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ABSTRACT. Over the last 25 years, many hotel operators have chosen to lease their property instead of owning as a financing strategy. This paper examines the combined and separate contributions of business cycles and a firm's level of long-term debt on hotel owner/operator use of operating leases. The results indicate that operating leases were used more often during contracting business cycles and less often during cycles of expansion. According to the results, operating leases and long-term debt are not complementary, although they are increasingly treated as complements when the economy suffers a downturn.

INTRODUCTION

Over the last 25 years, many hotel operators have increasingly used leases instead of incurring long-term debt and owning the property outright (Koh & Jang, 2009; Siguaw & Enz, 1999; Whitford, 1998). Hotel firms tend to favor operating leases on certain properties, including land, institution, and equipment (Upneja & Schmidgall, 2001; Whittaker, 2008). Many incentives for using operating leases have been the subject of research, and one strong motive for leasing involves financing strategy (Koh & Jang, 2009; Whittaker, 2008).

Notably, over the last two decades, many hotel operators have chosen not to own their assets, using other means of funding their company assets (Butler, Peter Benudiz, & Rushmore, 1994; Marriott, 2013). For sale and leasebacks, the operating lease has been favored for these ventures, with capital lease and operating lease the two mutually exclusive options in lease terms. Under certain circum-

stances, hotels may show more profit because lease terms are more advantageous than selling prices. Additionally, the sale and manage-back method has also been attractive to big owner/operator chains with their purely management hotel projects (Page, 2007).

Operating leases, "off-balance-sheet financing," can be a powerful tool in financing because they do not require the recognition of lease obligations on the balance sheet under the current U.S. lease accounting rules. Instead of being recorded as debt in the balance sheet, operating leases are recorded as rental expense in the income statement. Thus, using an operating lease can reduce income tax by increasing expenses. Furthermore, using an operating lease can reduce liability by avoiding debt financing, particularly a large upfront payment, and displacing many of the risks and responsibilities that come with ownership of certain types of assets (Koh & Jang, 2009; Whittaker, 2008).

Because of the financial benefits that an operating lease offers, economic stresses that

follow the business cycle may significantly influence the choice of using an operating lease. Thus, the main objective of this study is to determine how different phases of the business cycle affect the choice between operating leases and debt financing and how a hotel firm will treat operating lease and debt financing as complementary possibilities. This paper investigates and analyzes the relationship between operating leases and crucial determinants; specifically, the study will look at how business cycle and long-term debt affect the use of operating leases. Analyzing the effect of business cycle on operating leases will demonstrate how operating leases are often used instead of debt financing as well as demonstrate the dynamics of operating lease and debt financing as complements during different phases of the business cycle.

LITERATURE REVIEW

Operating Lease

Operating lease addresses that firms use lease for business equipment (e.g., telecommunication equipment, computers, kitchen equipment, and vehicles; Jiang & Schmidgall, 2011) and for operating properties (e.g., lands, buildings, and offices; Whitford, 1998). Although the financial statement requires footnoting disclosures of operational leases, various industries have long used operating leases as substitute for debt; often lower levels of debt are associated with increased use of operating leases (Adedeji & Stapleton, 1996; Franzen, Cornaggia, & Simin, 2009; Krishnan & Moyer, 1994; Marston & Harris, 1988; Singh, 2011; Yan, 2006). An empirical study in the restaurant and retail industries show that capital and operating leases combined displace an average of \$0.45 of debt for every \$1 of lease (Singh, 2011).

The ability to substitute for debt is what makes an operating lease such a powerful financing instrument, but how much of that substitution actually takes place in the hotel industry is not fully known. Operating leases may relate to debt in two possible ways. First, as

Koh and Jang (2009) hypothesized based on the classical trade-off theory, because operating leases can act as an alternative to debt, firms that exhaust their debt capacity are forced into using operating leases. In this case, operating leases substitute for debt, and increased debt will result in increased use of operating leases. On the other hand, based on the pecking order theory and debt covenants, companies will avoid debt financing and equity financing if possible. Because using operating leases can allow companies to fund operations without debt financing, companies with more debt will use alternative financing strategies like operating leases, again as a substitute for debt (Koh & Jang, 2009).

Many studies have verified the financial significance of operating leases in tax benefits (Ang & Peterson, 1984; Miller & Upton, 1976; Yan, 2006). Operating leases are recorded as rental expenses in the income statement. This effectively reduces the reported net income, which in turn reduces the company's income tax. For companies less concerned about performance appearance, lowering the net income to lower their income tax may be a preferred financing strategy. Not surprisingly, the company's tax rates correlate with the substitution of lease for debt. Yan (2006) observed that substituting lease for debt is more common in firms with higher marginal tax rates. Hotel real estate investment trusts (REITs) can even receive full tax exemption (Tang & Jang, 2008).

Using operating leases also displaces many risks and responsibilities from hotel operators to asset owners. Upneja and Schmidgall (2001) revealed that equipment leasing offers hotels protection from obsolescence as well, allowing constant upgrades to equipment and supply assets. Operating leases require shorter lease terms compared to the useful life of the asset, making obsolescence a non-factor for the hotel. Additionally, a hotel does not have to worry about disposal of the asset and has relatively more frequent opportunities to upgrade the asset (Jiang & Schmidgall, 2011; Upneja & Schmidgall, 2001).

Aside from the financial security operating leases offer, operating leases in the form of a

sale and leaseback transaction (SLBT) can generate immediate funding. Larger firms use SLBT to generate funds for expansion or to increase flexibility in operating strategies (Whittaker, 2008). For example, a hotel company raised £300 million in 2002 through a SLBT to generate funding for acquiring other hotels (Whittaker, 2008). On a smaller scale, using an operating lease can free up cash by avoiding large cash outflow from purchasing an asset.

Therefore, operating leases, such as equipment lease and property lease, are effective financial instruments, depending on current level of internal funds, current debt, estimated growth opportunity, financial distress, and firm size (Koh & Jang, 2009). The study proposes, however, that in addition to these factors, business cycle and long-term debt are also significant elements in the decision to use an operating lease in the hotel industry.

Business Cycle

According to the pecking order theory of business model, after exhausting its internal funds, a firm will look for external financing and prefer debt financing to equity financing (Myers & Majluf, 1984). Because operating leases can substitute for debt, operating leases can be used for financing much like debt financing (Adedeji & Stapleton, 1996; Krishnan & Moyer, 1994; Marston & Harris, 1988; Singh, 2011; Yan, 2006). Furthermore, according to the trade-off theory of business model, once companies reach the optimal level of debt financing, where tax benefits no longer cover the cost of debt financing and the risk of bankruptcy, they will look for alternatives. Because operating leases can substitute for debt, they can be used as a tool to fine-tune income and debt financing levels to desired ratios. Moreover, operating leases can sometimes serve as a complement to debt financing (Ang & Peterson, 1984; Bowman, 1980; Finucane, 1988), so a hotel firm may use an operating lease to increase funding without making undesirable changes in their debt ratio.

Koh and Jang (2009) have postulated that operating leases can provide growth opportunity because a fast-growing firm has increasing

demands for funding and higher costs of external financing. Using simplified Tobin's Q to capture growth opportunity, however, they found that operating leases are not in fact related to growth opportunity. Rather, the overall performance of the economy itself may also influence the use of operating leases. A hotel firm's level of internal funding will be relatively lower when the economy contracts, so the demand for external financing will be higher. Thus, the current business cycle may influence the use of operating leases.

During contractions in the business cycle, a hotel firm's internal funds will likely be relatively lower and financing will be more difficult than during the periods of expansion. Because the firm has debt covenants, increased debt financing may be limited, so the firm may be forced to use operating leases as an alternative financing strategy. Additionally, the profitability of competing firms is likely to be lower during economic contractions, so showing a high profit will be less important. Thus, the tax benefits from increasing rental expenses may be more beneficial than showing a higher profit during economic contractions. Therefore, the study hypothesizes that:

H_{1,1}: Hotel firms will use more operating leases during economic contractions.

Conversely, during an expanding business cycle, the study expects that a hotel firm will have more internal funds and financing will be easier than during an economic contraction. Because external financing will be less crucial to financially healthier firms, they have the luxury of waiting to choose more favorable lease conditions (Koh & Jang, 2009). Moreover, these financially healthier firms are less limited by debt covenants, so they have access to more lease and debt financing options. Thus, firms are less likely to use operating leases during the economic expansion than economic contractions. Therefore, the study hypothesizes that:

H_{1,2}: Hotel firms will use fewer operating leases during economic expansions.

Long-Term Debt

Often credit rating agencies adjust balance sheets to analyze companies as if all leases are reflected on the balance sheet (Altamuro, Johnston, Pandit, & Zhang, 2014; Franzen et al., 2009). Therefore, operating leases will often be treated as liability by the lenders and investors, even if it is not recorded as debt in the balance sheet. Assuming that a significant fraction of these lenders and investors will consider operating leases as liabilities on the balance sheet, operating leases will predictably behave much like long-term debt. Marriott's 2013 annual report indicated that they have initial lease terms of up to 20 years, which contain one or more renewal options (e.g., five- or ten-year periods; Marriott, 2013). For this reason, creditors and lessors will weigh a firm's current level of long-term debt against the cost of financing. Thus, costs of operating leases will be less favorable for firms with higher long-term debt. Accordingly, such firms will use operating leases less as long-term debt increases. Consequently, if a firm's optimum level of long-term debt is constant, allocating liability between long-term debt and operating leases will be a management choice. In other words, operating leases are substitutes for long-term debt, but they should not be complementary. Therefore, we hypothesize that:

H₂: Hotel firms with higher long-term debt will use operating leases less (i.e., long-term debt and operating leases substitute for one another).

Long-Term Debt and Business Cycle

As indicated in H₂, long-term debt and operating leases should have a negative relationship because the costs of operating leases should increase as long-term debt increases, thus reducing the possibility of using operating leases. Given the same level of long-term debt, however, the study should expect that in a contracting business cycle, a hotel firm may not have easy access to financing using equity financing (i.e., issuing stocks) and debt financing (i.e., issuing bonds). Firms will also

likely have fewer internal funding resources and will need external financing to invest for growth and to continue operations. Operating leases can be an alternative financing strategy when costs of other external financing become too high. Although operating leases should not be complementary to long-term debt since they have a negative relationship, hotel firms may still opt to use operating leases because of the lack of other financing options during an economic slump. Moreover, lessors may be more generous to financially distressed firms than creditors, so operating leases will become increasingly appealing as an external financing strategy (Koh & Jang, 2009). Thus, the study expects that a negative relationship between long-term debt and operating leases will become less pronounced during a contracting economy. Therefore, the study hypothesizes that:

H_{3.1}: The relationship between operating leases and long-term debt will be more attractive in a contracting economy than during other parts of the business cycle.

On the other hand, in an expanding business cycle, given the same level of long-term debt, the study expects that hotel firms can use other external financing strategies more easily. With more external financing options and less pressure to choose operating leases as a financing strategy, hotel firm management will rely less on operating leases. Thus, the study expects that a relationship between long-term debt and operating leases will be negative during expanding economies. Therefore, the study hypothesizes that:

H_{3.2}: The relationship between operating leases and long-term debt will be more negative in an expanding period than during other parts of the business cycle.

METHOD

Data Selection

The secondary data for this research was obtained from the 2013 COMPUSTAT Annual Industrial and Research File. The study selected the SIC 7011 industry, which includes hotel and

motel industry firms. The study used annual financial data from 1985 to 2010, and after deleting firms with erroneous and/or missing data, 448 firm-year observations were used for analyses. The study chose the years from 1985 to 2010 because before 1985, many firms did not report operating lease capitalizations. Moreover, the most recent turning point date for business cycle was June 2009, and the latest announcement was in September 2010. From 1985 to 2010, four business cycle contractions were captured, and three expansions were captured.

The National Bureau of Economic Research (NBER) Business Cycle Dating Committee, on November 26, 2001, introduced an FAQ section, which defines SLUMP as an economic contraction. Our classification of SLUMP follows the committee's definition of SLUMP, which includes 1982 to 1983, 1990 to 1992, 2001 to 2003, and 2008 to 2010. The NBER Business Cycle Dating Committee defines GROW as an economic expansion, characterized by years of steady growth after economic activity is higher than the pre-peak level after the trough. GROW includes the following years: 1984 to 1987, 1993 to 1998, and 2004 to 2005. The definition of matured period (MATU) is the peak of the cycle with a stable stage and diminishing growth. The NBER Business Cycle Dating Committee arbitrarily assigns MATU as two consecutive years just before the peak year, so for this study period, MATU years are 1988, 1989, 1999, 2000, 2006, and 2007. Curiously, the year 2007 is included as a matured period even though that peak is December 2007 (Lee, O'Brien, & Sivaramakrishnan, 2008).

Data Analysis

The study modeled ordinary least squares regression using the usual long-term debt (DLTT) as an independent variable and the operating lease propensity (OLR, XRENT) as a dependent variable after controlling for other variables. Except for the Business Cycle (BC) dummy variable, all other variables were scaled by total assets (AT) to control for size effect. All variables used for this study are summarized in Table 1.

TABLE 1. Variables and Measurements

Variable	Measurement
Operating lease ratio (OLR)	Operating lease expense/total assets
Cash holding (CASH)	Cash and cash equivalent/total assets
Cash flow (EBITDA)	Earnings before interest, tax, depreciation, and amortization/total assets
Accumulated earnings (RE)	Retained earnings/total assets
Debt (DTR)	Total debt/total assets
Long-term debt (LTDR)	Long term debt/total assets
Business cycle (BC)	Dummy variable, 1 for selected cycle, 0 for all other data

To test H_2 , model 1 was used to capture the relationship between operating lease and long-term debt without the effects of business cycle (all economic periods were included). By evaluating the long-term debt coefficient b_5 in model 1, the relationship between operating lease and long-term debt can be assessed. To test H_1 and H_3 , model 2 was used to capture the effect of contractions in the business cycle on operating leases by setting the dummy variable BC to exclusively regard the SLUMP cycle. To further test the H_1 and H_3 , model 3 was used to capture the effect of expansion periods in the business cycle on operating leases by setting the dummy variable BC to exclusively regard the GROW cycle. Evaluating the differences between the business cycle effect coefficients b_6 in model 2 and model 3 allows the relationship between operating leases and business cycle to be assessed. Evaluating the differences between the $BC \cdot DTR$ coefficients b_8 in model 2 and model 3 allows the effects of business cycle on the relationship between operating leases and long-term debt to be assessed. In model 4, the effect of peak of business cycle (matured period) on operating lease was captured by setting the dummy variable BC to exclusively regard the peak of MATU. Model 4 was not used to test any of our hypotheses because of the arbitrary method with which the MATU years were chosen.

$$\text{Model 1: } OLR = a_0 + b_1CASH + b_2EBITDA + b_3RE + b_4DTR + b_5LTDR + e$$

Operating lease was regressed without the effects of business cycle.

Model 2: $OLR = a_0 + b_1CASH + b_2EBITDA + b_3RE + b_4DTR + b_5LTDR + b_6BC + b_7(BC \cdot DTR) + b_8(BC \cdot LTDR) + e$

BC = 1 if SLUMP; else 0.

Model 3: $OLR = a_0 + b_1CASH + b_2EBITDA + b_3RE + b_4DTR + b_5LTDR + b_6BC + b_7(BC \cdot DTR) + b_8(BC \cdot LTDR) + e$

BC = 1 if GROW; else 0.

Model 4: $OLR = a_0 + b_1CASH + b_2EBITDA + b_3RE + b_4DTR + b_5LTDR + b_6BC + b_7(BC \cdot DTR) + b_8(BC \cdot LTDR) + e$

BC = 1 if MATU; else 0.

RESULTS

The results of the tests using all four models are presented in Table 2. Model 1 shows that the long-term debt coefficient b_5 is negative (-0.124) when isolated from the effects of business cycle. This supports H_2 : Hotel firms with higher long-term debt will use operating leases less. The t value is -6.72, and the p value is lower than .01, at a .05 significance level; thus, the data strongly support H_2 .

When the study included the business cycle effect in model 2, the study found that the business cycle effect coefficient b_6 during cycle contraction is positive (0.038), showing that using operating leases was more common during those periods than during other parts of the business cycle. This supports $H_{1,1}$ that

operating leases will be used more during economic contractions. The t value is 1.80, and the p value is less than .1 at a .05 significance level, suggesting that this relationship is not very strong.

Using model 3, the study found that the business cycle effect coefficient b_6 during an expanding period is negative (-0.046), showing that hotel firms use operating leases less often than during the other parts of the business cycle. This supports $H_{1,2}$, that operating leases will be used less during an economic expansion. The t value is -2.41, and the p value is less than .05, at a .05 significance level, so the data support $H_{1,2}$.

For the effect of a contracting economy on the relationship between operating leases and long-term debt, the results of $BC \cdot DTR$ coefficients b_8 in model 2 are positive (0.102), showing that the relationship between operating lease and long-term debt becomes less negative during those periods. With $BC \cdot DTR$ coefficient b_8 (0.102) added to the long-term debt coefficient b_5 (-0.160) during the contractionary period (model 2), the correlation between operating leases and long-term debt becomes less negative (-0.058). This is consistent with $H_{3,1}$, that operating leases will be more attractive in a contractionary period than during other parts of the business cycle. The b_8 t value is 2.61, and p value is less than .01, so the data strongly support $H_{3,1}$.

For the effect of an expanding economy on the relationship between operating leases and long-term debt, the results of the $BC \cdot DTR$ coefficients b_8 in model 3 show that the $BC \cdot DTR$ coefficient b_8 is negative (-0.155).

TABLE 2. Results of Ordinary Least Squares Regressions

		a_0	b_1	b_2	b_3	b_4	b_5	b_6	b_7	b_8	Adj R^2
Model 1	Coeff.	0.013	0.022	-0.027	-0.027	0.102	-0.124				0.092
	<i>t-value</i>	1.15	0.83	-0.64	-2.15**	4.79***	-6.72***				
Model 2	Coeff.	0.0001	0.024	-0.033	-0.027	0.149	-0.160	0.038	-0.132	0.102	0.108
(SLUMP)	<i>t-value</i>	0.01	0.89	-0.80	-2.14**	5.71***	-7.20***	1.80*	-2.96***	2.61***	
Model 3	Coeff.	0.032	0.031	-0.048	-0.024	0.025	-0.056	-0.046	0.187	-0.155	0.140
(GROW)	<i>t-value</i>	2.21**	1.1	-1.18	-1.96*	0.89	-2.24**	-2.41**	4.45***	-4.30***	
Model 4	Coeff.	0.009	0.026	-0.027	-0.026	0.122	-0.142	0.011	-0.084	0.086	0.098
(MATU)	<i>t-value</i>	0.74	0.97	-0.64	-2.03**	5.04***	-6.90***	0.46	-1.63	1.90*	

Note. * $p < 0.1$. ** $p < 0.05$. *** $p < 0.01$.

This result indicates that the relationship between operating leases and long-term debt becomes less negative during the contraction period. With the addition of the BC*DTR coefficient b_8 (-0.155) and the long-term debt coefficient b_5 (-0.056) during the expansionary period (model 3), the correlation between operating lease and long-term debt becomes more negative (-0.211). This is consistent with $H_{3,2}$, that operating leases will be more negatively related to long-term debt in an expansion period than during other parts of the business cycle. The b_8 t value is -4.30 , and the p value is less than $.01$, at a $.05$ significance level, so the data strongly support $H_{3,2}$.

DISCUSSION

The results confirm that the relationship between operating leases and long-term debt is negative (H_2). The result is consistent with previous literature, which has suggested that operating leases and long-term debt are substitutes for one another (Adedeji & Stapleton, 1996; Krishnan & Moyer, 1994; Marston & Harris, 1988; Singh, 2011; Yan, 2006). Hotel firms should be aware that using operating leases will be considered debt, especially if they are considering debt financing and especially if their current debt ratio is close to their debt covenant.

The results also confirm that operating leases are used more during economic downturns ($H_{1,1}$), suggesting that operating lease are indeed an effective external financing strategy, especially during economic contractions. Notably, the t value suggested that this relationship is not very strong. This may indicate that using operating leases may be a reluctant, forced choice during economic downturns, and thus hotel firms may not eagerly assume operating leases as a financing strategy. The study suspects that two factors account for this relatively weak correlations between operating leases and economic downturn: (1) contractionary periods often last less than one year (NBER, 2010) and (2) COMPUSTAT uses annual data, effectively mixing contractionary periods with parts of peaks/troughs and possibly even parts of expansionary periods. In addition, because

contractionary cycles are shorter, they would tend to be more uncertain and unstable, so firms and lenders will make less consistent decisions (Lee et al., 2008). $H_{1,2}$ was confirmed that operating leases are used less during an expanding economy. Many hotel firms do treat operating leases as a financing strategy, although they use them less during economic upturns.

The results confirm that the negative relationship between operating leases and long-term debt is less pronounced during economic downturns ($H_{3,1}$), which suggests that operating leases are sometimes used as a complement to debt financing, particularly during economic hardship. Moreover, the negative relationship between operating leases and long-term debt is more pronounced during expanding economies ($H_{3,2}$), so hotel firms can use their current level of long-term debt along with current economic conditions to decide whether to use operating leases.

Notably, the relationship between operating leases and long-term debt is consistently negative through all models. These data further support that operating leases and long-term debt are substitutes for one another, no matter the economic conditions.

CONCLUSION

This study examined the combined and separate effects of business cycle and long-term debt on operating lease use by the hotel and motel industry. The study found that long-term debt and use of operating leases are negatively correlated, showing that operating leases substitute for debt financing. This result is consistent with previous literature (Adedeji & Stapleton, 1996; Krishnan & Moyer, 1994; Marston & Harris, 1988; Singh, 2011; Yan, 2006). The study found that operating leases were used more often during economic downturns and less often when the economy was expanding, confirming that an operating lease is used as a financing strategy, which further supports that operating leases serve as a substitute for debt financing.

Last, the study found that the combined effects of business cycle and long-term debt show that the negative relationship between operating leases and long-term debt become less negative during economic contractions and more negative during economic expansions. This result indicates that operating leases are flexible financing strategies. Though operating leases and debt financing should not be considered complementary, they are often treated as complementary during economic slumps.

Limitations and Future Research

The findings of this study should be considered within the context of several important limitations. First, the SIC 7011 data the study used for analyses includes casino hotels, resort hotels, hotel management firms, and hotel owners. Operating leases are used differently in these situations, and financial decisions may vary during the changing business cycles and debt ratios. For example, a hotel management firm's approach to operating leases will be very different from a hotel-owning firm's approach because the assets of the two types of firms are different. The SIC 7011 also includes Hotel REIT companies, who are lessors of hotel assets. For the lessors, the effects of business cycle and long-term debt on operating leases may also be different because operating leases should not function as a debt financing strategy for Hotel REITs. A more selective sampling process that discriminates types of hotel firms from within the SIC 7011 would add to the relevance of this topic. Therefore, grouping the hotel firms based on the types of hotels and/or types of hotel management for analysis is strongly recommended.

Second, the dependent variable, "operational lease ratio," in the models include both equipment and property lease expenses, which were extracted from the SIC 711 industry in the 2013 COMPUSTAT Annual Industrial and Research file, because depending on hotel and motel firms, they reported one of them or both. The periods of leases may be different from equipment and property leases across hotel and

motel firms, which may influence the relationship between operational lease and long-term debt. For a further research perspective, selecting only property lease expenses for operating lease ratio is recommended after there are ample data reported in the SIC 711 industry category.

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