

EFFECTS OF HOLLYWOOD SLOTS ON  
BANGOR-AREA RESTAURANT AND LODGING SALES

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Summary:

The purpose of this study is to investigate the relationship between Hollywood Slots' net gaming revenues and Bangor-area restaurant and lodging sales. Empirical results suggest that a one-dollar increase in monthly net gaming revenues is associated with a \$0.29 and \$0.12 increase in sales at Bangor-area restaurants and hotels, respectively. Between the months of November 2005, when the temporary gaming facility opened, and March 2007, Hollywood Slots' patrons spent an estimated \$14.0 million in Bangor-area restaurants, which is equivalent to six percent of total sales over this period. Likewise, Hollywood Slots' patrons spent an estimated \$6.02 million in Bangor-area hotels and motels, or 15 percent of total sales, between November 2005 and March 2007. Findings presented in this report should be considered along with other economic and non-economic factors to assess the overall effects of Hollywood Slots on the Bangor region and state as a whole.

## EFFECTS OF HOLLYWOOD SLOTS ON BANGOR-AREA RESTAURANT AND LODGING SALES

In November of 2005, Hollywood Slots began operations in its temporary “racino” gaming facility located in Bangor, Maine. Gross gaming revenues have grown from \$28.5 million in the first month to \$51.1 million in May 2007, the most recent period for which data are available. Net gaming revenues, which are the dollars that patrons “lose” and that Hollywood Slots retain and partially distribute to various state funds, have increased from \$1.97 million to \$3.57 million between November 2005 and May 2007.

The purpose of this study is to investigate the relationship between Hollywood Slots’ net gaming revenues and Bangor-area restaurant and lodging sales. This information will provide an estimate of the local expenditures that racino patrons make outside of the gaming facility. The analysis presented in this report uses standard statistical methods (i.e., regression analysis), and publicly-available racino financial information from the Maine Gambling Control Board and retail sales figures from Maine Revenue Services (available on-line at the Maine State Planning Office’s website).

Before proceeding with the analysis, we discuss a few issues that should be kept in mind when interpreting the study findings. First, as the report’s title implies, the analysis focuses on a single aspect of Hollywood Slots: its effect on local restaurant and lodging sales. The facility and its gaming operations have a variety of other economic and non-economic impacts that are not considered in this report. Given the narrow focus of our work, the results from this study alone cannot be used to conclude whether Hollywood Slots has an overall “positive” or “negative” effect on the Bangor region or state as a whole.

Second, our results provide an estimate of the extent to which racino patrons impact restaurant and lodging sales *outside* of Hollywood Slots. This is because the temporary facility does not include a hotel and its restaurant is fairly modest in size. However, findings from this study may not be transferable to future operations in the racino’s permanent facility, which is planned to include more extensive dining options and an attached hotel. When the new racino is completed, a larger part of the additional restaurant and lodging sales associated with gaming activity may occur *inside* of Hollywood Slots.

Finally, our results do not tell us for certain whether the racino patrons “cause” growth in local restaurants and hotels, or whether activity in these other hospitality sectors contribute to an expansion of gaming. In some cases, the racino may attract new visitors to the area who spend additional money at local dining and lodging facilities. In other cases, the racino may serve locals and tourists whose presence in Bangor (and spending in other hospitality businesses) is not solely attributable to Hollywood Slots.

Table 1 documents the growth of gaming operations at Hollywood Slots, both in terms of gross and net gaming revenues. Gross gaming revenues were substantially higher in each

of the months between November 2006 and March 2007 as compared to the same period one year earlier. In April and May of 2007, gross gaming revenues exceeded the previous year's figures by just over 10 percent. The downward trend shown in the column of Table 1 labeled "Increase Over Previous Year" suggests that the substantial growth experienced by Hollywood Slots in its first year may be slowing down to a more modest expansion path over time.

To put the size of Hollywood Slots' operations into perspective, Figures 1 and 2 show net gaming revenues (i.e., the amount lost by racino patrons) compared to Bangor-area restaurant and lodging sales, respectively. The Bangor Economic Summary Area, which is a regional definition used by Maine Revenue Services to report retail sales data, consists of several towns including Bangor, Brewer, Old Town, Orono and Veazie. We focus on data at this regional level, and not just for the city of Bangor, to capture retail sales activity in Bangor and its surrounding towns.

Net gaming revenues ranged from 19.7 percent (December 2006) to 26.7 percent (March 2007) of Bangor-area restaurant sales over the 12-month period ending in March 2007. Net gaming revenues exceeded lodging sales in the region in 10 out of 12 months between April 2006 and March 2007. The two exceptions are August and September (of 2006), which are the busiest months for lodging establishments in the Bangor area.

Table 2 presents regression results on the relationship between Bangor-area hospitality sales (i.e., restaurants and lodging) and net gaming revenues at Hollywood Slots. The regression model focusing on restaurant sales includes as explanatory variables net gaming revenues, restaurant sales in Maine but outside of the Bangor Economic Summary Area, and Bangor-area general merchandise sales. Restaurant sales elsewhere in the state are included in the model to control for broader month-to-month variations in household dining habits, while general merchandise sales in the Bangor area are used to control for local trends in overall retail activity. We would expect both of these variables to have a positive effect on Bangor-area restaurant sales.

The regression model examining lodging sales uses as explanatory variables net gaming revenues, lodging sales in Maine but outside of the Bangor Economic Summary Area, and Bangor-area general merchandise sales. Lodging sales elsewhere in the state control for the strong seasonal trends that characterize Maine's hotel and motel industry. Although we expect a positive relationship between restaurant and general merchandise sales (i.e., locals and visitors like to eat when they shop), the connection between lodging and general merchandise sales is less certain. Some of the people shopping in general merchandise stores (e.g., Target and Wal-Mart) stay in the Bangor area for an overnight visit, but most retail customers are from the region and do not require lodging accommodations.

Empirical results, based on 87 monthly observations between January 2000 and March 2007, reveal a positive and statistically significant relationship between Bangor-area restaurant sales and net gaming revenues. The estimated coefficient of 0.287 suggests that, other things being equal, a one-dollar increase in net gaming revenues is associated

with \$0.29 of additional spending in Bangor-area restaurants. Other results confirm our expectations that restaurant sales elsewhere in the state and general merchandise sales in the Bangor region have a positive and statistically significant effect on local restaurant sales. The R-squared value of 0.680 indicates that the variables included in the model account for 68 percent of the month-to-month variation in Bangor-area restaurant sales.

Results also show a positive and statistically significant relationship between Bangor-area lodging sales and net gaming revenues at Hollywood Slots. Other things being equal, a one-dollar increase in net gaming revenues is associated with \$0.12 of additional spending in Bangor-area hotels and motels. As expected, the results also reveal a positive and statistically significant relationship between Bangor-area lodging sales and lodging sales elsewhere in the state, while general merchandise sales do not have a statistically significant effect on local lodging sales. The R-squared value of 0.839 suggests that the variables included in the model explain almost 84 percent of the monthly variation in Bangor-area lodging sales.

The regression results presented in Table 2 suggest that a hypothetical Hollywood Slots patron, who loses \$50.00 at the facility, would spend about \$15.00 in Bangor-area restaurants and an additional \$6.00 on lodging in the Bangor area. Although Bangor-area hotel rates are considerably more than \$6.00 for a night's stay, the results (assuming a \$50.00 loss at the Hollywood Slots facility) imply that a small percentage of Hollywood Slots' patrons spend the night in the Bangor region. This suggests that the temporary facility largely serves a regional market.

The regression results can be used to estimate the proportion of Bangor-area restaurant and lodging sales that are associated with net gaming revenues at Hollywood Slots. Using the regression coefficient of 0.287 and information on net gaming revenues, we estimate that Hollywood Slots' patrons spent \$14.0 million in Bangor-area restaurants between November 2005 and March 2007. This is equivalent to six percent of total sales over these 17 months. Likewise, we estimate that Hollywood Slots' patrons spent \$6.02 million in local hotels and motels, or 15 percent of total sales, between November 2005 and March 2007.

Along with the regression models described above, we estimated two additional models (one for restaurant sales, and one for lodging sales) that account for the effects of Hollywood Slots on Bangor-area retail sales with a variable that simply indicates whether or not the racino facility was in operation during the given month. The explanatory variable of key interest in these regressions takes on a value of zero for the months of January 2000 to October 2005, and it equals one for the months of November 2005 to March 2007.

To confirm results from the original regression analysis, this approach provides another way of looking at the effects of Hollywood Slots on Bangor-area retail sales. Results from this analysis, presented in Table 3, suggest that the presence of Hollywood Slots enhances Bangor-area restaurant sales by an average of \$897,000 per month. This translates into a total effect (over the 17 months of operation) of \$15.2 million, which is

within ten percent of the original estimate (\$14.0 million) reported above. The racino's presence increases Bangor-area lodging sales by an estimated \$368,000 per month, or \$6.26 million between November 2005 and March 2007. This estimate also falls within ten percent of the total impact (\$6.02 million) calculated using results from the original regression analysis.

In summary, the analysis presented in this report reveals several key findings related to Hollywood Slots and its effect on Bangor-area restaurant and lodging sales. First, gaming revenues have grown substantially from the racino's opening in November 2005 to the present. Second, in recent months, net gaming revenues have been equivalent to over 20 percent of Bangor-area restaurant sales. Likewise, net gaming revenues typically exceed monthly lodging sales in the area.

Third, our regression results reveal a positive and statistically significant relationship between both Bangor-area restaurant and lodging sales, and net gaming revenues at Hollywood Slots. Between the months of November 2005, when the temporary gaming facility opened, and March 2007, Hollywood Slots' patrons spent an estimated \$14.0 million in Bangor-area restaurants, which is equivalent to six percent of total sales over this period. Likewise, Hollywood Slots' patrons spent an estimated \$6.02 million in Bangor-area hotels and motels, or 15 percent of total sales, between November 2005 and March 2007. As noted above, these findings should be considered along with other economic and non-economic factors to assess the overall effects of Hollywood Slots on the Bangor region and state as a whole.

Table 1. Hollywood Slots Financial Information

Month	Gross Gaming Revenues	Increase Over Previous Year	Net Gaming Revenues
November 2005	\$28,545,432	NA	\$1,973,087
December 2005	\$31,725,324	NA	\$2,187,333
January 2006	\$35,454,253	NA	\$2,403,996
February 2006	\$38,819,885	NA	\$2,647,473
March 2006	\$45,819,324	NA	\$3,046,252
April 2006	\$43,918,904	NA	\$2,930,983
May 2006	\$45,273,923	NA	\$2,987,968
June 2006	\$47,837,398	NA	\$3,129,970
July 2006	\$51,712,352	NA	\$3,525,459
August 2006	\$50,123,635	NA	\$3,339,684
September 2006	\$51,087,410	NA	\$3,453,832
October 2006	\$53,785,592	NA	\$3,449,314
November 2006	\$51,386,173	80.0%	\$3,440,927
December 2006	\$49,029,291	54.5%	\$3,161,258
January 2007	\$48,800,672	37.6%	\$3,295,556
February 2007	\$49,342,937	27.1%	\$3,247,717
March 2007	\$56,294,760	22.9%	\$3,821,850
April 2007	\$49,017,281	11.6%	\$3,672,402
May 2007	\$51,142,569	13.0%	\$3,566,178

Source: Maine Gambling Control Board

**Figure 1. Net Gaming Revenues Compared to Bangor-Area Restaurant Sales**

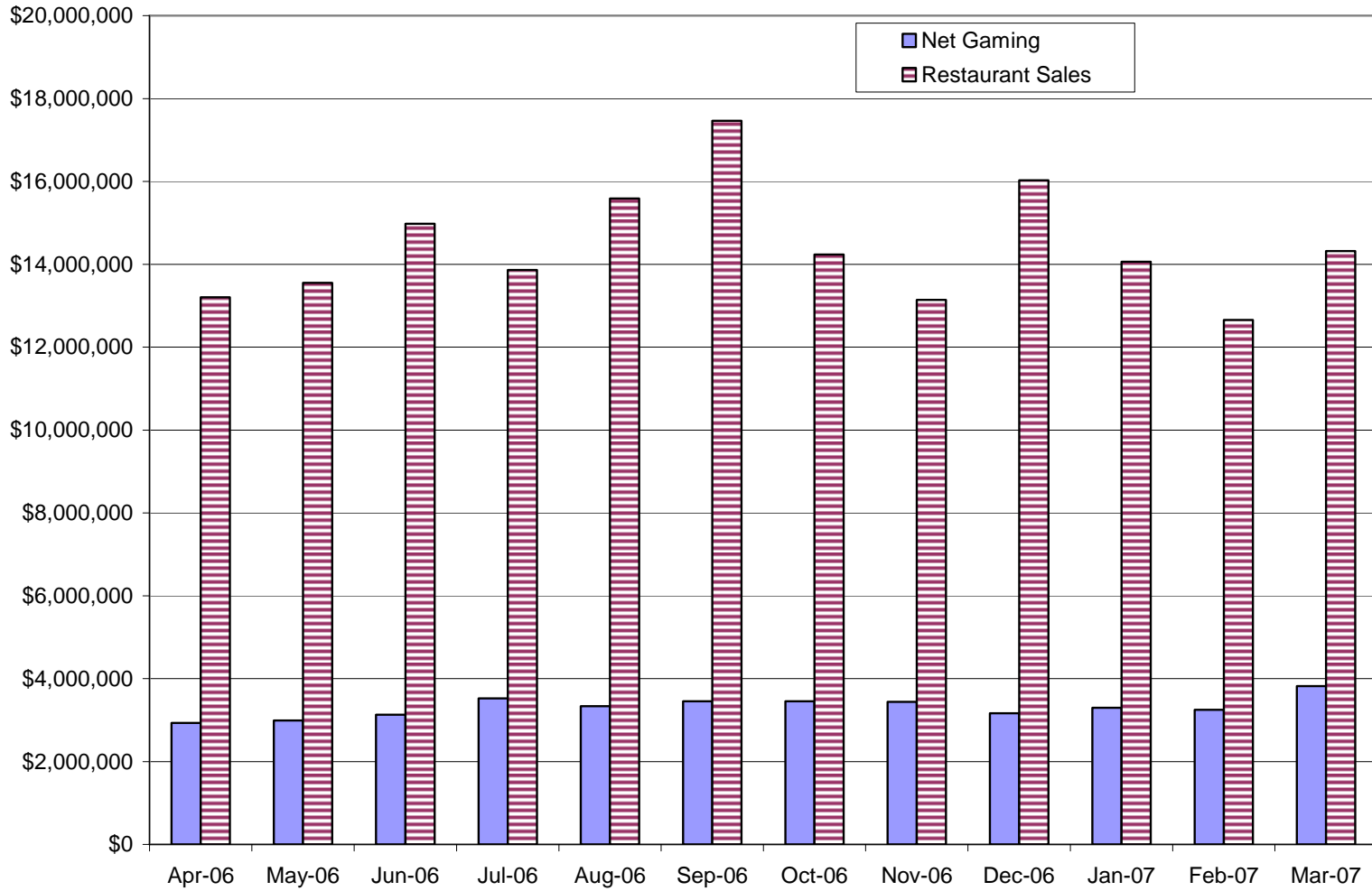


Figure 2. Net Gaming Revenues Compared to Bangor-Area Lodging Sales

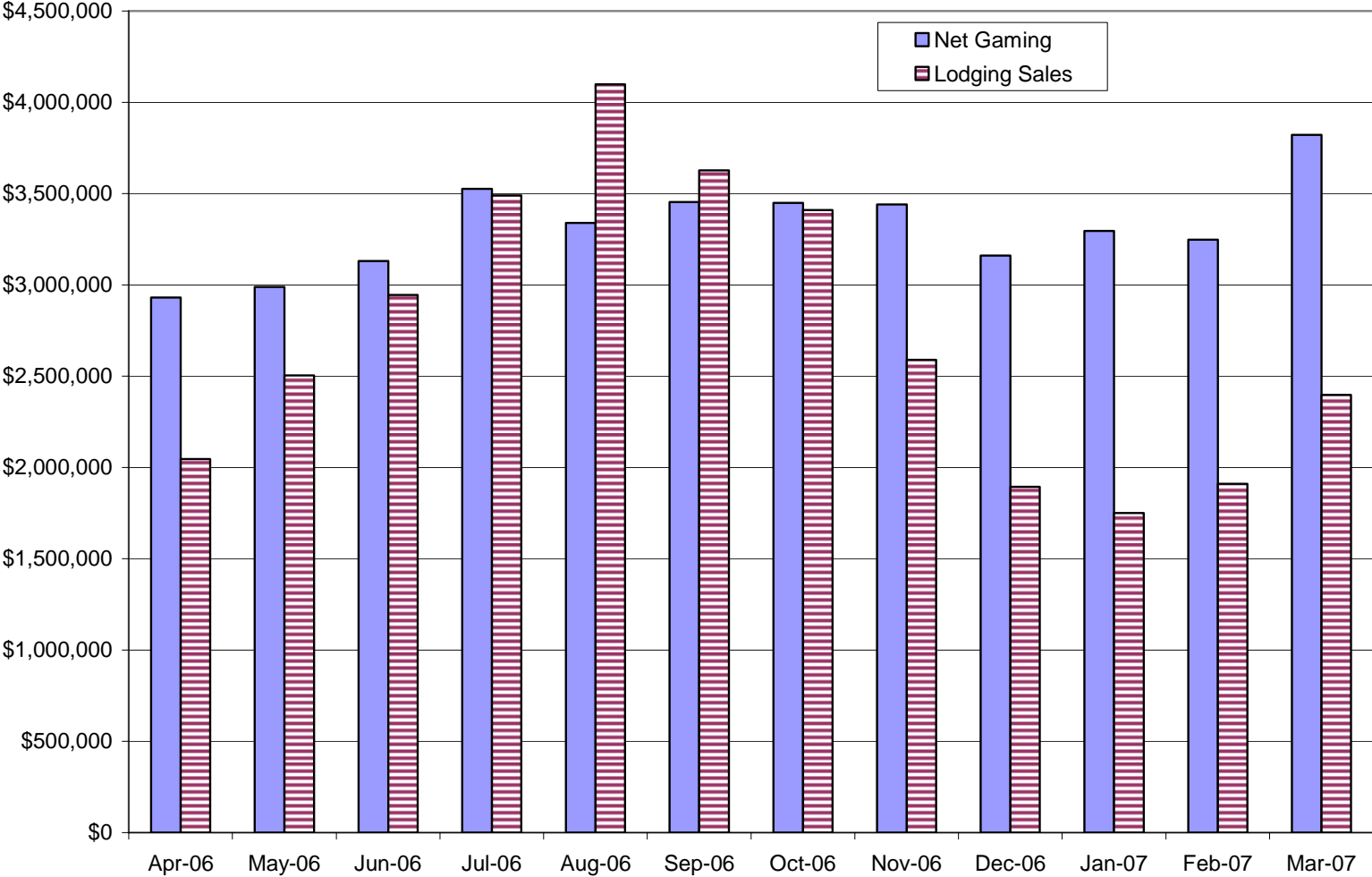




Table 2. Regression Results: Estimated Effects of Net Gaming Revenues on Bangor-Area Restaurant and Lodging Sales

Variable	<u>Bangor-Area Restaurant Sales</u>		<u>Bangor-Area Lodging Sales</u>	
	Estimated Coefficient	t-statistic	Estimated Coefficient	t-statistic
Constant	7,995*	18.33	1,366*	10.61
Net Gaming Revenues	0.287*	3.630	0.123*	4.382
Restaurant Sales, Maine	0.024*	8.805	NA	NA
Lodging Sales, Maine	NA	NA	0.020*	20.27
General Merchandise Sales, Bangor-Area	0.066*	5.611	-4.77e-05	-0.012
R-squared	0.680		0.839	

Note: \* indicates statistical significance at the one-percent level. All dollar values are reported in \$1,000s.

Table 3. Regression Results: Estimated Effects of Hollywood Slots on Bangor-Area Restaurant and Lodging Sales

Variable	<u>Bangor-Area Restaurant Sales</u>		<u>Bangor-Area Lodging Sales</u>	
	Estimated Coefficient	t-statistic	Estimated Coefficient	t-statistic
Constant	7,993*	18.33	1,371*	10.51
Hollywood Slots in Operation	897.1*	3.630	368.5*	4.139
Restaurant Sales, Maine	0.024*	8.961	NA	NA
Lodging Sales, Maine	NA	NA	0.020*	20.19
General Merchandise Sales, Bangor-Area	0.064*	5.416	-3.59e-04	-0.086
R-squared	0.680		0.835	

Note: \* indicates statistical significance at the one-percent level. All dollar values are reported in \$1,000s.