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### **Quantifying Impact:**

### **The Effect of New Hotels and Brand Conversions on Revenues of Existing Hotels**

**By Arturs Kalnins, Ph.D.**

**Five-Star Research<sup>SM</sup> for the Hospitality Industry**

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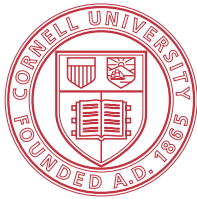
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# QUANTIFYING IMPACT:

## The Effect of New Hotels and Brand Conversions on Revenues of Existing Hotels

By Arturs Kalnins, Ph.D.

EVER SINCE THE “BURST OF TIERS” IN THE 1980s meant that one company controlled several hotel flags in various product tiers, franchisees within large branded hotel chains have complained about impact (or encroachment) when their franchisor opens new hotels near the franchisees’ existing properties. While they are not happy when their franchisor opens a competing-brand property nearby, franchisees particularly claim that their revenues substantially decrease when the franchisor opens a same-brand hotel in the trading area. The topic of impact has not only dominated franchisee association agendas and trade journal headlines over the past several years, but has also become a hot topic for politicians and policymakers. Until now, however, evidence of impact has been anecdotal.

Using revenue data from 1,315 chain-affiliated hotels in Texas in the 1990s, the study described in this report examined eight hotel chains that are mostly franchised and two chains that are mostly company owned. The study finds that when franchisors approve new same-brand hotels in the vicinity of existing hotels, these new hotels do, indeed, cannibalize

the incumbents’ revenues. Rather than apply a fixed mileage distance, the study looked at new properties that are within ten, fifteen, or twenty chain hotels away from the existing property. In particular, the study found the following effects when a franchisor opens a nearby same-brand hotel.

- Within franchised chains, a new same-brand hotel opened within the closest ten hotels of an incumbent hotel is associated with a loss of \$66 in revenues per avail-

able room per calendar quarter for the incumbent from the time of the new hotel's opening onwards

- As the mean hotel size among the ten chains studied here is 110 rooms, the revenue losses associated with same-brand entry translate into a total loss of \$7,360 per quarter, or 2.7 percent of the typical hotel's mean revenues.
- The losses from a same-brand entry are statistically significantly greater in magnitude than those associated with the entry of hotels of other same-tier brands (\$36 per quarter for each available room).
- In contrast, properties in company-owned chains register revenue gains when new same-brand hotels open in their vicinity.

When the franchisor opens a hotel with a different flag, losses are not as great as with a same-brand hotel. A new same-tier hotel of one of the same franchisor's other brands opened within the closest ten hotels of an existing hotel is associated with a quarterly loss of \$38 for the incumbent from the time of the new hotel's opening onwards. This loss is inconsequentialy different from the entry of hotels from other same-tier brands (\$36).

While same-brand impact does exist, the revenue effects do not appear to be great enough to jeopardize the franchisees' viability. Nonetheless, franchisees need to consider potential impact before the franchisor develops a property. On the one hand, contrary to claims of some franchisors, same-brand outlets do not lower existing outlets' revenues less than a competing brand's entrance. Instead, a competing brand's entry causes lower revenue losses than does the entry of a same-brand property. On the other hand, entry of one of a franchisor's other brands causes no greater harm than the entry of competing franchisors' hotels. Finally, no impact is observed when company-owned chains open same-brand properties. Thus, impact is likely caused by the fact that franchisors benefit from greater sales rather than from greater franchisee profits.

## About the Author

**Arturs Kalnins, Ph.D., is an associate professor of business strategy at the Cornell University School of Hotel Administration. His areas of research relate to hospitality, franchising and small business strategy with an emphasis on geographical issues. In addition to impact, he has analyzed agglomeration and immigrant-entrepreneur business groups in the lodging industry, franchisee selection and intra-brand competition within fast food chains, and development commitments in master franchising ventures.**



## Quantifying Impact:

### The Effect of New Hotels and Brand Conversions on Revenues of Existing Hotels

**By Arturs Kalnins, Ph.D.**

**I**M-PACT, ALSO KNOWN AS ENCROACHMENT, has been repeatedly called the most important issue in the franchising world and has dominated agendas at franchisee conventions for well over a decade. Impact refers to the revenue losses that take place at franchisees' existing hotels when franchisors allow other franchisees to operate new hotels in their vicinity, whether those hotels are of the same flag or a different flag that directly competes in the same market tier as the existing hotel. Based on an analysis recently published in *Marketing Science*, this report presents a quantification of impact within the ten largest hotel chains in the State of Texas.<sup>1</sup> I present results regarding the effect of all new hotels and conversions from the 1990s on revenues of proximate hotels affiliated with the same brand and of hotels affiliated with different brands of the same franchisor.

<sup>1</sup> See: Arturs Kalnins, "An Empirical Analysis of Territorial Encroachment in Franchised and Company-owned Branded Chains," *Marketing Science*, Vol. 23, No. 4 (2004), pp. 476-489.

Despite the attention that impact has received, this is the first large-scale empirical analysis that will help franchisors and franchisees evaluate the extent of impact. The evidence regarding impact to date comes exclusively from anecdotal accounts by individual franchisees. Consequently, it is not clear whether impact is a widespread phenomenon or a relatively isolated occurrence. If impact is widespread, the next question involves the extent of revenue loss from the addition of new hotels of their

brand, as well as by hotels affiliated with other chains opened by their franchisor. Even more to the point, I examine whether these average losses are greater than those they would incur when hotels of a similar market tier but of different brand affiliations enter their markets. Finally, I compare the effects of impact within the franchised chains, where the franchisor and franchisee are distinct profit-making entities, with those in wholly owned firms such as the company-owned chains.

The argument that hotel and motel franchisors locate additional hotels of their brand in such a way that the revenues of nearby same-brand hotels will decrease is plausible considering the underlying economics of the franchise agreement. As the franchisor's main source of profit comes from a sales royalty, not from a share of franchisee profits, the franchisors will likely prefer large sales volumes by franchisees charging low prices over high franchisee profits resulting from higher prices and margins. Because of this, the franchisors may be tempted to approve the opening of hotels with less regard for the effect on revenues of existing hotels than would a company-owned chain.<sup>2</sup>

To estimate an average effect of impact, I analyzed the data for ten chains from the Texas Comptroller's Office Hotel Tax Data, which contains quarterly revenues between 1990 and 1999 of all hotels operating in the state. This data set allows a direct comparison of impact effects within franchised chains and within company-owned chains, because both forms exist among these ten chains. The La Quinta and Motel 6 brands are almost completely company owned, while the other eight chains are almost completely franchised. They are Best Western, Comfort Inn, Days Inn, Econolodge, Hampton Inn, Holiday Inn, Ramada, and Super 8.<sup>3</sup>

<sup>2</sup> For a study that develops this idea more formally, please see: P. Kaufmann and V. Rangan, "A Model for Managing System Conflict during Franchise Expansion," *Journal of Retailing*, Vol. 66 (1990) pp. 155-173.

<sup>3</sup> Best Western's cooperative agreement functions similarly to the standard franchise contract.

## **An Analysis of Hotel Results in the 1990s**

The population consists of all lodging establishments that operated in Texas at any time between January 1990 and December 1999. In addition to quarterly taxable revenues for each hotel, the data include the owner's name and address, business name (including any brand affiliation) and address, and room count. The taxable revenues include only those earned from room rental. The quarterly revenue loss

***Impact has been discussed for well over a decade, but an empirical estimate has not been developed until now.***

is the outcome (dependent) variable in all regressions. The data set also includes entry and exit dates for each hotel. Every time an ownership transfer of a hotel takes place, a new "entry date" is included for the hotel for the new owner. Similarly, if an establishment changes its brand, separate dates are usually included. The data set does not include any information about pricing of rooms or levels of occupancy.

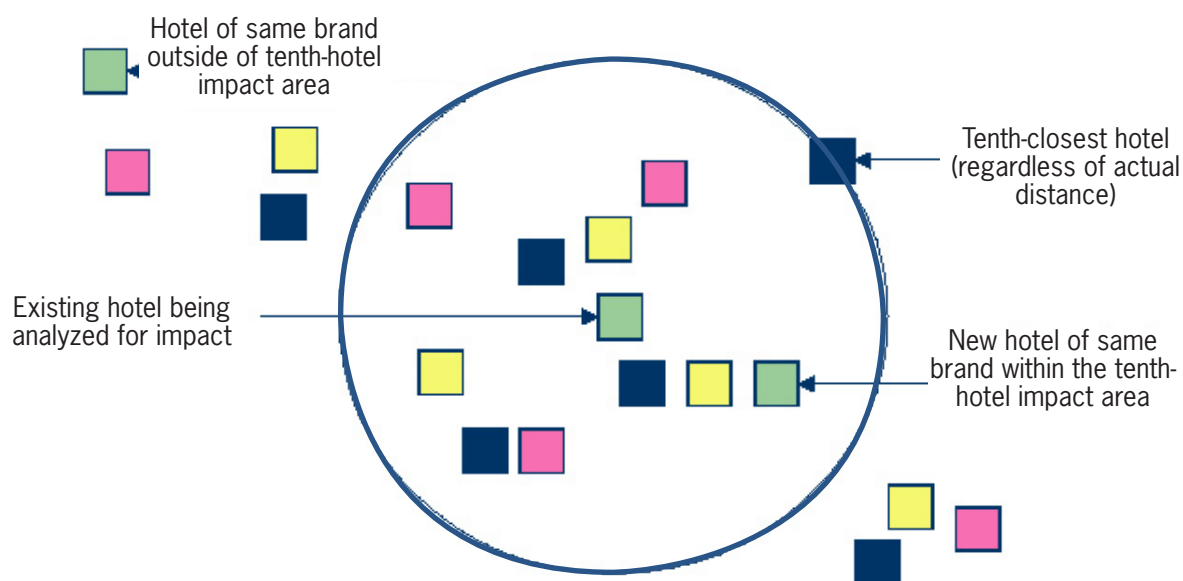
### **The Texas Lodging Landscape**

The eight franchised brands recorded 612 new entries or property conversions during the 1990s. These new hotels are the ones that would potentially have an impact on revenue in existing properties. Of the 612 properties in question, 531 (87%) were newly constructed or converted from non-branded properties, while the other 81 (13%) were converted from any of the 62 brands operating in Texas in the 1990s. In the results presented below, conversions from non-branded properties were not treated as conversions, but rather as new foundations. Among the 164 exits that took place among the franchised chains, 76 (46%) were conversions to any other brand and the rest were closings (i.e., hotels



## EXHIBIT 1

### Impact-area description based on number of adjacent hotels



Rather than use a predetermined radius or other definition of the impact area, such as MSA or ZIP code, this study examines competitors within the areas circumscribed within the distance of the tenth, fifteenth, or twentieth closest chain hotel. Shown here is a depiction of competitors and same-brand hotels within the area of the tenth closest hotel.

that ceased to be branded operations, whether they closed outright or they continued in business without a flag).

Rather than use Smith Travel Research's well-known chain-scale schema, I split the brands into two tiers using a simpler approach based on AAA diamond ratings. As I explain below, this approach seemed more applicable to the ten chains I studied than is STR's wider-scale approach.

#### Data-set Construction

The data sets used in the final analyses consist of 16,205 quarterly observations for 1,128 hotels affiliated with the eight franchised brands and 5,942 quarterly observations for 187 hotels of the two company-owned brands. These two data sets are analyzed separately. The raw data

for all ten brands included 28,160 quarterly observations. Of these, however, four separate groups of data, a total of 6,013 observations, were removed, as I explain next.

The first group to be removed comprised 1990 data. While 1,993 quarterly observations exist from the year 1990, these data could not be included in the analyses because lagged revenues were needed for a spatial-lag variable, as I explain below. Second, a group of 600 observations was removed for quarters within which a closing, ownership change, or brand conversion took place, because such changes yielded artificially low revenues. Third, a group of hotels reported zero revenues for some calendar quarters, possibly from remodeling efforts. To avoid spurious revenue heterogeneity arising from these temporary closings, I removed all



2,711 observations associated with the 186 hotels that reported zero revenues for one or more quarters. Fourth, because this study compares impact effects between franchised and company-owned chains, I removed 517 observations associated with company-owned hotels within the franchised chains, and 192 observations associated with franchised hotels of the two company-owned brands.

It is important to note, however, that the results presented below did not change significantly when I restored the excluded observations to the analysis. Note that all hotels affiliated with each chain are included in the entry and exit count variables described below, regardless of whether the property is company owned or franchised and even when the property was not included in the impact analysis.

### Research Method

I estimated two-factor fixed-effects regression models with a dependent variable of quarterly revenue (that is, taxable revenues per available room per calendar quarter). A fixed-effects regression is a standard ordinary-least-squares regression with a separate intercept for each hotel.<sup>4</sup> Adding the intercept for each hotel eliminates any comparison across hotels when estimating regression coefficients. In this approach, the coefficient for the impact variable represents the average of the revenue change at each individual hotel, but the coefficient does not in any way represent comparisons between hotels. In other words, revenues at a hotel with a nearby same-brand entry are not compared to revenues at a different hotel with no same-brand competition in its vicinity.

A fixed effect is also included for every brand-and-year combination. Yearly intercepts capture economic shocks, as well as overall growth and inflation, so that they do not interfere with the estimate of impact. I include sepa-

<sup>4</sup> A fixed effect is actually included for every distinct combination of brand, owner, and location. In other words, an additional intercept is assigned to the same hotel every time an ownership transfer or brand conversion took place. Thus, revenue changes based on new ownership will never be a part of the coefficient for the impact variable.

rate yearly effects for each brand to eliminate the possibility that effects attributed to impact variables actually result from periods of discontinuous growth for a brand. This is a concern because the more successful the brand is at a given time, its growth (and possibility impact) will be greater, and the revenues of its hotels will be greater. Thus, impact effects could be underestimated.

### Independent Variables

**Defining the impact area.** I defined hotels opened between 1991 and 1999 as potentially having an impact on an existing hotel of the same brand if the new hotel appears within the incumbent's "impact area." With the intent of defining an area within which customers are likely to view two same-brand hotels as substitutes, I defined the impact area as the distance to a branded chain hotel according to that hotel's ordinal position (e.g., fifth closest,

***One way to estimate impact is to estimate the effects of new hotels within the closest ten or twenty properties, regardless of actual distance.***

tenth closest, twelfth closest) from the existing hotel in question. To measure these distances, I obtained latitude and longitude coordinates based on street address for all branded hotels in Texas.<sup>5</sup> Using these coordinates, I calculated the geographic distance from the existing hotel to, for instance, the eighth, ninth, and tenth closest hotel operating in 1995. I defined all impact areas based on hotels existing in 1995 to keep the area constant throughout each hotel's lifespan. Exhibit 1 presents a graphical depiction of the impact area described by the tenth-closest hotel.

<sup>5</sup> Latitudes and longitudes were obtained via an online geocoding service provided by teleatlas.com.

The main benefit of the “closest hotel” approach is that it allows the impact area to vary in geographical size, to take into account greatly differing population and commercial densities. In rural areas, the distance to the tenth-closest hotel may be 30 or 40 miles, while in urban areas this distance may be as little as two

***During the 1990s, 220 existing hotels faced a new same-brand property opening within ten hotels’ distance.***

miles or just a few blocks. Yet these both likely represent valid areas within which hotels of the same brand are viewed as substitutes by consumers. In rural areas, for instance, consumers are likely to view geographically distant hotels as substitutes if they are at subsequent, developed exits of the same highway, for example.

On the other hand, certain geographical measurements that might constitute impact areas are not reliable. In particular, fixed administrative boundaries (e.g., counties, Metropolitan Statistical Areas, ZIP codes) or fixed-mileage-distance radii are not useful in describing impact areas. Counties and MSAs vary far too greatly in terms of size. To give extreme examples, Harris County (home of Houston) had 114 hotels of the ten brands of this study in 1999, while Deaf Smith County (just west of Amarillo) only had one, a Best Western. The Houston MSA had 136 hotels of the ten brands, while the San Angelo MSA (southwest of Abilene) had only nine. Most ZIP codes cover too little territory to capture the effects of impact. In the Texas data, for instance, only 18 hotels were opened in the 1990s in ZIP codes with an existing same-brand property. Finally, fixed-mileage radii present problems because of hotel density variation across different locations, as mentioned above. That said, when I applied a 25-mile cutoff in addition to the tenth, fifteenth, and twentieth closest hotel distance cutoffs, the impact effects were some-

what larger than those presented without the circumscribed radius.

### **Entries and Exits within the Impact Area**

All same-brand hotels that entered an existing hotel’s impact area during the study period were added to the “entries of same brand” variable, from the time of entry onwards. In some franchise-chain regressions, the entry variable is split into two components, “conversions to same brand” and “same-brand foundings,” to capture any divergent effects of conversions and new construction. Only four hotels converted from other brands to the two company-owned brands, so conversions and foundings are not analyzed separately for these two brands.

**Chain expansion.** Existing hotels faced the entry of same-brand competitors during the study period at the following levels. For 220 incumbent hotels, at least one entry of the same brand took place within the tenth-closest definition of the incumbent’s impact area. Of those 220 potential impact situations, one brand conversion took place within the tenth-closest impact area for 30 incumbents, and at least one new property opened within this area for 200 incumbents. Another ten hotels were affected by both a conversion and a new property. Expanding the definition of the impact area to the fifteenth closest property, at least one entry of the same brand took place within the impact area of 337 hotels. Those competitors comprised one brand conversion for 48 incumbents and at least one newly constructed property for 312 incumbents.<sup>6</sup> These counts are also displayed in Exhibit 2.

<sup>6</sup> In the analysis of the franchised brands, a new same-brand hotel in the vicinity of an incumbent hotel is added to the “entries of same brand” variable even if both hotels are owned by the same franchisee. While multi-unit franchisees that own several proximate units are common in fast-food franchising, there are too few cases here of the same franchisee owning a new hotel close to an existing same-brand hotel to analyze these cases separately. Among the 1,128 franchised hotels included in the analysis, only for 11 did the same owner open another hotel of the same brand closer than the tenth branded hotel, and this number increased only to 14 for the closest twentieth. Results did not change when these hotels were removed from the entry and exit counts.

## EXHIBIT 2

### Number of hotels experiencing impact

	Hotels of Franchised Chains			Hotels of Company-Owned Chains		
	10th Closest	15th Closest	20th Closest	10th Closest	15th Closest	20th Closest
<b>All Same-brand Entries (conversions + foundings)</b>	220	337	418	27	44	55
<b>Same-brand Conversions</b>	30	48	69	8	10	11
<b>Same-brand Foundings</b>	200	312	391	20	35	47
<b>All Same-brand Exits (conversions + closings)</b>	55	96	127	6	6	8
<b>Same-brand Conversions</b>	27	43	60	2	2	2
<b>Same-brand Closings</b>	31	56	72	4	4	6

Note: Entries means one or more hotels of the same brand opening within impact area, as defined by number of hotels intervening between the new entry and the existing hotel.

**Folding the tent.** All hotels of the same brand that exited within an incumbent's impact area are included in the "exits of same brand" variable from their date of exit onwards. As is the case with the entry variable, the "exits of same brand" variable is split into conversions and closings (again, meaning that the flag is gone, but not necessarily the hotel operation). For La Quinta and Motel 6, only two hotels were converted to other brands, while another nine closed down. For this reason, the revenue effects of exits could not be analyzed for the two company-owned brands.

### Definitions of Other Independent Variables

Counts of new hotels of other brands within the impact area are also included so that the same-brand and other-brand entry effects can be compared. I count separately the mid-market and economy hotels to distinguish between competition from hotels in the same tier and those in another tier. If a given hotel is ranked as mid-market, then the counts of mid-market

hotels of other brands are included in the "new same-tier/other-brand hotels" variable. Likewise, if the given hotel is economy, then this variable consists of other economy brands. The "new other-tier hotels" variable consists of the count of mid-market entries for an economy hotel and economy entries for the mid-market properties.

**AAA-diamond division.** The dividing line that I used to split mid-market from economy brands was the mean rating in the 1998 Texas AAA guidebook of 2.5 diamonds. By that measure, Comfort Inn, Holiday Inn, La Quinta, and Hampton Inn are considered mid-market. (Comfort Inn was the lowest ranked mid-market chain with 2.74 diamonds.) With rankings averaging below 2.5 AAA diamonds, Best Western, Days Inn, Econolodge, Motel 6, Ramada, and Super 8 are economy brands. (Thus, Ramada was the highest-rated economy chain with an average of 2.44 diamonds.)

While the hotel fixed effects eliminate any influence of regional economic heterogeneity and the brand-and-year intercepts similarly

**EXHIBIT 3**
**Two-factor fixed-effects regressions on quarterly revenues**

Impact area definition	Franchised Hotel Chains						Company-Owned Hotel Chains		
	Within Closest 10 Hotels		Within Closest 15 Hotels		Within Closest 20 Hotels		Closest 10	Closest 15	Closest 20
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Entries of same brand	<b>-66.81</b>		<b>-64.3*</b>		<b>-51.0*</b>		<b>119.32</b>	<b>96.08</b>	<b>74.49</b>
Conversions to same brand		-71.56		<b>-80.53</b>		<b>-85.16</b>			
Same-brand foundings		<b>-66.03</b>		<b>-62.12</b>		<b>-47.46</b>			
New same-tier/other-brand hotels	<b>-36.27</b>	<b>-36.33</b>	<b>-30.41</b>	<b>-30.73</b>	<b>-25.65</b>	<b>-26.09</b>	<b>-46.20</b>	<b>-34.57</b>	<b>-34.76</b>
New other-tier hotels	<b>-17.09</b>	<b>-17.08</b>	-5.02	-5.05	-6.13	-6.14	<b>-15.71</b>	<b>-24.41</b>	<b>-24.24</b>
Exits of same brand	54.32		<b>128.5*</b>		<b>102.1*</b>				
Conversions from same brand		66.62		<b>171.73</b>		<b>164.85</b>			
Same-brand closings		46.82		<b>101.18</b>		56.67			
Same-tier/other-brand closings	34.60	34.75	30.22	30.86	25.51	25.53	<b>119.27</b>	<b>84.88</b>	<b>77.83</b>
Other-tier closings	<b>66.78</b>	<b>66.77</b>	8.80	7.82	1.27	.08	-8.57	20.54	<b>36.60</b>
R Squared	.26	.26	.26	.26	.26	.26	.46	.47	.49

Notes: All figures are in US dollars. Franchised hotels comprise 16,205 quarterly observations for 1,128 hotels. Company-owned chains comprise 5,942 observations for 187 hotels.

Statistical significance with 95% confidence interval is shown in **blue boldface**; Statistical significance with 99% confidence interval are shown in **red boldface italic**. An asterisk (\*) indicates that losses due to “Entries of Same Brand” are significantly greater in magnitude than those due to “New Same-Tier/Other Brand Hotels” (or that gains due to “Exits of Same Brand” are greater than those due to “Same-Tier/Other Brand Closings”) with 95% confidence interval via an F-test.

The following additional control variables were included but are not shown: count of retail businesses within the hotel’s zip code, retail growth in the zip code, and spatially lagged revenues.

eliminate temporal effects such as recessions, those adjustments do not eliminate heterogeneity that is both time and region specific. A region may experience sudden economic growth, for example, allowing for both higher revenues for existing hotels and entry of new hotels. Temporal or regional heterogeneity issues may bias results against the finding of impact effects. To control for those factors, I constructed the spatial lag using the average revenue losses at other existing branded hotels within the impact area, temporally lagged by one year.<sup>7</sup>

I include the number of retail establishments in the ZIP code where the hotel is located, as well as the net change of retail establishments from the year previous to that of the given observation. I include dummies for spring, summer, and autumn because many hotels in Texas exhibit substantial seasonal variation in revenues. These variables are not included in the tables to conserve space, but they are present in all regressions.

### Main Results

Exhibit 3 presents results from two-factor fixed-effects regressions. For the eight franchised chains, the first two columns use the tenth-closest definition of the impact area, the third and fourth columns use the fifteenth closest, and the fifth and sixth use the twentieth closest. Each distance cutoff shows two regressions, one for all entries and exits of same-brand competitors and the other in which entries and exits are split into conversions and new construction.<sup>8</sup> The regressions for the two company-owned brands have only three columns, because of the few conversions and exits, as I explained above.

<sup>7</sup> The extensive spatial econometrics literature uses “spatial lag” variables as a control. See, for example: Luc Anselin, *Spatial Econometrics: Methods and Models* (Dordrecht, Netherlands: Kluwer Academic Press, 1988).

<sup>8</sup> That is, the first regression uses the “entries of same brand” and “exits of same brand” variables. The second splits the “entry” variable into the number of conversions (from other branded chains) and the number of same-brand foundings (which include new construction and conversions from non-branded properties). The “exits” variable is split into the number of conversions to other brands and the number of same-brand closings.

**Impact of entries.** The “entries of same brand” variable is negative and statistically significant in columns 1, 3 and 5, indicating that, for the eight franchised chains, revenues of existing hotels decrease significantly when a same-brand hotel opens nearby. A new same-brand hotel within the closest ten hotels of an incumbent hotel is associated with a loss of \$66 per room for the existing hotel during each quar-

***Revenues of existing franchised hotels decreased when a same-brand hotel opened nearby—but the same is not true of properties owned by company-owned chains.***

ter from the time of the new hotel’s opening onwards, while a same-brand hotel among the closest 20 properties is associated with a loss of \$51. As the mean hotel size among the ten chains studied here is 110 rooms, the revenue losses associated with same-brand entry translate into an average loss of \$7,360 per quarter, or 2.7 percent of a hotel’s mean revenues. In a striking contrast, opening a new company-owned hotel of the same brand was associated with a per-room quarterly gain of \$119 to \$75 for the existing property, depending on the size of the impact area.

**Conversion effects.** When one considers conversions to the same brand as a separate variable, existing hotels’ revenues per available room per calendar quarter fell between \$71 and \$86, depending on the size of the impact area. New same-brand properties cost existing hotels an average of \$66 to \$47 per room per quarter, again depending on the extent of the impact area. These findings are all significant, except for conversions within the ten-hotel impact area, which is just shy of statistical significance ( $p = 0.138$ ). The likely reason that same-brand conversions show a larger effect is that the converted hotels are typically larger properties than are the newly built hotels.

**Smaller slices of the pie.** The regression analysis also showed the revenue-trimming effects of competing brands' opening within the impact area. A more crowded market consistently has significantly negative revenue effects not only for the franchised chains, but also for the company-owned brands. For the franchised chains, however, the losses to existing hotels due to same-brand entries are significantly greater than the losses associated with new competitors in their tier; an F-test on the difference between the two coefficients is statistically significant with a 95-percent confidence interval for the fifteenth closest and twentieth closest definitions of impact. New other-tier hotels within the impact area also cause revenue losses, albeit smaller, of between \$17 and \$6, depending on the extent of the impact area.

**Thinning market.** When same-brand competitors leave the market (converting to another brand or to no brand at all), revenues of the remaining hotels significantly increase. The exit of a same-brand hotel within the closest 15 hotels is associated with a gain of \$129

***All hotels in a market see a RevPAR decline when a competitor enters, but that reduction is greater in magnitude when a same-brand property opens.***

per room per quarter from the time of the exit. When the impact sphere extends to 20 properties, the average revenue gain is \$102 per room per quarter.

As shown in columns 2, 4, and 6, the "exits of same brand" variable is split into "conversions from same brand" and "same-brand closings." Conversions to a different brand are associated with increases in existing hotels' revenue of \$172 for the fifteenth-closest hotel definition of the impact area, and \$165 for the twentieth-closest definition, while the closing down of a same-brand hotel increases revenues by \$101 for a fifteen-hotel area and \$57 for a

twenty-hotel distance. Same-tier/other-brand exits are positive and marginally significant, but other-tier exits within an incumbent's impact area have negligible revenue effects for existing franchised hotels.

**Hand grenades, horseshoes, and hotels.** As a rule, the data show that the closer the new property, the greater the impact on existing properties.<sup>9</sup> Exhibit 4 demonstrates how impact declines as larger and larger radii are used to define an impact area. A statistically significant (different than 0 with a 95-percent confidence interval) impact effect remains even when we use areas as wide as the distance to the twenty-fourth closest chain hotel. However, the impact effect has shrunk below \$30 when hotels as far as the twenty-third and twenty-fourth closest are included. Beyond this area the effects become statistically insignificantly different from zero and continue to diminish.

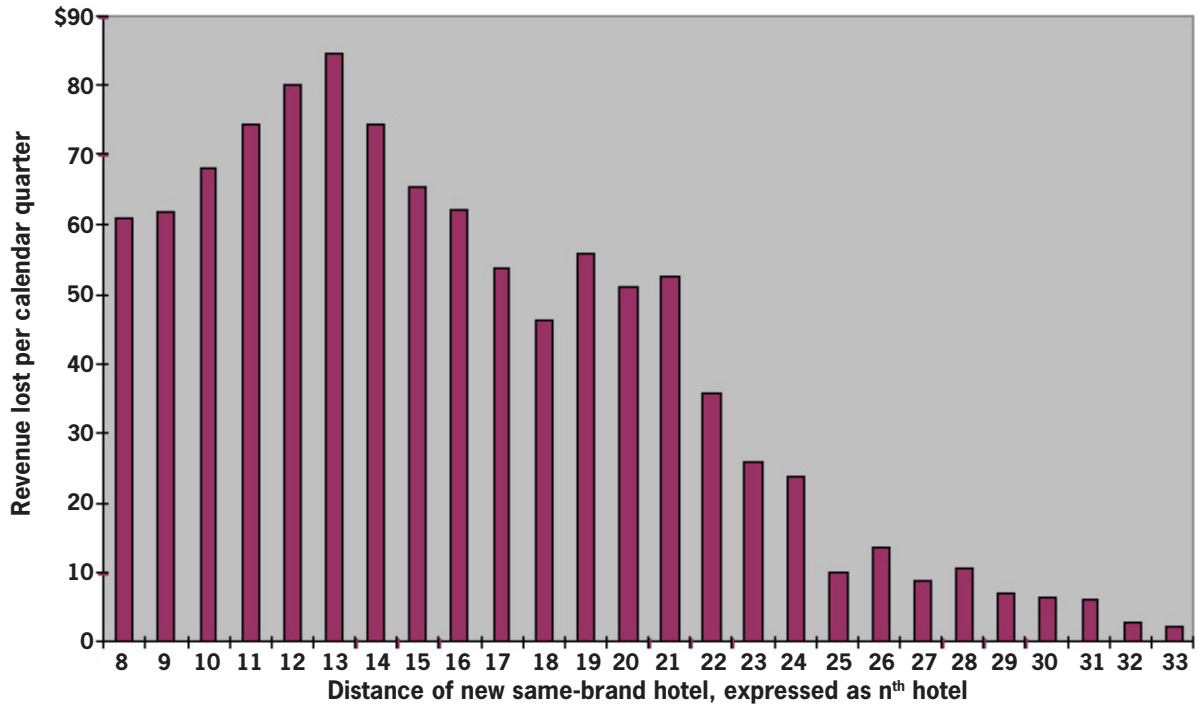
### **Subsample Results (Chain-by-Chain and Urban vs. Rural Areas)**

To eliminate the possibility that results within just one or two of the chains are driving the overall economic and statistical significance of the aggregated sample, the specifications of the columns 1, 3, and 5 in Exhibit 3 were estimated for each chain individually. Statistically significant and negative impact effects of same-brand entry were found for at least one of the three impact-area definitions for six of the eight franchised chains; four chains showed negative and significant effects for two of the three area definitions. Both of the company-owned brands exhibited positive and significant effects associated with new hotels opening in the vicinity of their existing ones when analyzed separately, much like the joint effects presented in Exhibit 3.

I also split the sample into urban and rural subsamples. When estimated separately, the results of both subsamples were consistent with

<sup>9</sup> A children's saying exists that "close" only counts in horseshoes and hand grenades, but it turns out that close also counts in hotel impact.



**EXHIBIT 4****Effects of distance on impact for franchised hotels**

those of Exhibit 4, with one intriguing exception. For the franchised chains, the “new other-tier hotels” variable is positive and significant, indicating that hotels’ revenues actually increase when a larger mix of hotels appears in a rural location. It makes sense that such effects should occur in rural areas such as highway exits, because the cluster of hotels itself is likely to become an attraction in those areas.<sup>10</sup> Both mid-market and economy hotels benefited from the presence of other-tier entry.

<sup>10</sup> W. Chung and A. Kalnins “Agglomeration Effects and Performance: A Test of the Texas Lodging Industry,” *Strategic Management Journal*, Vol. 22 No. 10 (2001), pp. 969–997.

### **Impact of Other Brands Owned by the Same Franchisor Corporation**

The analysis above treats all brands as identical in the definition of the “new same tier” and “new other tier” variables. That may not be appropriate, however, given franchisees’ complaints that impact can come not only from new hotels of their own brand, but also from other brands owned by the same franchisor. Therefore, in regressions not shown here, a “new same-franchisor corporation” variable was created and those hotels were not included in the counts for the “tiers” variables. While the



revenue losses to existing hotels associated with the hotels of the same franchisor were slightly larger (\$38) than those for others of different franchisors but of the same tier (\$36), the null hypothesis that these coefficients were the same could not be rejected and the franchisees' complaints could not be sustained.

### Limitations

The results presented in this report provide systematic evidence regarding the economic importance of impact, but the results here are limited to one U.S. state. Nevertheless, attributes of Texas and its hotel industry suggest that the findings here may indeed be general-

***The encroachment of new properties cost existing hotels a 2.7-percent loss in RevPAR—hardly an amount that should draw regulatory scrutiny.***

izable. Texas is a large state with a wide variety of location types (e.g., urban, rural, major highways, and coastal resorts) that appear representative of those existing throughout the United States. Given the state's size and diversity, there is little reason to believe that markets in Texas differ significantly from those in nation as a whole.

### Implications for Franchisees and Policy

As an increasing number of franchisors find they have exhausted the supply of new domestic markets, they will continue to grow by adding hotels in markets they already serve. Ongoing conflicts with franchisees are inevitable, and franchisees will likely continue to seek legislative and judicial relief for the resulting impact. Even though this study gives strong evidence of impact in franchised chains, that does not necessarily warrant the legally imposed territorial protection that many franchisees have sought and which is found, for example, in the

Iowa Franchise Act of 1992. I offer three arguments for this contention. First, the contracts that the franchisees sign with many franchisors of large and established brands give those franchisees little protection from impact. If exclusive territories are particularly important to franchisees, the market is able to fulfill this need. Many franchisors, typically those with relatively less established brands, are willing to provide franchisees with exclusive territories.<sup>11</sup> Franchisees must address explicitly their need for protection against impact. Second, the intra-brand competition generated by impact improves overall welfare, as consumers pay lower prices and have more convenience in the form of more locations to choose from. Legislation and courts that impute and enforce territorial exclusivity not specified contractually place government institutions in the curious position of reducing consumer welfare. Third, even after new same-brand hotels have encroached on an incumbent's market, the ongoing profits (or at least the expected average profits) associated with remaining a franchisee of the brand likely remain positive—the 2.7-percent losses are unlikely to cause anyone to go out of business (absent internally generated business-failure issues). Otherwise, it is unlikely that franchisors could consistently recruit new franchisees for their brands.

While stopping short of creating an argument for legal protection against impact, the results presented here do emphasize the need for franchisees to take the possibility of impact seriously. They need to be skeptical of the claims franchisors often make to justify encroaching location choices.<sup>12</sup> For example, franchisors have stated that loss of revenues at existing locations is an unfortunate but necessary aspect of expansion. If this were true, we would ob-

<sup>11</sup> For an extensive analysis of Franchisors' uniform offering circulars on this point, see: P. Azoulay and S. Shane "Entrepreneurs, Contracts, and the Failure of Young firms," *Management Science*, Vol. 47 (2001), pp. 337-358.

<sup>12</sup> The three claims are quoted from: M. Sheridan and A. Gillespie, "Hotel Industry Slow to Confront Encroachment, Financing Issues," *National Real Estate Investor*, May 1, 1995, p. 64.

serve similar revenue losses due to impact at the company-owned brands. But this paper presents evidence that, while those chains do expand in markets close to their existing locations, incumbent company-owned hotels do not lose revenues following that expansion. Thus, revenue losses are not simply a necessary part of expansion.

Second, some franchisors have made the argument that if they do not open a hotel at a promising location, then one of their competitors will. They support that argument with the contention that having one of their own hotels will be less disadvantageous to an existing franchisee than a hotel of a competitor's brand. The results here also contradict this assertion. Additional hotels of the same brand have a statistically significant effect on the revenues of an existing hotel that is more negative than the effect of additional hotels of other brands within the same market tier. Of course, some of the benefits the franchisors allude to may occur at the cost-reduction level, which would not be observable in any revenue-based analysis, but at least in the realm of revenues, there appear to be no benefits to the franchisees from other hotels of the same brand in their vicinity.

Third, the franchisors claim that the "brand awareness" phenomenon exists: the more of their hotels are in an area, the more demand will grow. While there may be a positive brand-awareness effect caused by multiple same-brand hotels in a market (which may ex-

plain why existing company-owned properties do well when new same-brand hotels open), the evidence presented here shows that any such benefits to incumbent franchisees are outweighed by the effects of increased competition from new same-brand hotels, at least within the franchised chains.

Finally, the franchisors do have "impact policies" in effect that are meant to allay the franchisees' trepidations regarding the nega-

***Because impact costs franchisees real money, they should be aware of and invoke their franchisor's impact policies when necessary.***

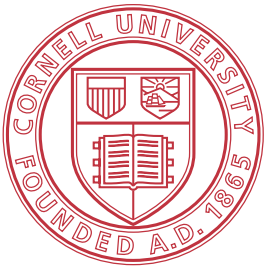
tive effects of same-brand entry.<sup>13</sup> The chains allow franchisees to petition the franchisor to stop the development of a new same-brand unit in their vicinity, but burden of proof has been typically placed on the existing franchisee. While these policies may have reduced the negative revenue effects of impact, they have not stopped the effects. Franchisees must remain aware of impact and be prepared for impact-based revenue decreases as demand for lodging in their local markets continues to grow.

<sup>13</sup> D. Patel and J. Corgel "An Analysis of Hotel-impact Studies," *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 36 No. 4 (1995) pp. 27-37.

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