



## Brand affiliation and the hotel asset market

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### ARTICLE INFO

#### Keywords:

Hotel investors  
Information asymmetry  
Brand affiliation  
Signaling theory  
Asset market

### ABSTRACT

Brand affiliation represents a signal about the future operating performance of a hotel that reduces information asymmetries between hotel buyers and sellers. However, information asymmetries vary across property-level and locational characteristics of hotels. We hypothesize that hotel brand affiliation as a signal is most valuable to investors when information asymmetries are higher due to hotel characteristics such as a lower-tier hotel class, suburban location, or poorer building condition. Using a sample of 23,323 hotel transactions from 1986 to 2021, we provide evidence that branded hotels with characteristics indicating higher information asymmetries achieve a higher transaction price and shorter marketing time than similar independent hotels. Transaction price and marketing time do not differ between branded and independent hotels with characteristics indicating lower information asymmetries.

### 1. Introduction

The information asymmetry theory postulates that parties to a transaction have different levels of information resulting in power imbalances and inefficiencies (e.g., Rothschild and Stiglitz, 1976; Spence, 1973; Akerlof, 1970). Information asymmetries represent a challenge to hotel investors as sellers have an informational advantage over buyers about operational, property-level, and locational characteristics of hotels that affect future cash flows for these assets. Compared to other property types, the absence of long-term leases in hotels makes information asymmetries between buyers and sellers even more pronounced. Signaling allows to reduce information asymmetries between transacting parties as it provides information to buyers about the quality of a product, service, or asset (signaling theory; Spence, 1973). Branding has been found to represent a valuable signal in the context of, amongst others, consumer goods, health care, investor relations, IPOs, and recruitment (Ozdemir et al., 2019; Agarwal et al., 2016; Mascarenhas et al., 2013; Karstens and Belz, 2006).

We argue that brand affiliation represents a signal to investors about the future cash flows of a hotel considering that it has been found to positively impact hotel operational performance (Wang and Chung, 2015; Tsai et al., 2015; O'Neill and Carlbäck, 2011). Considering that hotel brand affiliation signals information about future operating

performance, it is able to reduce information asymmetries between buyers and sellers. However, information asymmetries have been found to vary across property and location characteristics (Wong et al., 2012), and we expect brand affiliation as a signal to be most important for hotels with characteristics indicating higher information asymmetries such as hotel class, location and building condition.

In our empirical investigation, we assess the importance of brand affiliation as a signal about future operating performance for hotel investors using two measures: transaction prices and marketing time. If hotel brand is a valuable signal to investors for assets with higher information asymmetries, we expect them to be willing to pay a premium for branded hotels of a lower class, suburban location, or poorer building condition compared to similar independent hotels. Previous empirical studies on the relation between brand affiliation and transaction prices (Dick, 2019; Das et al., 2018; O'Neill and Xiao, 2006) yielded mixed results. O'Neill and Xiao (2006) find that hotel brand is an essential predictor of hotel transaction prices, but the effects vary across hotel segments and brands. Dick (2019) investigates determinants for hotel transaction prices across branded and independent hotels in the luxury and upper-upscale segments. The author finds that RevPAR significantly predicts asset prices while other metrics such as ADR and occupancy or geographic location do not. Das et al. (2018) show that most brands have an insignificant association with hotel asset prices. However, they still

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<sup>1</sup> The authors would like to thank CoStar group and STR Inc. [Steve Hood, Duane Vinson, and team] for the data support.

find instances where brands have a positive or negative association with hotel asset prices. One explanation for the ambiguous results of these previous studies, which we use as a starting point for our research, is that the importance of brand affiliation as a signal to investors varies across hotel characteristics implying different levels of information asymmetries.

Furthermore, branded hotels with location- and building- characteristics indicating higher information asymmetries are expected to have a shorter marketing time than similar independent hotels. Hereby, marketing time represents the duration in months, if not years, until a property is sold. Measured as time between the listing of a property and closing of the sale, marketing time represents a measure of liquidity risk (Cheng et al., 2008) and disequilibrium in real estate markets (Miller, 1978). It is affected by the desirability of an asset to investors, economic and real estate market conditions as well as other factors such as the time needed to conduct due diligence, contracting, and secure financing.

## 2. Theoretical framework and hypotheses

### 2.1. Information asymmetries between buyers and sellers

An important characteristic of markets is that the quality of products varies, which increases the uncertainty for buyers and creates an incentive for sellers to sell when product quality is poor (Lemons problem; Akerlof, 1970). Rothschild and Stiglitz (1976) argue that buyers in asset markets do not have complete information, and sellers know more about the respective asset they are selling than buyers, which leads to information asymmetries between the parties.

The hotel asset market is characterized by segmentation and property heterogeneity resulting from, amongst others, different hotel classes, locations, and building features. A central aspect of hotel valuation is assessing future cash flows and related uncertainties (Das, 2015). In particular, to value a proposed investment and assess investment risks, hotel investors forecast future cash flows from hotel operations. The seller of a hotel has superior information about property conditions, locational factors, and hotel operations that impact operating cash flows and are unknown to a buyer that hasn't been involved in owning and operating the particular hotel asset. Wong et al. (2012) emphasize that commercial real estate investors are aware of the lemon's problem wherein a seller knows more about the defects of the asset than buyers. As a consequence, hotel buyers are expected to value any type of signal about the quality of a hotel asset that reduces their uncertainty about future cash flows and the information asymmetries between transaction parties.

### 2.2. Information asymmetry theory and branding

Several studies in the marketing, management, real estate, and finance literature investigate branding as a signal to reduce information asymmetries in line with Spence (1973). Karstens and Belz (2006) focus on signaling instruments that can reduce informational asymmetries between consumers and food companies about product quality, and thus create trust and credibility. Hereby, brand, either product or corporate, is an important signal. Ward and Lee (2000) analyze whether consumers shopping on the internet rely on brands as a source of information. The authors find that branding can be effective in reducing information asymmetries. However, they also show that the importance of brands as a signal to consumers is reduced as the online information search capabilities of consumers improved over time. Christodoulides (2009) argues that e-commerce has reversed the information asymmetries between consumers and brand managers, and impacted brands as a signal. Mascarenhas et al. (2013) investigate information asymmetries in the context of health care and emphasize the importance of branding as a signal for reducing them. Tumasjan et al. (2020) focus on branding in the context of human resources management. In particular, the authors investigate employer branding and its impact on firm performance. They

find that employer brands signal information about a firm in terms of a positive affective climate.

Agarwal et al. (2016) analyze investor relations of firms and find that firms with superior investor relations strategies achieve a higher stock market valuation, analyst following, and liquidity. Hereby, the effect is largest for smaller firms, for which information asymmetries are generally higher. The authors provide evidence that investor relations, which represents a branding tool, can reduce information asymmetries. Ozdemir et al. (2019) show that brand diversification has an impact on the IPO pricing and performance of restaurant firms, suggesting that it reduces information asymmetries between firms going public and stock market investors. Wernerfelt (1990) argues that sellers in asset markets may decide to use branding to signal information about the quality of assets.

### 2.3. Branding and hotel operating performance

Brand affiliation represents a signal to investors about hotel quality in terms of operating performance. O'Neill and Carlbäck (2011) investigate the property-level performance of branded and independent hotels across the economic cycle with the motivation to identify when brand affiliation is most beneficial to a hotel. The authors focus on performance metrics such as occupancy rate, average daily rate (ADR), room revenue per available room (RevPAR), and net operating income (NOI), that also accounts for operating expenses. The authors show that branded hotels have a higher occupancy rate than independent hotels irrespective of economic conditions. On the other hand, independent hotels have a continuously higher ADR and RevPAR. The importance of brand affiliation is revealed in periods of economic recession, when branded hotels had a significantly higher NOI. Independent hotels also have higher variances in operating metrics, irrespective of economic conditions. Liu and O'Neill (2022) find that brand-affiliated hotels have lower volatilities of ADR, RevPAR, and GOPPAR compared to independent ones.

Focusing on hotel rebranding, Tsai et al. (2015) analyze the effect of branding and its interaction with the hotel property on performance. This approach allows them to separate brand effects from property quality effects. They find that rebranding leads to an increase in occupancy rate, total revenues per available room, and gross operating profits. This rebranding premium is driven by the brand effect and brand-property interaction, albeit the former is larger. Hanson et al. (2009) provide further evidence of the financial benefits of rebranding or rescaling hotels. Blengini and Das (2021) investigate hotel rebranding and show that hotel characteristics such as age, class, type, and location allow to predict the rebranding probability of a hotel. Yang and Mao (2017) find a performance spillover effect from branded to independent hotels nearby. However, these spillover effects vary by type of independent and branded hotel. Younger and higher-class independent hotels benefit the most, and higher-class branded hotels contribute the most to these effects.

Additional benefits of hotel brand affiliation relate to access to capital and capital improvements. Singh (2022) studies the effects of hotel brand affiliation on commercial mortgage loan underwriting using 2443 hotel loans that were securitized into commercial mortgage-backed securities (CMBS) deals. Results suggest that branded hotels have significantly higher loan-to-value ratios and substantially lower debt service coverage ratios, key loan underwriting, and credit risk metrics than independent hotels. Furthermore, the author finds that credit risk spreads for lower-class hotels (e.g., economy and midscale) and hotels in suburban locations are significantly higher than for hotels in upper-tier classes or hotels located in an urban area. Brand affiliation contracts commonly stipulate a Property Improvement Plan (PIP), which details renovations (upgrades) and mandates a budget for capital expenditure to the asset (Lloyd-Jones, 2010b). Liu et al. (2019) suggest that property improvement plans help maintain hotel values. Thus, brand affiliation represents a strategy to reduce obsolescence (Corgel,

2007), which also positively impacts future operating cash flows.

#### 2.4. Hypotheses

Brand affiliation represents a signal about a hotel's future operating performance, which reduces cash flow uncertainty and information asymmetries between hotel buyers and sellers. Thus, hotel investors are expected to be willing to pay a premium for branded hotels compared to independent hotels. Furthermore, price and liquidity dynamics in commercial real estate markets are linked (Van Dijk et al., 2020; Johnson et al., 2007). Fewer investors being interested in properties results in lower liquidity and longer marketing time, which in turn, results in a price discount (Johnson et al., 2007). If brand affiliation signals valuable information about future performance, a larger pool of potential buyers is expected to be interested in these branded assets. Consequently, branded hotels are expected to sell faster, i.e., have a shorter marketing time than independent hotels.

However, Wong et al. (2012) find that information asymmetries vary across property- and location-level characteristics of buildings. Three characteristics, namely, hotel class, location and building condition, which have been identified to impact investment risk for hotel investors (Beracha et al., 2018; Das et al., 2018; Valentin and O'Neill, 2019; Corgel et al., 2015; Blal and Graf, 2013). Hotels in higher hotel segments (classes) have been found to generate higher cash flows (Blal and Sturman, 2014), which reduces the uncertainty about future cash flows to hotel buyers. On the other hand, hotels in lower classes have been found to carry a higher cash flow risk (McDonald, 2015; McDonald and Dermisi, 2009). Furthermore, hotels in a suburban location have a higher cash flow risk to investors (Lloyd-Jones, 2010a) due to factors such as lower building quality (Corgel, 2007) and reduced appeal to visitors. Furthermore, Das et al. (2018) find that urban and higher-class hotels enjoy superior media coverage, which positively impacts cash flows for these types of properties. Last, assets with an inferior physical building condition have a higher uncertainty regarding future operating cash flows due to their lower appeal to visitors, higher operating expenses and a higher need for future capital improvements (Truong and Yiu, 2021; Martin, 1993).

Considering the higher uncertainties about future cash flows for hotels in lower classes, suburban locations and lower building conditions, information asymmetries between buyers and sellers are a bigger concern for investors in hotels with these characteristics. As a result, we hypothesize that brand affiliation is a valuable signal for investors in hotels with characteristics that indicate higher information asymmetries (lower hotel class, suburban location and poorer building condition), as it contains information about the future operating performance of these hotels. As a result, branded hotels with these characteristics sell at a premium and in a shorter amount of time than similar independent hotels. On the other hand, the signaling effect of hotel brand is expected to be negligible for hotels with characteristics indicating lower information asymmetries (higher hotel class, urban location and better building condition), and no difference is expected in transaction prices and marketing time between branded and independent hotels.

### 3. Data and methodology

We obtained hotel transaction data from CoStar for all markets in the United States from January 1986 to April 2021. CoStar has detailed information on hotel transactions such as transaction date, transaction price, and marketing time (in days). We exclude all transactions that were reported as sales without transaction price as well as any transaction that is non-arm's length, portfolio sales, distressed sales, partial sales, 1031 exchange, or has other detrimental conditions. We define our dependent variables as follows: *Transaction Price* is the logarithm of the sale price per room for a hotel. *Marketing Time* is defined as the logarithm of the number of days a property was on the market before sale.

We collect property-specific characteristics such as location type

(CBD, urban or suburban), size (total number of hotel rooms), building condition, and building age<sup>2</sup> (in years) from CoStar. Next, we match the CoStar data with data provided by Smith Travel Research (STR),<sup>3</sup> which contains hotel attributes such as hotel class and chain scale segment, current and past brand affiliations as well as amenities. We eliminate all transactions for which no information is available in STR. Our final matched dataset contains 23,323 hotel transactions.

We created a binary variable coded 1 for all hotels with a brand affiliation at the time of sale (*Branded Hotel*). This variable represents our independent variable of interest. We also create binary variables for hotel class, location, and building condition. Hotel class segments provided in STR are luxury, upper upscale, upscale, upper midscale, midscale, and economy. Hotel locations are characterized as CBD, urban, or suburban in CoStar. The building condition of a hotel at the time of sale can either be excellent, good, adequate, needing improvement, poor, or unknown condition.

Therefore, we derive binary variables to categorize different levels of hotel class, location, and building condition. Hereby, *TIER1* is defined as luxury and upper-upscale hotels while *TIER2* represents upscale and upper-midscale hotels and *TIER3* represents midscale and economy hotels.<sup>4</sup> We define the location of a hotel asset based on CoStar information as CBD, urban, and suburban respectively (*CBD*, *Urban*, and *Suburban*). Last, we create three binary variables reflecting the building condition of a property. *Good Condition* is defined as properties with an excellent or good building condition, based on CoStar information, while *OK Condition* reflects hotels with an adequate condition and *Poor Condition* covers hotels with all other conditions. We control for other characteristics of hotels in our sample by including the log of a hotel's age at the time of sale, log of size, and hotel amenities such as restaurant, convention business center, casino, kitchen, meeting room, pool, time-share, all-suite hotels, boutique hotels, and fitness center, the submarket and year in which a transaction was completed.

Table 1 presents our summary statistics. The average price per room for a hotel in our sample is \$72,420, while, on average, hotels in our sample had a marketing time of 318 days. The average hotel is 36 years old and has 97 rooms. Economy hotels represent 48% of our sample, followed by upper midscale (17.8%) and midscale (14.6%) hotel. The majority of hotels in our sample were in suburban locations (78.6%), followed by urban (15.5%) and CBD (5.9%). Building conditions were predominantly adequate (49.3% of sample). Most hotels in our sample had a business center (51.3%), pool (57.0%) and fitness center (45.8%).

To assess the impact of hotel brand affiliation on transaction prices and marketing time, we estimate our model shown in Eq. 1 and employ sub-market clustered standard errors.

$$DV_{it} = \alpha + \beta_1 \text{BrandedHotel} + \beta_n X_{it} + \varepsilon_i \quad (1)$$

Where *DV* represents one of our dependent variables (*Transaction Price* or *Marketing Time*<sup>5</sup>) for property *i* in period *t*. *X* represents the set of control variables (e.g., *log Age*, *log Size*, *Amenities*, *submarket cluster*, *Year*).

<sup>2</sup> Building age is computed as the difference in years between the year of hotel transaction and its built year.

<sup>3</sup> STR was acquired by CoStar in October 2019. CoStar has gradually integrated the two databases on hotel sales. However, some essential hotel attributes were still not merged, such as the hotel class for independent hotels. We appreciate Duane Vinson from STR for his assistance in matching the hotel sales from CoStar with hotel attributes from STR.

<sup>4</sup> Three tiers of hotel classes are used in this study. We have also tested our hypothesis with transaction price as outcome using six classes defined by STR. The results were qualitatively the same.

<sup>5</sup> As defined at the beginning of this section, *Transaction Price* is the logarithm of the sale price per room for a hotel. *Marketing Time* is defined as the logarithm of the number of days a hotel was on the market before sale.

**Table 1**  
Descriptive Statistics.

Variable	Mean	Median	St. Dev.	Min	Max
Transaction Price Per Room	72,420	43,750	102,767	40	4,150,000
Marketing Time (Days)	317.877	203	366.76	0	4826
Branded Hotel	0.573	1	0.495	0	1
Age (Years)	36.083	31	26.968	-2	268
Size (Rooms)	96.975	70	114.456	4	3933
Hotel Class					
Luxury	0.025	0	0.157	0	1
Upper Upscale	0.068	0	0.252	0	1
Upscale	0.099	0	0.298	0	1
Upper Midscale	0.178	0	0.383	0	1
Midscale	0.146	0	0.354	0	1
Economy	0.483	0	0.500	0	1
Location Type					
CBD	0.059	0	0.236	0	1
Suburban	0.786	1	0.410	0	1
Urban	0.155	0	0.362	0	1
Building Condition					
Excellent	0.026	0	0.159	0	1
Good	0.232	0	0.422	0	1
Adequate	0.493	0	0.500	0	1
Needs Improvement	0.065	0	0.247	0	1
Poor	0.012	0	0.111	0	1
Unknown	0.172	0	0.377	0	1
Amenity Dummy					
Restaurant	0.296	0	0.457	0	1
Fitness Center	0.458	0	0.498	0	1
Casino	0.004	0	0.060	0	1
Kitchen	0.003	0	0.055	0	1
Business Center	0.513	1	0.500	0	1
Meeting Space	0.089	0	0.285	0	1
Pool	0.570	1	0.495	0	1
Convention	0.023	0	0.150	0	1
Timeshare	0.001	0	0.037	0	1
All Suite	0.094	0	0.291	0	1
Boutique	0.031	0	0.174	0	1

Note: This table presents the descriptive statistics for a sample of US hotel transactions over the period of 1986–2021. The *Marketing Time (Days)* data is available for 5,834 observations. All other variables are summarized from 23,323 observations. Price per room is the transaction price divided by the number of rooms while marketing time is the number of days it took to sell the hotel. Age is the age of a hotel at the time of sale in years while size is the number of rooms in a hotel.

#### 4. Results

As a starting point, we estimate our model in Eq. 1 for each of the dependent variables (*Transaction Price* or *Marketing Time*) for the full sample. As a robustness check, we estimate our model by also including *Transaction Price* as a control variable in the *Marketing Time* regression and *Marketing Time* in the *Transaction Price* regression. The results are reported in Table 2.

The coefficients on *Branded Hotel* are significant for all regressions and in the expected direction. In particular, branded hotels sell at a transaction price premium of 15%–16% and have a significantly shorter marketing time of 10% – 11% than independent hotels. Compared to hotels in the economy class, hotels in higher quality classes sell at a premium. Hotels in CBD and urban locations achieve a transaction price premium to hotels in suburban locations. Older hotels, on average, are associated with a transaction price discount and longer marketing time. Our results are in line with previous studies on hotel asset pricing that find property characteristics such as location or hotel segment to determine hotel transaction prices (Beracha et al., 2018; Corgel et al., 2015; Blal and Graf, 2013).

Next, we present the results for our sample separated by hotel class (*TIER1*, *TIER2* and *TIER3*). They suggest that the results for transaction prices in Table 2 are driven by hotels with a lower class (*TIER3*). In particular, branded hotels of the lowest hotel class achieve a transaction

**Table 2**  
Results for Full Sample.

	Transaction Price	Transaction Price	Marketing Time	Marketing Time
Branded Hotel	0.146*** (0.032)	0.156*** (0.038)	-0.108*** (0.036)	-0.101*** (0.037)
Marketing Time		-0.015 (0.009)		
Transaction Price				-0.041 (0.027)
Log Age	-0.162*** (0.016)	-0.206*** (0.020)	0.075*** (0.021)	0.066*** (0.021)
Log Size	-0.322*** (0.026)	-0.299*** (0.025)	-0.008 (0.028)	-0.021 (0.032)
Luxury	1.292*** (0.116)	1.458*** (0.147)	-0.133 (0.103)	-0.072 (0.107)
Upper Upscale	1.050*** (0.057)	1.025*** (0.075)	-0.045 (0.086)	-0.003 (0.089)
Upscale	0.699*** (0.037)	0.581*** (0.066)	-0.104 (0.066)	-0.080 (0.066)
Upper Midscale	0.399*** (0.030)	0.433*** (0.037)	0.116** (0.047)	0.133*** (0.047)
Midscale	0.196*** (0.022)	0.232*** (0.033)	0.068 (0.046)	0.077 (0.047)
CBD	0.416*** (0.074)	0.437*** (0.086)	-0.091 (0.092)	-0.072 (0.093)
Urban	0.120*** (0.042)	0.168*** (0.060)	-0.113* (0.066)	-0.106 (0.066)
Excellent	0.199* (0.115)	0.248*** (0.062)	-0.007 (0.092)	0.004 (0.092)
Good	0.124*** (0.027)	0.052** (0.025)	-0.077* (0.042)	-0.075* (0.042)
Adequate	0.069*** (0.022)	0.026 (0.027)	-0.043 (0.044)	-0.042 (0.045)
Needs Improvement	-0.062** (0.030)	-0.132*** (0.044)	-0.027 (0.068)	-0.032 (0.068)
Poor	-0.158*** (0.049)	-0.090 (0.073)	0.144 (0.119)	0.140 (0.119)
Constant	10.988*** (0.298)	9.559*** (0.132)	3.278*** (0.151)	3.672*** (0.299)
Observations	23,384	5,839	5,839	5,839
Adj. R <sup>2</sup>	0.488	0.566	0.136	0.136
Amenities	Yes	Yes	Yes	Yes
Controls				
Submarket	Yes	Yes	Yes	Yes
Cluster				
Year	Yes	Yes	Yes	Yes

Note: This table presents the regression results for a sample of US Hotel transactions from 1986 to 2021. Transaction price is the logarithm of sale price per room. Marketing time is the logarithm of the number of days to sell the hotel. Age is the age of a property at the time of sale while size is the total number of rooms. The base group for Hotel Class is Economy; the base group for location type is Suburban, the base group for Building Condition is Unknown. Submarket-clustered standard errors in parentheses. ‘\*\*\*’, ‘\*\*’ and ‘\*’ denote significance at the 1%, 5% and 10% level respectively.

price premium over similar independent hotels, which is in line with our expectations. On the other hand, branded hotels in higher class categories (*TIER1* and *TIER2*) do not achieve a transaction price premium over similar independent hotels.

Table 4 presents the results for transaction price separated by location type. The coefficient on *Branded Hotel* is only significant for hotels in suburban locations, which represents a higher risk location (e.g., Valentin and O’Neill, 2019). This suggests that brand affiliation allows hotels with a location that indicates higher information asymmetries to achieve a transaction price premium over similar independent hotels, which is in line with expectations. Brand affiliation does not contribute to a higher transaction price for hotels in higher quality locations such as CBD and urban. These results suggest that suburban hotels were an additional driver of our results in Table 2.

As shown in Table 5, branded hotels with an OK or poor building

**Table 3**  
Results for Transaction Price Separated by Hotel Class.

	(1)	(2)	(3)	(4)	(5)	(6)
	TIER1	TIER1	TIER2	TIER2	TIER3	TIER3
Branded Hotel	0.110 (0.097)	-0.129 (0.131)	0.098 (0.085)	0.162 (0.123)	0.140*** (0.022)	0.166*** (0.031)
Market Time		-0.058 (0.038)		-0.052*** (0.018)		0.022* (0.012)
Log Age	-0.056 (0.036)	-0.113*** (0.039)	-0.209*** (0.018)	-0.247*** (0.029)	-0.152*** (0.016)	-0.205*** (0.024)
Log Size	-0.259*** (0.059)	-0.197** (0.096)	-0.274*** (0.060)	-0.230*** (0.056)	-0.343*** (0.021)	-0.348*** (0.026)
CBD	0.164 (0.113)	0.330*** (0.144)	0.491*** (0.098)	0.533*** (0.120)	0.248*** (0.056)	0.160 (0.106)
Urban	-0.002 (0.098)	0.165 (0.181)	0.145** (0.056)	0.222*** (0.071)	0.093** (0.038)	0.137** (0.063)
Excellent	0.530*** (0.122)	0.233* (0.136)	-0.036 (0.152)	-0.018 (0.147)	0.223*** (0.063)	0.225*** (0.085)
Good	0.356*** (0.103)	0.093 (0.152)	0.082* (0.043)	-0.047 (0.067)	0.071*** (0.023)	0.047 (0.029)
Adequate	0.208* (0.111)	-0.118 (0.152)	0.071 (0.045)	-0.062 (0.065)	0.037* (0.020)	0.062** (0.030)
Needs Improvement	-0.078 (0.275)	-0.359 (0.253)	-0.015 (0.072)	-0.290** (0.118)	-0.082*** (0.027)	-0.077* (0.046)
Poor	-0.958*** (0.194)		0.147 (0.145)	0.037 (0.214)	-0.227*** (0.054)	-0.119 (0.078)
Constant	10.454*** (0.574)	10.799*** (0.461)	11.331*** (0.296)	10.188*** (0.245)	10.934*** (0.114)	10.926*** (0.431)
Observations	2,189	493	6,469	1,351	14,726	3,995
Adj. R <sup>2</sup>	0.434	0.530	0.363	0.448	0.407	0.456
Amenities Controls	Yes	Yes	Yes	Yes	Yes	Yes
Submarket Cluster	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes

Note: This table presents the regression results for a sample of US Hotel transactions from 1986 to 2021 for transaction price and for subsamples of hotel classes. Variable definitions in Table 2. Hotel amenities, submarket cluster, and year controls were included, but not reported. Submarket-clustered standard errors in parentheses. \*\*\*\*\*, \*\*\* and \*\* denote significance at the 1%, 5% and 10% level respectively.

condition achieve a transaction price premium to similar independent hotels. On the other hand, brand affiliation has no impact on transaction prices for hotels with a good building condition.

Overall, our results in Tables 3, 4, and 5 suggest that brand affiliation is a signal for investors in hotels with characteristics, in terms of hotel class, location, and building condition, that indicate higher information asymmetries between buyers and sellers. This is in line with our expectations that brand affiliation signals information about hotel operating performance (Wang and Chung, 2015; Tsai et al., 2015; O’Neill and Carlback, 2011) and thus reduces information asymmetries between transaction parties and improves the ability of investors to predict future cash flows. The results in Tables 3, 4, and 5 suggest that our findings for the full sample in Table 2 are driven by hotel assets with higher information asymmetries due to a lower hotel segment, suburban location, or poorer building condition. On the other hand, brand affiliation does not yield any differences in transaction prices for assets with lower information asymmetries due to a better segment, location, or condition. This suggests that hotel brand as a signal only has informative value to investors in hotels with higher information asymmetries.

Table 6 presents the results for marketing time separated by hotel class. The coefficient on *Branded Hotel* is only significant for properties of the lowest hotel class, suggesting that brand affiliation yields a lower marketing time compared to independent hotels in the same category. Analogously the results for transaction prices in Table 3, brand affiliation has no impact on the marketing time for hotels in higher quality categories.

The results for hotels in different locations are provided in Table 7. For suburban hotels, brand affiliation significantly reduces marketing time compared to similar independent hotels. The results above support our hypothesis. As shown in Table 8, branded hotels of a poor building condition also sell faster than similar independent hotels. Brand affiliation has no impact on marketing time for hotels in urban or CBD locations (Table 7) or of good and OK condition (Table 8).

Overall, the results for marketing time are in line with those for transaction prices and provide further evidence, using a different asset market variable, that brand affiliation as a signal has informative value to investors in hotels with higher information asymmetries in terms of hotel class, location, and building condition. The results in Tables 6, 7, and 8 also suggest that our results for marketing time in Table 2 were driven by hotels with higher information asymmetries.

### 5. General discussion

Hotel asset markets are highly segmented, informationally inefficient, and heterogeneous (Ling et al., 2014; Clayton et al., 2009; Fisher et al., 2003), which results in information asymmetries between hotel buyers and sellers. Signaling allows to reduce information asymmetries between parties (signaling theory; Spence, 1973), and branding represents a signaling strategy (e.g., Agarwal et al., 2016; Mascarenhas et al., 2013; Christodoulides, 2009; Karstens and Belz, 2006; Ward and Lee, 2000). In the context of hotels, we argue that brand affiliation serves as a signal to investors as it provides information about future cash flows of hotels and thus asset quality. Several previous studies find that brand affiliation impacts hotel operating performance (Liu and O’Neill, 2022; Tsai et al., 2015; O’Neill and Carlback, 2011) and capital improvements (Liu et al., 2019; Lloyd-Jones, 2010b; Corgel, 2007). Considering that brand affiliation adds value to hotel investors by reducing uncertainties about future cash flows, branded hotels are expected to sell at a premium and faster than independent hotels. Previous studies on the impact of hotel brand affiliation on transaction prices have yielded ambiguous results and ignored marketing time as asset market variable (Dick, 2019; Das et al., 2018; O’Neill and Xiao, 2006). We use these inconclusive findings of previous studies as a starting point for our investigation and apply a more nuanced approach to investigating brand affiliation and hotel asset market variables (transaction price and marketing time).

Previous studies suggest that informational asymmetries vary across

**Table 4**  
Results for Transaction Price Separated by Location Type.

	(1)	(2)	(3)	(4)	(5)	(6)
	CBD	CBD	Urban	Urban	Suburban	Suburban
Branded Hotel	0.063 (0.100)	-0.029 (0.169)	0.061 (0.049)	0.084 (0.064)	0.178*** (0.031)	0.190*** (0.043)
Market Time		-0.070* (0.039)		-0.013 (0.022)		-0.006 (0.010)
Log Age	-0.155*** (0.039)	-0.089* (0.052)	-0.158*** (0.048)	-0.154*** (0.032)	-0.166*** (0.017)	-0.228*** (0.024)
Log Size	-0.232*** (0.071)	-0.230 (0.140)	-0.274*** (0.050)	-0.349*** (0.091)	-0.345*** (0.025)	-0.313*** (0.024)
Luxury	0.946*** (0.128)	1.070*** (0.273)	1.406*** (0.103)	1.502*** (0.175)	1.122*** (0.169)	1.353*** (0.206)
Upper Upscale	0.696*** (0.113)	0.951*** (0.329)	0.836*** (0.090)	0.870*** (0.157)	1.036*** (0.072)	0.962*** (0.081)
Upscale	0.411*** (0.119)	0.582** (0.248)	0.517*** (0.065)	0.446*** (0.102)	0.715*** (0.038)	0.550*** (0.086)
Upper Midscale	0.223** (0.092)	-0.075 (0.285)	0.243*** (0.062)	0.183*** (0.059)	0.420*** (0.029)	0.477*** (0.038)
Midscale	0.062 (0.119)	0.003 (0.220)	0.129** (0.057)	-0.001 (0.092)	0.204*** (0.023)	0.259*** (0.034)
Excellent	0.142 (0.170)	0.097 (0.181)	0.024 (0.286)	-0.128 (0.176)	0.197* (0.114)	0.244*** (0.076)
Good	0.061 (0.153)	0.063 (0.145)	0.222* (0.117)	0.045 (0.066)	0.103*** (0.027)	0.037 (0.026)
Adequate	0.044 (0.150)	-0.238 (0.154)	0.093 (0.095)	-0.084 (0.065)	0.067*** (0.022)	0.052* (0.026)
Needs Improvement	-0.207 (0.141)	-0.530*** (0.189)	-0.095 (0.074)	-0.382*** (0.109)	-0.045 (0.032)	-0.074 (0.046)
Poor	-0.015 (0.292)	0.907* (0.537)	-0.087 (0.107)	-0.333* (0.168)	-0.167*** (0.058)	-0.036 (0.080)
Constant	10.161*** (0.378)	11.856*** (0.744)	12.155*** (0.182)	9.716*** (0.317)	10.515*** (0.109)	11.128*** (0.267)
Observations	1,385	268	3,626	705	18,373	4,866
Adj. R <sup>2</sup>	0.592	0.740	0.592	0.664	0.432	0.496

Note: This table presents the regression results for a sample of US Hotel transactions from 1986 to 2021 for transaction price and for subsamples of location types. Variable definitions in Table 2. Hotel amenities, submarket cluster, and year controls were included, but not reported. Submarket-clustered standard errors in parentheses. \*\*\*, \*\* and \* denote significance at the 1%, 5%, and 10% level respectively.

**Table 5**  
Results for Transaction Price Separated by Building Condition.

	(1)	(2)	(3)	(4)	(5)	(6)
	Good Condition	Good Condition	OK Condition	OK Condition	Poor Condition	Poor Condition
Branded Hotel	0.114 (0.079)	0.091 (0.070)	0.080*** (0.025)	0.107** (0.047)	0.262*** (0.039)	0.197*** (0.042)
Market Time		-0.015 (0.020)		-0.018 (0.013)		-0.005 (0.018)
Log Age	-0.178*** (0.018)	-0.151*** (0.034)	-0.200*** (0.017)	-0.262*** (0.030)	-0.083** (0.035)	-0.208*** (0.029)
Log Size	-0.271*** (0.040)	-0.330*** (0.064)	-0.318*** (0.024)	-0.299*** (0.028)	-0.364*** (0.031)	-0.303*** (0.028)
Luxury	1.557*** (0.099)	1.660*** (0.170)	0.997*** (0.174)	1.129*** (0.231)	1.308*** (0.253)	1.708*** (0.206)
Upper Upscale	1.205*** (0.067)	1.168*** (0.135)	0.999*** (0.077)	0.944*** (0.091)	0.793*** (0.155)	0.972*** (0.147)
Upscale	0.748*** (0.054)	0.701*** (0.118)	0.654*** (0.051)	0.577*** (0.074)	0.758*** (0.076)	0.563*** (0.140)
Upper Midscale	0.429*** (0.047)	0.445*** (0.067)	0.373*** (0.030)	0.351*** (0.044)	0.519*** (0.059)	0.589*** (0.062)
Midscale	0.205*** (0.050)	0.297*** (0.066)	0.164*** (0.023)	0.169*** (0.043)	0.281*** (0.038)	0.336*** (0.066)
CBD	0.440*** (0.088)	0.590*** (0.115)	0.363*** (0.075)	0.373*** (0.119)	0.359** (0.155)	0.319* (0.179)
Urban	0.147** (0.058)	0.266*** (0.102)	0.103** (0.042)	0.147*** (0.049)	0.087 (0.058)	0.093 (0.112)
Constant	10.606*** (0.192)	11.097*** (0.318)	11.478*** (0.290)	10.167*** (0.196)	10.688*** (0.162)	10.329*** (0.288)
Observations	6,040	1,497	11,507	2,533	5,837	1,809
Adj. R <sup>2</sup>	0.533	0.619	0.495	0.562	0.407	0.505

Note: This table presents the regression results for a sample of US Hotel transactions from 1986 to 2021 for transaction price and for subsamples of building conditions. Variable definition in Table 2. Hotel amenities, submarket cluster, and year controls are included, but not reported. Submarket-clustered standard errors in parentheses. \*\*\*, \*\* and \* denote significance at the 1%, 5% and 10% level respectively.

**Table 6**  
Results for Marketing Time Separated by Hotel Class.

	(1)	(2)	(3)	(4)	(5)	(6)
	TIER1	TIER1	TIER2	TIER2	TIER3	TIER3
Branded Hotel	0.162 (0.176)	0.140 (0.175)	0.006 (0.135)	0.030 (0.135)	-0.136*** (0.046)	-0.147*** (0.046)
Transaction Price		-0.159 (0.104)		-0.146*** (0.053)		0.068* (0.034)
Log Age	0.079 (0.082)	0.060 (0.082)	0.063* (0.038)	0.027 (0.043)	0.078** (0.033)	0.092*** (0.033)
Log Size	-0.078 (0.130)	-0.108 (0.135)	-0.074 (0.068)	-0.107 (0.072)	0.031 (0.034)	0.055 (0.036)
CBD	0.167 (0.214)	0.218 (0.225)	-0.144 (0.148)	-0.066 (0.151)	-0.041 (0.219)	-0.052 (0.222)
Urban	0.052 (0.299)	0.078 (0.301)	-0.080 (0.151)	-0.047 (0.148)	-0.184* (0.094)	-0.193** (0.095)
Excellent	-0.132 (0.240)	-0.093 (0.246)	0.289 (0.206)	0.284 (0.204)	0.122 (0.197)	0.106 (0.197)
Good	0.175 (0.234)	0.188 (0.237)	-0.036 (0.099)	-0.043 (0.097)	-0.112** (0.056)	-0.115** (0.055)
Adequate	0.009 (0.193)	-0.010 (0.192)	-0.154 (0.106)	-0.162 (0.106)	-0.008 (0.054)	-0.012 (0.054)
Needs Improvement	0.783** (0.390)	0.718* (0.405)	-0.311 (0.244)	-0.351 (0.247)	-0.020 (0.069)	-0.015 (0.069)
Poor			-0.094 (0.515)	-0.088 (0.523)	0.197 (0.133)	0.204 (0.133)
Constant	4.970*** (0.998)	6.645*** (1.527)	3.248*** (0.341)	4.706*** (0.686)	6.937*** (0.195)	6.185*** (0.431)
Observations	493	493	1,351	1,351	3,995	3,995
Adj. R <sup>2</sup>	0.150	0.155	0.145	0.151	0.124	0.125

Note: This table presents the regression results for a sample of US Hotel transactions from 1986 to 2021 for marketing time and for subsamples of hotel classes. Variable definition in Table 2. Hotel amenities, submarket cluster, and year controls are included but not reported. Submarket-clustered standard errors in parentheses. ‘\*\*\*’, ‘\*\*’ and ‘\*’ denote significance at the 1%, 5% and 10% level respectively.

**Table 7**  
Results for Marketing Time Separated by Location Type.

	(1)	(2)	(3)	(4)	(5)	(6)
	CBD	CBD	Urban	Urban	Suburban	Suburban
Branded Hotel	0.408 (0.251)	0.393 (0.256)	0.032 (0.131)	0.036 (0.132)	-0.135*** (0.044)	-0.132*** (0.044)
Transaction Price		-0.256* (0.144)		-0.051 (0.083)		-0.017 (0.025)
Log Age	0.104 (0.108)	0.079 (0.112)	-0.092 (0.072)	-0.100 (0.073)	0.098*** (0.027)	0.094*** (0.027)
Log Size	0.082 (0.163)	0.021 (0.165)	0.001 (0.088)	-0.017 (0.092)	0.003 (0.029)	-0.003 (0.030)
Luxury	-0.350 (0.503)	-0.070 (0.534)	0.035 (0.279)	0.111 (0.295)	-0.168 (0.158)	-0.145 (0.162)
Upper Upscale	-0.664 (0.469)	-0.409 (0.496)	0.134 (0.228)	0.178 (0.244)	-0.012 (0.081)	0.004 (0.084)
Upscale	-0.611 (0.418)	-0.451 (0.421)	-0.037 (0.182)	-0.014 (0.185)	-0.067 (0.086)	-0.057 (0.087)
Upper Midscale	-0.474 (0.458)	-0.485 (0.449)	0.290* (0.161)	0.299* (0.161)	0.109** (0.051)	0.117** (0.052)
Midscale	-0.067 (0.462)	-0.065 (0.452)	0.030 (0.185)	0.029 (0.186)	0.077* (0.045)	0.082* (0.046)
Excellent	-0.809 (0.554)	-0.770 (0.577)	-0.231 (0.358)	-0.238 (0.358)	0.121 (0.121)	0.125 (0.122)
Good	-0.619 (0.489)	-0.592 (0.509)	0.111 (0.194)	0.113 (0.195)	-0.088** (0.043)	-0.087** (0.044)
Adequate	-0.400 (0.450)	-0.454 (0.467)	0.077 (0.193)	0.072 (0.194)	-0.041 (0.041)	-0.040 (0.041)
Needs Improvement	-0.865 (0.578)	-0.985* (0.589)	-0.390 (0.301)	-0.409 (0.301)	0.030 (0.071)	0.029 (0.071)
Poor	1.184 (0.956)	1.394 (0.958)	0.016 (0.429)	-0.001 (0.431)	0.195 (0.121)	0.194 (0.122)
Constant	6.742*** (1.029)	9.653*** (1.963)	2.473*** (0.808)	2.965*** (1.132)	6.099*** (0.441)	6.292*** (0.517)
Observations	268	268	705	705	4,866	4,866
Adj. R <sup>2</sup>	0.044	0.055	0.080	0.079	0.123	0.123

Note: This table presents the regression results for a sample of US Hotel transactions from 1986 to 2021 for marketing time and for subsamples of location type. Variable definition in Table 2. Hotel amenities, submarket cluster, and year controls are included, but not reported. Submarket-clustered standard errors in parentheses. ‘\*\*\*’, ‘\*\*’ and ‘\*’ denote significance at the 1%, 5% and 10% level respectively.

**Table 8**  
Results for Marketing Time Separated by Building Condition.

	(1)	(2)	(3)	(4)	(5)	(6)
	Good Condition	Good Condition	OK Condition	OK Condition	Poor Condition	Poor Condition
Branded Hotel	-0.095 (0.094)	-0.092 (0.094)	-0.038 (0.053)	-0.032 (0.054)	-0.243*** (0.084)	-0.240*** (0.085)
Transaction Price		-0.036 (0.046)		-0.060 (0.045)		-0.015 (0.051)
Log Age	0.118*** (0.040)	0.112*** (0.040)	0.096** (0.038)	0.080* (0.042)	0.049 (0.057)	0.046 (0.058)
Log Size	-0.069 (0.054)	-0.081 (0.059)	-0.005 (0.045)	-0.023 (0.049)	0.056 (0.052)	0.052 (0.056)
Luxury	-0.045 (0.215)	0.016 (0.223)	-0.063 (0.185)	0.005 (0.182)	-0.433* (0.238)	-0.407* (0.239)
Upper Upscale	0.126 (0.187)	0.168 (0.189)	-0.141 (0.124)	-0.084 (0.135)	0.020 (0.180)	0.034 (0.186)
Upscale	0.102 (0.156)	0.127 (0.158)	-0.187** (0.090)	-0.152* (0.092)	-0.194 (0.197)	-0.186 (0.206)
Upper Midscale	0.191* (0.098)	0.207** (0.101)	0.073 (0.071)	0.094 (0.071)	0.113 (0.105)	0.122 (0.115)
Midscale	0.049 (0.107)	0.060 (0.109)	0.001 (0.069)	0.011 (0.070)	0.159* (0.085)	0.164* (0.091)
CBD	-0.145 (0.146)	-0.124 (0.151)	-0.003 (0.150)	0.020 (0.149)	-0.185 (0.162)	-0.181 (0.165)
Urban	0.038 (0.120)	0.048 (0.121)	-0.081 (0.072)	-0.072 (0.073)	-0.581*** (0.195)	-0.580*** (0.195)
Constant	5.651*** (0.770)	6.052*** (0.957)	2.791*** (0.286)	3.398*** (0.566)	7.767*** (0.523)	7.919*** (0.632)
Observations	1,497	1,497	2,533	2,533	1,809	1,809
Adj. R <sup>2</sup>	0.111	0.111	0.148	0.148	0.106	0.105

Note: This table presents the regression results for a sample of US Hotel transactions from 1986 to 2021 for marketing time and for subsamples of building conditions. Variable definition in Table 2. Hotel amenities, submarket cluster, and year controls are included, but not reported. Submarket-clustered standard errors in parentheses. \*\*\*, \*\*, and \* denote significance at the 1%, 5% and 10% level respectively.

property characteristics such as building condition, class, and location, which impacts the risk for hotel investors (Wong et al., 2012; Beracha et al., 2018; Das et al., 2018; Valentin and O'Neill, 2019; Corgel et al., 2015; Blal and Graf, 2013). As a consequence, we hypothesize that the value of brand affiliation as a signal is highest to investors in hotels with characteristics that indicate higher information asymmetries between buyers and sellers, such as hotel class, location and condition. In particular, we expect branded hotels in lower hotel classes, suburban locations and poorer building conditions to achieve a higher transaction price and lower marketing time than similar independent hotels.

Using a sample of 23,323 hotel transactions over the period of 1986–2021, we show that branded hotels with characteristics implying higher information asymmetries indeed have a higher transaction price and lower marketing time than similar independent hotels. In particular, branded hotels in lower hotel segments, suburban locations, or poorer building conditions sell at a premium and in less time than independent hotels with the same characteristics. No differences in transaction price and marketing time exist for higher quality branded and independent assets, i.e., hotels in higher hotel segments, urban/CBD locations, and better building conditions. For these higher-quality assets, information asymmetries between buyers and sellers are lower, and thus the informative value of hotel brand affiliation as a signal is less important to investors.

### 5.1. Theoretical implications

Our study adds to the literature in multiple ways. First, a few previous studies investigate the impact of brand affiliation on transaction prices (Dick, 2019; Das et al., 2018; O'Neill and Xiao, 2006). However, these studies have yielded mixed results, ranging from an effect (Dick, 2019; O'Neill and Xiao, 2006) to no effect (Das et al., 2018). Our findings suggest that one explanation for the ambiguous results of these studies is that the importance of brand affiliation for hotel transaction prices varies. In particular, our findings show that the value of branding

to hotel investors varies across different levels of information asymmetries between buyers and sellers. For hotels with characteristics that indicate higher information asymmetries and thus higher cash flow uncertainties, as proxied by a lower hotel class, suburban location and poorer building condition, brand affiliation is a valuable signal, which increases the willingness of hotel buyers to pay a premium for branded hotels and results in a lower marketing time for these assets. On the other hand, brand affiliation as a signal is irrelevant for hotels with fewer information asymmetries. Our findings provide a starting point for future studies on the relation of hotel brands and asset prices as they suggest the need for a more differentiated approach to theoretical and empirical investigations.

Second, previous studies on the hotel asset market (Singh, 2022; Wang and Chung, 2015; Tsai et al., 2015; O'Neill and Carlback, 2011) predominantly focus on asset prices (valuation) and ignore marketing time as an important asset market variable. We contribute to the hotel asset pricing literature by acknowledging the price-marketing time dependency and including marketing time in our empirical investigation. A hotel investor not only cares about asset price, but also asset liquidity for which marketing time is a useful measure. Assets that are less attractive to buyers and thus are on the market for longer, generally require price discounts to sell. Investors focused on maximizing their capital appreciation and total return on the investment are concerned with marketing time and transaction price. As our findings for marketing time are consistent with the ones for transaction price, using marketing time as an alternative dependent variable also emphasizes the robustness of our results.

Last, we contribute to a larger literature on branding as a signal and information asymmetries. In particular, we contribute to previous studies focused on other industries that find brands to reduce the information asymmetry between buyers and sellers (Ward and Lee, 2000; Christodoulides, 2009; Mascarenhas et al., 2013; Tumasjan et al., 2020).



## 5.2. Industry implications

Besides our contribution to the scholarly literature, our findings have implications for hotel investors. By showing that brand affiliation is a signal that allows investors to mitigate their risk exposure for assets with certain characteristics and reduce information asymmetries, our findings are relevant to asset pricing decisions of hotel investors as well as (re)branding decisions for existing hotels.

The market for hotel brands is expanding fast. According to Blengini and Das (2021), the proportion of independent hotels adopting brands has tripled in the last 25 years. As most franchise contracts are long-term in nature, the decision to brand a hotel is strategic to owners. Owners must weigh the cost of branding their hotel with the benefits. Potential benefits of brand affiliation for hotel owners stem from increased cash flows and the signaling effect to other investors at the time of sale, which impacts transaction prices and marketing time. However, we show that brand affiliation does not significantly improve transaction prices and market time for all types of hotels. Hotels in superior condition, class, or location do not experience any significant increase in value or reduction in marketing time due to their brand affiliation. If asset price appreciation is the intent, lower quality hotels in terms of location, conditions, and class could consider brand affiliation as a strategy to add value and hedge against the risks attributed by investors.

## 5.3. Limitations and future studies

One limitation of our study is that we do not distinguish between different hotel brands but merely compare branded to independent hotels. Future investigations may use our study as a starting point to further investigate the importance of different hotel brands as signals to investors for hotels with higher information asymmetries. Due to differences in brand value, marketing strategies and sales channels, the signaling effect is likely to vary across brands. Another limitation relates to the exclusion of operational metrics (e.g., ADR, Occupancy, RevPAR, etc.) in our empirical investigation due to a lack of data.

Our findings represent the starting point for a number of future investigations. These future studies could investigate other property and locational characteristics that signal information about future cash flows and thus reduce information asymmetries for hotel investors. With the appropriate dataset, future studies could focus on the signaling effect of brands, particularly in the context of brand portfolios (Wang and Chung, 2015), to hotel investors. Future investigations may also use technological innovations to, for example, predict hotel sites (Yang et al., 2015), and their impact on information asymmetries between buyers and sellers. As more property-level and locational data becomes available and improves the information environment for hotel investors, the informative value of brand for hotels with higher information asymmetries may decrease.

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