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Corporate Real Estate Holdings and Financial Performance of Restaurant Firms

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ABSTRACT
Most restaurant firms, by their operational nature, own and operate a large amount of corporate real estate (CRE), even though real estate is not their primary business activity. This is not only common across restaurant firms of different sizes but also linked to their sales and profitability. Borrowing the arguments of resource-based theory and using financial data for the years between 1999 and 2014, this study investigated the relationship between CRE holdings and restaurant firm performance in the United States. Briefly, our findings demonstrate that the CRE ratio and the rent ratio, in particular, have different impacts on restaurant firms' financial performance and market-driven risk structures when different forward lags are considered.

Keywords: *financial performance*, *market-driven risk*, *restaurant firms*, *corporate real estate holdings*

Introduction

Firms across all industries own and use several different types of tangible and intangible assets to generate revenues and increase their size. In addition to generating revenues, these strategic assets can also increase shareholders' wealth and firm value. However, when executives analyze operational and financial performance, some balance sheet items, such as corporate real estate (CRE) holdings, are not considered essential to generate sales and earnings. Executives also believe that investing in CRE holdings might impede firm performance due to agency problems and capital spent (i.e., bondholders might be worse off due to increased financial risk). This is mainly because most companies have little choice but to build or purchase properties, which executives label as "non-revenue-generating assets." However, the reality is that holding large amounts of CRE as a strategic asset is essential and that CRE has an immense effect on firms' operational and financial performance. There are multifold reasons real estate holdings are critical. First and foremost, some companies need to place their products and run their operations in physical locations where lease alternatives are lacking. Further, CRE holdings have a tremendous influence on tax issues, credit quality, and firm value, since they can serve as collateral for securing loans for new financial projects and/or new asset investments. In addition, CRE assets are recorded at historical costs, and the value of these holdings may not be reflected in stock prices. Thus CRE holdings can positively affect firms' financial performance and market risk structures (Park & Glascock, 2010). Lastly, CRE assets are operational resources that naturally and strategically lead to financial and operational competitive advantages because they cannot be easily imitated by competitors. The corporate strategy of holding and investing in CRE as a strategic asset might enable firms to outperform their competition (Amit & Schoemaker, 1993; Jensen, 1986).

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Generally speaking, reducing CRE holdings creates shareholder value and enhances financial performance; yet in some industries, the exact opposite is true. For example, CRE holdings are strategic production factors and are critical for the growth, investment, and performance of firms operating in service-oriented and capital-intensive industries. Restaurant firms, in particular, have a unique history of carrying high volumes of CRE-based capital expenditures. Restaurant properties must be constantly acquired or constructed for these companies to generate cash flows from operating activities (Dalbor & Upneja, 2004). However, if not optimized with careful financial and operational analyses, CRE holdings and investments expose firms to enormous levels of real estate risk (Lee & Jang, 2012). Strategically investing in plant, property, and equipment (PP&E) assets and intelligently maintaining fixed asset balances on the books is a solid long-sighted financial advantage for restaurant companies aiming to improve their earning potential, unlock shareholder value, and maximize firm performance (Kizildag, 2015; Kizildag & Ozdemir, 2016; Lee & Jang, 2012). In this scope, the empirical focus on the role of CRE as a strategic asset in restaurant firms' financial performance is surprising, given that the existing literature focuses primarily on the determinants of capital expenditures and the common factors influencing firm performance and risk structure (Borde, 1998; Dalbor & Jiang, 2013; Gu & Kim, 2002; Hsu & Jang, 2008; Moon & Sharma, 2014). In other words, there is not enough evidence to clearly observe how resources like CRE affect firms' financial performance and market-driven risk structure. We believe that we can address this gap by defining and evaluating the role of CRE holdings in restaurant firms' operational and financial performance and risk structure. In this way, we aim to complement the existing literature by providing a better practical understanding.

Literature Review

CRE is a core business asset, and it represents a significant proportion of a company's balance sheet. Mahoney and Pandian (1992) described two main reasons a firm might own resources to generate rents (i.e., generate returns that are greater than the opportunity costs). First, rents may be generated by owning a scarce valuable resource. Second, entrepreneurial rent may be achieved through risk taking based on unique capabilities. Location is an important factor in a restaurant's success (Tzeng, Teng, Chen, & Opricovic, 2002); therefore, to be successful, a restaurant firm must own or lease property in desirable locations (Ling, Naranjo, & Ryngaert, 2012). It has been argued that the stock market is often unaware of CRE holdings and that stock prices may not adequately reflect the current market value of CRE (Park & Glascock, 2010). In ratio analysis, underestimating the value of CRE could greatly impact critical ratios, such as the return on assets and the market-to-book value ratio, which in turn may lead to undervaluation. In terms of risk premium, Tuzel (2010) argued that firms with high shares of real estate tend to be perceived as riskier, meaning that investors demand higher premiums for holding shares of such firms. Studies investigating the relationship between firm performance and CRE holdings have indicated that it is a mixed relationship. For instance, Liow (2004) found that firms with high CRE holdings in Singapore had lower returns and higher risk. Brounen and Eichlotz (2005) reported a negative relationship between CRE ownership and firm performance. On the other hand, a more recent study by Tuzel (2010) showed that firms with higher shares of real estate had higher returns than firms with lower shares of real estate. These studies examined firms from various industries, which might explain the conflicting results. For some industries, such as retail (Park & Glascock, 2010), CRE investment is more closely linked to business strategy than it is in other industries.

Growth through investments in fixed assets is not the only way to achieve increased market share, especially in the hospitality industry. Most restaurant and hotel companies expand through franchise and management agreements, in which they own no assets but provide the know-how and the brand name, which allows them to collect fees from asset owners. A recent study investigated whether this asset-light and fee-oriented strategy created value in the hotel industry and reported that hotel firms with lower levels of fixed assets were traded at a premium (Sohn, Tang, & Jang, 2013). The results of this study indicated that investors may perceive fixed assets not as strategic resources but rather as unnecessary risks that magnify operational risks. Lee and Jang (2012)

estimated hospitality firms' exposure to real estate risk using a regression equation with firms' daily return as the dependent variable and the real estate risk, calculated as the beta for the return on the Dow Jones REIT (real estate investment trusts) Index, as the independent variable. The results indicated that hospitality firms were exposed to real estate risk at some time during the 2005–2009 period if they owned or leased properties for their operations. However, the Dow Jones REIT Index includes REITs that own a variety of real estate, ranging from residential buildings to storage facilities. Measuring real estate risk based on this index implies that these assets bear essentially the same risk as operational assets (i.e., CRE) owned by hospitality firms. Therefore, there exists a need to study the specific influence of operational assets, such as CRE, on firm performance in the hospitality industry.

Firm Performance, Risk, and Strategic Resources

There are several different measures of firm financial performance. Growth and profitability are two of the most important goals in business (Brush, Bromiley, & Hendrickx, 2000; Jang, 2011), and profitability is the most commonly used basis for defining success. From an investor's view, profitability is usually measured as the ratio of net income over a performance metric, such as outstanding shares to estimate earnings per share (EPS), equity to estimated return on equity (ROE), or assets to estimate return on assets (ROA). When examining the managements' efficiency in using CRE, ROA is the most frequently used performance measure (Daniel, Lohrke, Fornaciari, & Turner, 2004). Profitability measures are accounting measures of firm performance that provide an internal view of a firm's past success. Markets, on the other hand, value a firm's future earnings, incorporating current and future risks that might impact future cash flows. One such measure is called systematic risk, or beta, which is estimated using the capital asset pricing model (CAPM), with higher values indicating riskier firms in relation to the market (Jensen, 1969). Jensen's index, or alpha (α), is another market-based measure of performance that provides a comparison of a given firm's market performance to the performance of firms experiencing similar market risk (Jensen, 1968). This measure is expressed as the estimate of the intercept in the CAPM regression equation of risk-free firm returns and market returns. A positive alpha suggests higher returns compared to the market, and a negative alpha indicates lower performance.

In the real estate literature, several studies have investigated the performance effects of CRE on firm risk or financial performance. However, evidence of this relationship has been either mixed or inconclusive (Park & Glascock, 2010). Deng and Gyourko (2000) observed that high levels of property ownership were associated with higher betas, higher risk, and poor stock performance. On the other hand, Seiler, Chatrath, and Webb (2001) found no significant relationship between CRE and systematic risk. Studies investigating CRE in hospitality tend to examine the determinants and factors impacting fixed-asset investment. The results of these studies indicate that growth opportunities and liquidity are positive factors that facilitate fixed-asset investment (Dalbor & Jiang, 2013; Moon & Sharma, 2014). However, the performance impact of these CRE investments has not been investigated. According to resource-based theory, strategic resources, assets, and capabilities that are valuable, relatively scarce, and difficult to imitate have the ability to deliver a competitive advantage beyond their contributions to the production process (Amit & Schoemaker, 1993). Assets specific to a given location can be considered one such resource in the hospitality industry because location is a critical success factor for this industry (Tzeng et al., 2002). The strategic selection and ownership of a location should enable restaurant firms to achieve competitive advantage. For example, McDonalds is well known for its successful CRE strategy, in which the firm purchases key store locations and then leases them to franchisees. By using this strategy, McDonalds generates revenues via leases as well as other benefits from the appreciation of the real estate. Franchising restaurant firms tend to rebalance their CRE by "cherry-picking" (i.e., buying back certain profitable stores from franchisees; Knott & McKelvey, 1999). In sum, we assume that restaurant firms are rational and contend that the benefits of CRE should exceed its costs.

The purpose of this study was to examine the effects of CRE holdings on restaurant firms' performance. Resource-based theory argues that owning strategic assets can contribute to the success of a

firm beyond their contribution to the production process. Therefore, we developed the following hypothesis:

H1: *The level of CRE holdings positively affects restaurant firms' financial performance.*

Methodology

Sample and Data Selection

We utilized multiple sources for our regression analyses. Our sample comprises restaurant firms with at least 3 years of daily stock returns and matching financial and accounting data during the examination period from 1999 to 2014. After screening and eliminating all irrelevant or otherwise unacceptable data, a total of 149 publicly traded restaurant firms under standard industry code (SIC) 5810 and 5812 were identified and selected for our analyses. Daily stock returns were obtained from the Center for Research in Security Prices (CRSP) database. Data for firm-specific variables were obtained from CRSP/COMPUSTAT merged files. The final sample included a total of 149 firms and 1,063 firm-year observations.

Variables and Estimation Procedures

The key independent variable in this study was CRE. There is no direct measure of CRE holdings; therefore, we followed the vast majority of the literature and used net PP&E for the restaurant firms. As Park and Glascock (2010) suggested, we proxied firms' CRE holdings, which are reported under the PP&E lines in the CRPS/COMPUSTAT database. In this vein, we calculated a corporate real estate ratio (CRER) as net PP&E divided by total assets. We used net PP&E instead of gross values because net values are reported on the balance sheet and used in calculations of various ratios, such as asset turnover, that markets use to evaluate companies (Brounen & Eichholtz, 2005; Deng & Gyourko, 2000; Seiler et al., 2001). Moreover, it is widely known that firms might prefer to lease, rather than own, their assets (Lee, Huh, & Lee, 2015; Singh, 2013). Capitalized lease obligations are included in PP&E; however, operating leases are not. Therefore, we included a rent ratio (RENT), measured as rent expense divided by total assets, to reflect the leasing (rather than owning) of assets (Lee et al., 2015).

The study's dependent variable was firms' financial performance and risk. We measured firm performance using two measures. The first measure was ROA, since the extant literature indicates that this is the most common measure of CRE performance (Daniel et al., 2004). ROA was calculated as net income divided by total assets. The second measure of firm performance was Jensen's index, or alpha (α). This is the intercept in the CAPM regression equation at which daily risk-free firm returns are regressed to daily risk-free market returns. As a risk measure, we extracted the systematic risk, or beta (β), portion of firms' stocks in the CAPM model. We included three control variables with very close ties to firms' financial performance levels and risk structures in the market: (1) financial leverage, (2) growth opportunities, and (3) firm size. Financial leverage (FINLEV) has been identified as one of the important factors impacting firms' financial performance in markets, since it includes risky debt (Kizildag, 2015; Lee, Koh, & Kang, 2011) and is measured as the ratio of total debt value to total equity value. Growth opportunity was measured using Tobin's Q (Q). We employed Chung and Puritt's (1994) formula to estimate an approximation of Q, where Q equals the sum of the market value, liquidating value of outstanding preferred shares, and total debt net of current assets divided by total assets. As suggested by the related literature, we took the firm's total asset value to identify firm size (SIZE). Furthermore, following previous literature, we took the natural logarithm of Q and SIZE to cope with the size of some restaurant firms (Park & Jang, 2013).

We ran three models including all variables discussed in the previous paragraph to examine the relationship between firm performance and CRE holdings to test our main hypothesis. The first model employed ROA as the dependent variable. Dependent variables for the second and third models were computed using the CAPM, as suggested by Lintner (1965) and Sharpe (1964). The CAPM model is as follows,

$$(R_{it} - R_{ft}) = \alpha_{it} + \beta_{it}(R_{mt} - R_{ft}) \quad (1)$$

where R_{it} is the stock return on day t for firm i; R_{ft} is the risk-free rate of return, computed as the daily

return on a 12-month treasury bond for each month; R_{mt} is the stock return on day t for a market portfolio; β_{it} is the systematic risk for firm i for year t; and α_{it} is the alpha value (α), which is the intercept for the excess return for each firm i for each year t.

Thus we can write our model as follows,

$$FP_{it+\tau} = \alpha_i + \beta_1 CRER_{it} + \beta_2 RENT_{it} + \beta_3 FINLEV_{it} + \beta_4 Q_{it} + \beta_5 SIZE_{it} + u_{it} \quad (2)$$

where FP_{it} is firm performance measured by ROA, α_{it}, and β_{it} with 1-, 2-, and 3-year forward lags (τ = 1, 2, 3). The time gap between performance measures and independent variables is to allow markets time to adjust to new information (Fama & French, 2006). CRER is the corporate real estate ratio (net PP&E divided by total assets), and RENT is the rent expense ratio (rent expense divided by total assets). The control variables included in the model are FINLEV, measured as total debt divided by total equity; Tobin's Q, measured as the natural log of the market value of the common stock plus the preferred stock and total debt divided by total assets, representing growth opportunities (Dalbor & Jiang, 2013); and SIZE, measured as the natural log of total assets (Hsu & Jang, 2009).

We conducted some preliminary analysis to determine which regression analysis to use. Ultimately, we used the Breusch and Pagan Lagrangian multiplier (LM) test for each model to determine if a pooled regression was more appropriate for our analysis. Further, we used the Hausman test to determine if a random-effect or fixed-effect model was more appropriate for our data. We also tested for autocorrelation and heteroscedasticity and took measures to remedy the issues.

Table 1. Variable Descriptions and Measures. This table reports detailed descriptions of the variables we used in our regression models. The derivations of each variable are also reported.

Variables	Descriptions and Measures
$CRER_{it}$	Corporate real estate ratio, calculated as book value of Property, Plant, and Equipment/Total Assets.
$RENT_{it}$	Rent ratio, calculated as Rent Expense/Total Assets.
ROA_{it}	Return on Assets, calculated as Net Income/Total Assets.
α_{it}	Alpha, obtained from the CAPM regressions.
β_{it}	Beta, obtained from the CAPM regressions.
$FINLEV_{it}$	Financial leverage, calculated as Total Debt/Total Equity.
Q_{it}	Tobin's Q, calculated as natural log of market value of common stock plus preferred stock and total debt divided by book value of total assets.
$SIZE_{it}$	Size, calculated as natural log of Total Assets.

Results

Descriptive statistics for the sample are presented in Table 2. Restaurant firms had an average ROA of 1.36%, which ranged from −217.38% to 165.49% over the sampled period with a standard deviation of 18.10%. There was a huge gap between the minimum and maximum ROAs, indicating the effects of economic recession and recovery during the sample period. Average firm excess return, α, was 0.0005 (range: −0.011 to 0.013) with a standard deviation of 0.002. Average firm risk, β, was 0.678 with a standard deviation of 0.475 and ranged from −0.798 to 2.321. The standard deviations for the performance measures suggest that restaurant firms experienced large fluctuations in profitability, stock returns, and systematic risk. CRER was approximately 62% with a standard deviation of 21%. CRER experienced a downward trend and declined over time from about 65% in 1999 to about 46% in 2014, as depicted in Figure 1. RENT, on the other hand, fluctuated over the years around 8% to 10%, dropping to about 8% in 2014. The average and median number of stores continued to increase over time for our sample (see Figure 2).

Due to the independency of the measures utilized in the regression models, we did not obtain extreme

Table 2. Selective Descriptive Statistics. This table reports detailed descriptions of the variables we used in our regression models. The derivations of each variable are also reported.

Variables	*N*	*M*	SD	Min	Max
$CRER_{it}$	1063	0.6231	0.2104	0	0.9676
$RENT_{it}$	1063	0.0904	0.0753	0	0.6773
ROA_{it}	1063	0.0136	0.1810	−2.1738	1.6549
α_{it}	779	0.0005	0.0020	−0.0112	0.0139
β_{it}	779	0.6780	0.4758	−0.7985	2.3213
$FINLEV_{it}$	1063	1.6503	2.1676	0.0265	9.1208
Q_{it}	1063	0.2039	0.6671	−3.8294	2.9659
$SIZE_{it}$	1063	5.3376	1.9362	−1.0556	10.5085

Note: $CRER_{it}$ = Corporate Real Estate Ratio, Net Property, Plant, and Equipment/Total Assets. $RENT_{it}$ = Rent Ratio, Rent Expense/Total Assets. ROA_{it} = Return on Assets, Net Income/Total Assets. α_{it} = Alpha, intercept estimated using CAPM. β_{it} = Beta, coefficient of market risk premium estimated using CAPM. $FINLEV_{it}$ = Financial Leverage, Total Debt/Total Equity. Q_{it} = Natural log of Tobin's *q*, measured as market value of common stock plus preferred stock and total debt divided by total assets. $SIZE_{it}$ = Natural log of Total Assets.

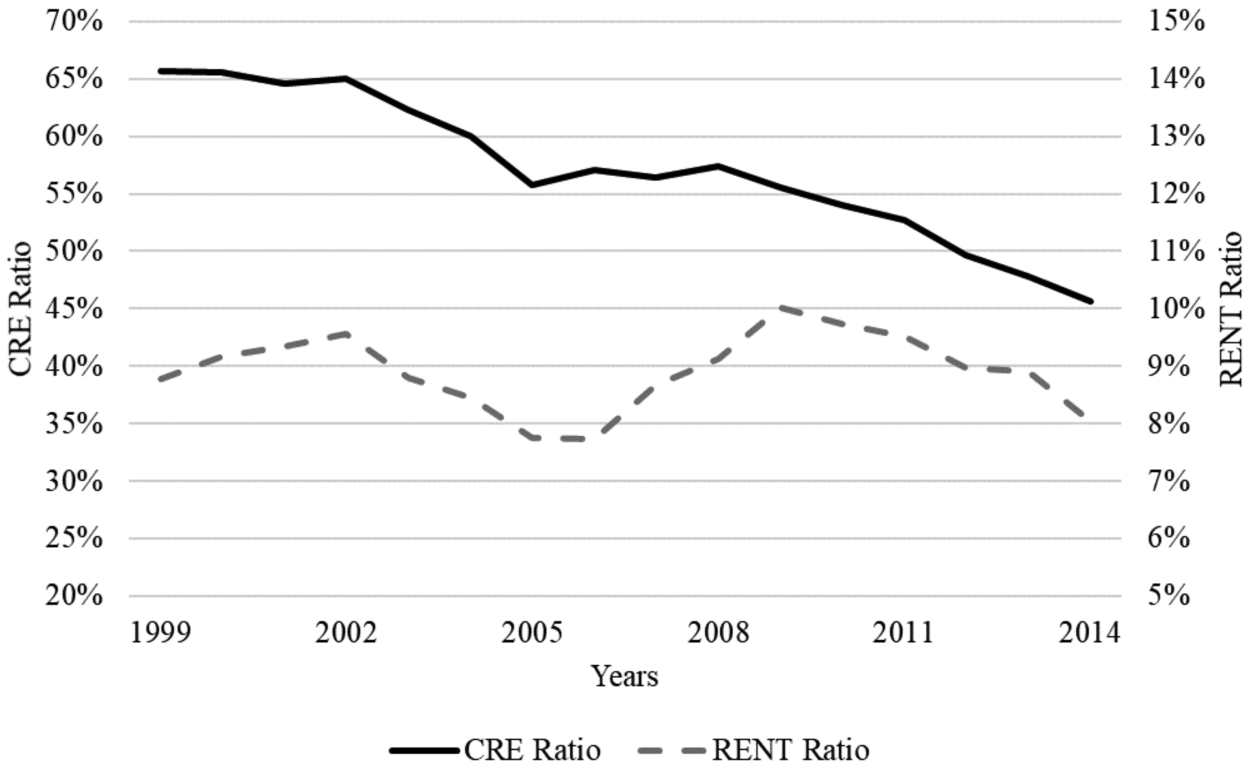

Figure 1. Annual Average Corporate Real Estate Ratio (CRER) and Annual Average Rent Ratio (RENT) for Restaurant Firms between 1999 and 2014.

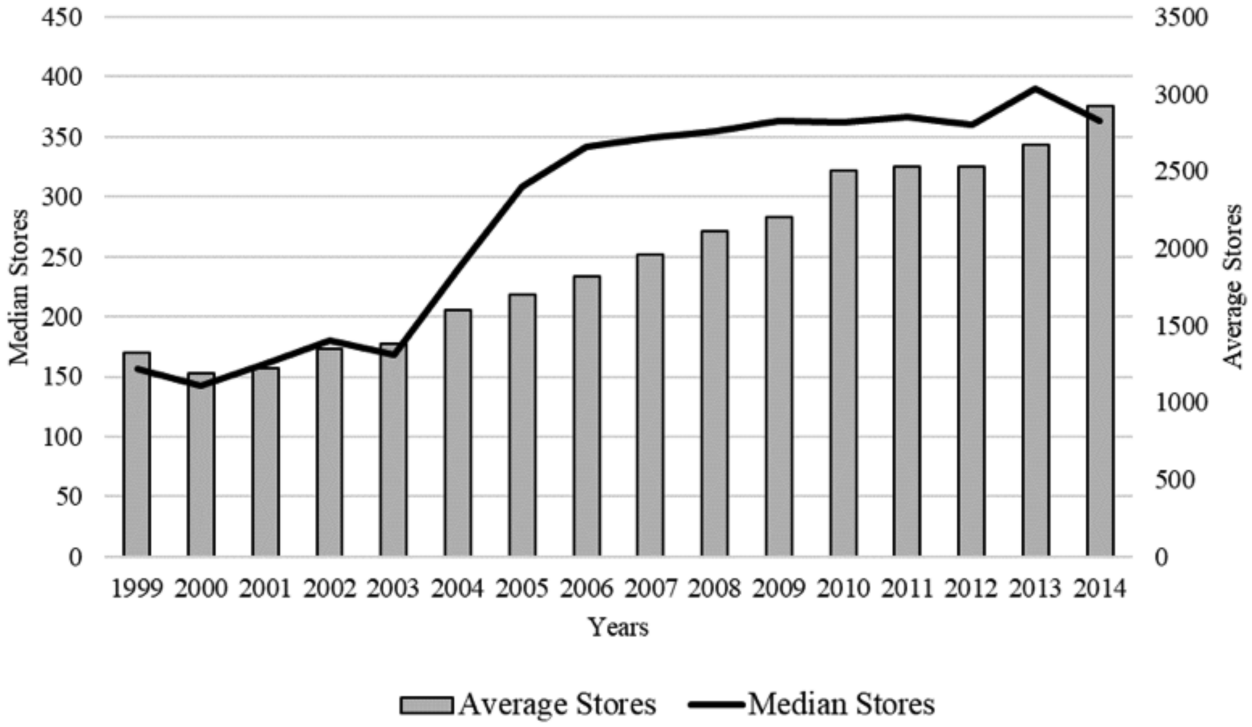

Figure 2. Annual Average and Median Count of Restaurant Firms.

levels of correlation coefficients (see Table 3). Instead, the results suggested that the correlations were low to moderate (r<0.45). For instance, we observed the highest positive correlation coefficient between firm size and the systematic risk component of firms' stocks. This finding contradicts the notion that smaller firms are riskier compared to larger firms, and ours is not the first study to report such a relationship (i.e., Song, Park, & Lee, 2017, p. 113). It is possible that in the restaurant industry, larger firms might experience a higher stock price volatility compared to smaller firms. Furthermore, our findings also indicate that increasing firm size while also increasing levels of CRE might increase firms' systematic risk.

We first tested if the pooled ordinary least squares (OLS) is more appropriate for the data analysis using the LM test. A significant LM test result (p<0.001) for all three models indicated that a panel data analysis was more appropriate. We further tested whether a random-effects or fixed-effects model is more appropriate for the data by running the Hausman test. A significant Hausman test (p<0.001) for all the models indicated that a fixed-effects model was more appropriate for the analysis. In addition, we used a modified Wald test to assess for heteroscedasticity and tested for autocorrelation. Results of both analyses were significant in all three models (p<0.001). In order to remedy the heteroscedasticity, we report robust standard errors for all models.

Hypothesis Testing

We employed fixed-effects regression models in our panel data in order to control for the time-invariant, firm-specific variables. Three performance measures, ROA, alpha, and beta, were used as dependent variables and were measured at 1, 2, and 3 years forward lag, resulting in a total of nine models. The results of the first three models, in which ROA was the dependent variable, are shown in Table 4. CRER is significant at the .05 level in the 1-year lead model. RENT, measured as rent expense divided by total assets, has a positive and significant impact on ROA in two- and 3-year lead models. One explanation for this relationship is that the increase in CRER

Table 3. Correlation Results. This table demonstrates correlation analysis across the variables used in our regressions.

Variables	ROA	Alpha	Beta	CRER	RENT	FINLEV	Q
Alpha	0.1438*						
Beta	0.1697*	–0.0893*					
CRER	–0.0170	–0.0301	0.0684				
RENT	–0.4124*	0.0383	–0.2386*	–0.1703*			
FINLEV	–0.1612*	–0.0249	0.0350	–0.0622	0.0942*		
Q	0.4468*	0.1438*	0.3317*	–0.0393	–0.1044*	–0.0370	
SIZE	0.4050*	–0.1410*	0.4934*	0.1248*	–0.4367*	0.0746*	0.4606*

Note: Coefficient estimates are statistically significant at 5 percent level (*p<0.05).

Table 4. Regression Results for ROA. This table shows coefficient estimations for ROA regressions with three forward lags (τ = 1, 2, 3). $FP_{it+\tau} = \alpha_i + \beta_1 CRER_{it} + \beta_2 RENT_{it} + \beta_3 FINLEV_{it} + \beta_4 Q_{it} + \beta_5 SIZE_{it} + u_{it}$

	ROA_{it+1}		ROA_{it+2}		ROA_{it+3}	
	B	*t*	*B*	*t*	*B*	*t*
$CRER_{it}$	–0.1315	(–2.78)***	0.0437	(0.63)	0.1160	(1.37)
$RENT_{it}$	0.3044	(1.06)	0.7598	(1.81)*	0.6047	(2.28)**
$FINLEV_{it}$	0.0029	(0.73)	–0.0002	(–0.08)	–0.0049	(–1.17)
Q_{it}	0.0417	(2.04)**	0.0182	(1.39)	0.0293	(0.74)
$SIZE_{it}$	–0.0229	(–1.81)*	–0.0164	(–1.65)	0.0143	(0.70)
N	940		818		707	
#of Firms	136		120		109	
R^2	0.0773		0.0881		0.0510	

Note: ROA_{it} = Return on Assets, Net Income/Total Assets. $CRER_{it}$ = Corporate Real Estate Ratio, Net Property, Plant, and Equipment/Total Assets. $RENT_{it}$ = Rent Ratio, Rent Expense/ Total Assets. $FINLEV_{it}$ = Financial Leverage, Total Debt/Total Equity. Q_{it} = Natural log of Tobin's q, measured as market value of common stock plus preferred stock and total debt divided by total assets. $SIZE_{it}$ = Natural log of Total Assets. Coefficient estimates are statistically significant at * p< 0.1, ** p< 0.05, *** p< 0.01.

requires capital investment, usually long-term debt, and additional costs such as opening costs. These costs might have a negative impact on the profitability of a firm in the short run. However, as the results indicated and as is suggested by the resource-based view theory, in the long-run, the strategic assets (i.e., real estate) can contribute to the success of a business beyond their contribution to the production process (Amit & Schoemaker, 1993).

Table 5 shows the results of models using alpha as the dependent variable. CRER had a significant positive impact in all three models. Rent ratio had a significant positive impact on the 1-year lead model but not the other forward lags (2- and 3-year lags). This finding suggests that owning real estate has a positive impact on long-term market outperformance. However, renting only improves short-term market outperformance, and its effect fades away. One possible explanation for this pattern might be that owning the property might contribute to the firm's performance beyond its operational use, as suggested by the resource-based view theory (Amit & Schoemaker, 1993; Barney, 1991). Renting, on the other hand, might be beneficial in the short run, as it does not increase debt and reduces the tax burden, and the firm is not impacted by the additional risk of owning a real estate (Lee & Jang, 2012). Increasing rent costs and the possibility of losing a valuable asset (i.e., location) in the long run might be the contributing factors for renting having no impact on long-term outperformance.

The results of the models that used beta as the dependent variable are presented in Table 6. CRER and RENT had no significant impact on the beta model. Results from this model might suggest that the market accepts the real estate risk for these firms as part of their operations and that owning or renting real estate does not impact the stock volatility.

Table 5. Regression Results for Alpha. This table reports coefficient estimations for Alpha regressions with three forward lags (τ = 1, 2, 3). $FP_{it+\tau} = \alpha_i + \beta_1 CRER_{it} + \beta_2 RENT_{it} + \beta_3 FINLEV_{it} + \beta_4 Q_{it} + \beta_5 SIZE_{it} + u_{it}$

	α_{it+1}		α_{it+2}		α_{it+3}	
	B	*t*	*B*	*t*	*B*	*t*
$CRER_{it}$	0.0016	(1.72)*	0.0019	(2.01)**	0.0044	(3.54)***
$RENT_{it}$	0.0071	(1.72)*	0.0022	(0.75)	0.0001	(0.04)
$FINLEV_{it}$	0.0001	(1.12)	0.0001	(2.37)**	0.0001	(2.08)**
Q_{it}	–0.0018	(–7.59)***	–0.0014	(–5.37)***	–0.0002	(–0.69)
$SIZE_{it}$	–0.0012	(–5.93)***	–0.0008	(–4.77)***	–0.0001	(–0.73)
N	691		611		538	
#of Firms	86		76		74	
R^2	0.2276		0.1220		0.0417	

Note: α_{it} = Alpha, intercept estimated using CAPM. $CRER_{it}$ = Corporate Real Estate Ratio, Net Property, Plant, and Equipment/Total Assets. $RENT_{it}$ = Rent Ratio, Rent Expense/ Total Assets. $FINLEV_{it}$ = Financial Leverage, Total Debt/Total Equity. Q_{it} = Natural log of Tobin's *q*, measured as market value of common stock plus preferred stock and total debt divided by total assets. $SIZE_{it}$ = Natural log of Total Assets. Coefficient estimates are statistically significant at * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 6. Regression Results for Beta. This table details coefficient estimations for beta regressions with three forward lags (τ = 1, 2, 3). $FP_{it+\tau} = \alpha_i + \beta_1 CRER_{it} + \beta_2 RENT_{it} + \beta_3 FINLEV_{it} + \beta_4 Q_{it} + \beta_5 SIZE_{it} + u_{it}$

	β_{it+1}		β_{it+2}		β_{it+3}	
	B	t	B	t	B	t
$CRER_{it}$	–0.2685	(–1.23)	–0.0929	(–0.40)	–0.0262	(–0.10)
$RENT_{it}$	–0.4821	(–1.06)	–0.9041	(–1.41)	–0.3437	(–0.51)
$FINLEV_{it}$	0.0353	(3.03)***	0.0120	(0.71)	0.0112	(1.09)
Q_{it}	0.0596	(1.23)	0.0740	(1.59)	0.1197	(2.55)**
$SIZE_{it}$	0.1734	(4.69)***	0.0904	(2.36)**	0.0464	(1.01)
N	691		611		538	
#of Firms	86		76		74	
R^2	0.0817		0.0330		0.0249	

Note: β_{it} = Beta, coefficient of market risk premium estimated using CAPM. $CRER_{it}$ = Corporate Real Estate Ratio, Net Property, Plant, and Equipment/Total Assets. $RENT_{it}$ = Rent Ratio, Rent Expense/ Total Assets. $FINLEV_{it}$ = Financial Leverage, Total Debt/Total Equity. Q_{it} = Natural log of Tobin's *q*, measured as market value of common stock plus preferred stock and total debt divided by total assets. $SIZE_{it}$ = Natural log of Total Assets. Coefficient estimates are statistically significant at * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Concluding Remarks and Discussion

The purpose of this study was to investigate the impact of CRE holdings on restaurant firms' financial performance and to present a better understanding of the risk these holdings create. Previous studies indicated that CRE has a positive impact on a firm's financial performance (i.e., Park & Glascock, 2010), and some found a negative relationship between CRE and firm performance (i.e., Ling et al., 2012). The resource-based view (RBV) of the firm argues that firms generate rents through strategic resources that they own (Amit & Schoemaker, 1993). Our analysis indicates that CRE holdings have a positive impact on firm performance for an extended period of time in the restaurant industry. For instance, CRER has a positive impact on the alpha models. A positive impact on alpha indicates that CRE holdings positively affect firm market outperformance. These findings support the arguments and conclusions of Park and Glascock (2010), who suggested that CRE investments in the retail sector seem to be more closely related to business strategy than other sectors. Therefore, the results we obtained from our regressions partially support our proposed hypothesis. Owning or renting CRE has a positive impact on profitability and market outperformance for restaurant firms. However, CRE has no significant impact on restaurant firms' systematic risk.

Implications for Educators and Industry Professionals

The results of this study complement findings from previous research on firms' CRE holdings and financial outcomes in the markets. From a corporate financial management standpoint, we obtained persuasive and pervasive outcomes that could add value to practice. By using multiple performance measures over an extended period (1999 to 2014), we were able to show that the importance of CRE holdings as strategic assets cannot be ignored by restaurant firms in terms of new financial projects. The core restaurant businesses are highly dependent on real estate investments and holdings that establish their corporate operations, revenues, earnings, and sales. Specifically, since CRE holdings are financially beneficial for restaurant firms, restaurant companies can invest in a reasonable number of positive net present value (+NPV) CRE projects to achieve higher long-term financial performance. This financial strategic practice will help restaurant companies achieve stable growth, allocate costs and expenses (i.e., leasing expense, weighted average cost of capital [WACC]) optimally, and maintain economic prosperity for healthy relationships between agents and principals (Madanoglu, Kizildag, & Karadag, 2012). The reverse scenario can also be very critical for restaurant firms with respect to financial growth and stability in the long run. For instance, decreasing the volume of new investments in real estate holdings and real estate projects can be costlier to those firms, possibly causing volatile stock prices and decreasing collateral value and credit ratings. This will in turn adversely affect restaurant firms' stock prices and their shareholders' wealth (Kizildag, Barber, & Goh, 2010). Therefore, restaurant firms must evaluate their real estate investment options and existing CRE holdings very carefully to sustain financial health for both existing shareholders and the new investors they might attract. As strategic assets, CRE investments and holdings are also critical and vital for restaurant firms to restructure the outstanding debt if needed and to hedge themselves against economic downturns and recessions.

Limitations and Future Studies

Our study is not without limitations. First, it should be noted that our sample comprises only publicly traded restaurant firms; thus our results may not be applicable to private restaurant chains. In addition, our model may not be directly employed by a single unit of a restaurant chain. Furthermore, international chains in our sample may be exposed to other risk factors for which we do not control. While this study introduces a novel variable to explain firm risk, we do not employ some of the variables used in previous studies in hospitality research. Therefore, we recommend that a comparative study using the variables proposed in the studies of Borde (1998), Gu and Kim (2003), Hsu and Jang (2008), and Kim, Ryan, and Ceschini (2007) be conducted. Future researchers should also employ other theoretical perspectives, such as agency theory and institutional theory, to delve further into the effects of CRE on firms' financial performance. Despite these minor limitations, we believe that the results and findings

of this study are still pervasive and persuasive and that they reflect valid inferences for the general population of U.S. restaurant firms.

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