Energy Cost Risk:

Exposure and Opportunities

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Introduction

Nearly every hotel in the United States will experience a significant decrease in RevPAR in 2009, which will likely carry into 2010. For many of these same hotels, utilities will continue to increase. Increasing energy prices, coupled with the inelastic nature of this line item make it an important concern for hotel operators, particularly those in states that have experienced recent increases in energy prices.

Utilities Overview

For a typical hotel, the utilities line item includes costs of electricity, natural gas, water, and sewer. Principally influenced by a hotel's HVAC system, electricity and natural gas typically comprise the majority of this line item, thus increases in the cost of these commodities have the most pronounced impact on a hotel's utilities line item.

Historical Analysis

Historical RevPAR declines have primarily come as a result of decreases in occupancy, and utility consumption is driven by changes in occupancy. Using HVS' massive database of historical operating data, we have looked to operational data from the most recent historical industry downturn for insights into relationships between changes in occupied room nights and the utilities line item.

A recent analysis conducted by HVS' Erich Baum identified over 500 hotels in the United States (containing a total of over 80,000 rooms) that posted RevPAR losses of at least 10% during the downturn of 2000-2002; the composite RevPAR decline for the entire population was 22.3%. The analysis isolates 13 different categories of hotel, based on differences on affiliation status (branded or independent); product type (limited-service, mid-rate, select-service, full-service, luxury, and extended-stay); and location (resort, urban, suburban, and airport). We have utilized the raw data used in Erich's analysis to learn more about the relationship between changes in occupied room nights and the utilities line item.

It should be noted that the 2002 results were discounted back to 2000 dollars based on the average annual CPI change over that period. (The change from 2000 to 2002 was approximately 4.5%.) In addition, the data in each column and each year pertain to the exact same population of hotels. The slight differences in room count between 2000 and 2002 are attributable to routine increases and decreases in the constituent hotels' inventory, as opposed to substantial additions or closures, or any change in the mix of hotels included in the survey. The comparisons are strictly apples to apples.

The following table details changes in revenues and expenses for the sample group during the two-year period from 2000 to 2002.

Percentage Change in Historical Income and Expense Data 2000 to 2002

Affiliation Product Type Location	Independent Full-Service Various	Independent Luxury Various	Independent Full-Service Resort	Independent Boutique Urban	Branded Limited-Service Suburban	Branded Select-Service Various	Branded Luxury Urban	Branded First-Class Resort	Branded Full-Service Urban	Branded Full-Service Airport	Branded First-Class Suburb	Branded Mid-Rate Suburb	Branded Extended-Stay Suburb	Grand Total
Occupied Rooms:	(16.0) %	(13.3) %	(9.4) %	(16.1) %	(13.6) %	(4.8) %	(10.3) %	(15.0) %	(8.9) %	(8.4) %	(12.6) %	(12.8) %	(9.7) %	(11.5) %
Occupancy:	(16.1)	(13.3)	(9.4)	(16.1)	(13.6)	(4.8)	(10.2)	(15.2)	(9.1)	(8.7)	(12.8)	(13.5)	(9.8)	(11.6)
ADR:	(8.9)	(11.8)	(11.8)	(19.8)	(10.1)	(17.5)	(13.7)	(5.8)	(11.5)	(15.7)	(11.1)	(7.3)	(14.1)	(12.1)
RevPAR:	(23.5)	(23.5)	(20.0)	(32.7)	(22.4)	(21.5)	(22.5)	(20.1)	(19.5)	(23.0)	(22.5)	(19.8)	(22.5)	(22.3)
REVENUE														
Rooms	(23.4)	(23.6)	(20.1)	(32.8)	(22.3)	(21.5)	(22.6)	(19.9)	(19.4)	(22.8)	(22.3)	(19.2)	(22.4)	(22.2)
Food & Beverage	(14.3)	(5.5)	(14.1)	(15.1)	---	(17.6)	(16.0)	(23.0)	(13.8)	(17.5)	(17.9)	(8.6)	---	(16.2)
Telephone	(29.8)	(30.8)	(43.3)	(43.2)	(57.1)	(43.2)	(33.5)	(42.8)	(35.6)	(44.5)	(43.6)	(40.7)	(56.7)	(39.0)
Other Income	(38.9)	(35.7)	(16.1)	(23.6)	(20.7)	(5.5)	(5.1)	(5.5)	(10.1)	(30.7)	(15.9)	(20.2)	(30.9)	(14.5)
Total	(21.6)	(20.0)	(18.3)	(29.0)	(22.9)	(21.4)	(19.9)	(20.0)	(17.8)	(22.0)	(21.3)	(17.6)	(23.4)	(20.6)
DEPT EXPENSES														
Rooms	(14.6)	(13.1)	(10.0)	(16.1)	(13.8)	(14.6)	(15.1)	(16.9)	(13.3)	(18.2)	(17.3)	(14.7)	(10.5)	(15.2)
Food & Beverage	(15.1)	(5.4)	(11.7)	(11.8)	---	(17.4)	(14.3)	(19.8)	(14.2)	(16.2)	(15.5)	(5.2)	---	(14.5)
Telephone	(14.3)	(16.9)	(17.1)	(10.9)	(32.3)	(9.8)	(19.5)	(22.6)	(21.6)	(29.5)	(21.1)	(20.2)	(27.4)	(20.0)
Other Expenses	(35.4)	(38.5)	(9.5)	(13.3)	(32.6)	(28.1)	(4.3)	(2.8)	(2.4)	(5.1)	(17.0)	(31.0)	(20.5)	(10.4)
Total	(15.8)	(10.6)	(10.9)	(14.0)	(16.5)	(15.4)	(14.3)	(16.8)	(13.7)	(17.1)	(16.4)	(11.2)	(11.9)	(14.7)
DEPT INCOME	(25.5)	(26.8)	(24.0)	(38.3)	(25.4)	(23.8)	(24.5)	(22.3)	(20.2)	(25.1)	(24.5)	(21.3)	(26.4)	(24.4)
OPERATING EXPENSES														
Admin. & General	(14.0)	(13.9)	(6.6)	(24.6)	(11.1)	(17.4)	(8.7)	(14.1)	(10.0)	(12.5)	(12.0)	(8.2)	(14.0)	(12.5)
Marketing	(9.6)	(22.3)	(6.0)	(7.6)	(9.7)	(9.7)	(15.3)	(16.4)	(11.9)	(9.8)	(12.4)	(0.5)	0.4	(12.6)
Prop. Ops & Maint.	(3.2)	(6.6)	(8.2)	(26.4)	(5.5)	24.5	(10.7)	(12.3)	(6.2)	(9.5)	(8.1)	(5.7)	(6.9)	(8.3)
Utilities	(5.7)	(11.2)	(2.0)	(6.3)	(7.3)	(8.1)	4.5	(7.1)	(1.7)	(9.9)	(3.7)	(3.2)	(4.5)	(3.8)
Total	(9.2)	(14.5)	(6.1)	(19.1)	(8.8)	(8.8)	(9.2)	(13.4)	(8.7)	(10.8)	(10.1)	(4.9)	(7.6)	(10.4)
HOUSE PROFIT	(35.9) %	(33.3) %	(35.0) %	(48.4) %	(32.7) %	(32.0) %	(32.6) %	(27.0) %	(25.0) %	(33.5) %	(31.9) %	(30.6) %	(32.5) %	(31.5) %
Utility Cost Elasticity	36%	84%	21%	39%	54%	168%	-43%	47%	19%	119%	30%	25%	47%	33%

Source: HVS

Elasticity of Utility Costs

There is a wide range in the variability of utility costs relative to occupancy. The causes for this wide range are numerous and include differences in building construction type and age, differences in operating climates, the type and efficiency of HVAC and lighting equipment, and local energy rates. The "Utility Cost Elasticity" percentage, which is presented below the House Profit line item, expresses the level to which utilities cost is fixed relative to occupied room nights. For example, in the first column, "Independent Full-Services Various" occupied room nights declined by 16.0%, while utilities declined by 5.7%. Therefore, the utility elasticity index would be 36%, meaning that the utilities line item declined at 36% of the decrease in occupied room nights. The higher the utility elasticity index, the higher the level of variability (or elasticity) with occupied room nights. The lower the index, the larger the fixed component. In cases where the elasticity percentage is greater than 100%, such as in the case of "Branded Select-Service Various" and "Branded Full-Service Airport", utilities costs decreased at a greater rate than occupied room nights, which is most likely attributable to fluctuations in local utility tariffs or some other external factor. An instance where the elasticity index is a negative figure, such as in the case of "Branded Luxury Urban", is likely attributed to unique external factors as well, which caused the expense to grow in real terms despite the decrease in occupancy. Overall, the average cost elasticity index for the group of over 500 hotels was 33%, meaning that on average, utility costs decreased at one-third the rate of occupied room nights.

Salvaging Profitability

From the standpoint of salvaging profitability during a downturn, an operator hopes to see lower variability in revenue and income categories and higher variability in expense categories. The fact that utilities expense is particularly inelastic suggests that while operators have few options for reducing this expense, it is critical for them to fully exploit the limited opportunities they have to increase the variability of this line item.

Theoretically, hotels with decentralized HVAC systems, namely limited- and select-service hotels employing individual PTAC units in each guestroom should be more able to control HVAC-related energy usage, as it relates to occupancy, than hotels with centralized HVAC plants.

Reducing HVAC and lighting energy usage in limited- and focused-service hotels, however, requires an intelligent energy management system tied to a hotel's property management system, allowing unoccupied rooms to go into hibernation mode that drastically reduces the amount of energy they are consuming when unoccupied. Having a property engineer simply turn off the

the HVAC equipment in an unoccupied room or floor is not an efficient measure because it can lead to maintenance headaches such as bursting pipes, and PTAC failure when turned back on after a period of prolonged inactivity. Moreover, in climates characterized by a high degree of heat and humidity, some level of consistent air conditioning is required to control moisture levels in the guestrooms. From an energy consumption standpoint, if a guestroom's internal temperature is allowed to drift so far from the desired set point, the high amount of energy used in the temperature recovery, coupled with the aforementioned maintenance risks will outweigh any savings achieved by shutting down the equipment altogether.

Utility Costs and Occupancy

Local prices for electricity and natural gas vary greatly from state to state. Using historical statewide occupancy data provided by Smith Travel Research, and statewide electricity data provided by the Energy Information Administration division of the United States government, we have identified states that have experienced the most notable occupancy decreases coupled with energy price increases. For example, from 2007 to 2008 the state of Hawaii experienced a decrease in occupancy of 6% and a concurrent increase in electricity cost of 31%, equating to a delta of 37% on our measurement scale. At the other end of the spectrum, from 2007 to 2008 the state of California experienced a 5% occupancy decrease, coupled with a 7% decrease in electricity costs, measuring -2% on our scale.

While the factors impacting local energy pricing are varied, the majority of the energy price increases are related to changes in fuel costs, which amplify routine rate changes. Hawaii for example, generates three-fourths of its electricity from petroleum-fired power plants. Thus, the increase in petroleum costs in 2008 had a direct and significant impact on 2008 electrical rates. Similarly, the 22% increase in Rhode Island's electricity rate is directly related to natural gas cost increases; nearly all of Rhode Island's electricity generation is fueled by natural gas. Rising fuel costs, costs incurred by storm damage, and costs for new nuclear facilities contributed to the 12% increase in Florida's average electricity rates.

The map indicates which states have experienced the highest levels of electricity cost increases combined with occupancy decreases from 2007 to 2008. The green states have experienced the least impactful delta between occupancy and electricity costs, from -2% to 5%, the yellow states 6% and 9%, the orange states from 10% to 14%, and the red states experienced deltas between occupancy and electricity costs of between 15% and 37%. The United

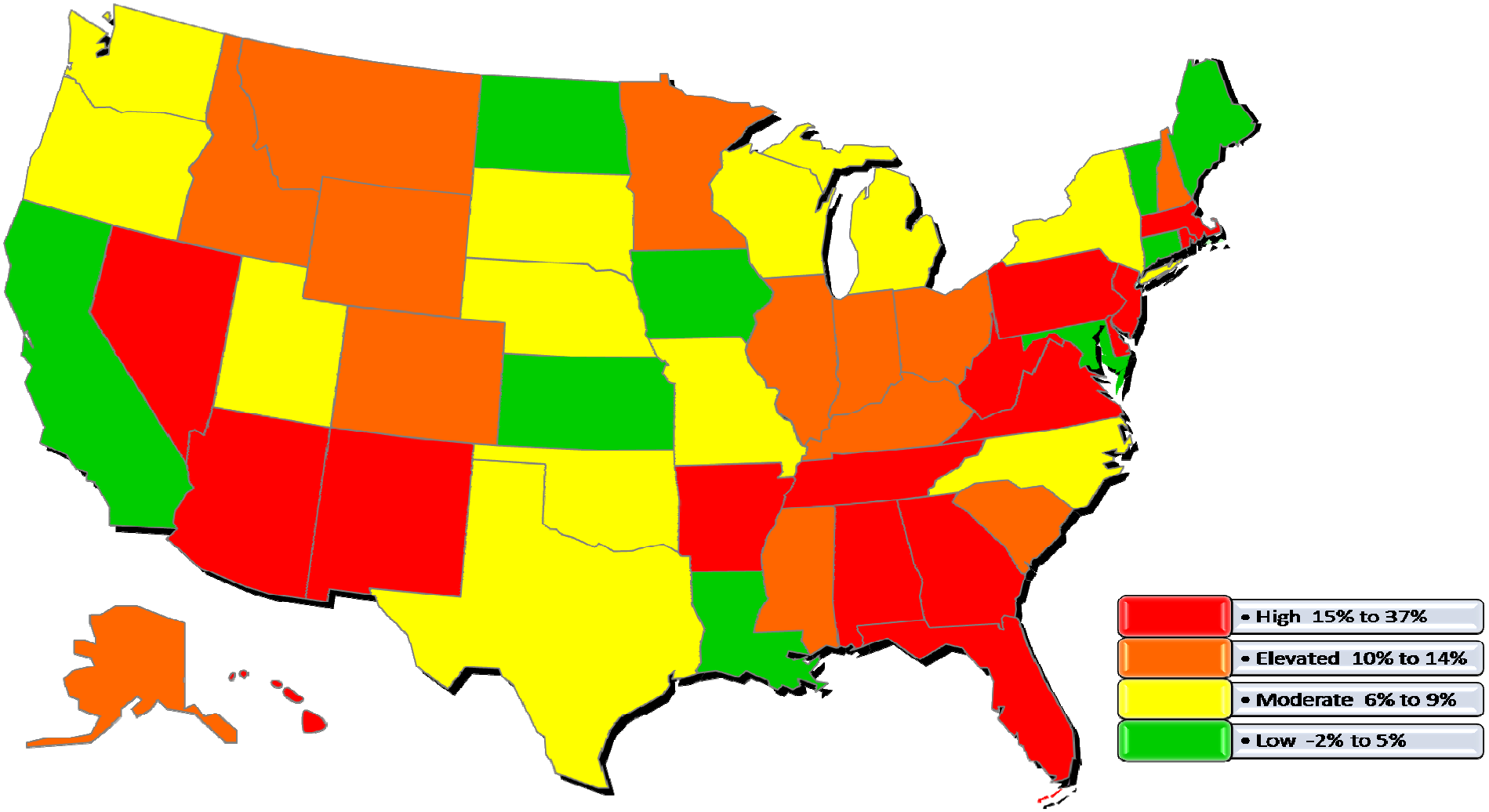
States average was 12%, meaning that energy costs across the United States outpaced occupancy growth by 12% from 2007 to 2008.

Conclusion

The utilities line item was highly inelastic during the 2000 to 2002 downturn, and we believe operators need to work harder at managing energy consumption in order to weather the current downturn. Fortunately, there are more effective, affordable solutions available to operators today than there were in 2002, which can help them increase the variability of this line item. It is particularly important for operators in the orange or red states illustrated in the map adopt the most sophisticated energy management strategies available to help them mitigate the double whammy of decreasing occupancy and increasing energy costs.

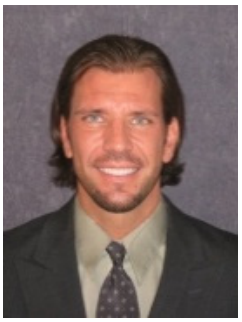
For more information on how HVS Eco Services can help manage your hotel's utility line item, visit us on the web at www.hvseco.com.

Energy Cost: Risk Sensitivity



About the Authors

John Scaggs is the Director of HVS Eco Services, an environmental sustainability consultancy focused on the hospitality industry. John specializes in utility consumption modeling, sustainable operations, and retrofit feasibility studies. He and his team help clients to set and achieve environmental sustainability goals, while maximizing shareholder value. In addition to earning a Master of Science Degree in Hotel Investments from New York University, John's hospitality career includes extensive international operational experience.



Carter Wilson is Senior Vice President of HVS, based in Boulder, Colorado. Carter joined HVS in 1994 and has since worked on or supervised over 2,500 assignments in all 50 states, Mexico, the Middle East, Canada and the Caribbean. Carter is a graduate of the Cornell University Hotel School, after which he worked with Holiday Inn Worldwide (now Intercontinental Hotel Group) for two years before joining HVS. Carter's areas of expertise include portfolio valuations and complex financial modeling in conjunction with multi-asset assignments. Carter is a Certified General Appraiser in Colorado, California and Washington, and is a partner in HVS' Convention, Sports and Entertainment Facilities Consulting office in Chicago.