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# Putting the Past to Use: A Hotel Forecasting Tool for the Current Downturn

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HVS, with 11 domestic offices and 14 worldwide, has a massive database of historical operating data. As we entered the current downturn, it occurred to us to look at the actual data for hotels that experienced major rooms revenue losses from 2000 to 2002, in order to see what we could learn about the other categories. What we came away with is a new forecasting tool that can help analysts build a forecast or confirm that an existing forecast reflects typical industry standards for a declining economy.

The following tables present the historical data. We identified over 500 United States hotels (containing a total of over 80,000 rooms) that posted RevPAR losses of at least 10%; the composite RevPAR decline for the entire population was 22.3%. The analysis isolates 13 different categories of hotel, based on differences in 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).

In reviewing the data, note 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.

**Table 1 Historical Income & Expense Data - 2000**

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
<b>Number of Rooms:</b>	3,994	2,668	2,492	3,614	5,000	6,117	7,735	5,199	10,890	4,496	22,657	4,794	2,080	81,736
<b>Occupied Rooms:</b>	1,057,494	780,541	697,842	1,022,966	1,271,198	1,605,563	2,156,767	1,466,660	3,064,272	1,190,587	5,912,805	1,172,852	597,157	21,996,704
<b>Occupancy:</b>	72.5%	80.2%	76.7%	77.5%	69.7%	71.9%	76.4%	77.3%	77.1%	72.6%	71.5%	67.0%	78.7%	73.7%
<b>ADR:</b>	\$123.13	\$283.66	\$171.76	\$170.08	\$65.56	\$113.27	\$208.63	\$201.02	\$157.17	\$109.26	\$123.61	\$94.29	\$99.34	\$144.02
<b>RevPAR:</b>	\$89.32	\$227.36	\$131.78	\$131.90	\$45.67	\$81.46	\$159.38	\$155.37	\$121.17	\$79.27	\$88.38	\$63.20	\$78.14	\$106.19
<b>REVENUE</b>														
Rooms	\$130,211	\$221,411	\$119,863	\$173,989	\$83,341	\$181,869	\$449,963	\$294,835	\$481,621	\$130,083	\$730,861	\$110,585	\$59,322	\$3,167,954
Food & Beverage	61,497	80,313	53,905	49,867	---	23,333	264,677	181,859	215,213	54,041	353,960	27,316	---	1,365,981
Telephone	4,378	11,677	3,474	5,772	1,639	5,168	22,394	11,357	19,403	3,854	30,901	2,585	1,428	124,030
Other Income	10,617	16,453	29,619	7,402	5,021	2,314	32,364	53,336	35,985	6,359	36,790	4,668	1,285	242,213
Total	206,703	329,854	206,861	237,030	90,001	212,684	769,398	541,387	752,222	194,337	1,152,682	145,154	62,035	4,900,348
<b>DEPT EXPENSES</b>														
Rooms	32,072	63,110	28,097	47,100	21,917	40,838	112,472	64,448	106,982	32,925	170,083	29,062	11,729	760,835
Food & Beverage	44,234	64,982	41,768	39,948	---	17,876	207,219	129,159	156,629	37,834	257,505	21,645	---	1,018,799
Telephone	2,268	4,879	1,815	2,358	1,107	1,680	9,754	4,800	7,886	2,000	13,264	1,574	732	54,117
Other Expenses	3,721	5,032	17,317	1,162	2,617	648	14,688	29,432	7,880	2,568	11,926	555	555	98,101
Total	82,295	138,003	88,997	90,568	25,641	61,042	344,133	227,839	279,377	75,327	453,031	52,836	13,017	1,932,105
<b>DEPT INCOME</b>	124,408	191,851	117,864	146,462	64,360	151,642	425,265	313,548	472,845	119,011	699,651	92,318	49,019	2,968,243
<b>OPERATING EXPENSES</b>														
Admin. & General	17,555	24,860	16,749	21,816	7,792	25,334	52,778	34,605	46,789	16,736	80,435	11,957	4,513	361,920
Marketing	12,920	19,052	13,763	10,391	3,160	14,039	42,345	34,128	44,496	12,045	70,619	7,708	2,389	287,055
Prop. Ops & Maint.	10,973	13,511	8,591	11,588	4,370	6,797	32,611	24,690	26,134	8,389	49,672	7,517	2,727	207,569
Utilities	7,220	8,498	5,865	6,805	4,290	7,675	20,383	14,911	21,165	6,889	35,717	6,150	2,361	147,929
Total	48,668	65,921	44,968	50,600	19,611	53,845	148,117	108,334	138,584	44,058	236,443	33,332	11,990	1,004,473
<b>HOUSE PROFIT</b>	\$75,740	\$125,930	\$72,896	\$95,862	\$44,748	\$97,797	\$277,148	\$205,214	\$334,261	\$74,952	\$463,208	\$58,986	\$37,029	\$1,963,770
<b>REVENUE</b>														
Rooms	63.0 %	67.1 %	57.9 %	73.4 %	92.6 %	85.5 %	58.5 %	54.5 %	64.0 %	66.9 %	63.4 %	76.2 %	95.6 %	64.6 %
Food & Beverage	29.8	24.3	26.1	21.0	---	11.0	34.4	33.6	28.6	27.8	30.7	18.8	---	27.9
Telephone	2.1	3.5	1.7	2.4	1.8	2.4	2.9	2.1	2.6	2.0	2.7	1.8	2.3	2.5
Other Income	5.1	5.0	14.3	3.1	5.6	1.1	4.2	9.9	4.8	3.3	3.2	3.2	2.1	4.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>DEPT EXPENSES</b>														
Rooms	24.6	28.5	23.4	27.1	26.3	22.5	25.0	21.9	22.2	25.3	23.3	26.3	19.8	24.0
Food & Beverage	71.9	80.9	77.5	80.1	---	76.6	78.3	71.0	72.8	70.0	72.7	79.2	---	74.6
Telephone	51.8	41.8	52.2	40.9	67.5	32.5	43.6	42.3	40.6	51.9	42.9	60.9	51.3	43.6
Other Expenses	35.0	30.6	58.5	15.7	52.1	28.0	45.4	55.2	21.9	40.4	32.4	11.9	43.2	40.5
Total	39.8	41.8	43.0	38.2	28.5	28.7	44.7	42.1	37.1	38.8	39.3	36.4	21.0	39.4
<b>DEPT INCOME</b>	60.2	58.2	57.0	61.8	71.5	71.3	55.3	57.9	62.9	61.2	60.7	63.6	79.0	60.6
<b>OPERATING EXPENSES</b>														
Admin. & General	8.5	7.5	8.1	9.2	8.7	11.9	6.9	6.4	6.2	8.6	7.0	8.2	7.3	7.4
Marketing	6.3	5.8	6.7	4.4	3.5	6.6	5.5	6.3	5.9	6.2	6.1	5.3	3.9	5.9
Prop. Ops & Maint.	5.3	4.1	4.2	4.9	4.9	3.2	4.2	4.6	3.5	4.3	4.3	5.2	4.4	4.2
Utilities	3.5	2.6	2.8	2.9	4.8	3.6	2.6	2.8	2.8	3.5	3.1	4.2	3.8	3.0
Total	23.5	20.0	21.7	21.3	21.8	25.3	19.3	20.0	18.4	22.7	20.5	23.0	19.3	20.5
<b>HOUSE PROFIT</b>	36.6 %	38.2 %	35.2 %	40.4 %	49.7 %	46.0 %	36.0 %	37.9 %	44.4 %	38.6 %	40.2 %	40.6 %	59.7 %	40.1 %

**Table 2 Historical Income & Expense Data – 2002, Adjusted for Inflation**

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
<b>Number of Rooms:</b>	4,001	2,666	2,491	3,611	5,002	6,117	7,728	5,213	10,909	4,512	22,713	4,828	2,082	81,873
<b>Occupied Rooms:</b>	888,739	676,501	632,249	857,934	1,098,677	1,527,901	1,934,571	1,246,900	2,790,406	1,091,000	5,167,619	1,022,208	539,318	19,474,023
<b>Occupancy:</b>	60.9%	69.5%	69.5%	65.1%	60.2%	68.4%	68.6%	65.5%	70.1%	66.2%	62.3%	58.0%	71.0%	65.2%
<b>ADR:</b>	\$112.22	\$250.11	\$151.51	\$136.35	\$58.91	\$93.50	\$180.05	\$189.44	\$139.10	\$92.09	\$109.89	\$87.43	\$85.35	\$126.61
<b>RevPAR:</b>	\$68.29	\$173.88	\$105.36	\$88.75	\$35.45	\$63.98	\$123.49	\$124.14	\$97.48	\$61.00	\$68.50	\$50.72	\$60.57	\$82.51
<b>REVENUE</b>														
Rooms	\$99,733	\$169,197	\$95,794	\$116,977	\$64,725	\$142,855	\$348,325	\$236,215	\$388,153	\$100,467	\$567,854	\$89,372	\$46,029	\$2,465,696
Food & Beverage	52,733	75,928	46,326	42,362	---	19,224	222,286	140,009	185,437	44,583	290,565	24,961	---	1,144,416
Telephone	3,074	8,079	1,970	3,276	703	2,936	14,894	6,492	12,499	2,140	17,432	1,532	619	75,645
Other Income	6,489	10,582	24,864	5,657	3,982	2,186	30,713	50,407	32,344	4,409	30,931	3,723	888	87,928
<b>Total</b>	<b>162,029</b>	<b>263,786</b>	<b>168,955</b>	<b>168,273</b>	<b>69,410</b>	<b>167,202</b>	<b>616,218</b>	<b>433,123</b>	<b>618,433</b>	<b>151,599</b>	<b>906,782</b>	<b>119,589</b>	<b>47,535</b>	<b>3,892,931</b>
<b>DEPT EXPENSES</b>														
Rooms	27,392	54,822	25,282	39,524	18,894	34,866	95,524	53,559	92,715	26,919	140,734	24,782	10,497	645,509
Food & Beverage	37,567	61,444	36,868	35,218	---	14,765	177,585	103,620	134,440	31,720	217,706	20,515	---	871,447
Telephone	1,943	4,057	1,505	2,100	749	1,515	7,847	3,716	6,185	1,410	10,464	1,257	532	43,280
Other Expenses	2,405	3,094	15,677	1,007	1,763	466	14,062	28,608	7,687	2,436	9,898	383	441	87,928
<b>Total</b>	<b>69,308</b>	<b>123,416</b>	<b>79,331</b>	<b>77,849</b>	<b>21,406</b>	<b>51,612</b>	<b>295,018</b>	<b>189,502</b>	<b>241,028</b>	<b>62,483</b>	<b>378,802</b>	<b>46,937</b>	<b>11,470</b>	<b>1,648,164</b>
<b>DEPT INCOME</b>	<b>92,721</b>	<b>140,369</b>	<b>89,624</b>	<b>90,424</b>	<b>48,004</b>	<b>115,589</b>	<b>321,199</b>	<b>243,620</b>	<b>377,404</b>	<b>89,115</b>	<b>527,981</b>	<b>72,652</b>	<b>36,065</b>	<b>2,244,768</b>
<b>OPERATING EXPENSES</b>														
Admin. & General	15,092	21,413	15,636	16,446	6,927	20,929	48,188	29,719	42,097	14,638	70,786	10,975	3,881	316,726
Marketing	11,679	14,797	12,937	9,605	2,852	12,670	35,877	28,536	39,185	10,859	61,853	7,667	2,399	250,915
Prop. Ops & Maint.	10,619	12,625	7,890	8,525	4,128	8,460	29,109	21,665	24,504	7,593	45,636	7,090	2,539	190,383
Utilities	6,808	7,549	5,749	6,378	3,976	7,050	21,293	13,854	20,799	6,205	34,380	5,956	2,254	142,251
<b>Total</b>	<b>44,198</b>	<b>56,385</b>	<b>42,211</b>	<b>40,953</b>	<b>17,883</b>	<b>49,109</b>	<b>134,467</b>	<b>93,775</b>	<b>126,585</b>	<b>39,295</b>	<b>212,654</b>	<b>31,687</b>	<b>11,074</b>	<b>900,275</b>
<b>HOUSE PROFIT</b>	<b>\$48,523</b>	<b>\$83,985</b>	<b>\$47,412</b>	<b>\$49,471</b>	<b>\$30,121</b>	<b>\$66,480</b>	<b>\$186,732</b>	<b>\$149,846</b>	<b>\$250,819</b>	<b>\$49,821</b>	<b>\$315,326</b>	<b>\$40,965</b>	<b>\$24,991</b>	<b>\$1,344,493</b>
<b>REVENUE</b>														
Rooms	61.6 %	64.1 %	56.7 %	69.5 %	93.2 %	85.4 %	56.5 %	54.5 %	62.8 %	66.3 %	62.6 %	74.7 %	96.8 %	63.3 %
Food & Beverage	32.5	28.8	27.4	25.2	---	11.5	36.1	32.3	30.0	29.4	32.0	20.9	---	29.4
Telephone	1.9	3.1	1.2	1.9	1.0	1.8	2.4	1.5	2.0	1.4	1.9	1.3	1.3	1.9
Other Income	4.0	4.0	14.7	3.4	5.7	1.3	5.0	11.6	5.2	2.9	3.4	3.1	1.9	5.3
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>DEPT EXPENSES</b>														
Rooms	27.5	32.4	26.4	33.8	29.2	24.4	27.4	22.7	23.9	26.8	24.8	27.7	22.8	26.2
Food & Beverage	71.2	80.9	79.6	83.1	---	76.8	79.9	74.0	72.5	71.1	74.9	82.2	---	76.1
Telephone	63.2	50.2	76.4	64.1	106.5	51.6	52.7	57.2	49.5	65.9	60.0	82.0	85.9	57.2
Other Expenses	37.1	29.2	63.0	17.8	44.3	21.3	45.8	56.8	23.8	55.2	32.0	10.3	49.7	42.4
<b>Total</b>	<b>42.8</b>	<b>46.8</b>	<b>47.0</b>	<b>46.3</b>	<b>30.8</b>	<b>30.9</b>	<b>47.9</b>	<b>43.8</b>	<b>39.0</b>	<b>41.2</b>	<b>41.8</b>	<b>39.2</b>	<b>24.1</b>	<b>42.3</b>
<b>DEPT INCOME</b>	<b>57.2</b>	<b>53.2</b>	<b>53.0</b>	<b>53.7</b>	<b>69.2</b>	<b>69.1</b>	<b>52.1</b>	<b>56.2</b>	<b>61.0</b>	<b>58.8</b>	<b>58.2</b>	<b>60.8</b>	<b>75.9</b>	<b>57.7</b>
<b>OPERATING EXPENSES</b>														
Admin. & General	9.3	8.1	9.3	9.8	10.0	12.5	7.8	6.9	6.8	9.7	7.8	9.2	8.2	8.1
Marketing	7.2	5.6	7.7	5.7	4.1	7.6	5.8	6.6	6.3	7.2	6.8	6.4	5.0	6.4
Prop. Ops & Maint.	6.6	4.8	4.7	5.1	5.9	5.1	4.7	5.0	4.0	5.0	5.0	5.9	5.3	4.9
Utilities	4.2	2.9	3.4	3.8	5.7	4.2	3.5	3.2	3.4	4.1	3.8	5.0	4.7	3.7
<b>Total</b>	<b>27.3</b>	<b>21.4</b>	<b>25.0</b>	<b>24.3</b>	<b>25.8</b>	<b>29.4</b>	<b>21.8</b>	<b>21.7</b>	<b>20.5</b>	<b>25.9</b>	<b>23.5</b>	<b>26.5</b>	<b>23.3</b>	<b>23.1</b>
<b>HOUSE PROFIT</b>	<b>29.9 %</b>	<b>31.8 %</b>	<b>28.1 %</b>	<b>29.4 %</b>	<b>43.4 %</b>	<b>39.8 %</b>	<b>30.3 %</b>	<b>34.6 %</b>	<b>40.6 %</b>	<b>32.9 %</b>	<b>34.8 %</b>	<b>34.3 %</b>	<b>52.6 %</b>	<b>34.5 %</b>

**Table 3 Percent Change, 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
<b>Occupied Rooms:</b>	(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) %
<b>Occupancy:</b>	(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)
<b>ADR:</b>	(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)
<b>RevPAR:</b>	(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)
<b>REVENUE</b>														
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)
<b>DEPT EXPENSES</b>														
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)
<b>DEPT INCOME</b>	(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)
<b>OPERATING EXPENSES</b>														
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)
<b>HOUSE PROFIT</b>	(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) %

## **The Forecasting Tool**

A cursory review of the raw data presented above indicates that when hotel rooms revenues declined from 2000 to 2002, nearly every other income and expense item reviewed above declined as well, suggesting that each of these items include a meaningful variable component. In fact, we have intentionally excluded from consideration here any income and expense item that is a) property-specific, b) entirely fixed, or c) entirely variable, including management fees, royalty fees, property taxes, insurance, and reserves for replacement. Rather we have limited this analysis to those items with are both fixed and variable, where the degree of variability is difficult to discern. At a time like this, analysts and operators need to know the elasticity of these hybrid items. Our tool, the “variability index,” was developed using the preceding historical data and is meant to act as market-derived benchmarking tool. The following table contains the variability indexes. In the subsequent text we will explain the mathematical basis for the indexes and demonstrate their application.

**Table 4 Summary Table – Variability Indexes**

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	Industry Total
Variability Index Relative to Percentage Change in Rooms Revenue														
Rooms Revenue	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
F&B Revenue	61	23	70	46	---	82	71	116	71	77	80	45	---	73
Telephone Revenue	127	131	216	132	256	201	148	215	183	195	195	212	253	176
Other Income	166	151	80	72	93	26	23	28	52	135	71	105	138	65
Total Revenue	92	85	91	89	102	100	88	101	92	97	96	92	104	93
Rooms Expense	62	56	50	49	62	68	67	85	69	80	77	77	47	68
House Profit	154	141	174	148	146	149	144	136	129	147	143	159	145	142
Variability Index Relative to Percentage Change in F&B Revenue														
F&B Expense	106 %	100 %	83 %	79 %	---	99 %	89 %	86 %	102 %	92 %	86 %	61 %	---	89 %
Variability Index Relative to Percentage Change in Telephone Revenue														
Telephone Expense	48 %	55 %	39 %	25 %	57 %	23 %	58 %	53 %	61 %	66 %	48 %	49 %	48 %	51 %
Variability Index Relative to Percentage Change in Other Income														
Other Expense	91 %	108 %	59 %	57 %	158 %	508 %	84 %	51 %	24 %	17 %	107 %	153 %	66 %	72 %
Variability Index Relative to Percentage Change in Total Revenue														
Dept Income	118 %	134 %	131 %	132 %	111 %	111 %	123 %	112 %	113 %	114 %	115 %	121 %	113 %	119 %
Admin & Gen'l	65	69	36	85	49	81	44	71	56	57	56	47	60	61
Marketing	44	111	33	26	43	46	77	82	67	45	58	3	(2)	61
Prop Ops & Maint.	15	33	45	91	24	(114)	54	61	35	43	38	32	29	40
Utilities	26	56	11	22	32	38	(22)	35	10	45	18	18	19	19
House Profit	166	166	191	167	143	150	164	135	140	152	150	173	139	153

Each of the preceding indexes was calculated by dividing the rates of change for two variables between 2000 and 2002, where the denominator is the base point of reference and the numerator is the dependent. For example, in Table 3, in the first category (Independent-Full Service-Variou), rooms revenue declined by 23.4% while food and beverage revenue for the same set of hotels declined by 14.3%. Therefore, food and beverage revenue declined at 61% of the rooms department's rate of decline. Put another way, 39% of food and beverage revenue was directly variable with the rooms revenue loss. In that same category, telephone and other income revenue declined at rates in excess of the rooms revenue decline, with index levels above 100%. The higher the index, the higher the level of variability (or elasticity) with rooms revenue. The lower the index, the larger the fixed component. Where the index is negative (see: Branded-Select Service-Variou, Property Operations & Maintenance), the expense continued to grow in real terms despite the decline in revenue, a dynamic that was realized in only three instances out of a possible 195.

From the standpoint of optimizing net income 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 operators have few options for reducing this expense. In contrast, food and beverage expense is among the most elastic of all the major operating expense categories.

Telephone department indexes require qualification here. Due to the proliferation of mobile phones between 2000 and 2002, hotels realized a dramatic decline in telephone revenue well beyond factors related to the downturn. As noted above, the industry-wide telephone revenue variability index was 176%, which is illogical. We would advise using the "other income" and "other expense" indexes as the basis for telephone revenue projections.

### **The Tool Put to Work**

As noted above, this tool can be used as a quick test of the validity of an existing projection, or as the basis for an all new forecast.

Under the quick-test scenario, assume you're the asset manager of a independent boutique hotel that opened in downtown Chicago in 2006. The 2009 forecast you've received from on-site management shows a 20% decline in rooms revenue from 2008. Based on the market data, the hotel's 2009



house profit (before deductions for franchise fees or management fees) would be lower by a factor of approximately 30% (calculated as -20%, the rooms revenue decrease, multiplied by 148%), as compared to 2008 results. Using the same methodology, 2009 rooms expense, for example, should decrease from 2008 levels by a factor of approximately 9.8% (calculated as -20%, the rooms revenue decrease, multiplied by 49%).

The following narrative features a ground-up projection, based on a hypothetical hotel, the same independent boutique hotel that opened in downtown Chicago in 2006, mentioned above. It has 150 rooms, a restaurant, meeting space, and all the other facilities typical of a first-class hotel. The following table summarizes the 2008 income and expense.

**Table 5 Historical Operating Results - 2008**

Year	2008 Actual	
Number of Rooms	150	
Occupied Rooms	42,431	
Occupancy Rate	77.5%	
Average Daily Rate	\$170.08	
<b>REVENUE</b>		
Rooms	\$7,216,707	73.5 %
Food & Beverage	2,092,845	21.3
Telephone	144,334	1.5
Other Income	360,835	3.7
Total	9,814,722	100.0
<b>DEPARTMENTAL EXPENSES</b>		
Rooms	1,955,728	27.1
Food & Beverage	1,676,369	80.1
Telephone	59,033	40.9
Other Expenses	56,651	15.7
Total	3,747,780	38.2
<b>DEPARTMENTAL INCOME</b>		
	6,066,941	61.8
<b>OPERATING EXPENSES</b>		
Administrative & General	902,954	9.2
Marketing	431,848	4.4
Property Operations & Maintenance	480,921	4.9
Utilities	284,627	2.9
Total	2,100,350	21.4
<b>HOUSE PROFIT</b>		
	\$3,966,591	40.4 %

In light of the downturn, the 2009 occupancy and average daily rate (ADR) have been projected at 65.1% and \$136.35, resulting in rooms revenue of

\$4,859,821, a drop of 32.7% from 2008. Using this figure and the variability indexes, we can calculate the corresponding changes in the other income and expense components, as follows.

**Table 6 Rate of Change Projections - 2009**

	Variability Index				Calculated % Change
Rooms Rev % Change					(32.7) %
Corresponding Change in:					
Rooms Revenue	100 %	x	(32.7) %	=	(32.7) %
F&B Revenue	46	x	(32.7)	=	(15.0)
Telephone Revenue	72	x	(32.7)	=	(23.5)
Other Income	72	x	(32.7)	=	(23.5)
Rooms Expense	49	x	(32.7)	=	(16.0)
F&B Rev % Change					(15.0) %
Corresponding Change in:					
F&B Expense	79 %	x	(15.0) %	=	(11.8) %
Phone Rev % Change					(23.5) %
Corresponding Change in:					
Phone Expense	57 %	x	(23.5) %	=	(13.3) %
Other Rev % Change					(23.5) %
Corresponding Change in:					
Other Expense	57 %	x	(23.5) %	=	(13.3) %
Total Rev % Change					(28.4) % <sup>1</sup>
Corresponding Change in:					
Admin & Gen'l	85 %	x	(28.4) %	=	(24.1) %
Marketing	26	x	(28.4)	=	(7.4)
Prop Ops & Maint	91	x	(28.4)	=	(25.9)
Utilities	22	x	(28.4)	=	(6.2)

<sup>1</sup> Calculated in subsequent table, based on departmental revenue projections

Following our own advice, we used the “other income” and “other expense” indexes as the basis for the telephone departmental projections.

By applying the preceding rates of change to the 2008 actual results, the 2009 results can be projected, as follows.

**Table 7 Forecasted Results - 2009**

Year	2008 Actual		2009 Forecast		Percent Change	
<b>Number of Rooms</b>	150		150			
<b>Occupied Rooms</b>	42,431		35,642		(16.0) %	
<b>Occupancy Rate</b>	77.5%		65.1%		(16.0)	
<b>Average Daily Rate</b>	\$170.08		\$136.35		(19.8)	
<b>REVENUE</b>						
Rooms	\$7,216,707	73.5 %	\$4,859,821	69.2 %	given	(32.7) %
Food & Beverage	2,092,845	21.3	1,778,906	25.3		(15.0)
Telephone	144,334	1.5	110,421	1.6		(23.5)
Other Income	360,835	3.7	276,054	3.9		(23.5)
Total	9,814,722	100.0	7,025,202	100.0	calc'd	(28.4)
<b>DEPARTMENTAL EXPENSES</b>						
Rooms	1,955,728	27.1	1,642,180	33.8		(16.0)
Food & Beverage	1,676,369	80.1	1,478,547	83.1		(11.8)
Telephone	59,033	40.9	51,183	46.4		(13.3)
Other Expenses	56,651	15.7	49,118	17.8		(13.3)
Total	3,747,780	38.2	3,221,028	45.8	calc'd	(14.1)
<b>DEPARTMENTAL INCOME</b>	6,066,941	61.8	3,804,174	54.2	calc'd	(37.3)
<b>OPERATING EXPENSES</b>						
Administrative & General	902,954	9.2	685,168	9.8		(24.1)
Marketing	431,848	4.4	399,823	5.7		(7.4)
Property Operations & Maintenance	480,921	4.9	356,362	5.1		(25.9)
Utilities	284,627	2.9	267,120	3.8		(6.2)
Total	2,100,350	21.4	1,708,473	24.3	calc'd	(18.7)
<b>HOUSE PROFIT</b>	\$3,966,591	40.4 %	\$2,095,700	29.8 %	calc'd	(47.2) %

A quick check of the source data at the beginning of this article will show that we used the actual 2000 occupancy, average daily rate, and income and expense ratios from the "Independent-Boutique-Urban" category as the basis for our 2008 statement. We then used this category's 2002 rooms revenue change as the basis for the case study's 2009 forecast. Because the case study's 2009 projected results match the actual 2002 income and expense ratios, the preceding case example also works as a mathematical proof of our findings and methodology. (There is a very slight variation in the house profit ratio because of our decision to use the "other income" and "other expense" indexes as the basis for the telephone department operations.)

In these applications, we have not accounted for underlying inflation. Whatever inflationary factor the user considered appropriate is presumably

reflected in the rooms revenue growth factor, and is therefore already accounted for in the variability index calculations.

### **Conclusion**

The variability indexes developed here offer lenders, asset managers, hotel operators, and other analysts a market-derived historical context for the current downturn. Segregated among 13 categories of hotel, the indexes allow an analyst with a given rate of rooms revenue loss to either build a ground-up forecast, or place an existing forecast within a historical context. The following reference grids can be used to quickly identify itemized changes based on rooms revenue losses ranging from 5% to 30%, at five-point intervals.

**Table 8 Itemized Losses Based on 5% Rooms Revenue Decline**

Affiliation	Independent	Independent	Independent	Independent	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Grand Total
Product Type	Full-Service	Luxury	Full-Service	Boutique	Limited-Service	Select-Service	Luxury	First-Class	Full-Service	Full-Service	First-Class	Mid-Rate	Extended-Stay	
Location	Various	Various	Resort	Urban	Suburban	Various	Urban	Resort	Urban	Airport	Suburb	Suburb	Suburb	
Rooms Rev % Change	(5.0) %	(5.0) %	(5.0) %	(5.0) %	(5.0) %	(5.0) %	(5.0) %	(5.0) %	(5.0) %	(5.0) %	(5.0) %	(5.0) %	(5.0) %	(5.0) %
Corresponding Change in:														
F&B Revenue	(3.0) %	(1.2) %	(3.5) %	(2.3) %	---	(4.1) %	(3.5) %	(5.8) %	(3.6) %	(3.8) %	(4.0) %	(2.2) %	---	(3.7) %
Telephone Revenue	(6.4)	(6.5)	(10.8)	(6.6)	(12.8) %	(10.1)	(7.4)	(10.8)	(9.2)	(9.8)	(9.8)	(10.6)	(12.6) %	(8.8)
Other Income	(8.3)	(7.6)	(4.0)	(3.6)	(4.6)	(1.3)	(1.1)	(1.4)	(2.6)	(6.7)	(3.6)	(5.3)	(6.9)	(3.3)
Total Revenue	(4.6)	(4.2)	(4.6)	(4.4)	(5.1)	(5.0)	(4.4)	(5.0)	(4.6)	(4.8)	(4.8)	(4.6)	(5.2)	(4.6)
Rooms Expense	(3.1)	(2.8)	(2.5)	(2.5)	(3.1)	(3.4)	(3.3)	(4.2)	(3.4)	(4.0)	(3.9)	(3.8)	(2.3)	(3.4)
House Profit	(7.7)	(7.1)	(8.7)	(7.4)	(7.3)	(7.5)	(7.2)	(6.8)	(6.4)	(7.4)	(7.2)	(8.0)	(7.3)	(7.1)
F&B Rev % Change	(3.0) %	(1.2) %	(3.5) %	(2.3) %	---	(4.1) %	(3.5) %	(5.8) %	(3.6) %	(3.8) %	(4.0) %	(2.2) %	---	(3.7) %
Corresponding Change in:														
F&B Expense	(3.2) %	(1.2) %	(2.9) %	(1.8) %	---	(4.1) %	(3.2) %	(5.0) %	(3.6) %	(3.5) %	(3.5) %	(1.4) %	---	(3.3) %
Phone Rev % Change	(6.4) %	(6.5) %	(10.8) %	(6.6) %	(12.8) %	(10.1) %	(7.4) %	(10.8) %	(9.2) %	(9.8) %	(9.8) %	(10.6) %	(12.6) %	(8.8) %
Corresponding Change in:														
Phone Expense	(3.1) %	(3.6) %	(4.2) %	(1.7) %	(7.2) %	(2.3) %	(4.3) %	(5.7) %	(5.6) %	(6.5) %	(4.7) %	(5.3) %	(6.1) %	(4.5) %
Other Rev % Change	(8.3) %	(7.6) %	(4.0) %	(3.6) %	(4.6) %	(1.3) %	(1.1) %	(1.4) %	(2.6) %	(6.7) %	(3.6) %	(5.3) %	(6.9) %	(3.3) %
Corresponding Change in:														
Other Expense	(7.6) %	(8.2) %	(2.4) %	(2.0) %	(7.3) %	(6.5) %	(0.9) %	(0.7) %	(0.6) %	(1.1) %	(3.8) %	(8.1) %	(4.6) %	(2.3) %
Total Rev % Change	(4.6) %	(4.2) %	(4.6) %	(4.4) %	(5.1) %	(5.0) %	(4.4) %	(5.0) %	(4.6) %	(4.8) %	(4.8) %	(4.6) %	(5.2) %	(4.6) %
Corresponding Change in:														
Dept Income	(5.4) %	(5.7) %	(6.0) %	(5.8) %	(5.7) %	(5.5) %	(5.4) %	(5.6) %	(5.2) %	(5.5) %	(5.5) %	(5.6) %	(5.9) %	(5.5) %
Admin & Gen'l	(3.0)	(2.9)	(1.7)	(3.8)	(2.5)	(4.1)	(1.9)	(3.6)	(2.6)	(2.8)	(2.7)	(2.1)	(3.1)	(2.8)
Marketing	(2.1)	(4.7)	(1.5)	(1.2)	(2.2)	(2.3)	(3.4)	(4.1)	(3.1)	(2.2)	(2.8)	(0.1)	0.1	(2.8)
Prop Ops & Maint	(0.7)	(1.4)	(2.0)	(4.0)	(1.2)	5.7	(2.4)	(3.1)	(1.6)	(2.1)	(1.8)	(1.5)	(1.5)	(1.9)
Utilities	(1.2)	(2.4)	(0.5)	(1.0)	(1.6)	(1.9)	1.0	(1.8)	(0.4)	(2.2)	(0.8)	(0.8)	(1.0)	(0.9)
House Profit	(7.7)	(7.1)	(8.7)	(7.4)	(7.3)	(7.5)	(7.2)	(6.8)	(6.4)	(7.4)	(7.2)	(8.0)	(7.3)	(7.1)

**Table 9 Itemized Losses Based on 10% Rooms Revenue Decline**

Affiliation	Independent	Independent	Independent	Independent	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Grand Total
Product Type	Full-Service	Luxury	Full-Service	Boutique	Limited-Service	Select-Service	Luxury	First-Class	Full-Service	Full-Service	First-Class	Mid-Rate	Extended-Stay	
Location	Various	Various	Resort	Urban	Suburban	Various	Urban	Resort	Urban	Airport	Suburb	Suburb	Suburb	
Rooms Rev % Change	(10.0) %	(10.0) %	(10.0) %	(10.0) %	(10.0) %	(10.0) %	(10.0) %	(10.0) %	(10.0) %	(10.0) %	(10.0) %	(10.0) %	(10.0) %	(10.0) %
Corresponding Change in:														
F&B Revenue	(6.1) %	(2.3) %	(7.0) %	(4.6) %	---	(8.2) %	(7.1) %	(11.6) %	(7.1) %	(7.7) %	(8.0) %	(4.5) %	---	(7.3) %
Telephone Revenue	(12.7) %	(13.1) %	(21.6) %	(13.2) %	(25.6) %	(20.1) %	(14.8) %	(21.5) %	(18.3) %	(19.5) %	(19.5) %	(21.2) %	(25.3) %	(17.6) %
Other Income	(16.6) %	(15.1) %	(8.0) %	(7.2) %	(9.3) %	(2.6) %	(2.3) %	(2.8) %	(5.2) %	(13.5) %	(7.1) %	(10.5) %	(13.8) %	(6.5) %
Total Revenue	(9.2) %	(8.5) %	(9.1) %	(8.9) %	(10.2) %	(10.0) %	(8.8) %	(10.1) %	(9.2) %	(9.7) %	(9.6) %	(9.2) %	(10.4) %	(9.3) %
Rooms Expense	(6.2) %	(5.6) %	(5.0) %	(4.9) %	(6.2) %	(6.8) %	(6.7) %	(8.5) %	(6.9) %	(8.0) %	(7.7) %	(7.7) %	(4.7) %	(6.8) %
House Profit	(15.4) %	(14.1) %	(17.4) %	(14.8) %	(14.6) %	(14.9) %	(14.4) %	(13.6) %	(12.9) %	(14.7) %	(14.3) %	(15.9) %	(14.5) %	(14.2) %
F&B Rev % Change	(6.1) %	(2.3) %	(7.0) %	(4.6) %	---	(8.2) %	(7.1) %	(11.6) %	(7.1) %	(7.7) %	(8.0) %	(4.5) %	---	(7.3) %
Corresponding Change in:														
F&B Expense	(6.4) %	(2.3) %	(5.8) %	(3.6) %	---	(8.1) %	(6.3) %	(9.9) %	(7.3) %	(7.1) %	(6.9) %	(2.7) %	---	(6.5) %
Phone Rev % Change	(12.7) %	(13.1) %	(21.6) %	(13.2) %	(25.6) %	(20.1) %	(14.8) %	(21.5) %	(18.3) %	(19.5) %	(19.5) %	(21.2) %	(25.3) %	(17.6) %
Corresponding Change in:														
Phone Expense	(6.1) %	(7.1) %	(8.5) %	(3.3) %	(14.5) %	(4.6) %	(8.7) %	(11.4) %	(11.1) %	(13.0) %	(9.5) %	(10.5) %	(12.2) %	(9.0) %
Other Rev % Change	(16.6) %	(15.1) %	(8.0) %	(7.2) %	(9.3) %	(2.6) %	(2.3) %	(2.8) %	(5.2) %	(13.5) %	(7.1) %	(10.5) %	(13.8) %	(6.5) %
Corresponding Change in:														
Other Expense	(15.1) %	(16.3) %	(4.7) %	(4.1) %	(14.6) %	(13.1) %	(1.9) %	(1.4) %	(1.3) %	(2.3) %	(7.6) %	(16.2) %	(9.1) %	(4.7) %
Total Rev % Change	(9.2) %	(8.5) %	(9.1) %	(8.9) %	(10.2) %	(10.0) %	(8.8) %	(10.1) %	(9.2) %	(9.7) %	(9.6) %	(9.2) %	(10.4) %	(9.3) %
Corresponding Change in:														
Dept Income	(10.9) %	(11.4) %	(11.9) %	(11.7) %	(11.4) %	(11.1) %	(10.8) %	(11.2) %	(10.4) %	(11.0) %	(11.0) %	(11.1) %	(11.8) %	(11.0) %
Admin & Gen'l	(6.0) %	(5.9) %	(3.3) %	(7.5) %	(5.0) %	(8.1) %	(3.8) %	(7.1) %	(5.2) %	(5.5) %	(5.4) %	(4.3) %	(6.3) %	(5.6) %
Marketing	(4.1) %	(9.5) %	(3.0) %	(2.3) %	(4.4) %	(4.5) %	(6.8) %	(8.2) %	(6.2) %	(4.3) %	(5.6) %	(0.3) %	0.2 %	(5.7) %
Prop Ops & Maint	(1.4) %	(2.8) %	(4.1) %	(8.1) %	(2.5) %	11.4 %	(4.8) %	(6.2) %	(3.2) %	(4.2) %	(3.6) %	(3.0) %	(3.1) %	(3.7) %
Utilities	(2.4) %	(4.7) %	(1.0) %	(1.9) %	(3.3) %	(3.8) %	2.0 %	(3.6) %	(0.9) %	(4.4) %	(1.7) %	(1.6) %	(2.0) %	(1.7) %
House Profit	(15.4) %	(14.1) %	(17.4) %	(14.8) %	(14.6) %	(14.9) %	(14.4) %	(13.6) %	(12.9) %	(14.7) %	(14.3) %	(15.9) %	(14.5) %	(14.2) %

**Table 10 Itemized Losses Based on 15% Rooms Revenue Decline**

Affiliation	Independent	Independent	Independent	Independent	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Grand Total
Product Type	Full-Service	Luxury	Full-Service	Boutique	Limited-Service	Select-Service	Luxury	First-Class	Full-Service	Full-Service	First-Class	Mid-Rate	Branded	
Location	Various	Various	Resort	Urban	Suburban	Various	Urban	Resort	Urban	Airport	Suburb	Suburb	Extended-Stay	Suburb
Rooms Rev % Change	(15.0) %	(15.0) %	(15.0) %	(15.0) %	(15.0) %	(15.0) %	(15.0) %	(15.0) %	(15.0) %	(15.0) %	(15.0) %	(15.0) %	(15.0) %	(15.0) %
Corresponding Change in:														
F&B Revenue	(9.1) %	(3.5) %	(10.5) %	(6.9) %	---	(12.3) %	(10.6) %	(17.4) %	(10.7) %	(11.5) %	(12.0) %	(6.7) %	---	(11.0) %
Telephone Revenue	(19.1)	(19.6)	(32.3)	(19.8)	(38.3) %	(30.2)	(22.2)	(32.3)	(27.5)	(29.3)	(29.3)	(31.9)	(37.9) %	(26.4)
Other Income	(24.9)	(22.7)	(12.0)	(10.8)	(13.9)	(3.9)	(3.4)	(4.1)	(7.8)	(20.2)	(10.7)	(15.8)	(20.7)	(9.8)
Total Revenue	(13.9)	(12.7)	(13.7)	(13.3)	(15.4)	(15.0)	(13.2)	(15.1)	(13.7)	(14.5)	(14.3)	(13.8)	(15.6)	(13.9)
Rooms Expense	(9.4)	(8.4)	(7.5)	(7.4)	(9.3)	(10.2)	(10.0)	(12.7)	(10.3)	(12.0)	(11.6)	(11.5)	(7.0)	(10.3)
House Profit	(23.0)	(21.2)	(26.1)	(22.2)	(22.0)	(22.4)	(21.7)	(20.4)	(19.3)	(22.1)	(21.5)	(23.9)	(21.8)	(21.3)
F&B Rev % Change	(9.1) %	(3.5) %	(10.5) %	(6.9) %	---	(12.3) %	(10.6) %	(17.4) %	(10.7) %	(11.5) %	(12.0) %	(6.7) %	---	(11.0) %
Corresponding Change in:														
F&B Expense	(9.7) %	(3.5) %	(8.8) %	(5.4) %	---	(12.2) %	(9.5) %	(14.9) %	(10.9) %	(10.6) %	(10.4) %	(4.1) %	---	(9.8) %
Phone Rev % Change	(19.1) %	(19.6) %	(32.3) %	(19.8) %	(38.3) %	(30.2) %	(22.2) %	(32.3) %	(27.5) %	(29.3) %	(29.3) %	(31.9) %	(37.9) %	(26.4) %
Corresponding Change in:														
Phone Expense	(9.2) %	(10.7) %	(12.7) %	(5.0) %	(21.7) %	(6.9) %	(13.0) %	(17.0) %	(16.7) %	(19.5) %	(14.2) %	(15.8) %	(18.3) %	(13.6) %
Other Rev % Change	(24.9) %	(22.7) %	(12.0) %	(10.8) %	(13.9) %	(3.9) %	(3.4) %	(4.1) %	(7.8) %	(20.2) %	(10.7) %	(15.8) %	(20.7) %	(9.8) %
Corresponding Change in:														
Other Expense	(22.7) %	(24.5) %	(7.1) %	(6.1) %	(21.9) %	(19.6) %	(2.8) %	(2.1) %	(1.9) %	(3.4) %	(11.4) %	(24.3) %	(13.7) %	(7.0) %
Total Rev % Change	(13.9) %	(12.7) %	(13.7) %	(13.3) %	(15.4) %	(15.0) %	(13.2) %	(15.1) %	(13.7) %	(14.5) %	(14.3) %	(13.8) %	(15.6) %	(13.9) %
Corresponding Change in:														
Dept Income	(16.3) %	(17.1) %	(17.9) %	(17.5) %	(17.1) %	(16.6) %	(16.3) %	(16.8) %	(15.6) %	(16.6) %	(16.5) %	(16.7) %	(17.7) %	(16.5) %
Admin & Gen'l	(9.0)	(8.8)	(5.0)	(11.3)	(7.5)	(12.2)	(5.8)	(10.7)	(7.8)	(8.3)	(8.1)	(6.4)	(9.4)	(8.4)
Marketing	(6.2)	(14.2)	(4.5)	(3.5)	(6.5)	(6.8)	(10.1)	(12.4)	(9.2)	(6.5)	(8.3)	(0.4)	0.3	(8.5)
Prop Ops & Maint	(2.1)	(4.2)	(6.1)	(12.1)	(3.7)	17.1	(7.1)	(9.2)	(4.8)	(6.2)	(5.5)	(4.4)	(4.6)	(5.6)
Utilities	(3.7)	(7.1)	(1.5)	(2.9)	(4.9)	(5.7)	3.0	(5.3)	(1.3)	(6.5)	(2.5)	(2.5)	(3.0)	(2.6)
House Profit	(23.0)	(21.2)	(26.1)	(22.2)	(22.0)	(22.4)	(21.7)	(20.4)	(19.3)	(22.1)	(21.5)	(23.9)	(21.8)	(21.3)

**Table 11 Itemized Losses Based on 20% Rooms Revenue Decline**

Affiliation	Independent	Independent	Independent	Independent	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Grand Total
Product Type	Full-Service	Luxury	Full-Service	Boutique	Limited-Service	Select-Service	Luxury	First-Class	Full-Service	Full-Service	First-Class	Mid-Rate	Branded	
Location	Various	Various	Resort	Urban	Suburban	Various	Urban	Resort	Urban	Airport	Suburb	Suburb	Extended-Stay	Suburb
Rooms Rev % Change	(20.0) %	(20.0) %	(20.0) %	(20.0) %	(20.0) %	(20.0) %	(20.0) %	(20.0) %	(20.0) %	(20.0) %	(20.0) %	(20.0) %	(20.0) %	(20.0) %
Corresponding Change in:														
F&B Revenue	(12.2) %	(4.6) %	(14.0) %	(9.2) %	---	(16.4) %	(14.2) %	(23.1) %	(14.3) %	(15.4) %	(16.1) %	(9.0) %	---	(14.6) %
Telephone Revenue	(25.5)	(26.1)	(43.1)	(26.4)	(51.1) %	(40.3)	(29.7)	(43.1)	(36.7)	(39.1)	(39.1)	(42.5)	(50.6) %	(35.2)
Other Income	(33.2)	(30.3)	(16.0)	(14.4)	(18.5)	(5.1)	(4.5)	(5.5)	(10.4)	(26.9)	(14.3)	(21.1)	(27.6)	(13.1)
Total Revenue	(18.5)	(17.0)	(18.3)	(17.7)	(20.5)	(19.9)	(17.6)	(20.1)	(18.3)	(19.3)	(19.1)	(18.4)	(20.9)	(18.5)
Rooms Expense	(12.5)	(11.1)	(10.0)	(9.8)	(12.3)	(13.6)	(13.3)	(17.0)	(13.7)	(16.0)	(15.5)	(15.4)	(9.4)	(13.7)
House Profit	(30.7)	(28.2)	(34.8)	(29.5)	(29.3)	(29.9)	(28.9)	(27.1)	(25.7)	(29.5)	(28.6)	(31.9)	(29.0)	(28.5)
F&B Rev % Change	(12.2) %	(4.6) %	(14.0) %	(9.2) %	---	(16.4) %	(14.2) %	(23.1) %	(14.3) %	(15.4) %	(16.1) %	(9.0) %	---	(14.6) %
Corresponding Change in:														
F&B Expense	(12.9) %	(4.6) %	(11.7) %	(7.2) %	---	(16.2) %	(12.7) %	(19.9) %	(14.6) %	(14.2) %	(13.9) %	(5.4) %	---	(13.0) %
Phone Rev % Change	(25.5) %	(26.1) %	(43.1) %	(26.4) %	(51.1) %	(40.3) %	(29.7) %	(43.1) %	(36.7) %	(39.1) %	(39.1) %	(42.5) %	(50.6) %	(35.2) %
Corresponding Change in:														
Phone Expense	(12.2) %	(14.3) %	(17.0) %	(6.7) %	(29.0) %	(9.1) %	(17.3) %	(22.7) %	(22.2) %	(25.9) %	(18.9) %	(21.0) %	(24.4) %	(18.1) %
Other Rev % Change	(33.2) %	(30.3) %	(16.0) %	(14.4) %	(18.5) %	(5.1) %	(4.5) %	(5.5) %	(10.4) %	(26.9) %	(14.3) %	(21.1) %	(27.6) %	(13.1) %
Corresponding Change in:														
Other Expense	(30.2) %	(32.7) %	(9.4) %	(8.1) %	(29.2) %	(26.2) %	(3.8) %	(2.8) %	(2.5) %	(4.5) %	(15.2) %	(32.3) %	(18.3) %	(9.4) %
Total Rev % Change	(18.5) %	(17.0) %	(18.3) %	(17.7) %	(20.5) %	(19.9) %	(17.6) %	(20.1) %	(18.3) %	(19.3) %	(19.1) %	(18.4) %	(20.9) %	(18.5) %
Corresponding Change in:														
Dept Income	(21.8) %	(22.8) %	(23.9) %	(23.4) %	(22.8) %	(22.2) %	(21.7) %	(22.4) %	(20.8) %	(22.1) %	(22.0) %	(22.2) %	(23.6) %	(22.0) %
Admin & Gen'l	(12.0)	(11.8)	(6.6)	(15.0)	(9.9)	(16.2)	(7.7)	(14.2)	(10.3)	(11.0)	(10.8)	(8.6)	(12.5)	(11.3)
Marketing	(8.2)	(18.9)	(6.0)	(4.6)	(8.7)	(9.1)	(13.5)	(16.5)	(12.3)	(8.6)	(11.1)	(0.6)	0.4	(11.4)
Prop Ops & Maint	(2.8)	(5.6)	(8.1)	(16.1)	(4.9)	22.8	(9.5)	(12.3)	(6.4)	(8.3)	(7.3)	(5.9)	(6.1)	(7.5)
Utilities	(4.9)	(9.5)	(2.0)	(3.8)	(6.6)	(7.6)	4.0	(7.1)	(1.8)	(8.7)	(3.4)	(3.3)	(4.0)	(3.5)
House Profit	(30.7)	(28.2)	(34.8)	(29.5)	(29.3)	(29.9)	(28.9)	(27.1)	(25.7)	(29.5)	(28.6)	(31.9)	(29.0)	(28.5)



**Table 12 Itemized Losses Based on 25% Rooms Revenue Decline**

Affiliation	Independent	Independent	Independent	Independent	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Grand Total
Product Type	Full-Service	Luxury	Full-Service	Boutique	Limited-Service	Select-Service	Luxury	First-Class	Full-Service	Full-Service	First-Class	Mid-Rate	Branded	
Location	Various	Various	Resort	Urban	Suburban	Various	Urban	Resort	Urban	Airport	Suburb	Suburb	Suburb	
Rooms Rev % Change	(25.0) %	(25.0) %	(25.0) %	(25.0) %	(25.0) %	(25.0) %	(25.0) %	(25.0) %	(25.0) %	(25.0) %	(25.0) %	(25.0) %	(25.0) %	(25.0) %
Corresponding Change in:														
F&B Revenue	(15.2) %	(5.8) %	(17.5) %	(11.5) %	---	(20.5) %	(17.7) %	(28.9) %	(17.8) %	(19.2) %	(20.1) %	(11.2) %	---	(18.3) %
Telephone Revenue	(31.8)	(32.7)	(53.9)	(33.0)	(63.9) %	(50.3)	(37.1)	(53.9)	(45.8)	(48.8)	(48.9)	(53.1)	(63.2) %	(44.0)
Other Income	(41.5)	(37.8)	(20.0)	(18.0)	(23.2)	(6.4)	(5.6)	(6.9)	(13.0)	(33.7)	(17.8)	(26.4)	(34.5)	(16.3)
Total Revenue	(23.1)	(21.2)	(22.8)	(22.1)	(25.6)	(24.9)	(22.0)	(25.1)	(22.9)	(24.1)	(23.9)	(23.0)	(26.1)	(23.2)
Rooms Expense	(15.6)	(13.9)	(12.5)	(12.3)	(15.4)	(17.0)	(16.7)	(21.2)	(17.2)	(20.0)	(19.3)	(19.2)	(11.7)	(17.1)
House Profit	(38.4)	(35.3)	(43.5)	(36.9)	(36.6)	(37.3)	(36.1)	(33.9)	(32.2)	(36.8)	(35.8)	(39.8)	(36.3)	(35.6)
F&B Rev % Change	(15.2) %	(5.8) %	(17.5) %	(11.5) %	---	(20.5) %	(17.7) %	(28.9) %	(17.8) %	(19.2) %	(20.1) %	(11.2) %	---	(18.3) %
Corresponding Change in:														
F&B Expense	(16.1) %	(5.8) %	(14.6) %	(9.0) %	---	(20.3) %	(15.8) %	(24.9) %	(18.2) %	(17.7) %	(17.3) %	(6.8) %	---	(16.3) %
Phone Rev % Change	(31.8) %	(32.7) %	(53.9) %	(33.0) %	(63.9) %	(50.3) %	(37.1) %	(53.9) %	(45.8) %	(48.8) %	(48.9) %	(53.1) %	(63.2) %	(44.0) %
Corresponding Change in:														
Phone Expense	(15.3) %	(17.9) %	(21.2) %	(8.3) %	(36.2) %	(11.4) %	(21.6) %	(28.4) %	(27.8) %	(32.4) %	(23.7) %	(26.3) %	(30.5) %	(22.6) %
Other Rev % Change	(41.5) %	(37.8) %	(20.0) %	(18.0) %	(23.2) %	(6.4) %	(5.6) %	(6.9) %	(13.0) %	(33.7) %	(17.8) %	(26.4) %	(34.5) %	(16.3) %
Corresponding Change in:														
Other Expense	(37.8) %	(40.8) %	(11.8) %	(10.2) %	(36.5) %	(32.7) %	(4.7) %	(3.5) %	(3.2) %	(5.6) %	(19.1) %	(40.4) %	(22.9) %	(11.7) %
Total Rev % Change	(23.1) %	(21.2) %	(22.8) %	(22.1) %	(25.6) %	(24.9) %	(22.0) %	(25.1) %	(22.9) %	(24.1) %	(23.9) %	(23.0) %	(26.1) %	(23.2) %
Corresponding Change in:														
Dept Income	(27.2) %	(28.4) %	(29.8) %	(29.2) %	(28.4) %	(27.7) %	(27.1) %	(28.0) %	(26.0) %	(27.6) %	(27.5) %	(27.8) %	(29.5) %	(27.5) %
Admin & Gen'l	(15.0)	(14.7)	(8.3)	(18.8)	(12.4)	(20.3)	(9.6)	(17.8)	(12.9)	(13.8)	(13.4)	(10.7)	(15.6)	(14.1)
Marketing	(10.3)	(23.7)	(7.5)	(5.8)	(10.9)	(11.4)	(16.9)	(20.6)	(15.4)	(10.8)	(13.9)	(0.7)	0.5	(14.2)
Prop Ops & Maint	(3.4)	(6.9)	(10.2)	(20.2)	(6.2)	28.5	(11.9)	(15.4)	(8.0)	(10.4)	(9.1)	(7.4)	(7.7)	(9.3)
Utilities	(6.1)	(11.8)	(2.5)	(4.8)	(8.2)	(9.5)	4.9	(8.9)	(2.2)	(10.9)	(4.2)	(4.1)	(5.0)	(4.3)
House Profit	(38.4)	(35.3)	(43.5)	(36.9)	(36.6)	(37.3)	(36.1)	(33.9)	(32.2)	(36.8)	(35.8)	(39.8)	(36.3)	(35.6)

**Table 13 Itemized Losses Based on 30% Rooms Revenue Decline**

Affiliation	Independent	Independent	Independent	Independent	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Branded	Grand Total
Product Type	Full-Service	Luxury	Full-Service	Boutique	Limited-Service	Select-Service	Luxury	First-Class	Full-Service	Full-Service	First-Class	Mid-Rate	Branded	
Location	Various	Various	Resort	Urban	Suburban	Various	Urban	Resort	Urban	Airport	Suburb	Suburb	Suburb	
Rooms Rev % Change	(30.0) %	(30.0) %	(30.0) %	(30.0) %	(30.0) %	(30.0) %	(30.0) %	(30.0) %	(30.0) %	(30.0) %	(30.0) %	(30.0) %	(30.0) %	(30.0) %
Corresponding Change in:														
F&B Revenue	(18.3) %	(6.9) %	(21.0) %	(13.8) %	---	(24.6) %	(21.3) %	(34.7) %	(21.4) %	(23.1) %	(24.1) %	(13.5) %	---	(22.0) %
Telephone Revenue	(38.2)	(39.2)	(64.7)	(39.6)	(76.7) %	(60.4)	(44.5)	(64.6)	(55.0)	(58.6)	(58.6)	(63.7)	(75.9) %	(52.8)
Other Income	(49.8)	(45.4)	(24.0)	(21.6)	(27.8)	(7.7)	(6.8)	(8.3)	(15.6)	(40.4)	(21.4)	(31.6)	(41.4)	(19.6)
Total Revenue	(27.7)	(25.5)	(27.4)	(26.6)	(30.7)	(29.9)	(26.4)	(30.2)	(27.5)	(29.0)	(28.7)	(27.5)	(31.3)	(27.8)
Rooms Expense	(18.7)	(16.7)	(15.0)	(14.7)	(18.5)	(20.5)	(20.0)	(25.5)	(20.6)	(24.0)	(23.2)	(23.0)	(14.1)	(20.5)
House Profit	(46.1)	(42.4)	(52.2)	(44.3)	(43.9)	(44.8)	(43.3)	(40.7)	(38.6)	(44.2)	(42.9)	(47.8)	(43.5)	(42.7)
F&B Rev % Change	(18.3) %	(6.9) %	(21.0) %	(13.8) %	---	(24.6) %	(21.3) %	(34.7) %	(21.4) %	(23.1) %	(24.1) %	(13.5) %	---	(22.0) %
Corresponding Change in:														
F&B Expense	(19.3) %	(6.9) %	(17.5) %	(10.8) %	---	(24.3) %	(19.0) %	(29.8) %	(21.9) %	(21.3) %	(20.8) %	(8.2) %	---	(19.6) %
Phone Rev % Change	(38.2) %	(39.2) %	(64.7) %	(39.6) %	(76.7) %	(60.4) %	(44.5) %	(64.6) %	(55.0) %	(58.6) %	(58.6) %	(63.7) %	(75.9) %	(52.8) %
Corresponding Change in:														
Phone Expense	(18.4) %	(21.4) %	(25.5) %	(10.0) %	(43.4) %	(13.7) %	(26.0) %	(34.1) %	(33.3) %	(38.9) %	(28.4) %	(31.5) %	(36.6) %	(27.1) %
Other Rev % Change	(49.8) %	(45.4) %	(24.0) %	(21.6) %	(27.8) %	(7.7) %	(6.8) %	(8.3) %	(15.6) %	(40.4) %	(21.4) %	(31.6) %	(41.4) %	(19.6) %
Corresponding Change in:														
Other Expense	(45.3) %	(49.0) %	(14.2) %	(12.2) %	(43.8) %	(39.2) %	(5.7) %	(4.2) %	(3.8) %	(6.8) %	(22.9) %	(48.5) %	(27.4) %	(14.0) %
Total Rev % Change	(27.7) %	(25.5) %	(27.4) %	(26.6) %	(30.7) %	(29.9) %	(26.4) %	(30.2) %	(27.5) %	(29.0) %	(28.7) %	(27.5) %	(31.3) %	(27.8) %
Corresponding Change in:														
Dept Income	(32.6) %	(34.1) %	(35.8) %	(35.0) %	(34.1) %	(33.2) %	(32.5) %	(33.7) %	(31.2) %	(33.1) %	(33.0) %	(33.3) %	(35.4) %	(33.0) %
Admin & Gen'l	(18.0)	(17.6)	(9.9)	(22.5)	(14.9)	(24.3)	(11.5)	(21.3)	(15.5)	(16.5)	(16.1)	(12.8)	(18.8)	(16.9)
Marketing	(12.3)	(28.4)	(9.0)	(6.9)	(13.1)	(13.6)	(20.3)	(24.7)	(18.5)	(13.0)	(16.7)	(0.8)	0.6	(17.0)
Prop Ops & Maint	(4.1)	(8.3)	(12.2)	(24.2)	(7.4)	34.2	(14.3)	(18.5)	(9.6)	(12.5)	(10.9)	(8.9)	(9.2)	(11.2)
Utilities	(7.3)	(14.2)	(3.0)	(5.7)	(9.8)	(11.4)	5.9	(10.7)	(2.7)	(13.1)	(5.0)	(4.9)	(6.1)	(5.2)
House Profit	(46.1)	(42.4)	(52.2)	(44.3)	(43.9)	(44.8)	(43.3)	(40.7)	(38.6)	(44.2)	(42.9)	(47.8)	(43.5)	(42.7)

