each unique firm within the ExecuComp data to identify founder CEOs in order to create the founder variable. **Founder** is a dummy variable that takes a value of one when the executive is founder of the company or related to the founder of the company. Executives are marked as founder if the background information listed on firm financial filings, the firm's website, or executive's LinkedIn profile indicates that the individual founded the company or was chief executive officer at the time the predecessor company was formed. Executives are marked as related to the founder if they are related to a founder of the company. The relationship can be any familial link such as child, grandchild, sibling, or cousin of a founding executive.

I collect stock, firm financial, and interest rate data to calculate key variables. Stock data comes from the *dsf* file (table) of the *crspa* library of the Center for Research in Security Prices (CRSP) database. CRSP data range is from December 31, 1925 through December 31, 2021 at the time of collection. The CRSP database is updated annually. Firm financial data comes from the *funda* file (table) of the *compd* library of the Compustat database. Compustat data range is from January 1, 1950 through April 27, 2022 at the time of collection. The Compustat database is updated daily. Fiscal years ending January 1 through May 31 are treated as ending in the prior calendar year in Compustat. Interest data comes from the Federal Reserve Economic Data (FRED) database.

I utilize seven different firm performance measures. **Stock return** is the sum of the closing stock price at the end of the fiscal year (*PRC* in CRSP) and dividend per share paid during the fiscal year (*DIVAMT* in CRSP) divided by the stock price at the end of the previous fiscal year. I use National Association of Real Estate Investment Trusts (NAREIT) definition of **funds from operations (FFO)**, which is calculated as net income as computed under generally accepted accounting principles, excluding gains or losses from sales of property, plus depreciation and amortization, and after adjustments for unconsolidated joint ventures (*FFO* in Compustat). [18] The FFO value used is as reported on the firm's financial filings. In regression models, FFO is scaled by total assets to control for differences in firm size. **Dividend payout ratio** is total dividends paid (*DVPD* in Compustat) divided by net income (*NI* in Computstat). Following Golec (1994), **dividend yield** is dividends paid per

[18] An alternate measure of FFO is the sum of net income, as computed under generally accepted accounting principles, (*NI* in Compustat), depreciation and amortization (*DP* in Compustat), and losses on sales of property (*SRET* in Compustat) less the sum of gains on sales of property (*SRET* in Compustat) and interest income (*TII* in Compustat)

share[19] divided by beginning-of-year stock price (*PRC* in CRSP), **operating expense ratio** is total operating expense (*XOPR* in Compustat) divided by total assets (*AT* in Compustat). Following Cannon and Vogt (1995), **Return on assets** is net income (*NI* in Computstat) divided by total assets (*AT* in Compustat). Following Chopin, Dickens, and Shelor (1995), I estimate **unexpected profit** by first estimating the parameters of equation 3 for each year in the sample. Estimating equation 3 in this way controls for temporal variation in executive pay across the sample period.

$$\text{Net Income}_{i,t} = \alpha + \beta_1(\text{Total Revenue}_{i,t}) + \varepsilon \tag{3}$$

Where both net income (*NI* in Computstat) and total revenue (*REVT* in Compustat) is for firm i at time t. The adjusted r-squared values ranges from as low as 0.90% to as high as 58.59%, with an average adjusted r-squared value of 30.35%. Then unexpected profit is estimated using equation 4.

$$\text{Unexpected Profit} = \text{Net Income}_{i,t} - (\alpha + \beta_1(\text{Total Revenue}_{i,t})) \tag{4}$$

Even though I use a similar specification as Chopin, Dickens, and Shelor (1995), my analysis provides several improvements. First, my sample contains data from 216 unique CEOs, which is much larger compared to the 13 CEOs covered in their study (see exhibit 1 in their study). Second, my sample includes 9 different REIT property types compared to

[19] total dividends paid (*DVPD* in Computstat) divided by common shares outstanding (*CSHO* in Computstat)

3 in the original study (see exhibits 4 through 6 in their study). Finally, my sample spans the period of 2006 through 2020. These improvements allow me to provide more confident estimates of the unexpected profit measure, my main measure of firm performance.

I consider using **Net operating income**, but my data sources do not cover this non-GAAP measure.

I utilize three firm risk measures. **Return volatility** is the standard deviation of daily stock returns for the fiscal year. I examine market beta, interest coverage ratio, and Z-score as alternative firm risk measures. **Market beta** is estimated using the Capital Asset Pricing Model (CAPM) outlined in equation 5.

$$R_{i,t} = RF_t + \beta_i(RM_t - RF_t) \tag{5}$$

$R_{i,t}$ is the stock return of firm i at time t (*SRET* in CRSP). RF_t is the interest rate paid on a 3-month (13 weeks) Treasury bill (*DTB3* series from FRED) at time t. This rate is identical to the 13 week bank discount rate published on the U.S. Treasury's website. β_i is the market beta for firm i. RM_t is the return of the S&P 500 index (*sprtrn* in CRSP) at time t. Market beta is used to evaluate how market risk influences executive compensation.

Leverage is total assets (*AT* in Compustat) divided by total equity (*SEQ* in Compustat) (Adrian and Shin, 2010). **Debt ratio** is total debt (*LT* in Compustat) divided by total assets (*AT* in Compustat) (Golec, 1994).

I utilize four CEO characteristic variables. **CEO age** is the age of the CEO in

year t (*AGE* in ExecuComp). **Gender** is a dummy variable that is set to 1 if the executive is a female and zero otherwise. The dummy is set using the *GENDER* variable in ExecuComp. **Firm-related CEO wealth** is the number of shares owned by the CEO (*SHROWN_TOT* in ExecuComp) multiplied by the closing stock price at the end of the fiscal year (*PRC* in CRSP). **CEO dividend income** is the number of shares owned by the CEO (*SHROWN_TOT* in ExecuComp) multiplied by dividend per share paid during the fiscal year (*DIVAMT* in CRSP).

I utilize three CEO power measures. **CEO duration** is the difference between data year (*YEAR* in ExecuComp) and the year that the executive took their position (the year from *BECAMECEO* variable in ExecuComp). **Compensation committee** is a dummy variable that takes a value of one if the executive serves on the compensation committee and zero otherwise (*INTERLOCK* in ExecuComp). **Chair** is a dummy variable that takes a value of one if the executive serves as chair of the board and zero otherwise. I search for "chairman", "chmn", or "chair" in the *TITLE* variable in ExecuComp to identify executives that serve as chair of the board.

I utilize six control variables. **Market capitalization** is the number of common shares outstanding at fiscal year-end (*CSHO* in Compustat) multiplied by the stock price at the end of the fiscal year (*PRC* in CRSP). **Size** is the firm's total assets (*AT* in Compustat). **Asset growth** is the difference of total assets of the prior fiscal year and total assets of the current fiscal year divided by total assets of the prior fiscal year (*AT* in Compustat). **Year listed** is the difference between data year (*YEAR* in ExecuComp) and the year that the company went public (*IPODATE* in Compustat). The *IPODATE* in Compustat is

poorly populated, so I use the first date of stock data availability (*BEGDAT* in CRSP) to populate missing values. **Property type** is a set of dummy variables used to control for compensation differences resulting from the type of REIT (*INDDESC* in ExecuComp). The tenant's use of the property determines the type of property. I use eight different property types; industrial, retail, diversified, office, residential, specialized, health care, hotel and resort, and not otherwise classified. **Exchange** is a set of dummy variables used to control for the exchange that the firm's stock is traded on (*EXCHG* in Compustat). Firms in the sample are traded on the New York Stock Exchange (NYSE), the American Stock Exchange (ASE), Nasdaq, or the Over-the-counter (OTC) market.

I start with 1,593 firm-year observations in the sample covering a period of 2006 through 2020. While data is available starting 1993 I chose to start the sample at 2006 for a couple of reasons. First, key executive compensation variables pre-2006 were reported differently than 2006 and beyond making comparison challenging. Second, there appears to be incomplete firm coverage in the pre-2006 period. 11 firm-year observations are dropped due to missing ExecuComp data. 5 firm-year observations are dropped due to missing Compustat data. Another 61 firm-year observations are dropped due to missing CRSP data. The final sample contains 1,516 firm-year observations covering 216 and 137 unique executives and firms respectively. 372 firm-years are missing entries for FFO. I retain these observations for the initial tests. However, firm-year observations with missing FFO values are dropped when FFO is used as a model variable.

Summary statistics for the full sample an be found in Table 9. The mean, median, minimum, and maximum total assets for firms in the sample is \$6,261, \$3,748, \$80, and

$56,065 million respectively suggesting large scale differences among the firms in the sample. The mean number of years since a firm listed on the stock exchange is 18.88 years. The mean asset growth of firms is 10.71%.

Firm performance and risk characteristics of sample firms exhibit large amounts of variability. Unexpected profit averages $3 million with a minimum of negative $1.5 billion and maximum of $3.7 billion. Mean annual stock return for sample firms is 10.97% with a standard deviation of 40.96%. Mean FFO is $348 million with a standard deviation of $491 million. Mean return on assets is 2.68% with a standard deviation of 3.30%. Mean volatility of daily returns is 2.13% with a standard deviation of 1.55%.

Average CEO age is 56.24 years. The REIT industry is dominated by male CEOs. That is confirmed by the 3% of the firm-years in the sample that are represented by female CEOs. Average CEO tenure is 8 years. 37% of the firm-years in the sample are represented by either founders or descendants of founders.

Total compensation has a mean, median, and standard deviation of $4.9, $3.8, and $5.3 million respectively. Compensation varies widely across the firm-years within the sample. The smallest amount of total compensation reported is zero, while the largest amount is $137.2 million. Cash based compensation represents a relatively small proportion of pay with a mean of $1.7 million, while equity-based compensation is much higher at a mean of $3.0 million.

[TABLE 9 HERE]

There are 562 and 954 firm-years for founder firms and non-founder firms, respectively. The number of REITs in each of the sample years, along with a breakdown of the number of founder and non-founder CEOs can be found in Figure 3. Summary statistics for founder and non-founder firms can be found in Table 10. Differences of mean and median of founder and non-founder firms is also included. Differences in mean and median are testing using two-sided t-test and ranksum tests respectively. Founder firms have significantly lower levels of total assets and FFO than non-founder firms. In addition, founder firms have been traded 3.22 years less than their non-founder counterparts suggesting that founder firms are more likely to wait to publicly list than non-founder firms. Founder firms also have less leverage and higher asset growth, although not at significantly statistic levels.

[FIGURE 3 HERE]

[TABLE 10 HERE]

There are no significant differences in unexpected profit or daily stock returns of founder and non-founder firms. Founder firms generate less FFO than non-founder firms. However, both of the risk measures, return volatility and market beta, are higher for founder firms. This is somewhat surprising given that I would expect founder firms to have significantly higher returns than non-founder firms to compensate for the significantly higher levels of risk.

CEOs of founder firms are likely to be older, male, more tenured, have more firm related wealth, and earn more dividend income than CEOs from non-founder firms. With

the exception of bonus pay, CEOs of founder firms are paid less than their counterparts. This is true not only for total compensation, but for cash-based compensation and equity-based compensation as well. Figure 4 shows the annual mean and median total compensation for founder and non-founder firms for each year in the sample period. Pay has consistently increased over the sample period. Figure 5 shows the proportion of salary, bonus, stock options, option grants, and other compensation for founder and non-founder CEOs for each year in the sample period. Generally speaking, most of the components remained constant each year. There is a noticeable decrease in salary and bonus compensation and increase in stock compensation for founder CEOs around the 2008-09 financial crisis. The amount of stock options appear to increase for non-founder CEOs for the sample period.

[FIGURE 4 HERE]

[FIGURE 5 HERE]

2.5 Empirical Results

I test the relation between REIT CEO compensation and founder status to determine if there are significant differences in the compensation of founder CEOs and non-founder CEOs. Prior studies have shown that compensation for REIT CEOs is influence by firm performance and firm risk (Feng, Hardin, and Wu, 2022).I use unexpected profit and standard deviation of daily returns as the primary measure for firm performance and firm risk, respectively.

There are many different variables I could use to control for firm performance and

risk. Baumol (1959) proposes the sales maximization hypothesis, which suggests that the level of sales is positive associated with the level of executive pay. The results of McGuire, Chiu, and Elbing (1962) provide support for the sales maximization hypothesis suggesting that sales is an important determinant of executive pay. Lewellen and Huntsman (1970) provides evidence that net income, but not sales, is a determinant of executive pay. While both sales and net income can be included in any model of executive compensation, the two variables suffer from multicollinearity. I estimate unexpected profit using the method utilized in Chopin, Dickens, and Shelor (1995) and Ciscel and Carroll (1980) to avoid the issue of collinearity between sales and net income. The process used to estimate unexpected profit is described in detail in section IV.

Feng, Hardin, and Wu (2022) shows that the amount of a CEO's dividend income influences CEO compensation. Accordingly, I include CEO's dividend income in the model as a CEO characteristic. Given that there is a positive association between CEO compensation and assets under management, I scale all dollar values be the book value of total assets (Lewellen and Huntsman, 1970). Scaling variables in this way allows me to control for differences in REIT size. All models include year fixed effects. The model specification is found in equation 6

$$\text{Compensation}_{i,t} = \beta_0 + \beta_1 \text{FounderDummy}_{i,t} + \gamma_1 \text{X}_{i,t} + \alpha_i + \lambda_t + \varepsilon_{i,t} \tag{6}$$

Where $\text{Compensation}_{i,t}$ is the compensation variable, total compensation, cash com-

pensation, equity compensation, being tested for REIT i in year t. FounderDummy$_{i,t}$ is an indicator variable that has a value of one if the CEO is a founder and zero otherwise. $X_{i,t}$ are the REIT control variables for firm performance, firm risk, and CEO characteristics. Unexpected profit is used to measure firms performance. Return volatility is used to proxy for firm risk. Dividend income to CEO is used to proxy for CEO characteristics. All variables used are as defined in section IV.

I start by examining the determinants of total compensation. Results can be found in table 11. If there are significant differences between the compensation of founder CEOs and non-founder CEOs I would expect that the founder CEO indicator variable be positive and significant in all of the models. Model 1 is the base model. The key variable is the founder CEO indicator variable, which is positive and significant at the 1% level. This confirms that founder CEOs are compensated more than their non-founder counterparts. The coefficient for the founder CEO indicator is 0.023 suggesting that founder CEOs are paid 22% more[20] than non-founder CEOs on average. This finding conflicts with the mean and median tests in table 12, but is explained by the inclusion of year fixed effects in the model.

I test firm performance and founder CEO status in model 2. Similar to the findings in model 1, the founder CEO indicator variable is positive and significant at the 1% level. Unexpected profit is negatively associated with total compensation at the 1% level suggesting that CEOs of firms with unexpected profit are paid less. I test firm risk and founder CEO

[20]This is calculated as the increase in total compensation scaled to total assets using the model coefficients: $\frac{((1*0.023)+0.104)-((0*0.023)+0.104)}{(0*0.023)+0.104}$

status in model 3. Like models 1 and 2 the founder CEO indicator variable remains positive and significant at the 1% level. However, return volatility is not significantly associated with total CEO pay. I test CEO dividend income and founder status in model 4. The founder CEO indicator variable remains minutely positive and significant at the 5% level. CEO dividend income is positive and significant at the 1% level, suggesting that the more of a CEO's income that is derived from dividends the higher a CEO's total compensation. Model 5 includes founder CEO status, firm performance, firm risk, and CEO dividend income. With the exception of return volatility, all variables in model 5 are significantly associated with total compensation.

[TABLE 11 HERE]

I then examine the determinants of cash compensation. Results can be found in table 12. Overall, results are similar to that of total compensation. The founder CEO indicator variable is positive and significant in all models suggesting that founder CEOs are paid more cash compensation than their non-founder counterparts. Unexpected profit is negative and significant at the 1% level in models 2 and 5. Return volatility is not significantly associated with cash compensation. This results makes sense given than cash compensation is not typically linked to firm risk metrics. CEO dividend income is significantly associated with cash compensation.

[TABLE 12 HERE]

I then examine the determinants of equity compensation. Results can be found in

table 13. Similar to my previous findings, the founder CEO indicator variable is positive and significant in all models suggesting that founder CEOs are paid more equity compensation than their non-founder counterparts. Unexpected profit and return volatility is not significantly associated with equity compensation suggesting that founder CEOs are not rewarded for unexpectedly beating expectations. CEO dividend income is significantly associated with equity compensation.

[TABLE 13 HERE]

2.6 Robustness

I estimate residual compensation following Cheng, Hong, and Scheinkman (2015) to control for size and REIT property type effects on executive compensation. First, I use equation 7 to estimate the parameters needed to calculate residual compensation for firm CEOs for each cross-section within the sample.

$$Log(Comp)_i = \alpha + \gamma PropType_i + \delta Log(Size)_i + \varepsilon_i \tag{7}$$

$Log(Comp)_i$ is the log of executive i's total compensation. $PropType_i$ is an indicator variable for the property type of firm i. Property types include industrial, retail, diversified, office, residential, specialized, or health care with hotel and resort REIT property type as the omitted category. $Log(Size)_i$ is the log of the market capitalization at end of the fiscal year. α is the intercept term. γ and δ are the parameter estimates for REIT

property type and REIT size respectively. The parameter estimates from equation 7 are fitted to estimate total compensation levels for each year. Residual compensation is the vertical deviation of each firm's compensation from the property type-specific line estimated for that year. This is actual compensation paid less estimated total compensation.

$$\text{Residual Compensation} = Log(Comp)_i - (\alpha + \gamma PropType_i + \delta Log(Size)_i) \tag{8}$$

[TABLE 14 HERE]

Hardin (1998) tests for multicollinearity problems using variance inflation factors (VIFs) per Neter, Wasserman and Kutner (1990), presence of heteroskedasticity using White's test (1980) and normality of the data using the Shapiro-Wilks test.

2.7 Conclusion

Much work has been done on founder/family firms. Some work suggests that families are detrimental to firm value, while some shows that they enhance firm value. I examine how founder CEOs of REITs are compensated in this paper. Founder firms are prominent in the REIT industry. I show that 37 percent of the firm-years in the sample have CEOs that are either a founder or descendant of a founder.

Founder firms tend to have less total assets, take longer to go public, and generate less funds from operations than other firms. In addition, they have higher levels of risk in

terms of return volatility and market beta. CEOs of founder firms tend to be older, more tenured, and generate more firm-related wealth and dividend income. CEOs of founder firms are paid more total compensation, cash-based compensation, and equity-based compensation than CEOs of non-founder firms. The higher pay does not appear to be due to the higher risk that founder firms face because the firm risk variable is not significantly associated with the three compensation measures.

Founder status appears to be an important determinant of executive compensation. Future research can explore the confounding effects of founder status and family or CEO power on executive compensation. The founder CEOs in the sample may be using their power to extract higher levels of compensation than what they should be paid.

Table I

Summary Statistics

Variable	Mean	Median	Std. Dev.	Min	Max	Obs.
Market Capitalization (USD mln.)	5,616.596	2,588.620	7,870.779	177.836	45,136.191	1,410
Year Listed	18.600	17.000	13.210	0.000	57.000	1,399
Tangibility	88.775	91.922	11.824	34.461	98.421	1,419
Profitability	5.803	5.598	2.662	-0.989	15.353	1,393
Growth Opportunity	2.148	1.727	1.532	0.367	10.105	1,388
Geographic Concentration	0.393	0.275	0.281	0.137	1.000	1,253
Gateway City Focus	0.274	0.174	0.277	0.000	0.989	1,253
Property Type Concentration	0.812	0.932	0.224	0.253	1.000	1,253
CEO Income from Dividend (USD thous.)	0.001	0.000	0.002	0.000	0.012	1,068
CEO Duration	8.043	6.000	6.517	0.000	26.000	1,375
CEO Age	56.070	56.000	8.215	38.000	81.000	1,422
Institutional Ownership Share (%)	86.791	93.883	17.438	29.447	99.900	1,423
Independent Director Ratio (%)	67.588	75.000	24.987	0.000	91.667	905
Analyst Coverage	2.244	2.485	0.722	0.000	3.178	983
Market Leverage Ratio	0.392	0.373	0.156	0.036	0.858	1,410
Book Leverage Ratio	0.535	0.531	0.166	0.053	1.102	1,423
Weighted Average Interest Rate (%)	4.675	4.580	1.000	2.390	7.200	1,207
Interest-to-debt Ratio (%)	4.586	4.526	1.287	1.304	8.255	1,417
Interest Coverage Ratio (%)	4.395	3.614	3.209	0.759	24.175	1,394
Long-Term Debt to Total Debt Ratio (%)	91.928	94.883	10.514	32.406	100.000	1,379
Short-Term Debt to Total Debt Ratio (%)	7.764	4.958	9.780	0.000	58.557	1,379
Founder CEO Dummy	0.269	0.000	0.444	0.000	1.000	1,423

This table reports the summary statistics for the main variables used in the empirical analysis. The sample is restricted to REITs recorded in the ExecuComp database from 2006 to 2019. Variables have been winsorized at the 1% and 99% tails of the distributions to avoid the influence of extreme observations. The variables are defined in the appendix.

Table II

Summary Statistics - Founder CEO and Non-Founder CEO REITs

	Founder CEO REITs				Non-Founder CEO REITs				Difference	
Variable	**Mean**	**Median**	**Std. Dev.**	**Obs.**	**Mean**	**Median**	**Std. Dev.**	**Obs.**	**Mean**	***t*-test**
Market Capitalization (USD mln.)	3,372.870	1,937.482	3,699.435	382	6,450.355	2,879.239	8,794.657	1,028	-3,077.485	-6.62
Year Listed	14.862	14.000	11.093	383	20.009	18.000	13.667	1,016	-5.147	-6.60
Tangibility	90.131	91.808	8.063	383	88.273	91.980	12.908	1,036	1.858	2.63
Profitability	5.364	5.032	2.311	376	5.965	5.802	2.764	1,017	-0.601	-3.75
Growth Opportunity	1.855	1.586	1.009	382	2.259	1.797	1.676	1,006	-0.404	-4.42
Geographic Concentration	0.378	0.262	0.265	360	0.399	0.281	0.287	893	-0.021	-1.19
Gateway City Focus	0.287	0.193	0.282	360	0.269	0.162	0.275	893	0.018	1.03
Property Type Concentration	0.859	0.986	0.206	360	0.793	0.896	0.228	893	0.066	4.79
CEO Income from Dividend (USD thous.)	0.002	0.001	0.003	284	0.001	0.000	0.002	784	0.001	4.79
CEO Duration	11.651	12.000	7.406	375	6.690	5.000	5.583	1,000	4.961	13.36
CEO Age	59.543	59.000	9.745	383	54.789	55.000	7.166	1,039	4.754	10.01
Institutional Ownership Share (%)	87.237	95.776	17.880	383	86.627	93.281	17.278	1,040	0.610	0.59
Independent Director Ratio (%)	67.662	71.429	21.808	238	67.561	75.000	26.043	667	0.101	0.05
Analyst Coverage	2.134	2.398	0.770	293	2.290	2.485	0.696	690	-0.156	-3.13
Market Leverage Ratio	0.383	0.373	0.147	382	0.395	0.373	0.160	1,028	-0.012	-1.30
Book Leverage Ratio	0.497	0.492	0.147	383	0.550	0.547	0.170	1,040	-0.053	-5.39
Weighted Average Interest Rate (%)	4.561	4.448	0.981	324	4.718	4.600	1.004	883	-0.157	-2.42
Interest-to-debt Ratio (%)	4.359	4.354	1.260	379	4.669	4.560	1.288	1,038	-0.310	-4.03
Interest Coverage Ratio (%)	4.633	3.806	3.155	379	4.307	3.528	3.226	1,015	0.326	1.69
Long-Term Debt to Total Debt Ratio (%)	90.919	94.841	11.681	369	92.296	94.907	10.035	1,010	-1.377	-2.16
Short-Term Debt to Total Debt Ratio	8.883	5.154	11.266	369	7.355	4.898	9.150	1,010	1.528	-1.97

This table compares the summary statistics for the main variables used in the empirical analysis between REITs with Founder CEOs and Non-Founder CEOs. The sample is restricted to REITs recorded in the ExecuComp database from 2006 to 2019. t-statistics from the two-sample t-test are reported. Variables have been winsorized at the 1% and 99% tails of the distributions to avoid the influence of extreme observations. The variables are defined in the appendix.

Table III

Leverage Ratio Regressions

	Market Leverage		Book Leverage	
	(1)	(2)	(3)	(4)
Variable	**Coefficient**	***t*-Statistic**	**Coefficient**	***t*-Statistic**
Founder CEO Dummy	-0.034***	-2.67	-0.028**	-2.24
Log Firm Size $_{t-1}$	-0.069***	-4.49	-0.056***	-4.14
Log Firm Age $_{t-1}$	0.076**	2.49	0.094***	3.18
Tangibility $_{t-1}$	0.002	1.54	0.003**	1.98
Profitability$_{t-1}$	-0.013***	-4.69	-0.010***	-3.34
Growth Opportunity $_{t-1}$	-0.005	-0.63	0.041***	3.96
Geographic Concentration$_{t-1}$	0.023	0.46	0.027	0.64
Gateway City Focus $_{t-1}$	0.006	0.16	-0.021	-0.64
Property Type Concentration$_{t-1}$	-0.115*	-1.95	-0.099*	-1.86
Log Firm Size$_{avg}$	0.031*	1.78	0.030*	1.75
Log Firm Age$_{avg}$	-0.077**	-2.21	-0.091***	-2.77
Tangibility$_{avg}$	-0.004**	-2.42	-0.004**	-2.26
Profitability$_{avg}$	-0.019**	-2.32	-0.021**	-2.47
Growth Opportunity$_{avg}$	0.010	0.76	0.036**	2.52
Geographic Concentration$_{avg}$	-0.062	-1.08	-0.053	-0.96
Gateway City Focus $_{avg}$	-0.003	-0.05	0.015	0.29
Property Type Concentration $_{avg}$	0.055	0.69	0.049	0.69
Constant	1.443***	8.13	1.133***	6.09
Observations	1,084		1,086	
R-squared	0.373		0.382	
Year FE	YES		YES	

This Table reports regression estimates connecting the capital structure in REITs to whether their CEOs are founders. The dependent variables are market leverage ratio, defined as total debt divided by the sum of total debt and the market capitalization of equity, and book leverage ratio, defined as total debt divided by the sum of total debt and total equity. The independent variables are Founder CEO Dummy, firm characteristics in the previous period and the means of firm characteristics during the whole sample period. t-statistics are based on standard errors corrected for clustering of residuals at the firm level . The coefficients of years are suppressed from reporting. Significance at the 1%, 5%, or 10% level is shown with 3, 2, or 1 asterisk, respectively. All variables are defined in the appendix.

Table IV

Propensity Score Matching Results

Panel A. Pre-match Propensity Score Regression and Post-match Diagnostic Regression

	Dependent Variable: Founder CEO Dummy			
	Pre-match		Post-match	
	(1)	(2)	(3)	(4)
Variable	**Coefficient**	***t*-Statistic**	**Coefficient**	***t*-Statistic**
Founder CEO Dummy	-0.071	-0.31	-0.004	-0.01
Log Firm Size $_{t-1}$	0.017	0.05	-0.042	-0.10
Log Firm Age $_{t-1}$	0.022	0.98	0.009	0.38
Tangibility $_{t-1}$	0.028	0.51	-0.002	-0.04
Profitability$_{t-1}$	-0.183	-1.39	0.107	0.58
Growth Opportunity $_{t-1}$	1.523	1.17	0.363	0.22
Geographic Concentration$_{t-1}$	0.355	0.38	0.828	0.71
Gateway City Focus $_{t-1}$	1.106	1.02	0.173	0.12
Property Type Concentration$_{t-1}$	-0.215	-0.87	-0.001	-0.00
Log Firm Size$_{avg}$	-0.515	-1.20	-0.049	-0.10
Log Firm Age$_{avg}$	-0.053**	-2.11	-0.011	-0.41
Tangibility$_{avg}$	-0.114	-1.50	0.090	0.96
Profitability$_{avg}$	0.115	0.70	-0.067	-0.32
Growth Opportunity$_{avg}$	-2.068	-1.54	-0.491	-0.29
Geographic Concentration$_{avg}$	0.534	0.54	-0.734	-0.61
Gateway City Focus $_{avg}$	0.128	0.11	-0.599	-0.39
Constant	7.683***	4.40	0.199	0.09
Observations	1,086		606	
Pseudo R-squared	0.076		0.008	
Year FE	YES		YES	

Table continues on next page ...

Panel B. Propensity Score Matching Difference in Firm Characteristics

Variables	Treated (N= 303)	Controls (N= 303)	Difference	*t*-Statistic
Founder CEO Dummy	14.473	14.482	-0.800	-0.10
Log Firm Size $_{t-1}$	2.468	2.487	-2.300	-0.27
Log Firm Age $_{t-1}$	90.510	90.589	-1.100	-0.12
Tangibility $_{t-1}$	5.322	5.099	9.700	1.22
Profitability$_{t-1}$	1.767	1.719	4.200	0.70
Growth Opportunity $_{t-1}$	0.383	0.389	-2.400	-0.30
Geographic Concentration$_{t-1}$	0.292	0.282	3.400	0.42
Gateway City Focus $_{t-1}$	0.860	0.866	-2.500	-0.33
Property Type Concentration$_{t-1}$	14.564	14.561	0.400	0.05
Log Firm Size$_{avg}$	2.531	2.539	-1.100	-0.13
Log Firm Age$_{avg}$	90.377	90.577	-3.200	-0.36
Tangibility$_{avg}$	5.359	5.158	11.400	1.49
Profitability$_{avg}$	1.827	1.779	5.000	0.78
Growth Opportunity$_{avg}$	0.381	0.389	-3.200	-0.40
Geographic Concentration$_{avg}$	0.296	0.290	2.000	0.24
Gateway City Focus $_{avg}$	0.857	0.862	-2.400	-0.31

Table continues on next page ...

Panel C. Propensity Score Matching Estimator

Variables	Treated (N= 303)	Controls (N= 303)	Difference	*t*-Statistic
Market Leverage	0.388	0.433	-0.045	-3.93
Book Leverage	0.495	0.537	-0.042	-4.34

This table reports the propensity score matching results. Panel A reports the parameter estimates from the logit model (i.e., pre-match propensity score regression and post-match diagnostic regression) used to estimate the propensity scores. The dependent variable is an indicator variable set to one if a REIT's CEO is a founder and zero otherwise. The control variables include log total assets, log year listed, tangibility, profitability, growth opportunity, geographic concentration, gateway city focus, and property type concentration. The coefficients of property types and years are suppressed from reporting. Panel B reports the univariate comparison of firm characteristics between the treated and the control groups and the corresponding t-statistics. The treated group consists of REITs with founder CEOs. Panels A and B results are based on market leverage as the variable of interest. Panel C reports estimates of the average treatment effects. The dependent variables are market leverage and book leverage, respectively. The matching variables log total assets, log year listed, tangibility, profitability, growth opportunity, geographic concentration, gateway city focus, and property type concentration. Significance at the 1%, 5%, or 10% level is presented as 3, 2, or 1 asterisk, respectively.

Table V

Cost of Debt Regressions

	Weighted Average Interest Rate		Interest-to-debt Ratio		Interest Coverage Ratio	
	(1)	(2)	(3)	(4)	(5)	(6)
Variable	**Coefficient**	***t*-Statistic**	**Coefficient**	***t*-Statistic**	**Coefficient**	***t*-Statistic**
Founder CEO Dummy	-0.236**	-2.36	-0.269**	-2.15	0.693**	2.10
Log Firm Size $_{t-1}$	-0.082	-0.98	-0.121	-1.15	0.717***	3.03
Log Firm Age $_{t-1}$	0.293*	1.78	0.193	1.10	-1.378***	-2.73
Tangibility $_{t-1}$	0.001	0.10	0.013	0.76	-0.085	-1.35
Profitability$_{t-1}$	-0.041	-1.58	-0.069**	-2.48	0.452***	3.94
Growth Opportunity $_{t-1}$	-0.024	-0.49	-0.065	-1.35	-0.615*	-1.76
Geographic Concentration$_{t-1}$	1.213***	2.63	0.989**	2.09	-1.677	-0.96
Gateway City Focus $_{t-1}$	-0.227	-0.72	-0.370	-1.13	0.186	0.27
Property Type Concentration$_{t-1}$	-0.055	-0.14	-0.045	-0.09	1.951**	1.97
Log Firm Size$_{avg}$	0.146	1.35	0.067	0.55	-0.602*	-1.91
Log Firm Age$_{avg}$	-0.248	-1.40	-0.081	-0.41	1.576***	2.75
Tangibility$_{avg}$	-0.019**	-1.99	-0.034*	-1.86	0.095	1.54
Profitability$_{avg}$	0.007	0.21	0.096**	2.29	0.545*	1.92
Growth Opportunity$_{avg}$	-0.075	-1.30	-0.083	-1.18	0.073	0.14
Geographic Concentration$_{avg}$	-1.539***	-2.96	-1.641***	-2.84	2.506	1.27
Gateway City Focus $_{avg}$	0.151	0.40	0.475	1.11	-0.226	-0.20
Property Type Concentration $_{avg}$	-0.331	-0.77	-0.296	-0.53	-1.560	-0.90
Constant	7.528***	7.66	8.550***	6.56	-4.630	-1.30
Observations	972		1,085		1,081	
R-squared	0.479		0.322		0.346	
Year FE	YES		YES		YES	

This table reports regression estimates connecting the cost of debt in REITs to whether their CEOs are founders, or not. The dependent variables are the weighted average interest rate and interest-to-debt ratio. The independent variables are Founder CEO Dummy and firm characteristics. t-statistics based on robust standard errors are reported in brackets. The coefficients of property types and years are suppressed from reporting. Significance at the 1%, 5%, or 10% level is shown with 3, 2, or 1 asterisk, respectively. All variables are defined in the appendix.

Table VI

Controlling for CEO Characteristics and Corporate Entrenchment, Monitoring, and Transparency Regressions

	Market Leverage		Book Leverage		Market Leverage		Book Leverage	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variable	**Coefficient**	***t*-Statistic**	**Coefficient**	***t*-Statistic**	**Coefficient**	***t*-Statistic**	**Coefficient**	***t*-Statistic**
Founder CEO Dummy	-0.035**	-2.15	-0.035**	-2.24	-0.035**	-2.17	-0.031*	-1.88
Log Firm Size $_{t-1}$	-0.070***	-3.86	-0.057***	-3.74	-0.097***	-4.84	-0.081***	-3.56
Log Firm Age $_{t-1}$	0.037	1.21	0.066**	2.38	0.089***	3.33	0.066	1.13
Tangibility $_{t-1}$	0.001	0.74	0.001	0.92	0.001	1.05	0.001	0.80
Profitability$_{t-1}$	-0.011***	-4.14	-0.007***	-3.06	-0.011***	-4.65	-0.007**	-2.53
Growth Opportunity $_{t-1}$	-0.002	-0.28	0.041***	4.17	0.001	0.20	0.037***	3.45
Geographic Concentration$_{t-1}$	-0.014	-0.25	0.030	0.60	0.036	0.58	0.088	1.38
Gateway City Focus $_{t-1}$	0.005	0.10	-0.069	-1.52	-0.041	-0.63	-0.133**	-2.53
Property Type Concentration$_{t-1}$	-0.074	-1.05	-0.054	-0.84	-0.222**	-2.56	-0.217***	-2.67
Log Firm Size$_{avg}$	0.049**	2.31	0.048**	2.56	0.056**	2.41	0.044*	1.79
Log Firm Age$_{avg}$	-0.043	-1.24	-0.075**	-2.49	-0.082**	-2.44	-0.061	-1.05
Tangibility$_{avg}$	-0.003*	-1.93	-0.002	-1.37	-0.003*	-1.71	-0.002	-1.10
Profitability$_{avg}$	-0.014	-1.22	-0.019	-1.61	-0.026***	-2.85	-0.031***	-3.23
Growth Opportunity$_{avg}$	-0.007	-0.35	0.027	1.46	0.016	1.17	0.056***	3.47
Geographic Concentration$_{avg}$	-0.007	-0.11	-0.035	-0.59	-0.047	-0.69	-0.081	-1.09
Gateway City Focus $_{avg}$	-0.036	-0.49	0.033	0.52	0.071	0.88	0.139**	1.99
Property Type Concentration $_{avg}$	-0.012	-0.13	-0.021	-0.26	0.114	1.20	0.137	1.51
Log CEO Income from Dividend $_{t-1}$	0.006	1.52	0.009***	2.65	0.004	1.47	0.008**	2.36
Log CEO Duration $_{t-1}$	0.007	0.93	0.001	0.16	0.001	0.21	0.000	0.02
Log CEO Age $_{t-1}$	-0.032	-0.64	0.010	0.23	0.013	0.31	0.014	0.34
Log CEO Income from Dividend $_{avg}$	-0.008	-0.94	-0.011	-1.34	-0.012	-1.61	-0.012	-1.64
Log CEO Duration $_{avg}$	0.003	0.13	0.006	0.29	0.055***	2.82	0.036*	1.79
Log CEO Age$_{avg}$	0.025	0.21	0.103	1.02	0.201*	1.91	0.248***	2.64
Instituiontal Ownership Share $_{t-1}$					0.002***	4.08	0.002***	4.23
Independent Director Ratio $_{t-1}$					0.001	1.41	-0.000	-0.34
Log Analyst Coverage $_{t-1}$					0.036	1.36	0.027	0.85
Constant	1.264**	2.45	0.442	1.09	0.477	1.04	0.095	0.24
Observations	787		789		470		470	
R-squared	0.348		0.348		0.524		0.602	
Year FE	YES		YES					

This Table reports regression estimates connecting the capital structure in REITs to whether their CEOs are founders, or not. The dependent variables are market leverage ratio, defined as total debt divided by the sum of total debt and the market capitalization of equity, and book leverage ratio, defined as total debt divided by the sum of total debt and total equity. The independent variables are Founder CEO Dummy, firm characteristics and CEO characteristics and proxies for corporate entrenchment, monitoring, and transparency in the previous period and the means of firm characteristics and CEO characteristics and proxies for corporate entrenchment, monitoring, and transparency during the whole sample period. t-statistics are based on standard errors corrected for clustering of residuals at the firm level. The coefficients of years are suppressed from reporting. Significance at the 1%, 5%, or 10% level is shown with 3, 2, or 1 asterisk, respectively. All variables are defined in the appendix.

Table VII

Debt Maturity Regressions

	Long-Term Debt to Total Debt Ratio		Short-Term Debt to Total Debt Ratio	
	(1)	(2)	(3)	(4)
Variable	**Coefficient**	***t*-Statistic**	**Coefficient**	***t*-Statistic**
Founder CEO Dummy	-1.425*	-1.76	1.409*	1.80
Log Firm Size $_{t-1}$	-1.223	-1.19	1.004	1.04
Log Firm Age $_{t-1}$	2.645	1.11	-2.055	-0.94
Tangibility $_{t-1}$	0.286**	2.30	-0.275**	-2.31
Profitability$_{t-1}$	-0.071	-0.20	-0.006	-0.02
Growth Opportunity $_{t-1}$	0.705	1.25	-0.742	-1.42
Geographic Concentration$_{t-1}$	-7.078	-1.25	6.990	1.30
Gateway City Focus $_{t-1}$	-4.418	-1.25	3.005	1.01
Property Type Concentration$_{t-1}$	4.174	1.44	-3.681	-1.41
Log Firm Size$_{avg}$	2.566**	2.14	-2.341**	-2.07
Log Firm Age$_{avg}$	-4.308*	-1.71	3.623	1.57
Tangibility$_{avg}$	-0.297**	-2.27	0.284**	2.30
Profitability$_{avg}$	-0.961**	-2.02	0.730**	1.99
Growth Opportunity$_{avg}$	0.190	0.23	0.196	0.33
Geographic Concentration$_{avg}$	9.066	1.53	-8.742	-1.54
Gateway City Focus $_{avg}$	0.073	0.02	0.878	0.26
Property Type Concentration $_{avg}$	1.528	0.48	-1.161	-0.36
Constant	77.327***	8.55	23.554***	2.87
Observations	1,055		1,055	
R-squared	0.150		0.153	
Year FE	YES		YES	

This Table reports regression estimates connecting the debt maturity of REITs to whether their CEOs are founders, or not. The dependent variables are long-term debt to total debt ratio and short-term debt to total debt ratio. The independent variables are Founder CEO Dummy, firm characteristics in the previous period and the means of firm characteristics during the whole sample period. t-statistics are based on standard errors corrected for clustering of residuals at the firm level. The coefficients of years are suppressed from reporting. Significance at the 1%, 5%, or 10% level is shown with 3, 2, or 1 asterisk, respectively. All variables are defined in the appendix.

Table VIII

Leverage Ratio Regressions with Lagged Leverage Values

	Market Leverage		Book Leverage	
	(1)	(2)	(3)	(4)
Variable	**Coefficient**	***t*-Statistic**	**Coefficient**	***t*-Statistic**
Market Leverage $_{t-1}$	0.867***	30.76		
Book Leverage $_{t-1}$			0.843***	36.16
Founder CEO Dummy	-0.009*	-1.95	-0.008**	-2.09
Log Firm Size $_{t-1}$	0.036***	4.77	0.010**	2.00
Log Firm Age $_{t-1}$	-0.036***	-2.76	-0.009	-0.69
Tangibility $_{t-1}$	0.000	0.14	0.000	0.97
Profitability$_{t-1}$	0.002	1.02	0.002*	1.75
Growth Opportunity $_{t-1}$	0.004	1.45	-0.005	-1.11
Geographic Concentration$_{t-1}$	0.006	0.20	-0.022	-1.02
Gateway City Focus $_{t-1}$	0.023	0.86	0.005	0.36
Property Type Concentration$_{t-1}$	-0.075***	-3.15	-0.047**	-2.41
Log Firm Size$_{avg}$	-0.046***	-6.04	-0.018***	-3.22
Log Firm Age$_{avg}$	0.033**	2.22	0.005	0.32
Tangibility$_{avg}$	-0.001	-1.46	-0.001*	-1.66
Profitability$_{avg}$	-0.005*	-1.76	-0.006***	-2.58
Growth Opportunity$_{avg}$	-0.003	-0.72	0.021***	4.05
Geographic Concentration$_{avg}$	-0.012	-0.40	0.016	0.70
Gateway City Focus $_{avg}$	-0.018	-0.65	-0.007	-0.43
Property Type Concentration $_{avg}$	0.076***	2.75	0.054**	2.41
Constant	0.385***	6.80	0.270***	5.44
Observations	1,084		1,086	
R-squared	0.843		0.878	
Year FE	YES		YES	

This Table reports regression estimates connecting the capital structure in REITs to whether their CEOs are founders, or not. The dependent variables are market leverage ratio, defined as total debt divided by the sum of total debt and the market capitalization of equity, and book leverage ratio, defined as total debt divided by the sum of total debt and total equity. The independent variables are leverage ratio in the previous period, Founder CEO Dummy, firm characteristics in the previous period and the means of firm characteristics during the whole sample period. t-statistics are based on standard errors corrected for clustering of residuals at the firm level . The coefficients of years are suppressed from reporting. Significance at the 1%, 5%, or 10% level is shown with 3, 2, or 1 asterisk, respectively. All variables are defined in the appendix.

Table IX

Summary Statistics

	Full Sample					
Variable	Mean	Median	Std. Dev.	Min.	Max.	Obs.
Firm Characteristics						
Total Assets ($M)	6,261.174	3,748.372	6,915.697	80.028	56,065.005	1,516
Net Income ($M)	176.697	74.126	354.640	-1,440.000	4,292.163	1,515
Total Revenues ($M)	1,010.009	554.985	1,418.491	0.046	21,896.000	1,515
Year listed	18.88	18.00	11.77	1.00	58.00	1,516
Asset growth (%)	10.712	4.701	25.428	-41.335	281.672	1,516
Firm Performance & Risk Characteristics						
Unexpected profit ($M)	3.070	-21.191	275.983	-1,532.664	3,703.890	1,515
Stock return (%)	10.968	8.753	40.955	-93.128	778.383	1,516
Funds from operations ($M)	348.307	189.723	490.541	-1,055.097	4,324.601	1,337
Dividend payout ratio (%)	-32.946	123.798	5,292.416	-173,504.717	30,648.000	1,225
Dividend yield (%)	6.322	4.746	17.290	0.000	565.668	1,225
Operating Expense Ratio (%)	11.863	9.195	9.642	0.814	104.169	1,515
Return on assets (%)	2.681	2.422	3.299	-14.927	27.590	1,515
Volatility of daily returns (%)	2.132	1.514	1.549	0.544	15.636	1,516
Market beta	0.993	0.921	0.488	0.017	4.029	1,516
Leverage	2.044	2.359	17.016	-441.697	189.505	1,516
Debt ratio (%)	56.129	55.269	16.636	1.406	152.513	1,516
CEO Characteristics						
CEO age (Years)	56.24	56.00	8.28	34.00	87.00	1,516
Gender	0.03	0.00	0.17	0.00	1.00	1,516
CEO duration (Years)	7.994	6.000	6.930	-14.000	34.000	1,516
Firm-related CEO wealth ($K)	40,526.58	13,867.45	152,234.56	0.00	3,538,587.35	1,516
CEO dividend income ($K)	1,810.99	605.02	7,115.99	0.00	125,904.06	1,516
Company founder	0.28	0.00	0.45	0.00	1.00	1,516
Related to founder	0.09	0.00	0.29	0.00	1.00	1,516
Compensation Characteristics						
Total Compensation ($K)	4,897.60	3,838.57	5,335.89	0.00	137,206.82	1,516
Cash-based compensation ($K)	1,704.74	1,575.00	1,101.60	0.00	16,952.54	1,516
Equity-based compensation ($K)	3,023.22	1,953.05	4,749.36	0.00	131,980.04	1,516
Salary ($K)	668.58	677.83	260.38	0.00	1,385.09	1,516
Bonus ($K)	268.35	0.00	675.91	0.00	7,500.00	1,516
Nonequity incentives ($K)	767.82	650.00	830.91	0.00	9,651.00	1,516
Fair value of stock awarded ($K)	2,743.00	1,769.86	4,660.78	0.00	131,980.04	1,516
Fair value of options granted ($K)	280.22	0.00	1,058.11	0.00	17,322.00	1,516
Other Compensation ($K)	169.63	35.91	807.35	-0.00	15,865.02	1,516

This table reports the summary statistics for the variables used in the empirical analysis. This sample contains REITs that are recorded in the ExecuComp database for the period of 2006-2020. The variables are defined in the paper.

Table X

Summary Statistics : Founder vs. Non-Founder Firms

	Founder Firms				Non-Founder Firms							
Variable	Mean	Median	Std.Dev.	Obs.	Mean	Median	Std.Dev.	Obs.	MeanDiff.	t-stat	MedianDiff.	z-stat
Firm Characteristics												
Total Assets ($M)	4,925.01	3,220.85	5,661.02	562	7,048.31	4,007.79	7,449.36	954	-2,123.29	-5.84***	-786.94	-6.15***
Year listed	16.85	16.00	10.51	562	20.07	19.00	12.30	954	-3.22	-5.19***	-3.00	-4.60***
Asset growth (%)	11.54	5.34	25.27	562	10.23	4.38	25.52	954	1.31	0.97	0.95	1.57
Firm Performance & Risk Characteristics												
Unexpected profit ($M)	2.74	-26.55	212.90	562	3.27	-15.46	307.28	953	-0.53	-0.04	-11.09	-1.62
Stock return (%)	8.81	7.31	35.75	562	12.24	9.46	43.70	954	-3.44	-1.58	-2.15	-1.50
Funds from operations ($M)	288.15	139.44	529.82	499	384.13	220.55	462.20	838	-95.98	-3.47***	-81.11	-5.35***
Volatility of daily returns (%)	2.27	1.59	1.74	562	2.05	1.46	1.42	954	0.22	2.66***	0.13	2.25**
Market beta	1.04	0.96	0.52	562	0.97	0.89	0.46	954	0.07	2.79***	0.06	2.28**
Leverage	1.99	2.35	22.45	562	2.08	2.36	12.79	954	-0.09	-0.10	-0.01	1.65*
CEO Characteristics												
CEO age (Years)	58.51	58.00	10.09	562	54.91	55.00	6.65	954	3.60	8.37***	3.00	6.61***
Gender	0.00	0.00	0.00	562	0.05	0.00	0.21	954	-0.05	-5.21***	0.00	-1.50
CEO duration (Years)	11.78	11.00	7.75	562	5.76	5.00	5.25	954	6.02	17.98***	6.00	15.46***
Firm-related CEO wealth ($K)	66,028.87	19,426.29	241,888.53	562	25,503.22	11,039.60	42,306.35	954	40,525.65	5.05***	8,386.69	8.36***
CEO dividend income ($K)	3,279.55	887.64	11,400.25	562	945.86	509.08	1,404.02	954	2,333.69	6.24***	378.56	8.28***
Compensation Characteristics												
Total Compensation ($K)	4,602.99	3,708.45	6,660.40	562	5,071.15	3,915.09	4,366.56	954	-468.17	-1.65*	-206.64	-2.65***
Cash-based compensation ($K)	1,623.31	1,481.88	1,128.35	562	1,752.71	1,631.69	1,083.27	954	-129.39	-2.21**	-149.81	-3.44***
Equity-based compensation ($K)	2,835.52	1,944.13	6,166.22	562	3,133.79	1,961.53	3,666.44	954	-298.27	-1.18	-17.41	-2.03**
Salary ($K)	641.98	657.72	281.75	562	684.24	698.96	245.74	954	-42.26	-3.06***	-41.24	-3.44***
Bonus ($K)	330.50	0.00	758.11	562	231.73	0.00	619.94	954	98.77	2.75***	0.00	3.71***
Nonequity incentives ($K)	650.83	415.50	805.08	562	836.74	720.00	838.56	954	-185.91	-4.23***	-304.50	-5.16***
Fair value of stock awarded ($K)	2,708.66	1,850.26	6,146.73	562	2,763.23	1,709.08	3,505.84	954	-54.58	-0.22	141.18	-0.70
Fair value of options granted ($K)	126.87	0.00	656.35	562	370.56	0.00	1,226.47	954	-243.70	-4.36***	0.00	-3.68***

This table reports the mean and median difference of the summary statistics for key variables of founder and non-founder firms. Samples contain REITs that are recorded in the ExecuComp database for the period of 2006-2020. Founder firms are those firms whose CEOs are either founders or related to the founders. Non-founder firms are those firms whose CEOs are not founders or related to the founders. The variables are defined in the paper. Difference in mean values are tested using t-statistics. Difference in median values are tested using z-statistics. '***', '**', and '*' denotes significance at the 1%, 5%, and 10% levels respectively.

Table XI

OLS Regression Results: Total Compensation

	1	2	3	4	5
FounderDummy	0.023***	0.020***	0.023***	0.016**	0.014**
	[3.699]	[3.229]	[3.670]	[2.445]	[2.171]
Unexpected Profit ($M)		-0.003***			-0.003***
		[-5.082]			[-4.736]
Return volatility (%)			0.000		-0.002
			[0.056]		[-0.581]
CEO div. inc. ($K)				0.151***	0.137***
				[4.724]	[4.272]
Intercept	0.104***	0.101***	0.103***	0.100***	0.102***
	[28.417]	[27.741]	[12.160]	[27.006]	[12.046]
Observations	1,515	1,515	1,515	1,515	1,515
Adj. R-Squared	0.010	0.026	0.009	0.023	0.037
Year Fixed Effects	YES	YES	YES	YES	YES
Property-Type Fixed Effects	NO	NO	NO	NO	NO

This table reports regression results using
$\text{Total Compensation}_{i,t} = \beta_0 + \beta_1 \text{FounderDummy}_{i,t} + \gamma_1 \text{X}_{i,t} + \alpha_i + \lambda_t + \varepsilon_{i,t}$
Total compensation is the total compensation paid to CEO of REIT i at year t as a percentage of total assets ($\frac{\text{Total Compensation}}{\text{Total Assets}} * 100$). FounderDummy is a indicator variable taking a value of 1 if the CEO is and founder or related to the founder at year t and zero otherwise. Unexpected profit is the amount of unexpected profit at year t estimated using the methodology of Chopin, Dickens, and Shelor (1995) and Ciscel and Carroll (1980). Return volatility is the standard deviation of daily returns over the span of the fiscal year at year t. CEO dividend income is the amount of dividend income received by the CEO over the course of year t. Alpha is the intercept term. T-statistics are in brackets. ***, **, and * denotes significance at the 1%, 5%, and 10% levels respectively.

Table XII

OLS Regression Results: Cash Compensation

	1	2	3	4	5
FounderDummy	0.008*** [3.598]	0.006*** [2.744]	0.008*** [3.563]	0.006** [2.445]	0.005** [1.972]
Unexpected Profit ($M)		-0.002*** [-10.046]			-0.002*** [-9.844]
Return volatility (%)			0.000 [0.112]		-0.002 [-1.490]
CEO div. inc. ($K)				0.051*** [4.306]	0.040*** [3.453]
Intercept	0.043*** [31.701]	0.041*** [31.147]	0.043*** [13.521]	0.042*** [30.290]	0.044*** [14.372]
Observations	1,515	1,515	1,515	1,515	1,515
Adj. R-Squared	0.007	0.069	0.006	0.018	0.077
Year Fixed Effects	YES	YES	YES	YES	YES
Property-Type Fixed Effects	NO	NO	NO	NO	NO

This table reports regression results using
$\text{Cash Compensation}_{i,t} = \beta_0 + \beta_1 \text{FounderDummy}_{i,t} + \gamma_1 \text{X}_{i,t} + \alpha_i + \lambda_t + \varepsilon_{i,t}$
Cash compensation is the total of salary, bonuses, and nonequity incentives paid to CEO of REIT i at year t as a percentage of total assets ($\frac{\text{Cash Compensation}}{\text{Total Assets}} * 100$). FounderDummy is a indicator variable taking a value of 1 if the CEO is and founder or related to the founder at year t and zero otherwise. Unexpected profit is the amount of unexpected profit at year t estimated using the methodology of Chopin, Dickens, and Shelor (1995) and Ciscel and Carroll (1980). Return volatility is the standard deviation of daily returns over the span of the fiscal year at year t. CEO dividend income is the amount of dividend income received by the CEO over the course of year t. Alpha is the intercept term. T-statistics are in brackets. ***, **, and * denotes significance at the 1%, 5%, and 10% levels respectively.

Table XIII

OLS Regression Results: Equity Compensation

	1	2	3	4	5
FounderDummy	0.016***	0.015***	0.016***	0.011**	0.011**
	[3.070]	[2.928]	[3.073]	[2.082]	[2.012]
Unexpected Profit ($M)		-0.001			-0.001
		[-1.361]			[-1.066]
Return volatility (%)			-0.001		-0.001
			[-0.199]		[-0.205]
CEO div. inc. ($K)				0.095***	0.092***
				[3.674]	[3.543]
Intercept	0.056***	0.056***	0.057***	0.054***	0.055***
	[19.111]	[18.775]	[8.392]	[18.004]	[7.912]
Observations	1,515	1,515	1,515	1,515	1,515
Adj. R-Squared	0.009	0.009	0.008	0.017	0.016
Year Fixed Effects	YES	YES	YES	YES	YES
Property-Type Fixed Effects	NO	NO	NO	NO	NO

This table reports regression results using
$\text{Equity Compensation}_{i,t} = \beta_0 + \beta_1 \text{FounderDummy}_{i,t} + \gamma_1 \text{X}_{i,t} + \alpha_i + \lambda_t + \varepsilon_{i,t}$
Equity compensation is the total of stock awards and option grants paid to CEO of REIT i at year t as a percentage of total assets ($\frac{\text{Equity Compensation}}{\text{Total Assets}} * 100$). FounderDummy is a indicator variable taking a value of 1 if the CEO is and founder or related to the founder at year t and zero otherwise. Unexpected profit is the amount of unexpected profit at year t estimated using the methodology of Chopin, Dickens, and Shelor (1995) and Ciscel and Carroll (1980). Return volatility is the standard deviation of daily returns over the span of the fiscal year at year t. CEO dividend income is the amount of dividend income received by the CEO over the course of year t. Alpha is the intercept term. T-statistics are in brackets. ***, **, and * denotes significance at the 1%, 5%, and 10% levels respectively.

Table XIV

OLS Regression Results: Residual Compensation

	1	2	3	4	5
FounderDummy	0.092*	0.089*	0.087*	0.086*	0.086*
	[1.927]	[1.869]	[1.820]	[1.792]	[1.790]
Return on Assets (%)		-2.273***			-2.078***
		[-3.246]			[-2.873]
Return volatility (%)			0.023		0.004
			[1.529]		[0.040]
Beta				0.088*	0.053
				[1.854]	[1.082]
Intercept	-0.034	0.028	-0.081*	-0.120**	-0.029
	[-1.174]	[0.798]	[-1.917]	[-2.195]	[-0.459]
Observations	1,515	1,515	1,515	1,515	1,515
Adj. R-Squared	0.002	0.008	0.003	0.003	0.008

This table reports regression results using Residual Compensation$_t$ = β_1Family CEO$_t$ + β_2Return on Assets$_t$ + β_3Return Volatility$_t$ + β_4Beta$_t$ + α
Residual compensation is estimated following Cheng, Hong, and Scheinkman (2015). Family CEO is a indicator variable taking a value of 1 if the CEO is and founder or related to the founder at year t and zero otherwise. Return volatility is the standard deviation of daily returns over the span of the fiscal year at year t. Beta is the market beta from CAPM over the course of year t using the three-month t-bill rate as the risk-free rate and S&P 500 returns to proxy the market return. All values used in the CAPM are daily. Alpha is the intercept term. T-statistics are in brackets. ***, **, and * denotes significance at the 1%, 5%, and 10% levels respectively.

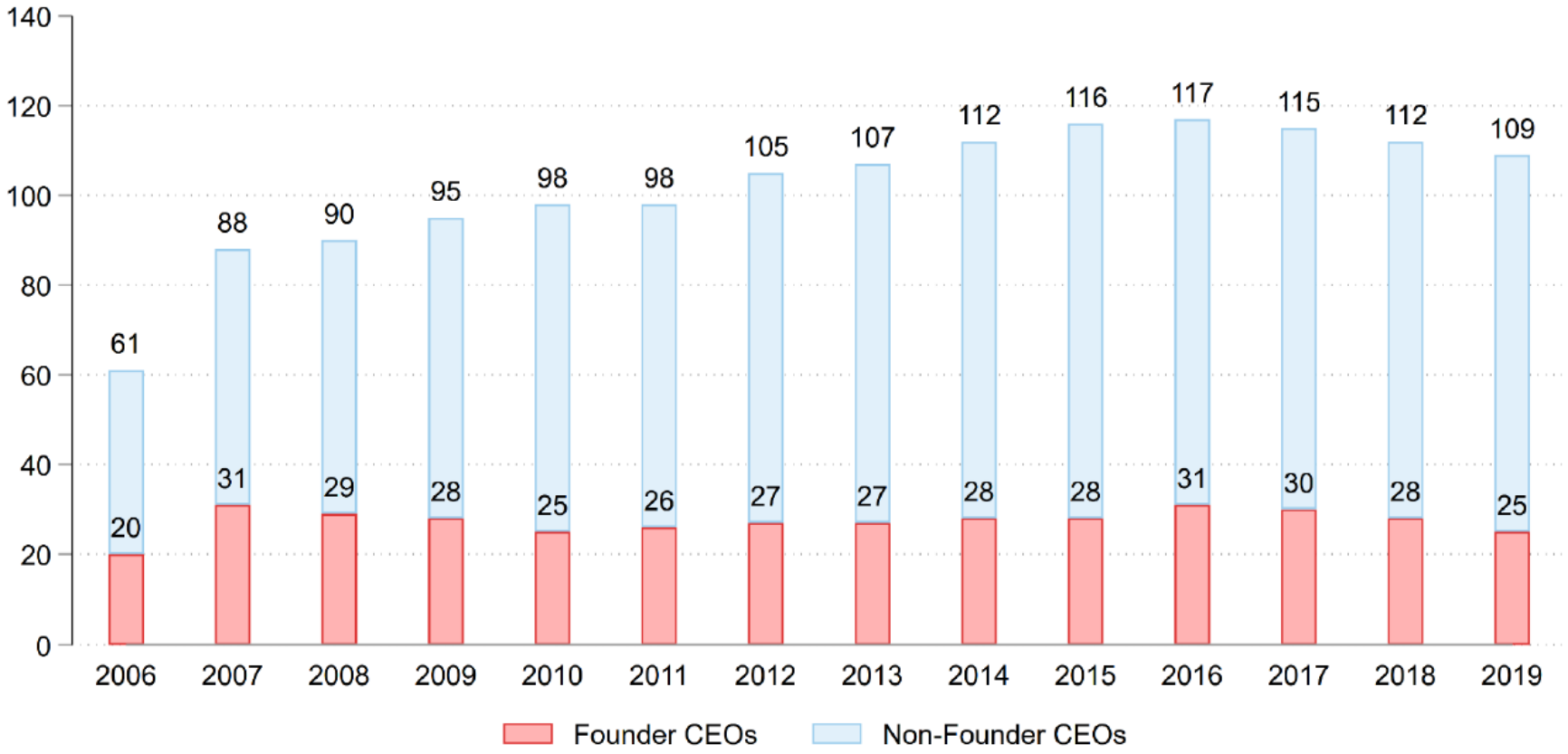

Figure 1

The Number of Founder and Non-Founder CEOs
U.S.Equity REITs, 2006-2019

The figure shows the number of REITs' CEO who are founders or non-founders from 2006-2019. The sample is restricted to REITs recorded in the ExecuComp database.

Figure 2

Leverage of U.S. Equity REITs
2006-2019

This figure shows the mean leverage ratios for REITs whose CEOs are founders or non-founders, respectively, from 2006 to 2019. The sample is restricted to REITs recorded in the ExecuComp database. Market leverage is defined as total debt divided by the sum of total debt and the market capitalization of equity, while book leverage is defined as total debt divided by the sum of total debt and total equity. Variables have been winsorized at the 1% and 99% tails of the distributions to avoid the influence of extreme observations.

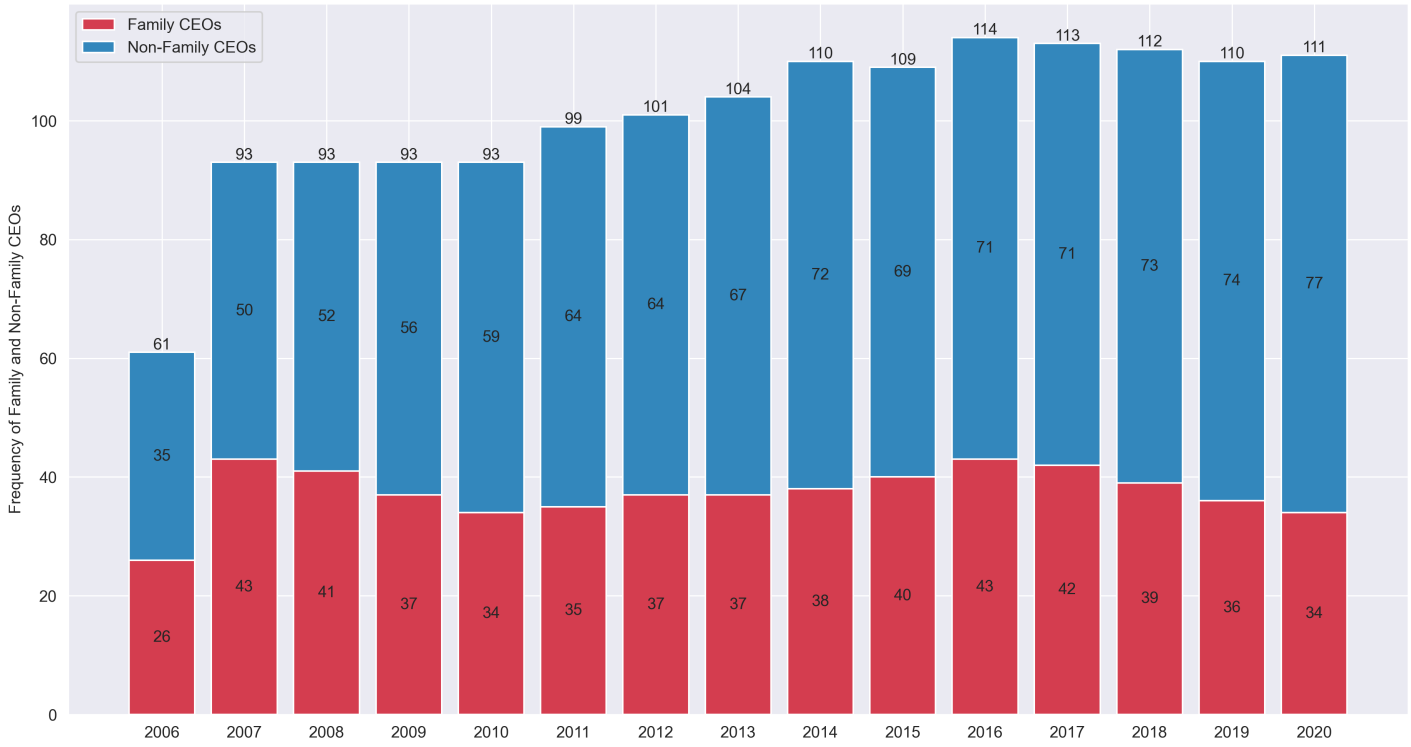

Figure 3

Frequency of Founder and Non-Founder Firms Across Sample Period

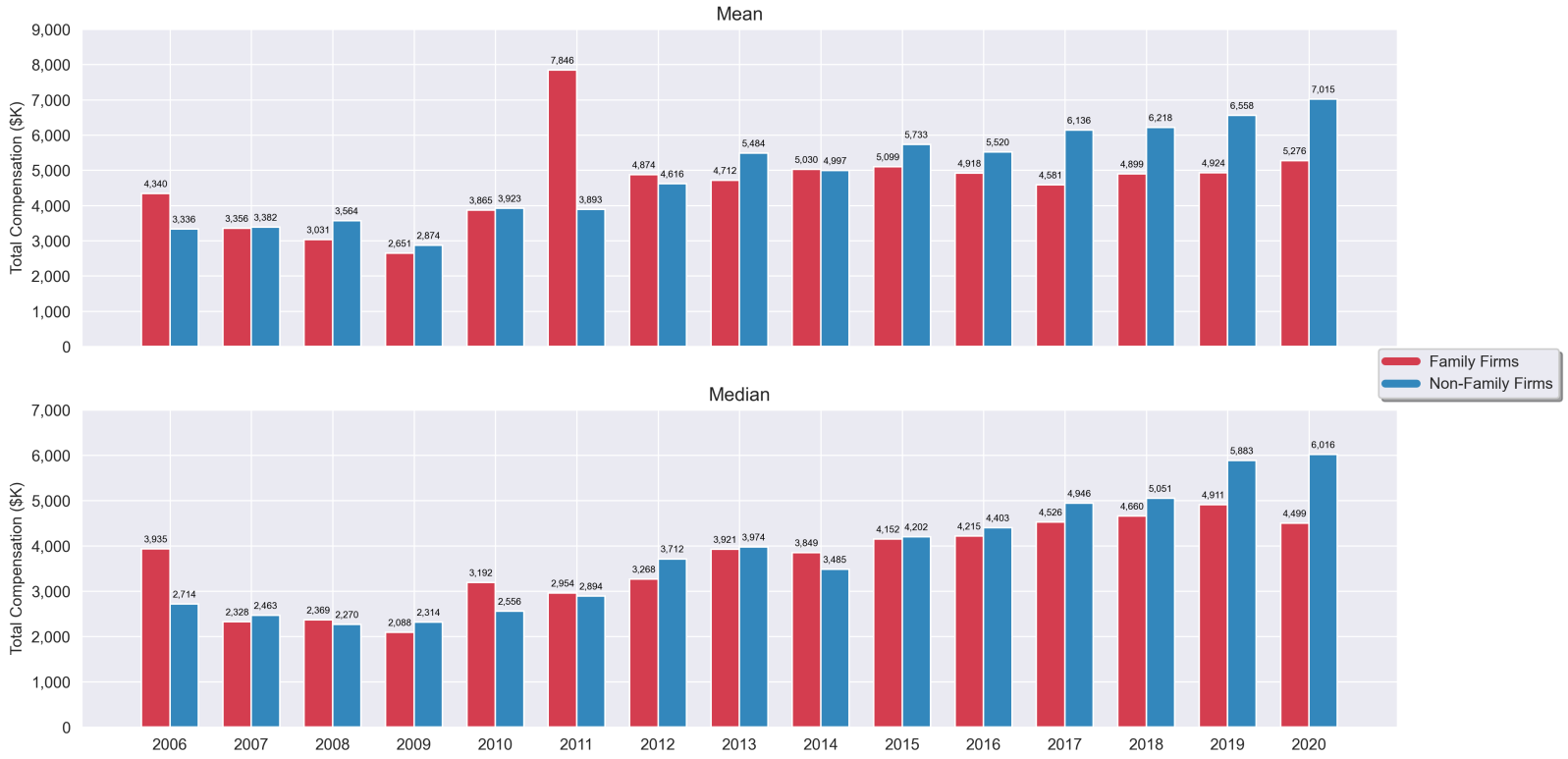

Figure 4

Comparison of Founder and Non-Founder Mean and Median Total Compensation

Figure 5

Comparison of Compensation Components of Founder and Non-Founder Firms

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Appendix A: Definition of Variables

Variable	Definition
Firm Size	The market capitalization of equity. The market capitalization of equity is defined as share price times common share outstanding.
Year Listed	The number of years since the IPO or REIT status was established.
Tangibility	The ratio of net real estate investment over total assets.
Profitability	The ratio of funds from operations over total assets.
Growth Opportunity	The sum of total debt and the market capitalization of equity over total assets. The market capitalization of equity is defined as share price times common share outstanding.
Geographic Concentration	The Herfindahl Index of REITs' assets invested in different NCREIF Region, based on book values.
Gateway City Focus	The ratio of real estate assets of a REIT invested in the six Gateway MSAs to its total assets, based on book value. Gateway MSAs are defined as Boston, Chicago, LA, New York, San Francisco, and Washington, D.C.
Property Type Concentration	The Herfindahl Index of REITs' assets invested in different real estate property types, based on book values.
CEO Income from Dividend	The number of shares owned by the CEO multiplied by the dividends per share of a REIT.
CEO Duration	The difference between the current year and the initial year of the CEO position.
CEO Age	The difference between the current year and the age of the CEO position.
Institutional Ownership Percentage	The percentage of shares are owned by institutions.
Independent Director Ratio	The percentage of directors that are outsiders.
Analyst Coverage	The total number of analysts that report annual EPS or FFO forecast.
Market Leverage Ratio	Total debt divided by the sum of total debt and the market capitalization of equity. The market capitalization of equity is defined as share price times common share outstanding.
Book Leverage Ratio	Total debt divided by the sum of total debt and total equity.
Weighted Average Interest Rate	The weighted average interest rate of all current debts.
Interest-to-debt Ratio	The ratio of total interests over total debt.
Interest Coverage Ratio	The ratio of EBITDA to interest expenses.
Long-Term Debt to Total Debt Ratio	The ratio of long-term debt over total debt.
Short-Term Debt to Total Debt Ratio	The ratio of short-term debt over total debt.

Michael (Mike) McGonigle earned his B.B.A. in Finance from the New Mexico State University, M.S. in Insurance Management from Boston University, and Ph.D. in Finance from University of Texas at El Paso. Mike has over 13 years of industry experience in insurance and banking, although he has become highly interested in real estate during his time in UTEP's Ph.D program. While in the insurance industry Mike held a wide variety of roles ranging from producer, claims specialist, and agency manager. Mike also worked at the Export Import Bank in asset management. His research interests are real estate, asset pricing, capital structure, and executive compensation. As of the date of this writing, Mike has a review and resubmission at Real Estate Economics. Mike is a member of American Real Estate Society, American Finance Association, Financial Management Association, and Society for Financial Studies.

Mike has taught corporate finance, personal financial planning, business finance, international finance, theory of financial decisions, principles of insurance, business insurance, surplus lines insurance, finance internship, and independent study. Mike has experience teaching in face-to-face and online, both synchronous and asynchronous, formats. Mike has also provided service at the industry, university, college, and department levels.

Contact email: mmcgonigle@miners.utep.edu

Please feel free to connect with me via LinkedIn. Go Miners!