

Corporate governance and executive compensation: do they impact on operating performance and valuation of real estate firms?

Examining
governance and
performance
of REITs

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Received 10 October 2022
Revised 2 January 2023
22 February 2023
Accepted 22 February 2023

Abstract

Purpose – Corporate governance principles are living a positive momentum in light of the megatrends reshaping the world. An effective company based on sound governance principles can prevent issues and corporate scandals as the company ensures greater transparency and accountability. Accordingly, this paper aims to investigate the relationship between shareholder-oriented corporate governance mechanisms, value and performances in the real estate sector.

Design/methodology/approach – This paper investigates the relationship between corporate governance mechanisms, performance and value in a sample of 111 USA real estate firms. After collecting data from 2014 to 2018, this paper tests the research hypothesis using the linear fixed-effect model.

Findings – The results demonstrate a positive impact of shareholder-oriented corporate governance mechanisms on performance and value. In particular, firms with no chief executive officer (CEO) duality and staggered board mechanisms and recognizing excess variable compensation to the firms' executive have a significantly higher Tobin's Q, return on assets (ROA) and price-to-book performance.

Practical implications – The implications are twofold: on the one hand, this motivates shareholders to establish new corporate control mechanisms to maximize value, attract more capital and improve operating performance. On the other hand, this allows investors to direct the investors' resources toward real estate firms with effective corporate governance mechanisms that may return higher performance and value.

Originality/value – Focusing on the real estate industry, where governance is expected to have a lower impact due to solid regulation, especially in real estate investment trusts (REITs), the research allows the formulation of industry-specific inferences that may be generalized for the general market.

Keywords Market value, REIT, Executive compensation, Corporate governance, Real estate, Operating performance

Paper type Academic paper

1. Introduction

The separation of ownership (shareholders and investors) and control [Board of Directors (BoD)] of corporations provides much of the impetus for corporate governance. Accordingly, many mechanisms have been devised to mitigate the conflicts between shareholders and managers, including executive compensation systems, board structures, antitakeover mechanisms and ownership structures, to cite a few examples. However, opinions on the impact of good corporate governance on performance and enterprise value are fragmented, especially with regard to highly capital-intensive sectors, such as real estate.



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Theoretically, better-governed firms have been found to perform more efficiently and have a higher valuation (Jensen and Meckling, 1976; Gompers *et al.*, 2003; Brown and Caylor, 2006; Dittmar and Mahrt-Smith, 2007). To this extent, a robust corporate governance system ensures that shareholders can control whether the management is acting responsibly. At the same time, proper compensation systems may contribute to attracting better-qualified managers and align their interests to those of shareholders so that when the formers are maximizing their value, they are also acting in the latter's best interest, potentially fostering a firm's operating performance and enterprise value.

By examining the combined effect of shareholder-oriented corporate governance systems and executive compensation on value and performance, this study aims to jointly look at the variables that could somehow align the diverging interest between ownership and control, expanding the current research approach, which historically has analyzed these variables separately.

This paper tests whether shareholder-oriented [1] corporate governance mechanisms and proper remuneration systems positively affect real estate firms' profitability and enterprise value.

Accordingly, the research employs the linear fixed-firm effect model to test the abovementioned relationship on 111 USA real estate firms. Results show a positive relationship between shareholder-oriented corporate governance, real estate investment trusts (REITs) performance and value drivers. Besides, firms recognizing extra variable compensation to their executive have a significantly higher Tobin's Q, return on assets (ROA) and price-to-book performance.

The implications of this study are twofold: on the one hand, it seeks to motivate shareholders to modify existing corporate control mechanisms to maximize value, attract more capital and improve operating performance; on the other hand, it guides investors to direct their resources toward REITs with an effective corporate governance mechanism, thus improving their returns.

The real estate industry – especially REITs – provides a good study target for three main reasons. Real estate firms face similar investment opportunities, allowing for easy comparisons to be made between companies in the industry. In addition, valuation is straightforward, as investors appreciate the value gained from the assets they own as opposed to those gained from growth outlooks, which characterizes all other sectors. Finally, as listed entities, REITs must comply with regulatory requirements on governance mechanisms and dividend distribution policies that allow for cross-sectional studies.

From a geographical standpoint, the USA provides an exemplary model of shareholder-oriented corporate governance. It stands out as an open market for corporate control and fierce shareholder activism, has a highly performance-dependent compensation structure and has rules that ensure punctual disclosure. In this context, the guidelines shared by the New York Stock Exchange (NYSE) set the standards of the governance mechanisms that reduce the risk of shareholders being expropriated by managers and executives. Accordingly, the stock exchange offers conventional guidelines for testing corporate governance indicators.

By examining the combined effect of corporate governance and executive compensation on value and performance, this study complements the current research, which typically analyzes corporate governance and compensation variables separately. Finally, from the empirical standpoint, it seeks to motivate shareholders to modify existing corporate control mechanisms and adjust remuneration systems to align with management to improve performance and maximize value, thus potentially attracting more capital.

2. The case for REITs and property companies

Listed property companies own income-generating real estate assets and offer an indirect way for individuals to invest in the real estate sector while benefitting from the traditional liquidity of publicly traded securities.

USA REITs need to comply with several requirements [2] in order to receive such a legal qualification. First, REITs must have broad ownership, as they need to be owned by a minimum of 100 shareholders after the first year and must also comply with the 5–50 rule [3].

Second, REITs need to focus on income-generating real estate properties. They must hold at least 75% of their portfolio in real estate assets and at least 75% of their gross income must derive from rents and other related real estate income. This situation limits managers' decision-making power and ensures that retail investors are exposed mainly to real estate risk when investing in REITs.

Third, management must distribute at least 90% of gross annual income in dividends each year. This requirement implies that REITs must come back to the capital market often, as there is little residual capital to reinvest. Consequently, investors can conduct systematic and more frequent monitoring. Dividend payout obligations partially alleviate the need for reinforcements in the corporate control mechanism. Managers have less cash available, which they can potentially use for their own interest and against the interests of their shareholders (Jensen, 1986). Regardless, even if REITs have a mandatory 90% dividend payout distribution, net earnings are impacted by depreciation. This can increase the mismatch between net earnings and available free cash flows by following accounting principles. Management, therefore, still has some discretionary cash to control. Morri *et al.* (2020) found that REITs with more significant information asymmetry distribute excess dividends to this extent.

REITs are forced to become passive investment vehicles and cannot negotiate properties at a too high of a frequency. As such, less than 30% of the total income should originate from assets held for less than four years and income from the sale of securities held for less than one year.

Although agency problems are lower in REITs than in entities operating in less-regulated industries, management still has some power over free cash flow. There is also less market for corporate control, given the limitations on ownership. In conclusion, REITs need to adopt good corporate governance and remuneration systems to align executives' and shareholders' interests. REITs are thus the ideal case study when it comes to evidencing the effect of corporate governance on performance.

3. NYSE and the corporate governance guide

According to the NYSE guidelines, the BoD should have a sufficient number of independent members that meet specific diversity requirements. These members should maintain a complete knowledge of their company, should actively participate in BoD meetings and must establish a collaborative dynamic with senior executives. Finally, they should not sit on multiple boards at the same time.

The Board Chairman should be different from the CEO and, ideally, should meet the NYSE standards for independence.

The NYSE guidelines also present the results of the most frequent shareholder proposals. The most common of these pertained to the de-staggering of the BoD as a staggered board makes a change of control more difficult. There is, therefore, an intrinsic risk that ineffective managers will be difficult to replace.

However, there is no univocal evidence to support the aforementioned statements, and these assertions typically rely on common sense and scattered pieces of evidence.

4. Literature review

The impact of corporate governance practices on a firm's performance and value has been widely debated. The outcomes of research on this topic provide no definitive results of the role played by each corporate governance constituency. Some studies focus on a particular aspect

of governance, such as takeover defenses (Gompers *et al.*, 2003), block holdings (Demsetz and Lehn, 1985), insider ownership (Friday and Sirmans, 1998; Capozza and Seguin, 2003; Han-hui and Zi-gang, 2006), executive compensation (Loderer and Kenneth, 1997), board size (Yermack, 1996; Eisenberg *et al.*, 1998) or board composition (Hermalin and Weisbach, 1991; Bhagat and Black, 2001). Others examine the relationship using autonomously or externally sourced indexes (Beiner *et al.*, 2006; Bauer *et al.*, 2010; Ramachandran *et al.*, 2018), losing the relationship between those variables and the relative importance of one indicator vs the other. Lastly, other researchers examine the effects of capital flows on returns (Ling and Naranjo, 2003).

These considerations apply to REIT research as well. Generally, scholarly literature has revealed a positive relationship between shareholder-oriented corporate governance, enterprise value and the REIT operating performance. Hartzell *et al.* (2004) demonstrated that REITs with shareholder-oriented governance structures at their initial public offering (IPO) had higher market valuations. Similarly, Beiner *et al.* (2006) and Black *et al.* (2006) found that a positive relationship exists between the cross-sectional differences of corporate governance index values and Tobin's Q.

From an operating performance perspective, Klapper *et al.* (2006) have found that cross-sectional differences in corporate governance are associated with a statistically higher ROA. Hartzell *et al.* (2008) found that firms with better corporate governance at the IPO have a higher valuation and better long-term operating performance for up to 12 quarters post IPO.

Nevertheless, there is still debate on how individual corporate governance indicators affect value and performance. In this regard, the first element worth mentioning is board size. Lipton and Lorsch (1992) and Jensen (1993) tested how board size affects monitoring efficiency. As the board size increases, it becomes less effective. Issues arise as a result of coordination problems that offset the advantages of having more people to count on. However, no consensus has been reached with regards to how board size and composition impact performance in the real estate industry. For example, Hartzell *et al.* (2006) did not find any statistical relationship between board size and value in the USA REITs.

Delving into BoD independence, Friday and Sirmans (1998) and Ghosh and Sirmans (2003) reached contrasting results. The former research team found that a nonlinear relationship exists between the percentage of independent members and value. Conversely, if the BoD majority is composed of internal members, it may be unwilling to remove the CEO, as those members' careers are tied to the leader's career. Ghosh and Sirmans (2003) instead uncovered a positive relationship between the independence of the BoD and the REITs' operating performance, revealing that independent directors are more likely to fulfill these roles. The more independent the board is, the better the valuation and the operating performance (Ghosh and Sirmans, 2003; Feng *et al.*, 2005).

The diversity of the BoD is another important element of corporate governance; although emerging literature has delivered mixed results, Hogan and Huerta (2018a, b) found that REITs promoting diversity had lower operating results than their comparable counterparts. Conversely, in a meta-analysis of financial performance and women on boards, Post and Byron (2015) stated that the evidence was mixed. Hoobler *et al.* (2018) found that women's leadership can affect firm performance, but the specification of the underlying mechanisms linking female leadership to performance needs further scrutiny. Jackson *et al.* (2003) found that a positive relationship exists between the demographic diversity on BoDs and the financial performance of their firms. Similarly, Carter *et al.* (2003) found significant positive relationships between the proportion of women or minorities on the board and firm value.

Limited research exists on CEO–Chairman duality in the real estate industry, and research that has been conducted in this area is often inconclusive. Ghosh and Sirmans (2003), using a sample of USA REITs, found that duality is statistically detrimental to performance. Beyond the real estate industry, there is no clear-cut evidence of the effect of CEO duality on firm value and performance (Boyd, 1995; Baliga *et al.*, 1996). Brickley *et al.* (1997) found no

relationship between duality and performance. Goyal and Park (2002) demonstrated that a combined leadership position makes removing the CEO in poorly performing firms more complex. Ghosh and Sirmans (2003) provide evidence that weak corporate governance, as measured by long CEO tenure and the duality of the CEO and chairman position, adversely affects performance. Feng *et al.* (2005) find that companies with good governance (small boards, the majority outside directors and no duality) perform better on average. However, the effect is only significant for the best and worst boards.

When examining the relationship between board staggering and performance in REITs, Campbell *et al.* (2011) found no significant relationship between board structure and abnormal bidder returns in REITs. However, staggered boards may be detrimental to performance, as they function as strong anti-takeover measures, thus reducing the effectiveness of the market for corporate control.

Institutional investors and large shareholders also monitor REITs and their link to value and performance. The inclusion of block holdings is motivated by the risk of free-riding in an extensively dispersed ownership, and a company with concentrated ownership among fewer players is more likely to reduce free-riding problems (Gibson *et al.*, 2004).

The relationship between executive ownership and valuation returns conflicting results as well. Friday *et al.* (1999) found a significantly negative relationship between the directors' ownership level and valuation if above 5%. This phenomenon is due to the higher degree of management entrenchment suffered by the real estate sector (Campbell *et al.*, 2001). Hartzell *et al.* (2004) conducted similar studies and found that no significant relationship exists between enterprise value and managerial ownership. Conversely, Capozza and Seguin (2003) unveiled a positive link between ownership and REIT valuation. Friday and Sirmans (1998) show that greater equity participation by management leads to a higher valuation of the market to book.

If managers are under the directors' direct control, who controls the BoD? On this topic, a director's ownership is typically a proxy for their incentive to perform a proper managerial review. However, theoretically, there is inconsistent evidence on the relationship between these two variables. For example, Morck *et al.* (1988) found a nonlinear relationship exists between BoD ownership and value.

Compensation is another critical tool with which to align the interests of managers and shareholders (Hartzell *et al.*, 2008). Indeed, the more significant the fraction of compensation tied to performance, the stronger the incentive for management (Hartzell *et al.*, 2008).

5. Data and methodology

The initial sample has been taken from the Global Property Research index (GPR quoted Index). The GPR quoted Index was chosen because its constituent companies need to satisfy strict requirements:

- (1) Market capitalization higher than US\$50m, of which at least 15% should be free float;
- (2) At least 75% of operational turnover should come from property activity and be derived from one country;
- (3) At least 25% of operational turnover should come from rental income and
- (4) At least 60% of operational turnover should derive from one specific sector.

The GPR quoted Index, as of November 31, 2019, was composed of 634 firms on a global scale. However, the decision was made to focus only on the 142 USA real estate companies. The dataset was adjusted to exclude 13 companies active for less than 4 years. A further 18 companies were discarded due to data unavailability, leading to a final sample of 111 USA real estate firms (101 REITs).

Based on availability, year-end balance sheet data were selected from either Thomson Reuters Datastream or Compustat. Stock performance data were taken from the Center for Research in Security Prices (CRSP). Following [Hartzell et al. \(2004\)](#), all corporate governance, compensation and ownership data were handpicked from the proxy statements DEF 14 A, available on the Security and Exchange Commission website. While balance sheet data were taken at the year end, proxy statements were published between February and March about the previous year. The research collected the data over 5 years, between 2014 and 2018, amounting to 544 complete observations for the 111 USA real estate firms.

Governance and ownership variables were not lagged when performing the cross-sectional analysis ([Hartzell et al., 2004](#)). On the other hand, the compensation variables relative to a period were taken from the proxy statement of a subsequent year, given that the compensation registered in the proxy statement of February/March of the year “T” refers to the year-end “T-1.”

5.1 Firm performance variables

The primary measure used as a proxy for a firm’s value was Tobin’s Q ([Demsetz and Lehn, 1985](#); [Morck et al., 1988](#); [Agrawal and Knoeber, 1996](#); [Loderer and Peyer, 2002](#)). [Gentry et al. \(2004\)](#) suggest that due to their highly transparent structure and frequent mandatory third-party property appraisals, REITs’ net asset value (NAV) is more reliable than the book value of equity in any other industry. Consequently, Tobin’s Q works best in the real estate industry. Following [Agrawal and Knoeber \(1996\)](#), [Stulz \(1996\)](#) and [Loderer and Peyer \(2002\)](#), in this paper, Tobin’s Q is estimated to be the ratio of the market value of equity, plus the book value of debt to the book value of total assets. Consistent with [Capozza and Seguin \(2000\)](#), neither risk adjustment nor normalization is performed.

$$Tobin\ Q = \frac{Market\ Capitalization + Long\ Term\ Debt + Short\ Term\ Debt}{Total\ Assets}$$

This paper tests the price-to-book value to crosscheck the results obtained using Tobin’s Q ([Black et al., 2006](#); [Friday and Sirmans, 1998](#); [Friday et al., 1999](#)). Accordingly, price-to-book value is estimated as follows:

$$Price\ to\ Book\ Value = \frac{Market\ Capitalization}{Total\ Assets - Total\ Liabilities}$$

This paper also offers insights into operating performance. In academic literature, the ROA is the most frequently used indicator. While Tobin’s Q is a better proxy for value, it is less effective when considering operating performance. ROA is the reference used to measure yearly performance.

$$ROA = \frac{Net\ Income\ (loss)}{Total\ Assets}$$

The decision to use ROA rather than return on equity (ROE) as a measure of operating performance is due to its better distributional properties; ROE, indeed, may lead to bias when both income and book values of equity are negative.

5.2 Governance variables

The board size (BoardSize) is estimated through the number of directors on the board ([Beiner et al., 2004](#)). Like [Friday and Sirmans \(1998\)](#) and [Yermack \(1996\)](#), we predict that board size harms both a firm’s value and its performance, given that larger boards are more likely to suffer from coordination issues.

The percentage of independent board members (BoardInd) is also a determinant of firm performance. Following [Bhagat and Bolton \(2008\)](#), this indicator is structured as the number of independent directors over the board's total members.

In line with [Agrawal and Knoeber \(1996\)](#) and [Feng et al. \(2005\)](#), the CEO–Chairman duality (Duality) is considered a relevant corporate governance variable and is included in the model as a dummy variable, which takes the value of one if the CEO sits as a chairman on the BoD. Such duality can lead to a conflict of interests and, thus, the expectation is that duality will be of detriment to value.

As suggested by [Bebchuk et al. \(2002\)](#), [Bebchuk and Cohen \(2005\)](#) and [Campbell and Mínguez-Vera \(2008\)](#), a staggered board structure variable (Staggered) is included as a dummy variable. This variable takes one if the board is divided into classes and has a staggered election mechanism. Following [Bebchuk and Cohen \(2005\)](#), we expected that the staggered board structure would harm both value and performance, given that it undermines shareholders' rights and protects directors from removal due to potential hostile takeovers.

[Capozza and Seguin \(2003\)](#) suggested that a higher percentage of executive ownership links to a greater incentive alignment and better performance and valuation. Accordingly, the percentage of stock beneficially [4] owned by executives (ExecOwn) is included as an explanatory variable, and it was expected to impact performance and value positively.

As suggested by [Gibson et al. \(2004\)](#), block ownership (BlockOwn) is relevant under the REITs' regulatory structure, given that REITs are forced to come back to the capital market more often and are thus subject to more frequent scrutiny by blockholders. The higher the percentage of blockholders' ownership, the more intense and accurate the scrutiny will be. Consequently, blockholders' ownership – estimated as the sum of the percentage of shares beneficially owned by shareholders with more than 5% ownership (excluding executives and directors) – is included in the analysis. Intuitively, the higher the percentage of blockholders' ownership, the higher the operating performance and the valuation.

Finally, the board members' diversity (BoardDiv) has been proven to be a potential determinant of firm performance. Women can provide new skills and expertise to the board, integrating the experiences of the men ([Carter et al., 2003](#); [Campbell and Mínguez-Vera, 2008](#)). The board diversity is an element of the analysis and it is estimated as the percentage of female trustees on the BoD.

5.3 Compensation variables

Excess compensation (ExComp) is the part of the managerial remuneration that cannot be explained by market capitalization and sales trends ([Hartzell et al., 2008](#)). De facto, it is estimated to be the residuals from a regression of the natural logarithm of total managerial compensation over the natural logarithm of market capitalization and the natural logarithm of sales as shown below.

$$\ln(\text{Tot annual comp.})_{it} = C + \ln(\text{Tot Sales})_{it} + \ln(\text{Tot Market Cap})_{it} + \text{ExComp}_{it}$$

Accordingly, excess compensation is included in the model as an explanatory variable. It was expected to positively affect both value and performance, as better-qualified managers are more appreciated by the market and achieve higher operating performance, *ceteris paribus*.

Similar to [Hartzell et al. \(2008\)](#) and [Burns and Kedia \(2006\)](#), variable annual compensation (VarComp) is calculated as the proportion of incentive-based compensation on the total annual compensation. This is estimated as follows:

$$VarComp = \frac{Tot\ annual\ comp. - annual\ salary}{Total\ annual\ comp.}$$

Variable compensation was included in the analysis under the assumption that a higher percentage of variable compensation positively links to both operating performance and the firm's value.

5.4 Control variables

Following [Shin and Stulz \(2000\)](#), [Gompers et al. \(2003\)](#), [Anderson and Reeb \(2004\)](#), [Drobetz et al. \(2004\)](#) and [Black et al. \(2006\)](#), firm size (Size) is the first control variable included in the model. It is measured as the natural logarithm of total assets ([Beiner et al., 2006](#)).

A second control variable is leverage (Leverage), and this is especially relevant when considering the effect of compensation on performance. Indeed, managers can increase leverage to increase compensation, while increasing the risk to the company ([Capozza and Seguin, 2000](#)). [Giacomini et al. \(2017\)](#) found that REITs that are highly levered than their target leverage tend to perform better on a risk-adjusted basis than under-levered REITs.

According to [Black et al., \(2006\)](#), among others, leverage is estimated as follows:

$$Leverage = \frac{Long\ Term\ Debt + Short\ Term\ Debt}{Total\ Assets}$$

Under [Leech and Leahy \(1991\)](#), the unlevered beta coefficient (BetaUn) is included to control for differences in financial risk, which usually impact upon an entity's value. The unlevered beta measures the amount of systematic risk that cannot be diversified away.

$$Unlevered\ Beta = \frac{Levered\ Beta}{[1 + (1 - corporate\ tax\ rate) \times \frac{D}{E}]}$$

Even if the BoD follows all the corporate governance standards, its power is null in the rare case that the attendance of its board members is zero. For this reason, the average board meeting attendance (BoardAtt) is included to control for this potential issue and this is assumed to be positively linked to firm performance. The board meeting attendance average is taken from the proxy statements and is considered the average percentage of attendance to board meetings for each firm and each year.

Following [Bhagat and Black \(2001\)](#) and [Bhagat and Bolton \(2008\)](#), real estate trend (RETrend) is included in the model to control for the yearly trend in the real estate market, as performance and value in real estate firms are expected to be positively linked to the general trend in the real estate market. The real estate trend is computed as the annual percentage return of the FTSE NAREIT all equity REIT-USA.

Finally, considering that the sample also includes non-REITs firms, the paper adds a control variable to test for the differences between the distinct classes of real estate firms. Accordingly, a dummy (REIT) – with a value of one if REIT and zero otherwise – is included in the analysis.

The following [Table 1](#) summarizes the main variables adopted in the analysis.

6. Analysis

After testing different econometric models, this paper found it more appropriate to comment on the linear fixed-firm effect model results.

The Hausman test was performed when choosing between the random and the fixed-effect model. After performing the test, the null hypothesis was rejected at a 1% confidence level. The results, therefore, implied that it was more appropriate to use the fixed effect model.

Variable	Definition
Performance variables	
Tobin's Q	(Market cap. + Long-term debt + Short-term debt)/Total assets
P/BV	(Market cap.)/(Total assets – total liabilities)
ROA	Net income/Total assets
Governance and compensation variables	
BoardSize	Number of Board Members
BoardInd	Independent Board Members/Total Board Members
Duality	Dummy Variable 1 if CEO is Chairman of the Board, 0 otherwise
Staggered	Dummy Variable 1 if Board has staggered terms, 0 otherwise
ExecOwn	Sum of the percentage of shares beneficially owned by executives and directors
BlockOwn	Sum of the percentage of shares beneficially owned by shareholders with more than 5% excluding executives and directors
BoardDiv	Percentage of female members in the Board of Directors
ExComp	Residual of the regression of total compensation over sales and market cap
VarComp	(Total Compensation – Annual Salary)/Total Compensation
Control variables	
Size	Ln (Total Assets)
Leverage	(Long Term Debt + Short Term Debt)/Total Assets
BetaUn	Levered Beta/(1 + (1 – tc) x D/E)
BoardAge	Average age of board members
BoardAtt	Average attendance of trustees to the board meeting as declared by the company
RETrend	Annual return of the FTSE NAREIT all equity REIT – US

Source(s): Table created by authors

Table 1.
Definition of variables

The fixed effect or Least Square Dummy Variables (LSDV) model is most commonly used when considering panel data (Yermack, 1996; Black *et al.*, 2006). This model has the merits of considering both the cross-section and time information contained in the panel, while avoiding the risk of the omitted variable bias. Indeed, it acknowledges heterogeneity among the 111 companies in the sample by allowing them to maintain their intercept value, while assuming the same slope across entities.

The fixed effect model equation is as follows:

$$Y_{it} = (\beta_0 + \alpha_i) + \beta_1 X_{1it} + \beta_2 X_{2it} + \dots + \beta_p X_{pit} + \varepsilon_{it}$$

where

- (1) $i = 1, \dots, n$ and $t = 1, \dots, T$ and
- (2) α_i is the firm specific intercept.

In the fixed-effect model, all time-invariant variables should be removed to avoid multicollinearity. For this reason, the dummy variable “REITs” is excluded from this regression. The results of the regression are shown in Table 2.

The fixed-effect model results underline the statistically negative impact that Duality has on both operating performance and value. When considering Tobin's Q and price to book, board staggering remains significant at the 5% level, while it loses significance with ROA. The ownership variables BlockOwn and ExecOwn have a statistically significant and positive impact on operating performance. This result reinforces the hypothesis that better-incentivized managers and higher block ownership imply better control by the board and superior management, resulting in higher operating performance.

Variable	Tobin's Q		P/BV		ROA	
	Coeff	Std. Error	Coeff	Std. Error	Coeff	Std. Error
Intercept	<i>2.515***</i>	0.561	<i>4.476***</i>	1.491	10.049	8.545
BoardSize	-0.009	0.009	0.005	0.024	-0.138	0.138
Duality	<i>-0.183***</i>	0.023	<i>-0.381***</i>	0.061	<i>-1.644***</i>	0.347
Staggered	<i>-0.092**</i>	0.039	<i>-0.156**</i>	0.073	0.131	0.592
BoardInd	0.001	0.001	0.001	0.003	0.016	0.018
ExecOwn	-0.005	0.003	-0.011	0.009	<i>0.087*</i>	0.049
BlockOwn	0.006	0.001	0.023	0.002	<i>0.025**</i>	0.013
BoardDiv	-0.001	0.001	-0.001	0.003	0.025	0.018
ExComp	<i>0.042**</i>	0.021	0.090	0.056	0.399	0.322
VarComp	0.000	0.001	-0.003	0.003	-0.010	0.015
Size	<i>-0.066**</i>	0.033	<i>-0.217**</i>	0.088	-0.331	0.505
Leverage	-0.001	0.002	<i>-0.017***</i>	0.004	<i>-0.076***</i>	0.025
BetaUn	-0.055	1.530	1.106	4.067	-11.153	23.310
BoardAtt	0.001	0.001	0.001	0.003	-0.004	0.017
BoardAge	0.000	0.003	0.002	0.009	0.046	0.051
RETrend	<i>0.247***</i>	0.079	<i>0.589***</i>	0.210	-1.879	1.203
N	544		544		544	
R-squared	0.921		0.946		0.643	

Table 2.
Fixed effect model for
corporate governance
mechanism

Note(s): *, ** and *** and italic indicates significance at 10, 5 and 1% level of confidence, respectively
Source(s): Table created by authors

Excess compensation is the only variable with a statistically positive effect on Tobin's Q, even if it is not significant when considering prices to book and ROA. As suggested by [Hartzell et al. \(2008\)](#), excess compensation is a proxy of managerial quality. Companies are likely to pay their executives more than their peers do in order to attract talent, keeping operating and market performance fixed. This higher quality of management is statistically positively reflected in performance.

Furthermore, the R2 is high – 92.1, 94.6 and 64.3% for Tobin's Q, price to book and ROA, respectively. The firm conditional variance of both dependent variables is low, even if the unconditional variance of Tobin's Q and prices-to-book value is high. Indeed, the firm-specific constant explains a very high percentage of the unconditional variance of the dependent variables in the sample. Regardless, the analysis delivers essential information.

The new model is estimated and it includes all the corporate governance and compensation variables, while removing all the insignificant control variables from the previously fixed-effect model estimation in [Table 3](#).

According to the reference model, everything else equal, a real estate company with a CEO who also sits as the Chairman of the Board has a Tobin's Q and a price to book that is lower by 0.184 and 0.383, respectively. Similar effects can also be seen in operating performance, where Duality implies a ROA lower by 1.667%. A staggered board has a statistically significant but not particularly relevant effect. Indeed, real estate companies with a staggered board have a Tobin's Q and a price to book which is, on average, 0.099 and 0.161 lower than the same company that has an annual election for all board members. Instead, the effect of staggering on operating performance is not significant.

As expected, ownership has a positive effect on performance. An increase of 10% in executive ownership corresponds to a higher ROA of about 1%. The same percentage increase in block ownership instead corresponds to an increase of 23 basis points in ROA, everything else equal.

Variable	Tobin's Q		P/BV		ROA	
	Coeff	Std. Error	Coeff	Std. Error	Coeff	Std. Error
Intercept	<i>2.602***</i>	0.506	<i>4.749***</i>	1.342	10.448	7.701
BoardSize	-0.009	0.009	0.005	0.024	-0.142	0.137
Duality	<i>-0.184***</i>	0.023	<i>-0.383***</i>	0.06	<i>-1.667***</i>	0.344
Staggered	<i>-0.099**</i>	0.038	<i>-0.161**</i>	0.072	0.11	0.583
BoardInd	0.001	0.001	0.001	0.003	0.016	0.018
ExecOwn	-0.005	0.003	-0.011	0.008	<i>0.090*</i>	0.049
BlockOwn	0.006	0.001	0.022	0.002	<i>0.023**</i>	0.013
BoardDiv	-0.001	0.001	-0.001	0.003	0.025	0.018
ExComp	<i>0.043**</i>	0.021	0.09	0.055	0.437	0.318
VarComp	0	0.002	-0.003	0.003	-0.01	0.015
Size	<i>-0.065**</i>	0.033	<i>-0.215**</i>	0.087	-0.275	0.5
Leverage	-0.001	0.002	<i>0.017***</i>	0.004	<i>-0.073***</i>	0.024
RETrend	<i>0.244***</i>	0.077	<i>0.599***</i>	0.204	-1.629	1.171
N	544		544		544	
R-squared	0.92		0.946		0.642	

Note(s): *, ** and *** and italic indicates significance at 10, 5 and 1% level of confidence, respectively

Source(s): Table created by authors

Table 3.
Reference model for
corporate governance
mechanism

Consistent with our primary objective (i.e. firms with good corporate governance have higher performance and valuation), the existence of mechanisms that may undermine shareholder's rights and protects directors from removal (i.e. Duality and staggered board), have a significant negative impact on the analyzed dependent variables. In contrast, elements that would incentivize the management (i.e. ExecOwn) and potentially contribute to more frequent and intense scrutiny of the BoD (i.e. BlockOwn) lead to significantly higher performance and valuations.

7. Conclusions

The design of governance and monitoring mechanisms is arguably one of the critical issues that firms are called to face. However, sentiments on how good corporate governance impacts performance and value are fragmented, especially in the real estate industry.

Accordingly, using a sample of 111 USA REITs, the analysis supports the paper's primary objective: a real estate firm that adopts a shareholder-oriented structure (intended as a proxy of good corporate governance) has significantly higher valuation and performance. The existence of mechanisms that may undermine shareholder's rights and protects directors from removals, such as duality and board staggering, have a significant negative impact on the analyzed dependent variables. These results align with the study expectation suggesting that in a management-oriented structure, investors may expect management to divert a portion of the profits or to invest suboptimally owing to private benefits (Hartzell *et al.*, 2008).

In contrast, promoting market scrutiny and incentive systems could lead to significant positive operating performance as demonstrated by the positive relationship between executive and block ownership and ROA. Similarly, excess compensation had a statistically significant positive effect on Tobin's Q performance. This result indicates that companies that pay their executives more than their competitors, relative to sales and market capitalization performance, are better perceived by the market. The rationale is that the market considers higher-paid executives to be those with better managerial abilities and the relevant skills to increase the perceived value of future performance.

7.1 *The implication of this paper is thus twofold: theoretical and empirical*

In the first case, this paper contributes to the existing literature on this topic in multiple ways. In contrast to existing academic literature (Beiner *et al.*, 2006; Bauer *et al.*, 2010; Ramachandran *et al.*, 2018), this research does not rely on aggregated corporate governance indexes. Instead, it investigates the relevant variables individually. Furthermore, existing literature (Gompers *et al.*, 2003) focuses on corporate governance at a general market level rather than analyzing one specific industry, such as real estate. Indeed, focusing on the REITs industry, where governance should have less impact due to solid regulation, allows for formulating industry-specific inferences. These can then be generalized for the market more broadly. This paper's originality also stems from the fact that it is one of the few studies focusing on the combined effect of corporate governance and executive compensation on performance/value.

From the empirical standpoint, it motivates shareholders to modify existing corporate control mechanisms to maximize value, attract more capital and improve operating performance. In particular, the research has shown that shareholder-oriented corporate governance mechanisms significantly impact operating performance, such as ROA and value, such as P/BV and Tobin's Q. Individually, certain variables can indeed impact the dependent indicators by more than 1%, *ceteris paribus* (i.e. Staggered Board or Duality to cite a few).

Finally, it allows investors to direct their resources toward REITs with an effective corporate governance mechanism.

Collectively, these results suggest that financial markets reward firms with shareholder-oriented governance structures. Conversely, choosing management-friendly structures comes at a high cost. Furthermore, the benefits of solid corporate governance extend to the firm's operating performance.

Notes

1. This paper uses shareholder-oriented corporate governance as a proxy of good corporate governance;
2. REITs requirements are described in Section 856 – Subsection c – of the US Internal Revenue Code;
3. The top five shareholders of the company cannot have a cumulative ownership in excess of 50% in the second half of the taxable year and
4. SEC-DEF 14 A.

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Further reading

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