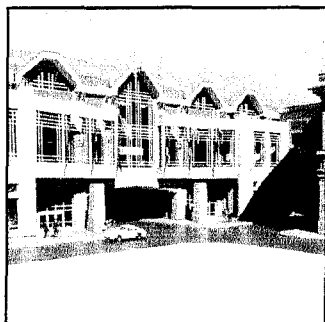


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Philadelphia's Luxury Hotels: Boom or Bust?

The building boom of the 1980s struck Philadelphia's upscale market only recently. Until demand catches up, the outcome is certain to be a boon for travelers and discomfort for hoteliers

by **Brian Becker**

OVER THE PAST three years, construction of luxury hotels has surged in Philadelphia, with four new upscale hotels comprising 730 rooms opening in the center-city area. The total number of upscale rooms more than doubled to over 1,090 in that time. This recent expansion began in 1989, with the openings of the Rittenhouse (114 rooms) and the Hotel Atop the Bellevue (formerly the ill-fated

Bellevue-Stratford, 170 rooms). In 1990, the Omni opened with 155 rooms and the Ritz-Carlton re-opened with 290 rooms.¹

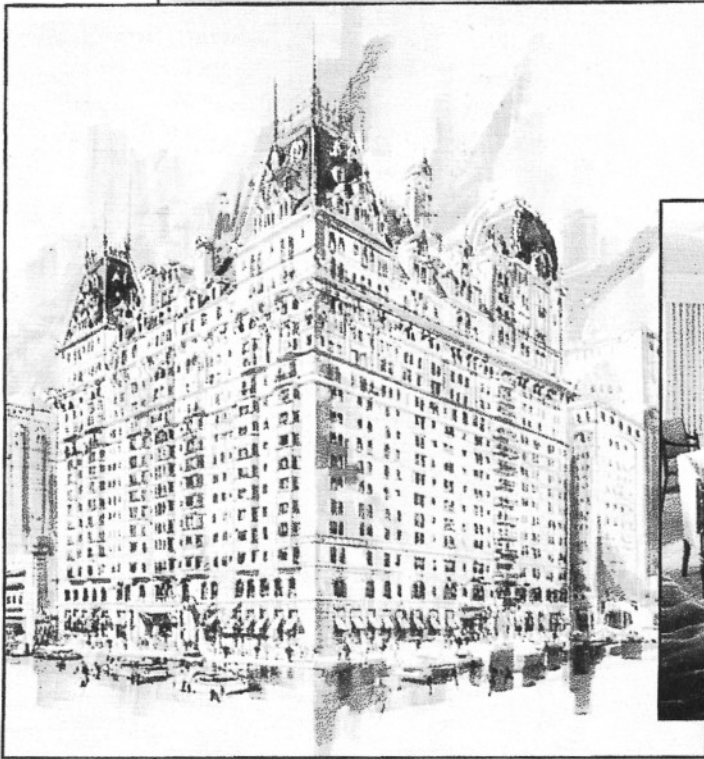
Moreover, that expansion isn't complete; the Rittenhouse has added 20 rooms, and Marriott is opening an 1,100-room hotel adjacent to the city's convention center, which itself is scheduled to open in 1994. In March 1991, *Philadelphia* magazine reported 20

hotel projects were under consideration or in the preliminary stages of construction.

In this article, I will present an analysis of Philadelphia's luxury

***Brian Becker** is a Ph.D. candidate at the Wharton Business School of the University of Pennsylvania. His conversations with Colin Cammerer of the University of Chicago and Ray Skaddan of Pannell Kerr Forster were helpful in completing this work. The author also acknowledges the editorial assistance of Quarterly editor Glenn Withiam.*

¹Tom Belden, "Views from the Top of the Hotel Market," *Philadelphia Inquirer*, September 10, 1990, pp. 1E, 8E. The former Philadelphia Ritz-Carlton closed in 1954.



Photographs courtesy of the Philadelphia Convention and Visitors Bureau.



Philadelphia's Bellevue-Stratford closed in the early 1980s and reopened in 1989 as the Hotel Atop the Bellevue (above). In 1986, the city of Philadelphia announced construction of a convention center, pictured on the next page (and the cover), to be completed in 1994. Despite the recent addition of some 3,000 rooms, hotel-industry analysts suggest that Philadelphia's hotel-room supply will have to more than double (from 5,000 rooms in 1989) to meet the city's hoped-for demand for conferences. Even then, without several more convention-oriented hotels, there may not be sufficient rooms to handle all the available business by the turn of the century.

hotel market. The strategic considerations involve the following factors: the convention center and critical mass of hotels, occupancy rates, supplier relationships, Amtrak's interaction, the trickle-down effect, multi-market contact, the national hotel picture, demand uncertainty, and the effect of name brands. I also present a possible scenario for Philadelphia's upscale hotels.

Although there is no specific definition of what collection of services constitutes a luxury or upscale hotel, hoteliers generally agree that such properties must supply a full range of amenities and cater to business travelers. In Philadelphia, those amenities include a concierge, a pool, 24-hour

room service, business services (e.g., facsimile machines, word processors), a health spa, and premium-satellite services. The luxury category includes all five-star hotels and some of the better four-star properties. The next lower category of hotel, which I call first-class hotels, does not offer such a complete package of amenities and service.

The outlook for the luxury-hotel business in Philadelphia's center city (an area comprising some 250 blocks) has not always been bright. The early 1980s was a difficult time for the city's upscale hotels. The 1,400-room Ben Franklin (the city's largest hotel), the Penn Center, and the Bellevue-Stratford all closed. Those closings, a loss of

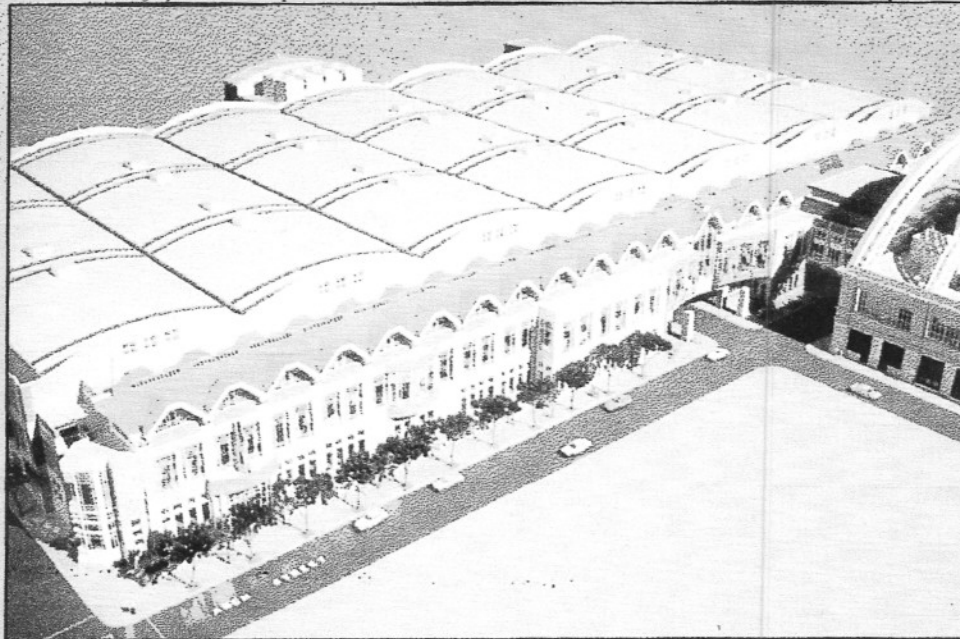
2,000 rooms, were piled on top of an earlier loss of 1,500 rooms in the mid-1970s.²

The only bright spot in this picture was the Four Seasons hotel, which opened 361 rooms in 1983 and has consistently enjoyed over 80-percent occupancy from that time. By 1989, in fact, the Four Season was the city's only luxury hotel. This void was soon filled by the properties I mentioned above.

Pricing. Pricing policies at the center-city hotels (i.e., the Four Seasons, the Rittenhouse, the Hotel Atop the Bellevue, the Omni, and the Ritz-Carlton) are generally

²Tom Belden, "Hotel Planners See Room to Grow," *Philadelphia Inquirer*, June 4, 1990, pp. 1C, 9C.

Artwork courtesy of the Philadelphia Convention and Visitors Bureau.



This model (above) shows what the Philadelphia convention center may look like when completed in 1994. At the time this facility was being planned, it was to be the second-largest convention center on the east coast and, combined with the city's five recently opened hotels, was expected to make Philadelphia competitive with major convention cities nationwide. Now, Atlantic City plans to open an even larger convention center (also in 1994), and some experts suggest that Philadelphia still may not have a sufficient number of rooms to host really large conventions.



Philadelphia's Omni (photo on right) opened in 1990 with 155 rooms—which is relatively small for an Omni.

Photo courtesy of Omni Hotels.

similar. Rack rates range from \$150–\$200 per night on weekdays.

Each hotel offers a corporate rate that lowers the tariff approximately \$10 per night, and group discounts can lower the bill even more (e.g., the room rate for a 1989 conference at the Four Seasons was under \$130).

Conventions and Critical Mass

In 1986, the city of Philadelphia announced construction of a convention center, to be completed in 1994. Even when the facility is completed, Philadelphia (with some 8,000 hotel rooms by then) will be a minor convention destination compared to such nearby locations as

Atlantic City, which has 18,000 rooms. At the end of 1989, there were just 5,088 rooms in center-city Philadelphia, and just 630 of them were upscale business accommodations.³ Hotel-industry analysts suggest that Philadelphia's hotel supply would have to double in the space of four years to meet the hoped-for demand for conferences. For instance, L. Clark Blynn, a principal at Pannell Kerr Forster estimated that the city would need another 4,000–5,000 rooms. Blynn added that the city would require five more convention-oriented hotels with 500–600 rooms each to achieve critical mass by the year 2000.

Philadelphia's current convention venue is the Civic Center, which hosted 11 mid-sized conventions comprising 105,722 guests over 29 days in 1990. The Civic Center, however, is in West Philadelphia, across the Schuylkill River, and it cannot host large conventions. The hotels themselves can accommodate meetings

³Ibid.

EXHIBIT 1

Hotel operations in center-city Philadelphia

NAME	YEAR OPENED	NO. OF ROOMS
<i>Luxury hotels</i>		
Hotel Atop the Bellevue	1989 ¹	170
Four Seasons	1983	361
Omni	1990	155
The Rittenhouse	1989	114
<i>First Class</i>		
The Barclay	1929	240
Hilton	1983 ²	428
The Latham	1970	139
Radisson Suites	1979 ³	270*
Sheraton Society Hill	1986	366
The Warwick	1978 ⁴	180
Wyndham Franklin Plaza	1981	758
<i>Mid-Price</i>		
Holiday Inn Center City	1971	450
Holiday Inn Independence Mall	1966	364
Holiday Inn Midtown	1966	161
Penn Towers	1974 ⁵	221
Quality Inn Historic Sites	1986	96
Sheraton University City	1976	377
<i>Budget</i>		
Comfort Inn—Penn's Landing	1987	185
Ramada Inn Center City	1984 ⁶	278
<i>Boutique</i>		
Independence Park Inn	1988	36
Penn's View Inn	1990	26
Society Hill Hotel	1980	12
Total Rooms		5,407

*These rooms are not included in the total.

¹Constructed in 1901, the former Bellevue-Stratford closed in 1986 to make way for a mixed-use project.

²Formerly a Hershey Hotel.

³Opened as apartments in 1965 and converted to the Palace Hotel in 1979, Radisson took over the property in 1990 and closed it for renovation in November 1991.

⁴Opened in 1929, operated until 1976, and reopened in 1978.

⁵Operated by Hilton from 1974–1987.

⁶Operated as Franklin Inn Motor Lodge, 1953–1983; Econo Lodge, 1984–1986; and Quality Inn, 1986–1991.

of 750–800 people. At the time it was planned, the new convention center was to be the second-largest on the east coast (the Jacob Javits Center in New York City is the largest). However, Atlantic City is planning a convention center, also due to open in 1994, that would be larger than Philadelphia's.

Nevertheless, Philadelphia's new convention center has already boosted future bookings. Between July 1990 and May 1991, Philadelphia hotels booked 271,185 room-nights, an increase of 46 percent from the same period the year before. Those bookings were for

conventions up to nine years in the future.⁴ Looking at those results, representatives of Philadelphia's hotels are understandably optimistic that the combination of new hotels and the convention center will make Philadelphia competitive with major convention cities.

Indeed, the city has received a substantial number of convention bookings. Some 23 meetings have been booked for the new convention center, bringing in 252,690 room-nights, with an estimated

⁴Data on convention-center sales were supplied by officials at the Philadelphia Convention and Visitors Bureau.

economic impact in excess of \$76 million. The largest convention now planned for Philadelphia is the 1996 gathering of the American Association of Physicists in Medicine, which will bring 30,000 persons to the city. Before that onslaught, Philadelphia will host the May 1994 meetings of the Instrument Society of America, which will require 4,280 rooms for five nights, and the American Psychiatric Association, which will average 5,000 rooms for six nights. The Philadelphia Convention and Visitors Bureau estimates that those two conventions alone will generate more than \$14.7 million for the city.

Cluster strategy. To assist meeting planners, the convention bureau is currently grouping hotels by geographic clusters. Convention planners will be offered one or more clusters of hotels from which to book, depending on the size of the meeting. The planner can choose hotels from within a cluster based on the number of rooms the properties have set aside for meetings and the rates the hotels offer the group.

That arrangement sets up an interesting strategic situation for hoteliers, who must decide how many rooms to set aside for group business—thereby gaining certain future business at a reduced rate—and how many rooms to hold open for higher-rate last-minute bookings by individual business travelers. My initial assessment is that managers would open relatively more rooms to conventions in the winter months, when Philadelphia's occupancy rates are typically lowest.

Occupancy

Occupancy rates are critical to the analysis of Philadelphia's upscale hotels, because nearly 62 percent of the typical hotel's revenues

come from room sales.⁵ At this writing, the verdict is still out on the hotels that opened during the recent boom. PKF's Ray Skaddan suggested that the city's luxury market is "maxed out" for the moment, and that existing hotels will have to fight for their revenues. PKF figures show the following:

(1) Average year-to-year occupancy for Philadelphia's hotels dropped in every monthly comparison between 1988 and 1989.

(2) Downtown Philadelphia hotels saw occupancy fall from an average of 69 percent in 1989 to 65 percent in 1990.

(3) In the same time period, expensive hotels' average occupancy (i.e., with ADR above \$85) dropped from 67.3 percent to 66.4 percent.

(4) In the dismal first three months of 1991, average occupancy fell to 46.5 percent in January, 56.1 percent in February, and 57.3 percent in March.

By fall 1991, a representative of the Coopers & Lybrand hospitality practice expressed doubt that any of the four recently built luxury hotels was consistently achieving over 50-percent occupancy. That view was disputed, however, by front-office managers at the hotels. The Ritz-Carlton claimed 65-percent occupancy for April 1991 and 70 percent for May, while the Bellevue reported 58.6-percent occupancy for its fiscal year 1990, and was said to be averaging 61.2-percent occupancy through June 1991.

Supplier Externalities

The five upscale hotels do not use common suppliers. No supplier of such daily items as soap, shampoo, and linen service was a vendor to more than one hotel. Moreover, the four hotels constructed nearly at

⁵*Trends in the Hotel Industry* (Houston, TX: Pannell Kerr Forster, 1990).

the same time did not gain economies of scale by using common builders.

The Amtrak Effect

Would the presence of additional luxury hotels influence business travelers to stay overnight rather than taking red-eye rail service to go back home? An examination of Amtrak's Metroliner service cannot provide a conclusive answer to that question, since Amtrak does not compile data on specific services originating from different cities or operating at different times. Passenger traffic on the entire northeast corridor (Boston to Washington, D.C.) was flat between 1989 and 1990, and overall Metroliner service was off nearly 4 percent during that time period, according to Amtrak figures. At the same time, Amtrak traffic in an out of Philadelphia jumped by 6 percent. While it is impossible to draw a firm conclusion from those figures, the presence of additional luxury hotels might well have brought new patrons into the city.

Borrowed Time

One analyst suggests that the luxury hotels are living on borrowed time. A study by Peter Tyson, formerly with Laventhol & Horwath, found that luxury hotels could typically capture just 16 percent of the total market share enjoyed by luxury and first-class hotels. In Philadelphia, however, luxury hotels had a one-third share and first-class hotels a two-thirds share of the top market segments in 1991.⁶ If the 16-percent estimate is correct, one of two scenarios would develop: (1) some luxury hotels would exit the market (most likely the Bellevue or the Rittenhouse, due to financial

⁶Tom Werner, "Suburban Hotel Ranks Swelling in Numbers," *Philadelphia Business Journal*, March 11-17, 1991, pp. 7B-8B.

The city's new hotels and new convention center should make Philadelphia a viable alternative for all but the largest conventions.



Photographs courtesy of the Philadelphia Convention and Visitors Bureau.

The Four Seasons hotel (pictured above and at right), which opened with 361 rooms in 1983, was the city's only luxury hotel for much of the 1980s. As a result, it consistently enjoyed over 80-percent occupancy during that time.

With the Four Seasons performing so well, it's well to wonder why no competitor entered the Philadelphia market for six years. According to officials at the Bellevue and the Ritz-Carlton, there was too much uncertainty about the luxury market in Philadelphia. Once Four Seasons's continued success clearly resolved that uncertainty, other companies were willing to jump in.



structure or lack of national name recognition); or (2) the luxury hotels may discount room rates to steal business from first-class hotels.

A Coopers & Lybrand analyst says the second scenario is already playing out. Luxury hotels have discounted rates, particularly on weekends. *Philadelphia* magazine reported that all five hotels offered a special weekend rate of between \$99 and \$135 to compete with first-class hotels' packages, which generally run from \$89-\$99. Five of the six first-class hotels operating in center city were renovating and expanding advertising to meet the expected challenge from luxury hotels. (Those hotels were the

Hilton, the Latham, the Sheraton Society Hill, the Warwick, and the Wyndham Franklin Plaza. The sixth, the Barclay, has been for sale since May 1989. A seventh first-class hotel, the Radisson Suites, temporarily shut down late in 1991.)

Trickle-down. Widespread rate discounting eventually leads to the phenomenon known as the "trickle-down effect," in which an upscale hotel attempts to raid customers from the next market segment down. The behavior of the luxury properties has made their assault on the first-class market obvious. It may even be that the four newest luxury hotels were built with that

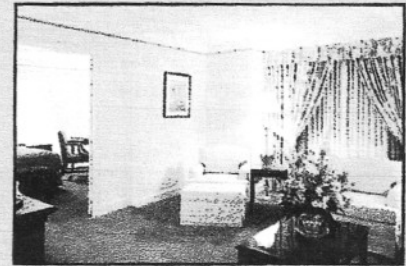
strategy in mind. That is, the luxury operators may have viewed the first-class hotels as being in an exploitable position. Representatives of all five luxury hotels denied making any effort to attract first-class hotels' customers, however. None of these operators cited vulnerability of first-class operators as a significant factor in their decision to enter the market. Instead, the void in the upscale market was the attraction, as explained by Neta Van Der Gaast, a public-relations official of the Omni: "The major factor was the deficiency of luxury hotels in Philadelphia."

Discounting prices can be a

Photographs courtesy of the Philadelphia Convention and Visitors Bureau.



Although some analysts are skeptical, the Ritz-Carlton (above and right) claimed a 65-percent occupancy for April 1991 and 70 percent in May 1991.



As for the Rittenhouse (left), that 20-year project failed to come to fruition twice before so its ultimate opening was delayed until 1989 despite the success of the Four Seasons.

dangerous tactic for upscale hotels. A drop in price might signal a drop in quality to some consumers. Although these hotels cater to business travelers who care more about quality than they do about price (and a price war is unlikely), no official of the five upscale hotels claimed that their customers were totally price insensitive. Moreover, the hoteliers have observed the following changes in their guests:

(1) Customers are more concerned about price now than they were a year ago.

(2) If individual customers are not concerned about price because their company pays the bill, then the *companies* are concerned and

do negotiate on price.

(3) Different types of guests (e.g., corporate transient, groups, walk-ins, and weekend travelers) each have different levels of price sensitivity.

In all, the hotels seem to be acting quite rationally by using business discounts, weekend specials, and other rate deals to discriminate by price among various customer types.

Multi-Market Contact

In some industries, multi-market contact increases competition, while in others it engenders collusive activity. Assumptions in a study on multi-market contact by

Bernheim and Whinston could be applied to the Philadelphia luxury-hotel market.⁷ In this section, I will assess the degree of multi-market contact among the three luxury hotel chains. Since the Rittenhouse and the Hotel Atop the Bellevue are not affiliated with other hotels, their multi-market contact cannot be assessed. At the time of my study, there were 27 Four Seasons properties, 35 Omnis, and Ritz-Carlton was operating in or planned to build in 34 cities.

Using two different models (see the box on page 41), I examined

⁷Douglas Bernheim and Michael Whinston, "Multimarket Contact and Collusive Behavior," *Rand Journal of Economics*, 21 (1990), pp. 1-26.

whether the three chain hotels seemed to have a strategy of meeting each other head on or whether they avoided each other. The models compute the probable number of cities where each of the three pairs of chains (i.e., Ritz-Carlton/Four Seasons; Ritz-Carlton/Omni; and Four Seasons/Omni) would be expected to meet.

One model factored in only the number of hotels in each chain and the number of major markets in which they could operate. The indication from that model is that Omni competes against Four Seasons and Ritz-Carlton in fewer markets than would normally be expected. The second model considers such additional variables as market size and the possibility of more than one chain in each market. Considering 32 major cities, the significant finding of the more refined model is that Four Seasons and Ritz-Carlton met head-to-head in far more markets than would be expected with non-strategic behavior.

Considering two different breakdowns of market size, the refined model predicts that Four Seasons and Ritz-Carlton would meet by chance in either six or nine markets, while the two chains actually compete directly in 15 cities. In contrast, two other chains—Omni and Four Seasons—seem to be avoiding each other, meeting in fewer markets than the model predicts (although the finding does not have statistical significance).

The National Picture

Philadelphia is in no way alone in the expansion of its luxury-hotel market or in the development of a convention center. Six major cities besides Philadelphia have recently expanded, built, or planned construction of convention centers. Four of the six cities experienced a concomitant boom in upscale-hotel

construction, while only two (Cincinnati and Minneapolis) have not seen such booms in the wake of a convention-center announcement. Those two cities are relatively small (less than one-quarter the size of Philadelphia) and lost population during the 1980s. Three of the other four cities are large (e.g., Dallas, Los Angeles, and San Diego—the fourth is Portland, Oregon), and all four experienced hotel-supply growth ahead of the national average of 10 percent per year in the late 1980s.

Philadelphia was unusual during the 1980s in that it lost hotel rooms. Over one million hotel rooms were added to the U.S. supply between 1980–89, a 50-percent increase. In contrast, center-city Philadelphia lost 20 percent of its hotel rooms during the same period.⁸ In some ways, the U.S. hotel boom and Philadelphia's shrinkage reflected population growth during the time period. The United States' population grew by 10 percent during the 1980s, while Philadelphia's population shrank by 6 percent.

One would like to model the luxury-hotel market as a cycle, but that model has been difficult to create thus far. The idea would be to consider a city before, during, and after the opening of a new (or expanded) convention center. The industry as a whole is much easier to regard as operating in cyclical fashion. The industry enjoyed high occupancy rates in the early 1920s and late 1940s, followed by periods of building that caused occupancy rates to plummet (e.g., in the late 1950s and the current day). A good example of the recent cycle was presented by George Overstreet in a *Quarterly* article profiling the hotel industry in Charlottesville, Virginia. In that case, feasibility studies in 1983 had shown that the market could support another 200

⁸Werner, op. cit.

rooms, but eight different companies came in to build those rooms, resulting in a total supply addition of 1,116 rooms over the next six years. The results were bankruptcies and distressed property sales.⁹

The Uncertainty Factor

With the Four Seasons performing so well, it may be hard to understand why no competitor entered the Philadelphia market for six years. The answer given by public-relations officials Kimberly Barge of the Bellevue and Linda Boyle of the Ritz-Carlton was that there was too much uncertainty about the luxury market in Philadelphia, but the Four Seasons's continued success resolved that uncertainty. As for the Rittenhouse, public-relations official Linda Millevoi explained that it was a 20-year project that had failed twice before to come to fruition, so its ultimate opening was delayed despite the success of the Four Seasons.

The entry rate of luxury hotels in Philadelphia increased as the demand uncertainty decreased. One way that hotels can hedge against demand uncertainty is by building small hotels, but that effect is confounded by what Singh and Lumsden called "liability of smallness," based on their finding that small firms in many industries are more likely to fail than large ones.¹⁰ PKF's *Trends* publication shows somewhat higher occupancy nationwide for medium- and large-size, full-service hotels than for small properties.

If demand uncertainty is resolved over time, one would expect early entrants to be smaller than later ones. After the Four Seasons

⁹George Overstreet, "Profiles in Hotel Feasibility," *The Cornell Hotel and Restaurant Administration Quarterly*, 29, No. 4 (February 1989), pp. 8-19; and 30, No. 1 (May 1989), pp. 10-18.

¹⁰Jitendra Singh and Charles Lumsden, "Theory and Research in Organizational Ecology," *Annual Review of Sociology*, 16 (1990), pp. 161-195.

Measures of Multi-Market Contact

Do hotel chains try to avoid each other's properties in various markets, or do they attempt to compete head-to-head in city after city? One way to measure the amount of multi-market contact was developed by John Scott and used by Loretta Mester in a study of bank branches in California. (See: John Scott, "Multimarket Contact and Economic Performance," *Review of Economics and Statistics*, 64 (1982), pp. 368-375; and Loretta Mester, "Multiple Market Contact between Savings and Loans," *Journal of Money, Credit, and Banking*, 19 (1987), pp. 538-549.)

The method begins by counting the total number of possible markets, n , where two chains can have contact. For a specific market, one considers the two largest firms and computes the probability, $p(f)$, that these two firms will have contact in exactly f of the other markets ($n-1$). The computation is complicated and is presented here for scholars who wish to test the equation:

$$p(f) = \frac{[(C_{s2-1, f})(C_{n-s2, s1-1-f})]}{(C_{n-1, s1-1})}$$

where $s1$ = the number of markets in which the largest firm competes;

$s2$ = the number of markets in which the second-largest firm competes; and

$$C_{x,y} = \frac{x!}{y!(x-y)!}$$

If we call A the number of markets in which the firms actually meet, one can compute the probability of observing less contact (PMMC) than A by summing the $p(f)$ s from $f = 0$ to $A-1$. For a complete analysis, one must also compute ADEV, the difference between the observed number of meetings in other markets and the mean of the probability distribution, measured in standard deviations:

$$ADEV = (A-u) \div [(\sum(f-u)^2)(p(f))]^{1/2}$$

where $u = (\sum f)(p(f))$

If the computation results in a high PMMC and a positive ADEV, the hypothesis of a random distribution is not credible, implying some strategic action on the part of the firms.

The computation for Four Seasons, Omni, and Ritz-Carlton does not indicate excessive multi-market contact. In fact, Ritz-Carlton and Omni seem to be avoiding each other.

Ritz-Carlton and Four Seasons compared:

$s1 = 17$ (Ritz-Carlton); $s2 = 11$ (Four Seasons); n (total number of markets) = 32

Actual number of meetings beside Philadelphia = 5

Expected number of meetings outside Philadelphia = 5.16

Probability (≤ 5 other meetings) = .60

Probability (< 5 other meetings) = .31

Ritz-Carlton and Omni compared:

$s1 = 21$ (Omni); $s2 = 17$ (Ritz-Carlton); $n = 32$

Actual number of meetings beside Philadelphia = 7

Expected number of meetings outside Philadelphia = 10.32

Probability (≤ 7 other meetings) = .02

Probability (< 7 other meetings) = .001

Omni and Four Seasons compared:

$s1 = 21$ (Omni); $s2 = 11$ (Four Seasons); $n = 32$

Actual number of meetings beside Philadelphia = 4

Expected number of meetings outside Philadelphia = 6.45

Probability (≤ 7 other meetings) = .06

Probability (< 7 other meetings) = .01

While useful as a benchmark, the Scott method does not include such variables as multiple chains in one market and relative market size. The following is a more-refined measure that attempts to control for these variables. Cities were first assigned market sizes (ms_i) according to the following rule (rule A), with populations expressed in millions:

Population (p)	Market Size
$p \leq .1$	1
$.1 < p \leq .2$	2
$.2 < p \leq .3$	3
$.3 < p \leq .5$	4
$.5 < p \leq .75$	5
$.75 < p \leq 1$	6
$1 < p \leq 1.5$	7
$1.5 < p \leq 2$	8
$2 < p \leq 3$	9
$3 < p \leq 5$	10
$p > 5$	11

To control for unexpected effects from the choice of a population rule, I also applied rule B, with figures again stated in millions, as follows:

Population (p)	Market Size
$p \leq .3$	1
$.3 < p \leq .75$	2
$.75 < p \leq 1.5$	3
$1.5 < p \leq 3$	4
$3 < p \leq 5$	5
$5 < p$	6

For both rules, the expected number of hotels of chain j in city i (E_{ji}) was computed first, as follows:

$$E_{ji} = [(ms_j) \div Av(ms_j)] [(N_j) \div n]$$

where $Av(ms_j)$ = average market size across all n markets and N_j = number of hotel-chain properties j in all n markets

The next computation was the number of expected meetings between hotels j and k in market i , as:

$$EM_{jki} = Rd[(E_{ji})(E_{ki})]$$

where Rd = rounding to the nearest integer

The results are as follows:

Rule A:	Hotels	Expected	Actual
i. Test of all 32 cities:	R-C/FS	9	15
	R-C/O	12	14
	O/FS	9	7
ii. Test of top 19 markets:	R-C/FS	12	14
	R-C/O	12	13
	O/FS	10	7
Rule B:			
i. Test of all 32 cities:	R-C/FS	6	15
	R-C/O	13	14
	O/FS	11	7
ii. Test of top 19 markets:	R-C/FS	13	14
	R-C/O	13	13
	O/FS	12	7

Significant differences are noted in **boldface**.—B.B.

was established (long before the "boom"), the predicted pattern seemed to hold. The first three hotels to open were under 200 rooms (even though the Four Seasons had over 350 rooms), while the last to open, the Ritz-Carlton, comprised nearly 300 rooms. Of course, demand uncertainty is just one of many factors to explain hotel size. PKF reports that large hotels (over 200 rooms) achieve higher prices and higher occupancies than their smaller competitors. City size is also an important consideration in property size. As one would expect, full-service hotels in the 25 largest U.S. cities are larger on average (343 rooms) than full-service hotels in other markets (221 rooms).

Another factor influencing size is a given chain's proclivity for building properties of a certain size. As a rule, Omni hotels are larger than Ritz-Carlton properties, which are, in turn, usually slightly larger than Four Seasons hotels. Omni hotels, however, have a greater range of sizes than Ritz-Carlton or Four Seasons. Indeed, the public-relations officials at both the Ritz-Carlton and the Four Seasons explained that the size of their Philadelphia properties was determined by a general philosophy of building medium-size hotels of 300-400 rooms. The Omni was made small (for an Omni) to appeal to the individual traveler.

Physical constraints are yet another factor in property size. That was the case for the Rittenhouse, which is topped by 30 floors of condominiums. That constraint became an opportunity for the Rittenhouse's management, however, when it converted the first three floors of condos to extended-stay suites that attained 100-percent occupancy during 1991. The lower floors of the former 800-room Bellevue-Stratford were converted into retail and office space, leaving

the top seven floors for the new Hotel Atop the Bellevue. That arrangement also allows flexibility in the number of rooms, since the owner can expand the hotel as demand warrants by taking back office space. Some analysts predict that this type of multi-dimensional building will be the wave of the future, but others expect it to be effective only for particular types of hotels in specific markets.

Creating Demand

It may be that the supply of luxury hotels in Philadelphia is creating its own demand by signaling to business travelers that the city is an expanding market and by enabling loyal customers to stay at their favorite chain hotels. Patrick Culligan advanced this "field of dreams" theory in a *Quarterly* article to explain how demand kept up so well with the expansion in supply nationwide in the 1980s.¹¹ The hotel analysts I consulted agreed that the openings of known luxury hotels in Philadelphia do help the city's other properties, but that the opening of unknown independents may actually hurt other hotels by stealing market share without drawing additional travelers to the market. PKF's records show that the Four Seasons's opening in 1983 coincided with the reemergence of the Palace Hotel, located across the street and then nearly bankrupt. On the other hand, the presence of the Rittenhouse has apparently decreased business at the Barclay, just two blocks away. The officials of the name-brand hotels were convinced that their properties brought new guests to the city, while a representative of the Rittenhouse disagreed and an official of the Bellevue considered

¹¹Patrick E. Culligan, "Looking Up: Lodging Supply and Demand," *The Cornell Hotel and Restaurant Administration Quarterly*, 31, No. 2 (August 1990), pp. 32-35.

that idea controversial but suggested that the chains' entry "may portray the city better."

The route to survival for the Rittenhouse and Bellevue may be affiliation with a chain or referral association. That was the assessment of a Coopers & Lybrand analyst. Neither form of affiliation is without cost. PKF estimates that the average franchise fee for full-service hotels in the mid-Atlantic states was 3 percent in 1990.

Difficult Future

Even without the effects of a recession, Philadelphia's luxury hotels face a challenging future. Before the boom in construction, the market was healthily supporting one 361-room luxury-chain hotel. While there was undoubtedly space for additional luxury rooms, the sudden influx of 730 such rooms was probably more than the market could comfortably absorb, even if demand remained strong. The hotels' prospects currently hinge on the opening of the conference center. Even if that facility opens on schedule in 1994, it may not rescue all of these upscale properties. The convention center may be outclassed before it even opens by meeting facilities in nearby markets, and the relative dearth of rooms in the greater Philadelphia market may deter large conventions and events from being held in Philadelphia.

As of this writing, the situation of Philadelphia's luxury hotels appears to be similar to that of the Charlottesville, Virginia, market. In both cases, a shakeout seems inevitable in the wake of overbuilding. The bright spot for Philadelphia is that its critical mass is much larger and it has the potential to generate considerably more traffic. The question that cannot be answered by this analysis is whether the City of Brotherly Love can accomplish that feat. **CO**