In hotel REITs, are institutional investors beneficial for firm value?

Abstract

Motivated by growing attention to the agency problems of institutional investors, along with recent changes that have identified real estate investment trusts (REITs) as a separate industry segment, this study investigates the impacts of institutional ownership on the firm value of hotel REITs. Hotel REITs provide unique regulatory and operational settings in which it is appropriate to investigate the potential adverse consequences of institutional investments on firm value. This study performs additional analyses using non-REIT hotel corporations (hotel C-corporations) for comparison. After testing pooled ordinary least squares, fixed and random effects, and two-stage least squares in quadratic models, the results of the random effects models are found to be valid and are thus adopted to examine the hypothesized relationship. The analysis showed a U-shaped relationship between institutional ownership and firm value (as measured using Tobin's q) but a dominantly negative relationship in the majority of observations, whereas no significant relationship is found for hotel C-corporations.

Keywords

agency theory, firm performance, hotel REITs, institutional ownership, panel data

Introduction

As US equity holdings by financial institutions have dramatically increased over the past several decades, from 6.1% in 1950 to 70% in 2016 (Loop et al., 2018), the role of institutional investors has drawn substantial academic attention. The efficient-monitoring argument claims that institutional ownership positively affects firm value because financial institutions have legally imposed fiduciary duties as well as superior information and monitoring systems. While the positive impact of a monitoring role has been discussed extensively, there have also been active debates about the problems associated with institutional investments (Bebchuk et al., 2017). Agency problems can arise in institutional investments due to the various private incentives, short-term performance orientation, and competition for business opportunities among financial institutions (Ingley and van der Walt, 2004). For instance, institutional investors may prefer shortterm trading so as to avoid taking unfavorable long-term risks, although their monitoring role requires lengthy and costly reactions (Callen and Fang, 2013; Manconi et al., 2012). Individual traders within institutional investors are likely to actively buy and sell in response to their shortterm performance evaluation (Callen and Fang, 2013). Thus, fund managers are often characterized as short-term speculators, rather than long-term owners (Ingley and van der Walt, 2004). It has also been reported that some institutional investors pursue short-term earnings at the expense of a firm's long-term value to serve their customers with short-term investment horizons (Anderson, 2015). In fact, fiduciary duties require institutions to act in the best interest of their clients who provided funds, not necessarily the long-term value of the invested stocks. Scholars have established theoretical explanations for the possibly negative relationship between institutional ownership and firm value. The conflict-of-interest hypothesis claims that,

due to other profitable business ties with a firm, institutional investors may not act as objective monitors who pursue overall value maximization for the firm; the strategic-alignment hypothesis asserts that institutional investors and managers may cooperate to achieve mutually advantageous goals (McConnell and Servaes, 1990). With regard to the relationship between institutional ownership and firm performance, hotel real estate investment trusts (REITs) provide an interesting institutional setting. First, the monitoring role of institutional ownership may not be strong for REITs. Agency problems are most severe in firms in which managers have free cash flow at their discretion (Jensen, 1986). However, this is not the case for REITs (Bauer et al., 2010), because the regulations require REIT firms to pay out a minimum of 90% of their taxable earnings as dividends (refer to the Online Appendix). Thus, institutional investors' motivation for monitoring managers in terms of the expropriation of the company's free cash will become much weaker for REITs (Feng et al., 2005; Hartzell et al., 2008), unless they have a substantially large share of ownership. Second, specific to hotel REITs, cash flow is more volatile than it is from other types of real estates, such as residential, office, or industrial properties. Unlike these other properties, which are leased on a long-term basis, hotels rent their spaces (small units of rooms) on a short-term basis. Moreover, the demand for hotels is sensitive to economic conditions. With rapidly changing market trends, the frequency of renovation is shorter for hotels (Manning et al., 2015). All of these characteristics make cash flow from hotel operations more volatile. Combined with payout restrictions and subsequent limitations on free cash, which are applied to all REITs, the volatility of cash increases hotel REITs' dependence on external funds more severely than other types of REITs. This severity is described in the annual report of FelCor Lodging Trusts (2017: 18), which states that "our ability to finance our growth

must largely be funded by external sources of capital." In this situation, an institutional owner of hotel REIT firms can be influential not only as a shareholder but also as a financial intermediary capable of providing capital. For example, an institutional owner can work as an underwriter of the firm's seasoned equity offering. When institutional owners can have business ties with the firms of which they have share ownership, it may be difficult for these institutions to vote against management and thereby risk the future business opportunities. Putting these two points together, hotel REITs provide a laboratory for a natural experiment about the role of institutional ownership. The following points must be considered in this context. Free cash is not much of a concern for REITs firms since the regulatory setting effectively prohibits the misuse of company cash. Simultaneously, hotel REITs have ongoing financing needs because of the scarcity of free cash (due to mandatory payout) combined with cash volatility (related to the characteristics of hotel operation). Given the critical appeal of the two aforementioned arguments concerning the role of institutional ownership and the interesting features of hotel REITs, it would be meaningful to test the association of institutional investors' ownership and firm performance/ value. Previous research (Becher and Frye, 2011) suggests that regulatory discipline weakens the monitoring role of the institutional investor. On the other hand, an institutional investor's dual role as both a principal (as a shareholder of the firms in which they have invested and obtained share ownership) and an agent (of the clients who have invested funds in the financial institution) can cause conflicts of interest (Ingley and van der Walt, 2004). Further, when institutional owners of hotel REITs can also be actively involved in the intermediation of the external capital for the invested hotel REITs, institutional owners may pursue their own private goals of securing the business opportunities at the cost of the overall shareholders' value of

hotel REITs. In this situation, the institutional ownership may have an adverse impact on firm value. Meanwhile, in 2016, MSCI Inc. and Standard & Poor's Financial Services LLC elevated REITs to a newly created sector of the Global Industry Classification Standard (GICS), a primary reference for market sectors. This change in status reflects the growing importance of real estate investments through REITs. In a prolonged low interest rate environment, real estate investments have emerged as alternative investments that provide higher returns than fixed-income securities but have lower levels of volatility than stocks (Kim et al., 2011; Westlund, 2016). A significant aspect of being a stand-alone sector is that institutions tend to weigh their investment portfolio allocation relative to industry classification standards, such as GICS. Thus, as a dedicated sector, REITs are likely to receive increased attention from institutional investors with higher levels of investments (MSCI, 2016). Real estate assets are further segmented into hotel, health care, industrial, and office properties (Manning et al., 2015). As such, the overall increase in REITs by institutional investors implies a high level of potential for the institutional shareholdings of hotel REITs (Schneiderman and McGowan, 2018). Therefore, it is timely to investigate the role of institutional ownership on the value of hotel REITs.

In the empirical hospitality literature, the monitoring role of institutional investors has been supported in the casino (Tsai and Gu, 2007a) and restaurant (Tsai and Gu, 2007b) industries. However, hotel REITs provide a good opportunity to test the possible negative relationship between institutional ownership and firm value, given the aforementioned regulatory features of REITs and the unique characteristics of hotel operations. Despite this, no previous research has examined this aspect. Consequently, we aim to investigate the relationship between institutional ownership and firm value in regard to hotel REITs. The results could be negative if the conflict-

ofinterest and strategic-alignment arguments are more dominant; or positive if the effective monitoring theory is more powerfully applied; or a nonlinear relationship could exist if these two 822 Tourism Economics 27(4) arguments act at different levels of ownership. While institutional investors may or may not provide governance benefits, value is definitely affected by the firm's internal governance system. Thus, unlike previous studies, we consider other internal governance mechanisms—for example, the proportion of outside directors and the classification of the board, along with other factors that are known to influence firm value. In addition to investigating the relationship between institutional ownership and firm value in regard to hotel REITs, we compare the results with non-REITs hotel companies in order to better understand the hotel REITs. An interesting feature of the hotel industry is that organizational entities have two forms: REITs and C-corporations. The regulatory and institutional differences of hotel REITs and C-corporations allow us to verify whether or not the role of institutional investors also varies. The agency issue may be less severe among REITs managers than among those in hotel C-corporations. In this sense, it is reasonable to expect that institutional investors' influence over firm value can vary between REITs and non-REIT hotel companies, which will provide additional valuable insights to the literature. Thus, we additionally investigate the relationship between institutional ownership and the firm value of hotel C-corporations (i.e. non-REIT hotel corporations) as supplementary material to enhance the extant understanding of hotel REITs. This article is organized as follows. We provide an overview of previous research related to this topic and postulate hypotheses on the basis of theories of institutional ownership. Subsequently, we describe the research methodology, the sample selection process, and the data sources used. Finally, we present the results, discussions, and limitations of this study.

Literature review

Hospitality and REITs research in regard to institutional ownership has thus far investigated: (1) financial institutions' investment preference for hospitality and REITs stocks and (2) the implications of institutional ownership on firm performance (Table 1). This current study belongs to the latter research stream, which delves into the impact of institutional ownership on firm value or accounting performance in the light of theoretical frameworks regarding effective monitoring, conflict of interest, and strategic alliance.

[Table I]

Effective monitoring

The role of financial institutions has shifted from passive owners to active monitors that alleviate agency problems and contribute to shareholder-wealth maximization (Smith, 1996). Using voting rights, large institutional investors can reduce agency costs and protect shareholder wealth. Due to fiduciary duties, institutional investors also have legally imposed motivations to oversee management. In addition, financial institutions have economies of scale related to monitoring because they have better systems and expertise than widely dispersed individual investors (Bartov et al., 2000; Ryan and Schneider, 2002; Szewczyk et al., 1992; Tsai and Gu, 2007a). In terms of REITs, Ling and Ryngaert (1997) investigated initial public offerings (IPOs) and reported a positive association between institutional ownership and IPO underpricing. This finding suggests that institutional players have superior information to regular market investors, who rely solely on publicly available information. Several studies empirically support the positive role that institutional

ownership plays in firm value. McConnell and Servaes (1990) report that value is positively associated with institutional shareholdings, based on a sample of firms from 1976 to 1986. Chaganti and Damanpour (1991) have shown that, among various financial measures, return on equity (ROE) is positively associated with institutional ownership. Hartzell and Starks (2003) found that the shareholdings of financial institutions are negatively related to executive compensation. Han and Suk (1998) and Welch (2003) also provide pieces of evidence for the monitoring role of institutional ownership. Overall, these results indicate the monitoring role of financial institutions, which potentially contributes to enhancing firm value by mitigating agency problems between shareholders and managers. For REITs, Hartzell et al. (2006) used data from the period between 1995 and 2004 and found a positive relationship between institutional ownership and Tobin's q. Hartzell et al. (2006) used a sample of REITs to analyze firm performance (Tobin's q) while controlling for performance specific to the property type (hotels, hospital, industrial, etc.). In contrast, this study investigates firms within hotel REITs. For the hospitality industry, Tsai and Gu (2007a, 2007b) report that institutions' shareholdings are positively related to financial performance for the casino and restaurant industries.

Conflict of interest/strategic alliance

It is argued that many asset managers in financial institutions are short-term oriented with an investment horizon of no more than 3 years (Andringa et al., 2015). Thus, institutional investors may push managers to achieve short-term profit goals, which can sacrifice long-term value for the firm. For example, as shown in the controversial case of Kraft Heinz, a cost-cut strategy led by a private equity firm boosted earnings in the short run, but firm value was severely damaged in the long

run, as the savings from cost cutting were not reinvested in the firm's long-term growth (Ballard, 2017; Dan, 2019). Research has pointed out that, under the pressure of short-term performance, long-term investments can be discouraged in favor of projects with short-term payoffs (Mitra and Cready, 2005). Thus, while institutional owners possess superior information over individual shareholders, the issue is whether or not financial institutions act on behalf of all shareholders to maximize overall firm value. Using broader outside blockholdings, instead of institutional ownership alone, as in this current study, Friday et al. (1999) found a negative relationship between outside blockholdings and the value of REITs, measured by market-to-book ratios from 1980 to 1994. The study concluded that outside blockholders may use their information benefits to gain an advantage over less-informed shareholders, thereby contradicting the possible monitoring role. However, unlike this current study, Friday et al. (1999) did not consider control variables or endogeneity issues.

Theoretically, firm value and institutional ownership can exhibit a negative relationship (Pound, 1988). The conflict-of-interest hypothesis recognizes that institutional investors may conspire with the management of invested companies against their fiduciary duties to their beneficiaries (Tsai and Gu, 2007a). For example, for many mutual funds, an affiliated company manages employee benefit plans for their portfolio firms; in 2003, several mutual funds voted in favor of options expensing at Intel Corporation, except for fidelity, which was a recordkeeper for the company's 401(k) plan (Davis and Kim, 2007). When continuous future revenue can be maintained from this type of business relationship, institutional investors may not be fully independent from the management's decisions regarding invested companies. Similarly, the strategic-alignment hypothesis predicts that institutional investors and

corporate management may view cooperation as beneficial (Pound, 1988). This possibly collusive relationship, which reduces monitoring, may lead to opportunistic behavior that puts minority shareholders at a disadvantage (Coffee, 1991). Cooperation/conspiration between managers and institutional investors implies a negative relationship between institutional shareholdings and firm performance (Pound, 1988). Well-positioned large Paek et al. 825 shareholders can acquire exclusive benefits by exploiting minor shareholders. This result can be explained by other agency costs related to the behaviors of large blockholders. From a different perspective, institutional investors are viewed fundamentally as traders. Hendry et al. (2006) conducted in-depth interviews with senior managers from financial institutions and large corporations. They concluded that financial investors are driven by the desire to trade on information and earn additional returns that are exclusive to them, instead of the incentive to enhance firm value. Financial institutions also face competition for investor funds, with intense internal pressure for trading performance. Thus, institutional investment managers may also focus on their own target performance, which is frequently short-term oriented, rather than geared toward long-term value maximization (Coffee, 1991; Ingley and van der Walt, 2004). For REITs, strong legal restrictions may reduce monitoring needs in regard to managerial expropriation. In particular, the 90% payout restriction may leave few free cash flows, which make outside shareholder monitoring less critical for REIT performance (Feng et al., 2005). The strength of the regulatory setting weakens the link between governance mechanism and performance (Durnev and Kim, 2005; Klapper and Love, 2004).

Research hypothesis

As shown thus far, the monitoring hypothesis may be weakly applicable to hotel REIT firms while we expect the conflict-of-interest and strategic-alignment hypotheses. Lending support to this notion, Bauer et al. (2010) found that an internal governance mechanism exerts no impact on the corporate value and performance of REITs. They also report that governance is critical only for a subsample of REITs with relatively low payout ratios. Due to a high level of cash flow volatility, capital needs (Manning et al., 2015), and payout restriction as REITs, hotel REITs have a high level of dependence on external financing, which inevitably involves financial institutions in intermediation. Thus, it is reasonable to assume a potentially cooperative relationship between hotel REITs and financial institutions. As discussed in the previous section, studies have found a negative association between outside blockholdings and REIT value (e.g. Friday et al., 1999), which implies the possibility of outside blockholders taking advantage of their superior position over dispersed minority shareholders (Barclay et al., 1993). This minority shareholder expropriation can take the form of pecuniary and nonpecuniary benefits from the firm, as well as suboptimal investment decisions (Bozec and Laurin, 2008), all of which are negatively associated with firm value. Based on the abovementioned arguments and discussions, we can hypothesize that a dominant negative relationship exists between institutional ownership and firm value. However, we cannot completely rule out the monitoring role of institutional owners. In particular, Jara-Bertin et al. (2012) suggest that, with high levels of ownership, institutional owners face higher costs in regard to extracting private benefits because of the greater levels of supervision from regulatory authorities. At the same time, for high levels of ownership, institutional investors have stronger power to contest the control of other large shareholders and exert more effort to improve firm performance. Thus, we propose a nonlinear relationship between

institutional ownership on the firm value of hotel REITs; more specifically, we propose a U-shaped relationship (i.e. a negative relationship at low levels of ownership and a positive relationship at high levels of ownership), as follows.

Hypothesis: In hotel REITS, there is a U-shaped relationship between institutional ownership and firm value.

Data and methodology

Data

The sample included publicly listed US hotel REITs and hotel C-corporations, that is, standard industrial classification (SIC) code 6531 ("Real Estate Agents and Managers"), 6726 ("Unit Investment Trusts, Face-Amount Certificate Offices, and Closed-End Management Investment Offices"), and 6798 ("Real Estate Investment Trusts"). First, the list of hotel REITs was collected from the website of the National Association of Real Estate Investment Trusts. Then, data for these firms were retrieved from the SIC codes listed previously. Data were collected from several sources. Institutional shareholding and governance-related data were collected from DEF 14A statements of sample firms for each year. Such statements were reported to the securities and exchange commission (SEC) online EDGAR archives. Financial data were collected from the COMPUSTAT database. For missing data, we checked 10-K reports and supplemented the collected data. For example, property, plant, and equipment (PP&E) is missing in COMPUSTAT for REIT firms, although PP&E constitutes a large proportion of the assets. Data related to stock price were derived from the daily stock price database of the Center for Research in Security Prices. The years of data covered in the analysis are from 1994 to 2015 due to the availability of data from the SEC archive. The data contained 376 firm-year observations (112 for

hotel REITs and 264 for hotel C-corporations). Only firms with at least 2 years of consecutive data were included in the analysis.

Variables

Variables for empirical analysis were constructed from the collected data. Table 2 provides definitions of these variables. We used Tobin's q (Q), which is widely used as a measure for firm value (e.g. Park and Lee, 2011) in general, as well as firm value in REITs (Bauer et al., 2010; Capozza and Seguin, 2003), as the main dependent variable. Q was measured by (total debt + (closing stock price number of outstanding stocks) x preferred stock)/total assets x 100 (%). The main independent variable, institutional ownership (IO), was calculated by summing up the institutional holdings reported in the beneficial owners' section of DEF 14A. REIT firms tend to carry a large proportion of fixed assets among their total assets (TA). Gertler and Hubbard (1988) showed that companies with a high percentage of hard capital exhibit a low possibility of acting in a value-destroying manner. Thus, we constructed a ratio of PP&E from the book value of total assets (PPE_TA), similar to that in Brounen and Eichholtz (2005). This value estimates the proportion of real estate ownership from the TA.

We included two internal governance variables in the model. The first is an indicator variable for board classification (CBD; i.e. whether or not firms have a classified board). In the classifiedboard mechanism, the board is divided into several categories and the board of directors serves overlapping terms, which makes board replacement difficult. Thus, classified boards entrench management, thereby harming firm value (i.e. there is a negative effect of classified boards on firm value) (Bebchuk et al., 2017). The second variable is the proportion of outside directors (OUT_D). The

board of directors, which is a representative body of the shareholders, comprises insiders, provide valuable information about their firm's activities, and outsiders, who can contribute expertise and objective evaluations of managers' decisions. Thus, an increase in outside directors may positively influence firm value. The monitoring function of outside directors has been considered one of the key governance mechanisms of the corporate board (Byrd and Hickman, 1992). Firm value is affected by other factors as well. Thus, we included several control variables, including the year-end S&P 500 Index (MARKET), to capture market condition (Lynch and Mendenhall, 1997). We also included the log of TA for firm size (Dalbor et al., 2004; Dang et al., 2018) and the annual percentage change in sales (GROWTH) for firm growth (Brush et al., 2000). To reflect capital structure, leverage was incorporated into the model through the book value of long-term debt over the book value of equity at the end of each year (LEV).

We also constructed instrumental variables (IVs) due to the potential endogeneity between independent and dependent variables. First, the following variables were selected on the basis of previous research and data availability: dividend yield in % (IVDVYD) [cash dividend×100/(number of shares×price)] (del Guercio, 1996; Elyasiani and Jia, 2010); a dummy for positive earnings in the previous year (IVPE) (del Guercio, 1996; Elyasiani and Jia, 2010; Woidtke, 2002); and the change in the number of outstanding shares in % (IVCSO) (O'Brien and Bhushan, 1990). After conducting the Durbin (1954) and Wu–Hausman (Wu, 1974; Hausman, 1978) test to determine whether endogenous regressors in the model are in fact exogenous, IVPE was verified as a valid instrument variable and was used in the two-stage least squares (2SLS) models for this study.

[Table II]

Outliers were detected and excluded to obtain a rigorous dataset for the main analysis. Throughout the normality check of the control variables, GROWTH exhibited an extreme range at its maximum end, with over 1,000%, mainly due to mergers and acquisitions. Therefore, values over the 95th percentile (i.e., a significance level of 0.05) were excluded as outliers by an outlier identification technique based on a standard deviation analysis (Field, 2005). Table III provides the descriptive statistics reported by hotel REITs, and hotel C-corporations. Hotel REITs and C-corporations presented a similar level of institutional ownership (i.e., mean values: 27% for REITs and 25% for C-corporations). For Tobin's q, the mean value for REITs is 109.86%, which is lower than that of C-corporations (134.15%). The PPE_TA of REITs was 82.54%, whereas that of C-corporations was 57.98%. Consistent with the substitution hypothesis of the corporate governance literature, REITs, which have a strong regulatory framework, showed a smaller proportion of outside directors (67.47%) than that of C-corporations (70.95%).

In regard to the correlation between Tobin's q and institutional ownership, the REIT sample exhibited an insignificant relationship, whereas C-corporations and the entire sample presented a negative relationship (see Table 4). An interesting contrast was observed in the internal governance variables (CBD and OUT_D). For hotel REITs, these variables showed no correlation with q. However, for hotel C-corporations, CBD was negatively correlated with Tobin's q, whereas OUT_D was positively correlated. Considering the panel structure of the data set, a precise relationship was verified through further empirical analyses, as described in the next section.

[Table III]

[Table IV]

Model and methodology

To estimate the relationship between institutional ownership and firm value (Tobin's q), we adopted a random effects model for unbalanced panel data as the primary estimation methodology. We found that the within-firm variance in one of the internal governance variables (CBD) was close to zero (i.e. one among 112 hotel REIT observations and one among 264 hotel C-corporation observations). That is, the board remained classified for firms with a classified board during the sampling period, and vice versa. In the presence of time-invariant variables at the firm level, firm fixed-effect modeling is infeasible. Thus, we referred to La Porta et al. (2002) and adopted a random effects specification. However, different from La Porta et al. (2002), CBD is not completely time-invariant within firms. Thus, we further verified the efficiency of the random effects model by also using a Hausman χ^2 test. We did not consider the selection model (e.g. Heckman selection) because, aside from three firms in the sample, all firms had institutional ownership. Thus, for those firms without institutional ownership, we set the institutional ownership as zero. The random effects model for a quadratic model is shown.

$$Q_{it} = \beta_0 + \beta_1(\text{IO})_{it} + \beta_2(\text{IO}^2)_{it} + \beta_3(\text{Governance})_{it} + \beta_4(\text{Control})_{it} + \varepsilon_{it} + \eta_i, \quad (1)$$

where Q_{it} is Tobin's q, and IO_{it} is the institutional ownership at time t for firm i. Governance is a vector composed of the indicator variable of whether the board is classified (CBD) and the proportion of outside directors on the board (OUT_D). Control is a vector composed of leverage, S&P index, and sales change. ε_{it} is a random error. η_i is a random effect for firm i, which is distributed normally with mean

zero and variance σ_i^2.

Results

The results confirmed the U-shaped relationship between institutional ownership and firm value in the random effects model. Table 5 presents the regression estimates of the quadratic model (1). For the REIT sample, the random effects model exhibits a significant U-shaped relationship between institutional ownership and Tobin's q. In the Hausman test, a chi-square statistic of 7.23 with a p-value of 0.5124 fails to reject the unbiasedness of the random effects model. The coefficient of IO^2 is 0.0100 and the coefficient of IO is −0.8957, both significant at the 5% level.

[Table V]

The result supports the hypothesized U-shaped relationship between institutional ownership and firm value in hotel REITs. The parameter estimate shows the U-shaped quadratic graph with the inflection point of 44.79%. That is, up to institutional holdings of 44.79%, Tobin's q decreased with an increase in institutional ownership. After that point, Tobin's q increased with institutional ownership. The REIT sample showed that institutional ownership ranged from 0 to 78.30%, with a mean of 26.91%. The inflection point falls on approximately the 86^{th} percentile of the institutional ownership of hotel REITs. Thus, the results of the quadratic random effects model suggest that a positive impact on value does not manifest unless institutions hold substantially large proportions of ownership. Rather the negative impact of institutional ownership on firm value is dominant from the majority of observations.

For the internal governance variables, CBD and OUT_D are insignificant. This result is consistent with the claim that the link between corporate governance and performance is weak in a strong regulatory setting, such as that for REITs (Klapper and Love, 2004; Durnev and Kim, 2005).

We also performed a pooled ordinary least squares (OLS) estimation for hotel REITs with the quadratic specification. The sign and significance of the variables remain unchanged, except for TA, which presents significant positive coefficients in the OLS model. Similar to the random effects model, in the pooled OLS models, the U-shaped relationship was found in the quadratic specification, in which the inflection point is 42.75% of the institutional holdings.

Prior research has reported that the relationship between firm performance and institutional ownership may be endogenous. Although not reported in the tables, we performed a 2SLS analysis. Among the three IVs in the 2SLS model (i.e., IVPE: previous earnings, IVDVYD: dividend yield, and IVCSO: change in outstanding shares), only previous earnings (IVPE) was statistically significant (−6.47 and significant at the 1% level) in the first-stage regression (relationship between institutional ownership and IV). Nevertheless, the Durbin (1954) and Wu–Hausman (Wu, 1974; Hausman, 1978) test results showed an F-statistic of 0.34 with a p-value of 0.56, which indicates the exogeneity of institutional ownership. Therefore, the results of the 2SLS model were not adopted in this study.

In order to examine whether the results are common for the overall hotel industry regardless of the specific regulation setting, we additionally performed the same analysis using the sample of hotel C-corporations and compared the results. The second panel of Table V presents the estimation results of the fixed effects model and pooled OLS. The Hausman test indicated that the fixed effects model is more efficient

for the hotel C-corporation sample (Hausman chi-square statistics, 111.17 with p-value of 0.00, which is significant at the 1% level). In the fixed effects estimation on hotel C-corporations, institutional ownership was not significantly associated with Tobin's q. In contrast to hotel REITs, C-corporations exhibited significant negative coefficients for CBD in the quadratic model. The other internal governance variable, OUT_D, was insignificant in the specification. In the pooled OLS regression on the sample of hotel C-corporations, a negative linear relationship was found between institutional ownership and firm value; CBD was also negative and significant.

For hotel C-corporations, another difference between the fixed effects model and the pooled OLS estimation is that OUT_D was positive in the pooled OLS estimation. This result indicates that the change in the proportion of outside directors does not affect firm value within firms. By contrast, between firms, firms with high proportions of outside directors tend to have higher valued than firms with low proportions of outside directors.

In the pooled OLS modeling, contrasting impacts of TA on firm value were also found. As previously mentioned, TA for hotel REITs presented a positive association with Tobin's q (i.e., Tobin's q is high for large companies in terms of total assets). However, TA for hotel C-corporations is insignificant.

Overall, we did not find evidence of either a positive, negative, or two-fold role of institutional shareholdings on Tobin's q within hotel C-corporations, but the internal governance mechanism has a meaningful impact on value. Specifically, CBD is universally negative and significant in all specifications, thereby suggesting that a staggered board is detrimental to firm value of hotel C-corporations.

Conclusion and implications

Conclusion

REITs have become mainstream investment vehicles; thus, we have presented an empirical analysis regarding the link between institutional ownership and firm value for hotel REITs. Considering the unique features of hotel REITs, we hypothesized that the relationship between institutional shareholdings and firm value is nonlinear (U-shaped). The random effects model supports this premise, indicating a U-shaped relationship with an inflection point of 44.79%; the 86% of the sample belongs to the negative side, implying that institutional ownership has, for the most part, a negative impact on firm value in reality. Several explanations for this relationship may exist, but the primary cause may arise from the low levels of cash retention in REITs (Riddiough and Wu, 2009). The mandatory payout restriction of REITs may limit agency problems related to managers' expropriation of free cash flow (Liu, 2010). However, low retention levels make internal financing difficult for the acquisition and development of properties (Hardin and Wu, 2010). Therefore, REITs must rely heavily on the liquidity provided by institutional owners, such as financial institutions, in the form of debt or equity, causing REITs to maintain close relationships with these institutions. Therefore, the negative relationship between institutional ownership and firm value may arise due to the conflict of interest among financial institutions or the strategic alliance between managers and financial institutions. For the remaining 14% of the sample (i.e. those above the 86th percentile of institutional ownership), if the total institutional ownership is nearly or above the half (refer to the inflection point of 44.79%), we may conjecture different behavioral patterns of the institutional owners. Once institutional ownership reaches a threshold point, they face a much higher cost related to exclusively taking private benefits (Jara-Bertin et al., 2012); this situation induces them to pursue incentives by enhancing firm

value. Nevertheless, this range of high levels of institutional ownership is not present in the dominant party in hotel REITs. We also tested the impact of internal governance mechanisms by including the status of classified boards and the proportions of outside directors. These variables did not exhibit a significant association with the firm value of hotel REITs because the strong regulatory framework of REITs, particularly the payout restrictions, sufficiently fulfilled the monitoring function, which weakened the impacts of internal governance on firm value. As expected, the results were different for hotel C-corporations. Without payout restrictions, managers' misuse of free cash flows is a concern. However, we did not find a within-firm impact of institutional ownership on firm value, whereas the internal governance mechanism of CBD had a negative impact on firm value. The insignificance of institutional ownership indicates that there are no monitoring impacts created by institutional investors, but there were no adverse impacts either. As hotel C-corporations switch to fee-based operations (DeRoos, 2010), their need for and dependence on external capital is not as large as that of hotel REITs. Thus, strategic alliance or conflict of interest may not be plausible.

Theoretical contributions and implications

We identify the following theoretical implications of this study. First, the unique contributions of this study stem from the sample selection; this study is among a limited number of studies to examine hotel REITs and C-corporations in the hotel industry. The special legal and institutional structures of REITs, which contrast with those of hotel C-corporations, offer a naturally created 834 Tourism Economics 27(4) experiment opportunity to test the research hypothesis. To date, no research has investigated the role of institutional ownership on the value of hotel REITs versus C-corporations.

Moreover, using hotel REITs as a sample, this study expands the stream of research investigating the role institutional ownership plays in firm value. Building upon the emerging literature examining the agency problems of institutional owners (Bebchuk et al., 2017), this study provides empirical evidence that is consistent with the conflict-of-interest and strategic-alliance hypotheses in the majority of observations, which predict a negative relationship between institutional ownership and firm value. Hotel REITs provide a good practical setting in which to test the strategicalignment and conflict-of-interest arguments concerning institutional ownership, which predict possibly collusive behavior between financial institutions and corporate managers (Pound, 1988). Second, this study uses rigorous estimation methods by controlling various internal governance factors, which are rarely used in the hospitality governance literature, except for variables regarding ownership (e.g. Paek et al., 2013) and CEO characteristics (e.g. Kim et al., 2018). The model included board-related governance variables, such as CBD (board classification) and OUT_D (proportion of outside directors), which have been proven to be critical for measuring firm performance (Dalton et al., 1998). Because of the secured number of board members (i.e. a particular portion can be protected from dramatic reformation), CBD entrenches management, which leads to collusive actions; these actions could, in turn, be disadvantageous for firm value. As such, despite the importance of these variables, previous hospitality studies have not focused on the application of these types of governance mechanisms. Therefore, this research enhances the quality of estimations among hospitality governance studies, which is another significant element of this study. Finally, this study examines the issue of the "double agency problem of institutional investors" (Labie, 2001), which constitutes a significant unique contribution of this study to the hospitality literature. This issue has not been addressed in the hospitality discipline and

has only rarely been discussed in the general management research, in a few governance articles (e.g. Frentrop, 2012). In the first agency relationship, institutional investors are the principal and the agents are the managers of firms of which institutions have ownership. In the second agency relationship, institutional investors are the agents who manage other people's money, whereas beneficial owners are the principal. In addition, the short-term behaviors of institutional investors have been underresearched, despite their significance in corporate finance. Institutional investors are supposed to constructively cooperate with management in a long-term perspective, yet the dual roles of institutional investors and the conflicts of interests that exist among them call for good practices of institutional investors (Frentrop, 2012). As the hospitality industry grows in many countries, active institutional involvement is expected. Thus, this research contributes to the enhancement of agency studies, which have focused on issues associated with corporate managers rather than the expansion of the scope of agency problems. Recognizing this issue leads to further discussion, which can bridge the gap between theory and practice in the hospitality sector.

Practical implications

The study results (i.e. the relationship of higher levels of institutional ownership and lower levels of Tobin's q in hotel REITs in most cases) offer several practical implications. First, this evidence is useful from the perspective of investors. They can consider another type of agency cost. Contrary to the generally positive perception of the role of institutional ownership (i.e. institutional owners can act as effective monitors for firm performance based on informational and monitoring superiority), Paek et al. 835 institutional owners can be featured as exploiters of minor shareholders. This mostly negative effect of institutional ownership on hotel REITs'

firm value furthers the existing understanding of institutional owners' behavior as financial intermediaries. Other investors should closely investigate institutional ownership, business nature/activities, and business relationships. Among noted investors, Lynch and Rothchild (2000) use an institutional ownership index to judge market potential, believing that the lower the institutional ownership is, the greater the return potential will be. Second, policy makers can attain meaningful insights from the results of the current study. Corporate governance has dramatically improved in regard to eliminating agency costs since early researchers first recognized and raised the issue of agency problems between corporate managers and dispersed shareholders (Berle and Means, 1932; Jensen and Meckling, 1976). The current governance requirements/criteria for capital/cash management in REITs, such as minimal earnings retention, are strict (refer to the Online Appendix). Still, the governance role of financial institutions must be enhanced. Policy makers must note that industries with high levels of cash volatility and capital requirements, such as in hotel REITs, can be vulnerable to agency problems caused by the possible dual roles of large institutional ownership. In addition, it is helpful to introduce a stewardship code or a stronger disclosure rule for the comprehensive business relationship between institutional investors and corporations (Bebchuk et al., 2017).

Limitations and future research

We recognize several limitations of this study. First, we investigated hotel REITs and hotel C-corporations in the United States, which has a well-developed governance system. Thus, future research may expand our study to international settings. Second, the study tested only REITs in the hotel industry. Examining and comparing REITs in other property sectors can provide other meaningful insights, which can be

underpinned by future studies. Future research may also investigate issues regarding incentive design and different types of institutional investors. Alleviating the agency problems that can arise in the relationship between corporations and institutional investments is another interesting research topic. Although we used all available REITs and non-REITs hotel firms as a sample, we recognize the relatively small sample size as a limitation of this research as well.

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Appendix

REITs regulatory restrictions

Category	Description
Earnings distribution	· At least 90% of taxable earnings should be paid out to shareholders.
Asset composition	· On the quarterly basis, at least 75% of assets should consist of real estate properties, mortgages, cash, and government securities. Since 2001, REITs can own taxable REIT subsidiaries (TRSs), which engage in servicing tenants. However, no more than 25% of an REIT's assets can consist of TRS.
Income source	· At least 75% of annual gross income must be derived from income related to real estate. · At least 95% of the gross income must be derived from the above-listed sources, plus other passive forms of income.
Share ownership	· A REIT cannot be a closely held corporation. · REIT stocks must be fully transferable. · A REIT should have at least 100 shareholders after its first year as an REIT. · No more than 50% of an REIT's stock may be held by five or fewer individuals during the last half of the taxable year (5/50 rule). With the "look-through" provision enacted in 1993, pension funds are considered for the purpose of this rule to represent as many owners as there are pension plan members. Thus, in effect, institutional investors are not limited by this ownership requirement.

Source: Liu (2010)

Table 1.
Literature of institutional ownership of hospitality industry and REITs

Topic	Authors	Sample	Findings
Preference of institutional investments for hospitality and REITs stock			
Institutional investors preferences for lodging stocks	Oak & Dalbor (2008a)	Public lodging firms from 1981 to 2003	In general, institutions prefer the stock of large lodging firms, lodging firms with high capital expenditure-to-asset ratios, and high debt ratios.
Dividend policy on institutional holdings	Oak & Dalbor (2008b)	22 hotel REITs and 127 non-REIT hotel firms from 1980 to 2004	Institutions tend to prefer REITs, which pay higher dividends. Regardless of the legal status, institutions prefer large firms that make capital expenditures.
Institutional investors' preferences for brand equity	Oak & Dalbor (2010)	10 hotel firms from 1980 to 2005	Institutional investors prefer firms with higher brand equity, which is measured by advertising expenditure.
Institutional investors' preferences for REIT stocks	Ciochetti, Craft, & Shilling (2002)	Equity REITs in 1993 and 1998	Financial institutions prefer REITs with higher liquidity and bigger market cap. Institutional investors also consider liquidity constraints in their portfolio formation.
Factors for REIT institutional ownership	Below, Stansell, & Coffin (2000)	REIT common stocks from 1988 to 1996	The size of REITs is the most important factor for the institutional ownership. Market risk also affects REIT institutional ownership.
Implications of institutional ownership on firm performance			
Institutional ownership and firm performance	Tsai & Gu (2007a)	Casino firms from 1999 to 2003	Institutional ownership was positively associated with casino firms' performance measured by Tobin's Q.
Institutional ownership and firm performance	Tsai & Gu (2007b)	Restaurant firms from 1999 to 2003	Institutional ownership was positively associated with restaurant firms' performance measured by Tobin's Q.
IPO underpricing and institutional involvement	Ling & Ryngaert (1997)	Equity REIT IPOs from 1991 to 1994	There was a positive relationship between the institutional ownership and IPO underpricing.
Effect of corporate governance on investment	Harzell, Sun, & Titman (2006)	Equity REITs from 1995 to 2004	Supporting the monitoring role of financial institutions, with greater institutional ownership or lower levels of insider ownership, investment decision is more tightly related to firm value.

Table 2.
Variables

Variable	Name	Definition	Reference
Dependent variable			
Tobin's q	Q	[Total debt + (closing stock price * common share outstanding) + preferred stock]/total assets * 100 (%)	Tsai and Gu (2007a, 2007b)
Independent variable			
Institutional ownership	IO	Stockholding percentage of institutional shareholders (%)	Chaganti and Damanpour (1991)
Control variables (governance-related variables)			
Classified board	CBD	A dummy: 1 if the board is classified and 0 otherwise	Bebchuk et al., (2017)
Outside director proportion	OUT_D	Number of outside directors/Total number of directors × 100 (%)	Byrd and Hickman (1992)
Proportion of PP&E (property, plant and equipment)	PPE_TA	PPE/Total Assets × 100 (%)	Gertler and Hubbard (1988)
Other control variables			
Stock market condition	MARKET	Ln(S&P 500 Index)	Lynch and Mendenhall (1997)
Total assets	TA	Ln(total book value of assets)	Bauer et al. (2010)
Leverage	LEV	Total book value of long-term debt / total book value of assets × 100 (%)	Tsai and Gu (2007a, 2007b)
Growth	GROWTH	(Focal year's sales-Previous year's sales)/Previous year's sales × 100 (%)	Cui and Mak (2002)
Instrumental variables			
Previous earnings	IVPE	A dummy: 1 if the previous year's earnings is positive and 0 otherwise	del Guercio (1996); Elyasiani and Jia (2010); Woidtke (2002)

Table 3.
Descriptive statistics of study variables

Descriptive Statistics	Q	IO	TA	LEV	CBD	OUT_D	MARKET	GROWTH	PPE_TA
Hotel REITs									
Mean	109.86	26.91	7.34	45.82	0.51	67.47	7.20	20.43	82.54
Maximum	164.94	78.30	9.48	73.82	1.00	100.00	7.63	211.75	118.98
Minimum	73.31	0.00	3.99	8.24	0.00	33.33	6.78	–28.83	0.04
SD	19.16	16.51	1.33	13.74	0.50	13.82	0.24	42.31	22.19
Hotel C-Corporations									
Mean	134.15	25.18	6.20	40.09	0.53	70.95	7.07	28.76	57.98
Maximum	775.99	89.48	10.17	94.10	1.00	100.00	7.71	1,094.27	97.32
Minimum	52.20	0.00	1.27	0.00	0.00	28.57	6.13	–89.45	0.14
SD	78.67	20.40	1.88	21.17	0.50	14.24	0.27	127.04	27.00

Note: SD: standard deviation; Q: Tobin's q; IO: institutional ownership; TA: total assets; LEV: leverage; CBD: classified board; OUT_D: outsider director proportion; MARKET: stock market condition; GROWTH: growth in sales; PPE_TA: proportion of PP&E (property, plant and equipment) in total assets.

Table 4.
Correlations of study variables

Correlations	Q	IO	TA	LEV	CBD	OUT_D	MARKET	GROWTH	PPE_TA
Hotel REITs									
Q	1.00								
IO	0.02	1.00							
TA	0.21**	0.36***	1.00						
LEV	–0.16*	–0.05	–0.14*	1.00					
CBD	0.13	0.00	0.24***	–0.09	1.00				
OUT_D	0.04	0.267***	–0.06	–0.19**	0.13	1.00			
MARKET	0.33***	0.27***	0.12	–0.13	–0.24***	0.18**	1.00		
GROWTH	0.06	–0.07	–0.10	–0.03	0.09	–0.07	0.09	1.00	
PPE_TA	0.03	–0.42***	–0.11	–0.11	0.10	–0.19**	–0.05	0.16*	1.00
Hotel C-Corporations									
Q	1.00								
IO	–0.12**	1.00							
TA	–0.12**	0.08	1.00						
LEV	–0.22***	–0.04	0.01	1.00					
CBD	–0.13**	–0.10*	0.23***	0.01	1.00				
OUT_D	0.10*	0.17***	0.32***	0.05	0.05	1.00			
MARKET	0.04	0.05	0.09	–0.07	–0.11**	0.15***	1.00		
GROWTH	0.07	–0.07	0.04	–0.05	0.01	0.09	0.08	1.00	
PPE_TA	–0.21***	0.08	–0.04	0.51***	–0.04	0.04	–0.06	–0.06	1.00

Note: SD: standard deviation; Q: Tobin's q; IO: institutional ownership; TA: total assets; LEV: leverage; CBD: classified board; OUT_D: outsider director proportion; MARKET: stock market condition; GROWTH: growth in sales; PPE_TA: proportion of PP&E (property, plant and equipment) in total assets; *significant at the 10% level; **significant at the 5% level; ***significant at the 1% level.

Table 5.
Regression results of the quadratic model

	Hotel REITs		Hotel C-Corporations	
	Random effects	OLS	Fixed effects	OLS
IO	–0.8957**	–0.9747***	0.1965	–1.0866*
	(0.3551)	(0.3658)	(0.4862)	(0.6444)
IO^2	0.0100*	0.0114*	–0.0067	0.0057
	(0.0056)	(0.0059)	(0.0061)	(0.0088)
TA	1.1552	6.2574***	–69.3478***	–2.8160
	(2.5020)	(1.7230)	(5.7221)	(2.5700)
LEV	–0.0798	0.0088	–0.1178	–0.6058**
	(0.1604)	(0.1 410)	(0.1828)	(0.2460)
CBD	6.8793	5.6150	–28.7866***	–21.1325**
	(6.0339)	(3.7903)	(9.1811)	(8.8578)
OUT_D	0.1498	0.2252	–0.0817	0.9972***
	(0.1768)	(0.1460)	(0.2755)	(0.3206)
MARKET	49.4919***	43.5733***	61.7822***	19.0897
	(8.4701)	(9.2991)	(11.7515)	(21.1113)
GROWTH	0.0327	0.0366	–0.0246	0.0114
	(0.0372)	(0.0415)	(0.0191)	(0.0337)
PPE_TA	–0.3676	–0.4188	0.1102	–0.2540
	(0.2522)	(0.2538)	(0.1637)	(0.1938)
Constant	–218.7629***	–215.5426***	158.0022**	14.6939
	(65.2391)	(71.6382)	(77.5784)	(151.1537)
Observation no.	112	112	264	264
Adjusted R^2	0.3299	0.2354	0.5320	0.1113

Note: IO: institutional ownership; TA: total assets; LEV: leverage; CBD: classified board; OUT_D: outsider director proportion; MARKET: stock market condition; GROWTH: growth in sales; PPE_TA: proportion of PP&E (property, plant and equipment) in total assets; *significant at the 10% level; **significant at the 5% level; ***significant at the 1% level.