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Casino Tax Policy:

Identifying the issues that will determine the optimal rate

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Abstract

This paper examines the process by which state Legislatures and others determine tax rates for casino operations. The research demonstrates that such policies, largely based on political and related considerations, fall short of determining an optimal rate. Rather, tax considerations should be based on a broader, more encompassing definition that would examine and project tax revenue from all potential sources. The following report – through case studies, interviews, regression analyses and related studies – shows that the highest rate is not likely to be the best rate and could be counter-productive.

Tax rates: Political considerations tend to drive process

The legalization of casino gambling is arguably one of the most critical public policy decisions that state lawmakers will make during their tenure. Such legislation authorizes an entirely new industry that offers a wide range of potential impacts. While lawmakers will pay close attention to many facets of the proposed legislation – from the number of casinos to their locations and licensing requirements – few lawmakers pay close attention to what is arguably the most essential aspect of gaming legislation: the tax rate on gross gaming revenue.

The tax rate on gaming is the most vital public policy decision that legislators will make, as it offers implications in a variety of areas, including:

- Level and type of capital investment
- Employment
- Tourism enhancement
- Demographic and geographic appeal of a casino

The tax rate will help determine the type of business model that casino operators will pursue, yet it is rarely given the proper level of scrutiny. If anything, decisions related to the tax rate are often based on political considerations. In some cases, the importance of the rate as an engine that will guide long-term policy is simply misunderstood.

The evidence for that can be found in the overall trend dating back 30 years, in which rates started out in the single digits and then rose consistently, reaching effective tax rates of more than 72 percent.

This conclusion is bolstered by a variety of anecdotal evidence as well. For example, when Maryland voters approved a referendum to legalize casinos in 2008, we met shortly thereafter with officials from the Maryland Lottery who were beginning the process of authorizing the casinos, based on a statute that established an effective tax rate of about 70 percent.

The officials were concerned that they were not sensing significant interest from potential bidders for the proposed five licenses, with the likelihood of one license receiving no

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interest at all. Our comment was: "The first thing you should do is re-examine the proposed tax rate." After a lengthy pause, the officials responded: "What is the second thing we should do?"

Two years earlier, we held a similar conversation with a Pennsylvania legislator and endeavored to point out that, even though there appeared to be a healthy bidding process underway, the proposed casinos in Pennsylvania would be relatively small, based on the proposed 55 percent tax rate.

The legislator responded with a shrug. The message was simply not getting through.

We fully appreciate the importance of political considerations in such decisions, and note that such considerations have been a critical factor in gaming legislation for more than 30 years.

For example, New Jersey was the first state outside Nevada to legalize casinos, with voters approving a November 1976 referendum to authorize casinos in Atlantic City. The enabling legislation, the Casino Control Act, was approved eight months later, and the first casino opened in May 1978. The tax rate in New Jersey was set at 8 percent, which today is the second lowest in the nation (behind Nevada)[1].

In researching this paper, we asked Steven P. Perskie – who was a member of the state Assembly in 1976 and 1977, and is widely hailed as the architect of the Casino Control Act – to provide the thought processes that guided the decision to set the rate at 8 percent. He responded with the following written comment:

"In researching the drafting of the bill introduced in 1976, after the referendum passed, we found that the highest (combined) tax on gross revenues was 7.5 percent (in Nevada). For principally political reasons, we therefore set the initial rate for New Jersey at 8 percent. We assumed that this would inoculate us from any argument in either direction (that the tax was too high or too low), and indeed we never had to defend that decision. We didn't, at that time,

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[1] New Jersey also imposes a 1.25 percent reinvestment obligation, which offers casinos a below-market return. We normally calculate the effective overall rate in New Jersey at 8.4 percent.

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make any effort to calculate the revenue estimates for the state, as we had no idea (and, as experience would show, we had *no* idea) what we would be dealing with[2]."

So, New Jersey is hailed as a low-tax haven that has helped attract significant capital investment over the years. The following table shows the level of investment in the casino industry, by the casino industry, in Atlantic City since casino gaming began in 1978. Please note, this table shows actual, or nominal, amounts by year, as well as the amounts adjusted for inflation via the Producer Price Index – to illustrate the approximate value, in today's dollars, of 30+ years of capital investment by the casino industry.

Figure 1: Capital investment in Atlantic City: 1978-2009

Year ended	Annual Amount (Nominal $)	Cumulative Amount (Nominal $)	Annual Amount (Real $)	Cumulative Amount (Real $)
1978	$52.6	$52.6	$106.8	$106.8
1979	$422.2	$474.8	$820.4	$927.2
1980	$386.9	$861.7	$708.8	$1,636.0
1981	$713.7	$1,575.4	$1,249.0	$2,884.9
1982	$131.2	$1,706.6	$227.0	$3,111.9
1983	$199.8	$1,906.4	$343.1	$3,455.0
1984	$602.5	$2,508.9	$1,020.0	$4,475.0
1985	$547.6	$3,056.5	$929.8	$5,404.8
1986	$182.6	$3,239.1	$315.6	$5,720.4
1987	$526.1	$3,765.2	$895.4	$6,615.7
1988	$361.6	$4,126.8	$600.6	$7,216.4
1989	$298.4	$4,425.2	$479.9	$7,696.3
1990	$1,074.6	$5,499.8	$1,683.9	$9,380.2
1991	$125.7	$5,625.5	$196.7	$9,576.9
1992	$136.4	$5,761.9	$212.5	$9,789.4
1993	$198.1	$5,960.1	$305.3	$10,094.7
1994	$246.4	$6,206.4	$375.9	$10,470.7
1995	$276.2	$6,482.6	$409.6	$10,880.3
1996	$541.3	$7,023.9	$786.5	$11,666.8
1997	$587.6	$7,611.5	$854.3	$12,521.1
1998	$269.0	$7,880.5	$399.8	$12,920.9
1999	$200.2	$8,080.7	$295.3	$13,216.2
2000	$203.1	$8,283.8	$284.9	$13,501.1
2001	$334.0	$8,617.8	$463.6	$13,964.8
2002	$462.3	$9,080.2	$656.1	$14,620.8
2003	$1,464.3	$10,544.4	$1,975.3	$16,596.1
2004	$551.0	$11,095.4	$695.9	$17,292.0
2005	$499.5	$11,595.0	$577.5	$17,869.5
2006	$792.7	$12,387.7	$858.5	$18,728.0
2007	$963.3	$13,351.0	$967.2	$19,695.2
2008	$651.3	$14,002.3	$543.2	$20,238.4
2009	$85.8	$14,088.1	$85.8	$20,324.2
1980-1989	$3,950.4	$4,425.2	$6,769.1	$7,696.3
1990-1999	$3,655.5	$8,080.7	$5,519.9	$13,216.2
2000-2009	**$6,007.4**	**$14,088.1**	**$7,108.0**	**$20,324.2**

Source: New Jersey Casino Control Commission

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[2] Email from Steven Perskie, sent Aug. 6, 2010

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Perskie's comment makes clear that the 8 percent tax rate was based on political, not economic concerns. He wanted the legislation to be "inoculated" against criticism. This essentially means that, if New Jersey had established casinos later in the process, the rate would have been higher.

The following chart shows that the rates in various states have drifted higher over the years, and we suggest similar political considerations were likely at play:

Figure 2: Effective tax rates by state

	Effective tax rate	Year gaming was established
Nevada	6.80%	1931
New Jersey	8.40%	1978
Iowa	24.00%	1991
Colorado	20.00%	1991
Illinois	50.00%	1991
Iowa	23.20%	1991
Mississippi	12.00%	1992
Rhode Island	72.70%	1992
Louisiana	21.50%	1993
Missouri	21.00%	1994
West Virginia	56.70%	1994
Indiana	40.00%	1995
Delaware	56.90%	1995
Michigan	24.00%	1999
New Mexico	46.00%	1999
New York	65.00%	2004
Oklahoma	41.80%	2005
Maine	49.10%	2005
Florida	50.00%	2006
Pennsylvania	55.00%	2007
Kansas	25.00%	2009

Source: State gaming regulatory agencies, American Gaming Association

Notably, this trend is not universal. Kansas, as well as Massachusetts (with a proposed tax rate of 25 percent) and Ohio (with a proposed rate of 33 percent) are coming in much lower than other states that have joined the gaming fraternity in recent years.

Note also that the recent decision by certain slots-only states to add table games – notably West Virginia, Delaware and Pennsylvania – was accompanied by significant reductions

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in the tax rate on tables, a move that recognizes that labor-intensive table games operate under different profit margins and would not work under tax rates exceeding 40 percent.

Still, despite such examples, decisions regarding the tax rate are still made without a complete understanding of the policy implications, and are still guided by political considerations.

One further example occurred recently in Indiana, when Spectrum performed a study for the Casino Association of Indiana as to the impending effects of increased competition from neighboring states, particularly Ohio – where voters approved a referendum in 2009 authorizing full-service casinos in Columbus, Cleveland, Cincinnati and Toledo.

Our report recommended, among other things, that Indiana legislators consider revising their existing tax system for riverboat casinos to encourage capital investment. The present system, adopted in 2002, incorporates a graduated tax rate in which the first $25 million in annual GGR is taxed at 15 percent, and the rate rises to the point where GGR over $600 million (a point never reached in the state) would be taxed at 40 percent, a bracket that was added in 2007[3].

We suggested that such a system guides policy decisions by operators in everything from marketing strategies to capital investment, and such decisions are not always in the best interest of the state. As an alternative, we suggested that the state consider a system that allows reductions in tax rates in certain instances as an incentive for capital investment "by requiring that operators who seek to participate in any incentives must develop plans as to how they intend to invest in their properties, or otherwise advance public policy in Indiana. Regulators could be empowered to approve such plans.

"Indiana lawmakers should consider and measure the impact of any potential incentives based on some broad parameters that could include:

- Will incentives cannibalize, protect or grow existing tax revenues?

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[3] *Indiana Business Review*, Spring 2009, "The Two-Sided Coin: Casino Gaming and Casino Tax Revenue in Indiana," by Jim Landers, PhD

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- Will incentives lead to additional capital investment in Indiana?

- Would such incentives increase employment, promote tourism or advance other policy goals?

"Wherever possible and practical, the burden should be on participating casino operators to demonstrate that incentives would create employment in their region, make them more attractive — and ultimately help to ensure their success in an increasingly competitive environment[4]."

The suggestion was never discussed by Indiana lawmakers, and we were quietly advised that such a suggestion was simply politically untenable – even though Indiana would almost inevitably face a significant competitive threat, leading to a decline in revenue, under the present system.

This report will endeavor to make clear that decisions with respect to tax rates should be based on complete economic considerations.

Economic Considerations

The goal in establishing an optimal gaming tax rate for any state would be to optimize revenue from all sources. In other words, a casino that employs more people would generate more tax revenue than one that would not. This would be true regardless of whether the state has a personal income tax. For example, casino employees tend to live within relative close proximity of the casino, thus their overall personal spending would tend to be concentrated in those areas, which creates its own ripple effect by inducing further spending.

We also note that an optimal tax rate would be one that maximizes capital investment in a property, rather than one that chokes off capital investment. Capital investment, in our experience, is the lynchpin to generating revenue – for both the operator and the public sector.

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[4] "Analyzing Potential Challenges, Opportunities Facing Indiana's Casino Industry," October 19, 2009, p. 8

Capital investment essentially determines the level, type and quality of amenities that can be added. Over time, in market after market, we have seen that a casino property that adds amenities – particularly hotel rooms - can help achieve certain results:

- It helps grow the market, and not simply cannibalize business from competitors.

- It helps other area businesses by increasing the frequency of visitation, as well as the average length of stay. In turn, this helps generate further investment in such businesses, either through expansions and improvements or by attracting entirely new business development.

- It prods both competitors and other businesses to invest more capital in their projects to ensure their attractiveness and viability.

- It can help the local economy in other ways, by helping to attract new market segments.

- It creates new sources of revenue, including room fees – which are then used to market the area, thus generating more overnight visitation.

- It helps make a market more attractive to visitors, and thus makes a market less vulnerable to competition from other markets.

- It generates additional revenue for the public sector in areas ranging from property taxes to sales taxes.

The phenomenon of effectively using hotel rooms and other non-gaming attractions has the ability to increase operating margins and improve a market's competitive position, which has been proven in various regions, and among different types of properties.

One of the more vivid examples of this can be found in Atlantic City, which exhibited growth in annual gaming revenue every year from its inception in 1978 through 2006, although it has declined significantly in the three subsequent years and will decline further in 2010.

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Atlantic City case study: regression analysis

Atlantic City is an interesting case study in that it has also shown a significant increase in hotel rooms during that time, going from barely 500 casino hotel rooms in1978 to more than 17,000 as of the end of 2009. We performed a regression analysis that examined the relationship between occupied room nights and gross gaming revenue from 1978 through 2009:

Figure 3: Regression analysis: room nights to gaming revenue, 1978 through 2009
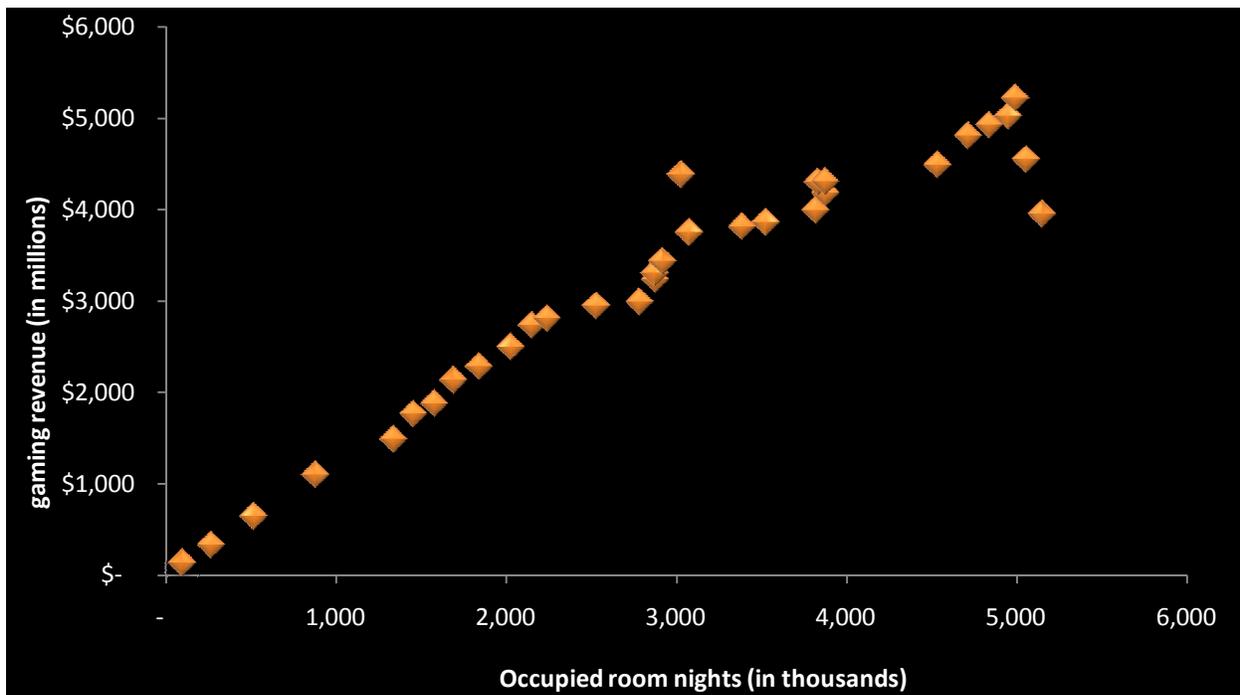
Source: New Jersey Division of Taxation, Casino Control Commission

Note the close correlation as evidenced by the R^2 value of 0.9268. If we eliminate the last three years (and their revenue declines), the R^2 increases to 0.9646, an almost perfect correlation.

This regression analysis would seem to indicate that each occupied room night in a casino hotel generates about $920 in GGR. That number has to be interpreted carefully. It does not mean that the occupants of each room spend that much on the casino floor.

Based on our experience, we interpret that to mean that capital investments in hotel rooms help justify further capital investment in other amenities, from restaurants to retail to

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entertainment venues. Collectively, that capital investment helps attract more visitors – beyond those who stay overnight in casino hotels – who then spend more over time.

We also offer the example of the Las Vegas casino industry, which has managed to leverage its enormous base of capital to thrive, despite the legalization and dramatic expansion of gaming across the border in its largest feeder market – California.

The following chart shows that, despite a 250 percent increase in the number California slot machines over the last decade, the drive-in business from southern California to Las Vegas has remained steady.

Figure 4: California slot units and average daily drive-in visitors from southern California to Las Vegas
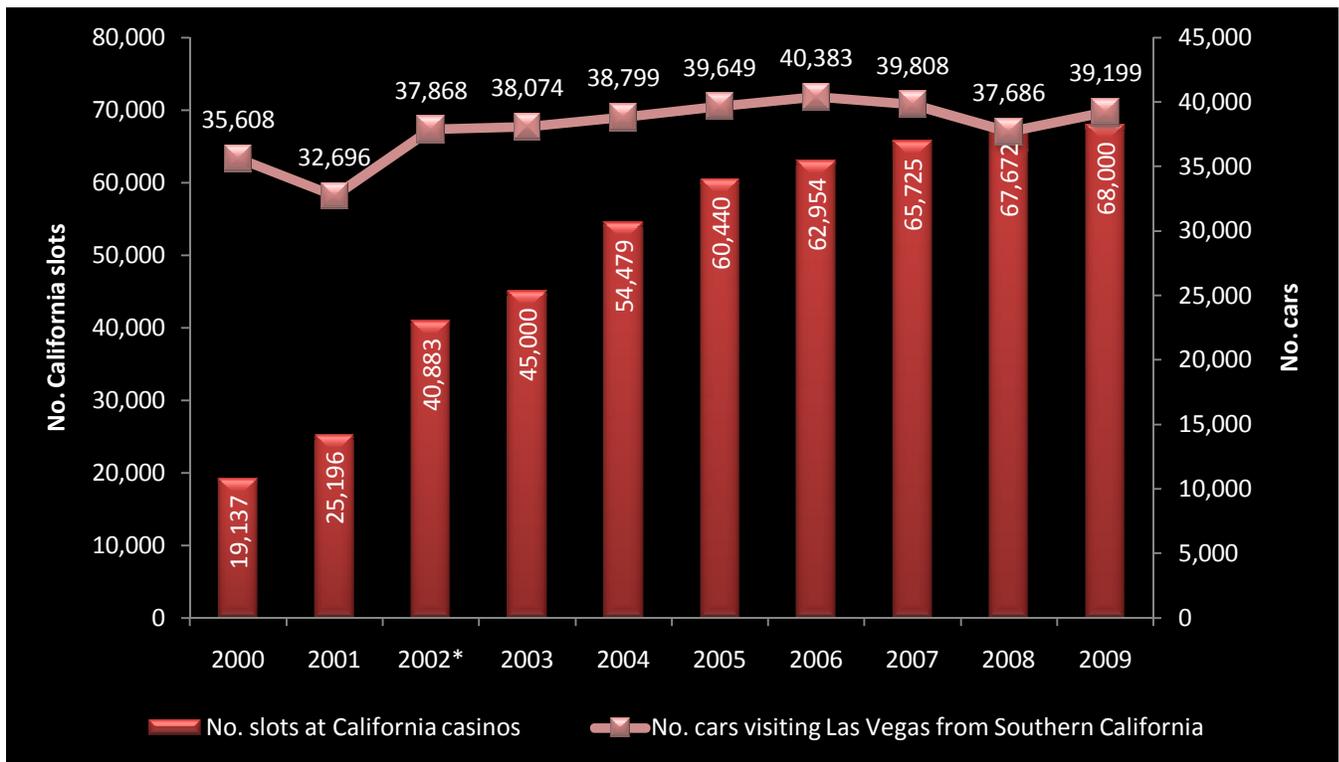
Sources: Las Vegas Convention and Visitors Authority, from average daily automobile traffic on Interstate I-15 at Nevada-California border; Casino City's Indian Gaming Industry Report, Spectrum estimates. * LVCVA changed methodology for counting cars

The growth in automobile traffic from southern California to Las Vegas has leveled off but remains high. As the following chart shows, the percentage of visitors who drive in from southern California has held steady, albeit at a lower level than it was prior to the expansion of California casinos.

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Figure 5: Visitors from California as percentage of total Las Vegas visitation
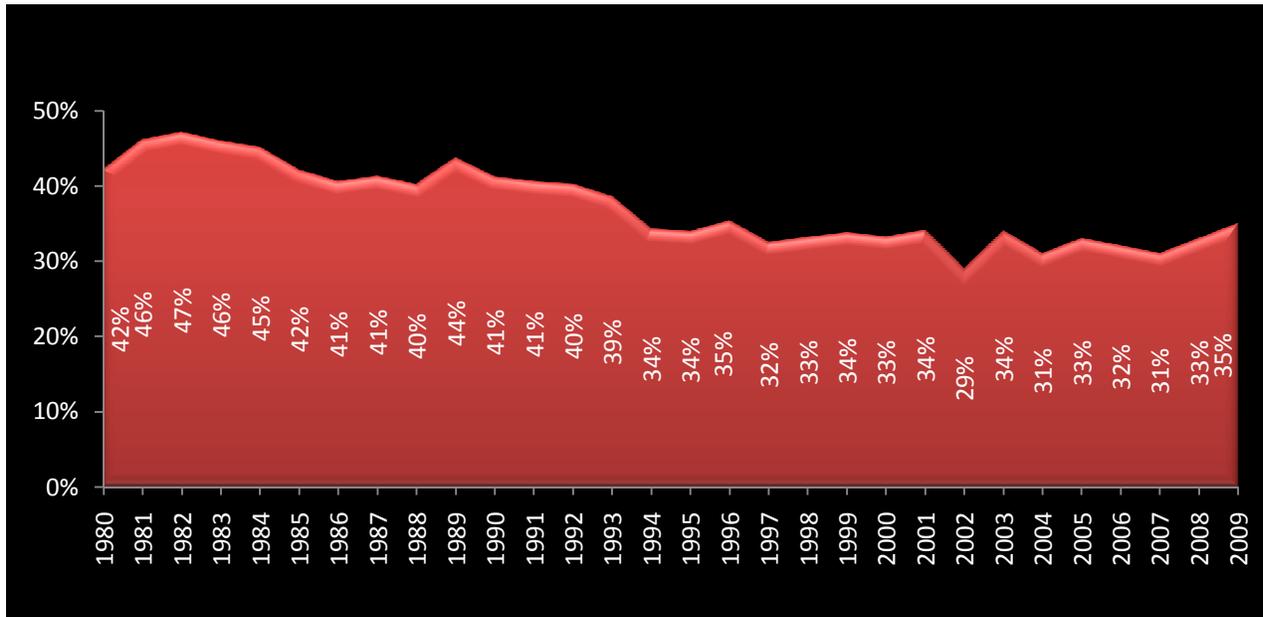
Source: Las Vegas Convention and Visitors Authority data, Spectrum Gaming Group estimates

Note, however, that — as the following table demonstrates — overall visitation to Las Vegas has increased, thus demonstrating that Las Vegas is simply less dependent on California:

Figure 6: Annual Las Vegas visitation statistics

	2003	2004	2005	2006	2007	2008	2009
Avg. visits in past 5 years	6.5	6.5	6.3	6.2	6.3	6.8	6.3
Avg. visits in past year	1.7	1.8	1.7	1.7	1.8	1.8	1.7
No. visitors (millions)	35.5	37.4	38.6	38.9	39.2	37.5	36.4
No. first-time visitors (millions)	3.6	3.9	4.1	4.3	7.5	6.0	6.2

Source: Las Vegas Convention and Visitors Authority

Clearly, capital investment has allowed the Las Vegas casino industry to diversify its customer base and grow, despite the significant expansion of competition within the heart of its largest feeder market.

The list of major Las Vegas Strip properties that opened in the last decade, and that are expected to open, is listed in the following table.

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Figure 7: Las Vegas Strip properties opened since 2000

Property	Opening date	Est. capital investment ($M)	No. Hotel rooms	Retail sq. feet	Convention sq. feet	Casino sq. feet
Aladdin	8/18/2000	$1,300	2,567	475,000	100,000	100,000
Palms	11/15/2001	$265	703	N/A	31,000	95,000
Wynn	4/28/2005	$2,700	2,716	74,000	223,000	111,000
Venetian Palazzo	12/30/2007	$1,800	3,068	400,000	450,000	105,000
Wynn Encore	12/22/2008	$2,100	2,034	40,000	50,000	72,000
MGM CityCenter	Dec. 2009	$8,500	5,900	500,000	300,000	150,000
Cosmopolitan	Dec. 2010	$3.900	2,995	300,000	150,000	100,000
Fontainebleau	est. 2015	$2,900	3,889	180,000	275,000	95,000
Echelon Resort	Suspended					

Source: Spectrum Gaming Group research

The Nevada gaming market has also demonstrated what can happen in the absence of significant capital investment.

While the number of slots in California has increased by over 255 percent (an increase of 48,000 machines) between 2000 and 2009, GGR has grown for the casinos on the Las Vegas Strip during the same time period. However, the casinos in the Reno-Sparks area of Nevada, as well as in Laughlin, have declined over the last decade. We believe that this is a direct result of substantial capital investment in new projects/products on the Las Vegas Strip, as compared to the absence of new projects, and absence of significant capital investment, in both the Reno-Sparks area and in Laughlin, NV.

The following table shows GGR results for each of these Nevada markets for all casinos that generate at least $1 million GGR annually in their respective markets.

Figure 8: GGR for Las Vegas Strip, Reno-Sparks, and Laughlin NV - 2000 to 2009

($M)	2009	2000		Variance
Las Vegas Strip	$5,330.2	$4,683.7	$646.5	13.8%
Reno-Sparks, NV	$758.7	$997.9	($239.2)	-24.0%
Laughlin, NV	$531.5	$547.0	($15.5)	-2.8%

Source: Nevada Gaming Abstract reports from Nevada Gaming Control Board

As these examples demonstrate, capital investment can help grow revenue, while it can also be a defensive measure. To illustrate, we have developed a hypothetical model to show

how capital investment can act as both a tool for growth and defense against new competition, while helping generate tax revenue.

The following model, by design, focuses only on GGR and its attendant tax. However, we should point out that such investments would also generate incremental employment and related taxes. And, as shown in the Atlantic City regression model earlier, investment in hotel rooms (the core element of our hypothetical model) is also likely to spur additional investment in other amenities. In this model, we rely on the following assumptions for a casino that does not presently have a hotel:

Figure 9: Hypothetical casino, basic assumptions

	units	GGR (in millions)	Daily GGR per unit
Slots	1,500	$127.5	$233
Tables	45	$22.5	$1,370

Assuming an existing tax rate of 25 percent (and GGR growth at 2 percent annually), we have developed the following seven-year projections for how this casino would operate absent competition in its market:

Figure 10: Hypothetical casino: no rooms, no new competition

($'s in Millions)	2011	2012	2013	2014	2015	2016	2017
GGR base (w/o rooms or new entry)	$150.0	$153.0	$156.1	$159.2	$162.4	$165.6	$168.9
Cumulative GGR		$303.0	$459.1	$618.2	$780.6	$946.2	$1,115.1
Tax revenue at 25% rate	$37.5	$38.3	$39.0	$39.8	$40.6	$41.4	$42.2
Cumulative tax revenue		$75.8	$114.8	$154.6	$195.2	$236.6	$278.8

Under this scenario, we project that the state would collect nearly $279 million in tax revenue over that seven-year period. If a competitor enters the market in the third year of this range (our model assumes a competitor would open in a neighboring state) and erodes this hypothetical casino's revenue by 10 percent, it would result in the following:

Figure 11: Hypothetical casino, no rooms, new entry in market

($'s in Millions)	2011	2012	2013	2014	2015	2016	2017
GGR base (with new entry in the market)	$150.0	$153.0	$140.5	$143.3	$146.1	$149.1	$152.0
Cumulative GGR		$303.0	$443.5	$586.7	$732.8	$881.9	$1,033.9
Tax revenue at 25% rate	$37.5	$38.3	$35.1	$35.8	$36.5	$37.3	$38.0
Cumulative tax revenue		$75.8	$110.9	$146.7	$183.2	$220.5	$258.5

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Note that the cumulative tax revenue declines by more than $20 million over this span. If, however, the existing operator builds a hotel that opens in Year 3 (2013), the revenue picture is altered. The hotel would be used primarily as a marketing tool, to incent and reward gaming customers. Our basic scenario assumes a 500-room hotel, in which each occupied room night generates $120 in incremental gaming revenue.

We also assume a 90 percent occupancy rate, and 2 percent annual growth in subsequent years. Such a high occupancy rate is not unusual for a casino that markets its rooms as complimentary to gaming customers. Also, we should point out that the assumed spend per room night might appear low, but accounts for the assumption that some of this spending would occur anyway, i.e., overnight guests might otherwise be day-trip visitors, and thus we endeavor to capture only the incremental revenue.

Figure 12: Hypothetical casino: new entry, new hotel

($'s in Millions)	2011	2012	2013	2014	2015	2016	2017
GGR base (with new entry in the market, plus 500-room hotel)	$150.0	$153.0	$160.2	$163.4	$166.6	$170.0	$173.4
Cumulative GGR		$303.0	$463.2	$626.5	$793.2	$963.1	$1,136.5
Tax revenue at 25% rate	$37.5	$38.3	$40.0	$40.8	$41.7	$42.5	$43.3
Cumulative tax revenue		$75.8	$115.8	$156.6	$198.3	$240.8	$284.1

Under this scenario, the revenue generated by the hotel rooms more than compensated for the lost business due to the heightened competition. The next step in this analysis is to look at how the cumulative tax revenue would change if two of our basic assumptions – the number of rooms, and the GGR per room – were different:

Figure 13: Multiple scenarios of rooms, GGR per night

Cumulative tax revenue (in millions)	Number of hotel rooms					
	250	300	350	400	450	500
$100	$269.2	$271.3	$273.4	$275.6	$277.7	**$279.9**
$110	$270.2	$272.6	$274.9	$277.3	**$279.6**	**$282.0**
$120	$271.3	$273.9	$276.4	**$279.0**	**$281.6**	**$284.1**
$130	$272.4	$275.1	$277.9	**$280.7**	**$283.5**	**$286.3**
$140	$273.4	$276.4	**$279.4**	**$282.4**	**$285.4**	**$288.4**
$150	$274.5	$277.7	**$280.9**	**$284.1**	**$287.3**	**$290.5**

(GGR per room night)

The cells in bold represent those scenarios in which the incremental tax revenue more than makes up for the loss due to out-of-state competition. Clearly, the more rooms and the higher value per room night equate to a better opportunity for the state. We can assume a higher value per room night if the host property is sufficiently desirable with a variety of amenities that could attract more affluent gaming customers.

This begs the next question: What incentives would an operator have to build additional amenities – or create a sufficiently attractive property in the first place – in order to protect these tax revenues?

This is where the tax rate comes in to full focus. Operators that are considering initial or subsequent capital investments in gaming properties will examine a variety of factors, but will likely examine a range of potential scenarios through the prism of an economic model.

Operators would potentially use such a model to determine feasibility if the NPV – the present value of future cash flows, discounted by an appropriate rate – is positive, or if the IRR (the expected return when the NPV is zero) exceeds the weighted average cost of capital ("WACC"), which we are using as an appropriate rate. Some operators may calculate this "hurdle rate" (or discount rate[5]) as a minimum required rate that they impose on potential projects, rather than a WACC, but the results would be the same.

The WACC would, regardless of market conditions, be affected by the ratio of debt to equity financing, and would be affected by the level of risk. Because equity investors assume a greater level of risk (bondholders are ahead of stockholders, for example, in the event of liquidation, among other factors), equity should be considered a more expensive form of financing.

So, the WACC would increase if a project relies more on equity financing, and would increase if risk increases (translating into a required increase in return to compensate investors for that enhanced risk).

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[5] Discount rate equates to the rate of return required to take on the risk of operating the business.

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It should be no surprise that the tax rate – which is based on top-line gaming revenue and must be paid regardless of whether a property is profitable or not – is a critical factor in determining the viability of projects, or the potential return on investment in such projects.

In our hypothetical model, we examine the prospects for an initial investment in a casino without a hotel. We assume projected construction costs of $250 million and a discount rate of 15 percent, while retaining all the assumptions in our earlier initial scenario. Using the standard discounted cash-flow methodology, this would result in an IRR of 16 percent, while the NPV of the investment would be approximately $259.6 million, an increase of nearly $10 million over the cost of construction.

Figure 14: Multiple scenarios, tax rate vs. GGR

IRR)			Projected first-year GGR (in millions)					
			$150	$140	$130	$120	$110	$100
	Tax rate on GGR	20%	**16.3%**	14.4%	12.4%	10.4%	8.3%	6.0%
		25%	**16.0%**	14.2%	12.2%	10.2%	8.1%	5.8%
		30%	**15.8%**	13.9%	12.0%	10.0%	7.9%	5.7%
		35%	**15.5%**	13.7%	11.8%	9.8%	7.8%	5.5%
		40%	**15.3%**	13.5%	11.6%	9.6%	7.6%	5.4%
		45%	**15.0%**	13.3%	11.4%	9.5%	7.4%	5.2%

In this case, we can see that the tax rate would have a profound effect on the projected IRR. Every 10 point increase in the tax rate would lower the IRR by 50 basis points with a projection of $150 million in first-year GGR. As the projection decreases, the impact on IRR decreases as well. That is, however, a moot point in this exercise as any projection below $150 million in Year 1 GGR produces an IRR that is too low.

We then performed the same modeling for the hotel addition, assuming a construction cost in this instance of $200,000 per room.

Using the above assumptions, a 500-room hotel yielding $120 in incremental gaming revenue per night, assuming an EBITDA margin of 65 percent (margins would be higher, as most fixed costs are already accounted for) would yield an IRR of 0.2 percent, and a negative NPV. Despite the potential benefit to the state, the project would not be built.

In order for the project to be green-lighted under these conditions, the projected spend per room night would have to be nearly $190, assuming the 25 percent tax rate. So, the

property's ability to remain whole, based on the new construction, faces a significantly higher hurdle.

If, however, the new addition was able to meet this standard, the cumulative benefit to the state would be $295 million, making the state better off than it would have been absent the in-state competition.

Of course, a higher projection of GGR per room would be more difficult to achieve.

In the following table, we have isolated two of the key assumptions in this model - the tax rate and the projected GGR per room night – to see the effect on the potential IRR:

Figure 15: Multiple IRR scenarios, incremental GGR and tax rate

IRR		Projected incremental GGR per occupied room night					
		$ 120	$ 145	$ 170	$ 195	$ 220	$ 245
Tax rate on GGR	25%	3.8%	8.2%	12.2%	**15.8%**	**19.1%**	**22.3%**
	24%	4.1%	8.5%	12.5%	**16.1%**	**19.5%**	**22.7%**
	23%	4.4%	8.8%	12.8%	**16.5%**	**19.9%**	**23.1%**
	22%	4.7%	9.2%	13.2%	**16.8%**	**20.3%**	**23.5%**
	21%	5.0%	9.5%	13.5%	**17.2%**	**20.6%**	**23.9%**
	20%	5.3%	9.8%	13.8%	**17.5%**	**21.0%**	**24.3%**

Here, we see that the tax rate is an important factor, in which a 5 percent drop in the tax rate adds between 1.5 percent and 2 percent to the IRR. There is more sensitivity, however, to the spend per room night. In this model, the project is not feasible at any tax rate for a spend of $170 per room night, while the project is feasible at each of these rates once the spend is estimated to be $195.

We also examined the sensitivity of the IRR to the projected construction cost per room night, based on differing tax rates:

Figure 16: Multiple IRR scenarios: construction cost and tax rate

IRR		Projected construction cost per room (in thousands)					
		$ 240	$ 230	$ 220	$ 210	$ 200	$ 190
Tax rate on GGR	25%	10.3%	11.4%	12.5%	13.7%	**15.0%**	**16.4%**
	24%	10.6%	11.7%	12.8%	14.1%	**15.4%**	**16.8%**
	23%	11.0%	12.0%	13.2%	14.4%	**15.7%**	**17.1%**
	22%	11.3%	12.4%	13.5%	14.7%	**16.1%**	**17.5%**
	21%	11.6%	12.7%	13.8%	**15.1%**	**16.4%**	**17.8%**
	20%	11.9%	13.0%	14.2%	**15.4%**	**16.8%**	**18.2%**

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Every $10,000 decrease in the cost per room adds between 1.1 percent and 1.4 percent to the IRR.

Many factors could impact the potential IRR of a project, from the potential EBITDA to the projected construction cost and the cost of capital, but this exercise clearly demonstrates that tax rates – while they are often determined by a purely political calculus – play a material, meaningful role in decisions by managers as to how best to deploy available capital.

Just as important, tax rates are a key determinant in establishing what type of business model a casino operator will adopt.

In effect, the gaming industry has long been evolving into two basic types of casinos: destination resorts (which we term hub properties) and convenience-based local casinos (which we term spoke properties).

A hub property is characterized by a greater array of amenities and a wider geographic appeal. A spoke property has less capital investment, and is characterized by being dependent on its nearby market, usually within 50 miles or a one-hour drive. Spoke properties tend to be granted some level of geographic protection by their host states, while hubs are more likely to be developed in markets with other hub properties, creating a level of critical mass.

Hubs, by necessity, require lower tax rates to justify this greater capital investment. Spokes, by contrast, are often characterized by significantly higher tax rates.

To be sure, some markets defy such neat descriptions, and might be best characterized as hybrid hubs or hybrid spokes. Connecticut, which has a duopoly of two tribal casinos, might be characterized as a hybrid hub, since no other competitors can enter that state. Dover Downs in Delaware might be considered a hybrid spoke, since it offers a hotel and other amenities, yet enjoys the geographic protection of a spoke, while it is still burdened by relatively high tax rates.

The question that policymakers must ask themselves is: Do we want to authorize hubs or spokes?

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On one hand, spokes tend to be attractive options because they warrant higher tax rates, but also because many spokes tend to be the sites of existing or former race tracks (which are termed "racinos," once they offer both pari-mutuel wagering and gaming).

The related question is: Which model is more likely to advance public policy? We suggest that destination resorts ("hubs") will meet that critical goal on a variety of fronts:

- Destinations generate greater capital investment, which translates into more construction jobs.

- Because they deploy a much greater level of capital, destinations are better positioned to attract third-party retailers, restaurateurs and other attractions that can be leveraged to create a more enjoyable visitor experience.

- Destinations operate under a different business model that is designed to attract a wider variety of adults, reaching more affluent adults and targeting a much broader geographic area.

- Destinations are more likely to withstand competition from other states.

- Perhaps most important, destinations will employ far more individuals.

From the standpoint of the public sector – which relies on the tax revenue generated by casinos – the difference between hubs and spokes should be considered on at least two levels:

- How much tax revenue would be generated from all sources, direct and indirect?
- Which will generate the most gaming revenue?

In our experience, few state officials consider either of these questions, and even more rarely do any consider both. Yet, we note that both must be considered.

On a basic level, it makes intuitive sense that – all else being equal – a more attractive property with more amenities will outperform a similarly situated property that lacks such attractions. More adults will visit, while the frequency of visitation and the length of stay would also increase.

However, we note that few states consider revenue generation from multiple sources, including the benefits to the public sector from greater employment opportunities. The next section of this report illustrates the relationship between tax rates and employment.

Employment: critical factor

The employment factor – and the taxes and increased economic activity generated by employees – should be paramount when policymakers are considering tax rates. By definition, a well-capitalized property with multiple amenities will employ more people than a smaller, convenience-based property with fewer amenities.

Intuitively, the relationship between capital investment and employment is clear and comprehensible. Hotel rooms, restaurants and retail space create demands for a variety of service jobs. Less clear but no less significant, however, is the relationship between tax rates and capital investment, which in turn creates a clear nexus between tax rates and employment — as evidenced in these charts.

Capital investment is also essential in delineating the differences between hubs and spokes. Gaming customers cannot reasonably be expected to bypass a relatively convenient spoke property to visit a more distant, less convenient spoke property in the absence of some catalyst. Depending on various factors, such as the nature of the trip, the amount of available time and the demographics of the customer, many adults would be expected to bypass a relatively convenient spoke property for a more attractive resort destination. As noted earlier, that has proven to be the case in core hub markets, most notably Las Vegas.

Figure 17: Casino jobs vs. gaming-revenue tax rate

Data for commercial casinos and racinos
Source: American Gaming Association, year-end 2009 data
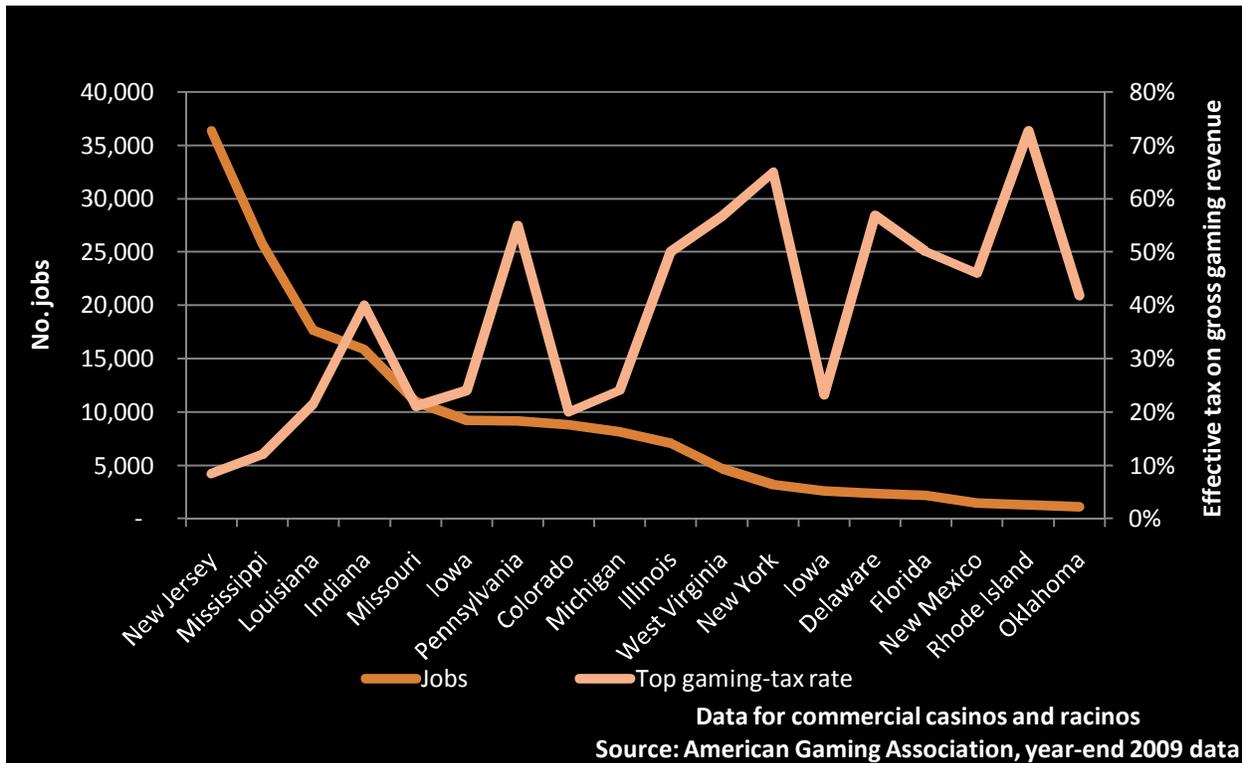
The chart above[6] illustrates this phenomenon well. Note that the states with the lowest tax rates have the highest level of employment. Interestingly, as noted earlier, many of these low-tax states were among the earliest adopters of gaming, and thus we can note that, to some degree, the earlier adopters tend to be the largest employers.

The next chart examines this on a per-property level, and the same general trend holds.

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[6] Nevada is not listed on the above chart, due to both its scale as a major statewide industry, and the nature of its casinos, which range from major destination resorts to convenience stores.

Figure 18: Jobs per casino vs. gaming-revenue tax rate

Data for commercial casinos and racinos
Source: American Gaming Association, year-end 2009 data
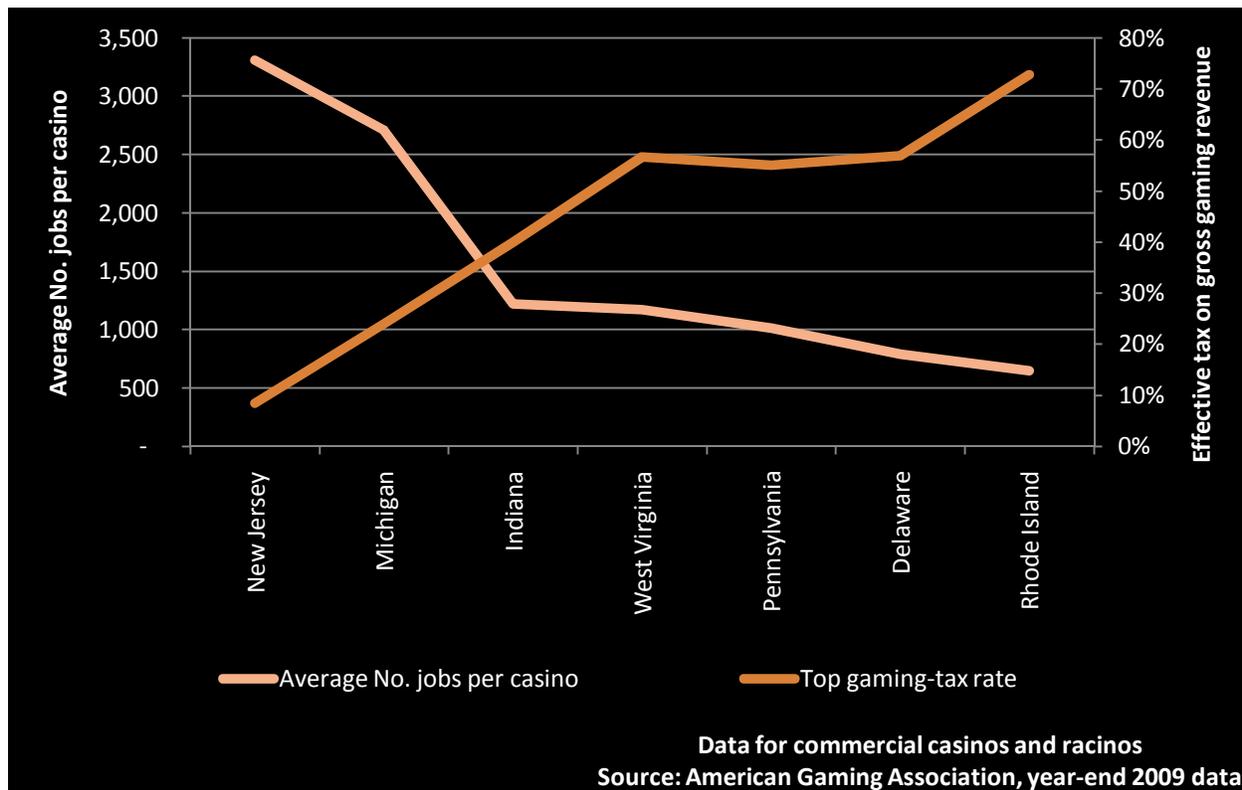
Case study: Atlantic City hub vs. East Coast spokes

The casino industries in New Jersey and other states in the region offer a clear view of the contrasts between tax rates, and between hubs and spokes. As noted earlier, Atlantic City casinos pay an 8 percent tax on gross gaming revenue, plus an additional 1.25 percent reinvestment obligation. As noted earlier, because they receive a below-market return on that reinvestment, our models assume a tax rate of 8.4 percent, while the top rate in Pennsylvania is 55 percent, and ranges even higher in Delaware and New York.

One area where this marked difference in tax rates is highly pronounced is in employment. A report issued earlier this year by the Rutgers University Center for Urban Policy Research indicates that direct and indirect employment related to Atlantic City casinos is responsible for more than 101,000 jobs in 2008, with a collective payroll of more than $4.2

billion.[7] If we apply this same ratio (39,799 direct jobs to a total impact of 101,000 overall jobs) to 2009, we can reasonably infer that the Atlantic City casino industry ultimately generated more than 95,000 jobs, despite the effects of the economic recession and the difficult times facing the industry.

Figure 19: Employment and employee compensation in Atlantic City casinos

($M, except Avg.)	2006-08 Avg.	2008		2007		2006	
Total Employees		39,779		41,211		42,994	
	% of Total	Compensation and % of Total		Compensation and % of Total		Compensation and % of Total	
Salaries & Wages	54.4%	$957.0	53.8%	$975.0	54.7%	$981.8	54.6%
Gratuities (estimated)	14.0%	$247.5	13.9%	$251.6	14.1%	$253.3	14.1%
NJ Employer Unemployment Tax	1.1%	$19.7	1.1%	$19.4	1.1%	$18.7	1.0%
NJ Employer Disability Insurance	0.3%	$4.8	0.3%	$5.2	0.3%	$5.2	0.3%
NJ Personal State Income Tax Withheld	1.8%	$33.1	1.9%	$31.5	1.8%	$31.3	1.7%
Employer FICA/Medicare	5.6%	$96.5	5.4%	$100.5	5.6%	$101.9	5.7%
Employer Federal Unemployment Tax	0.1%	$2.3	0.1%	$2.4	0.1%	$2.7	0.2%
Benefit Package	22.7%	$416.4	23.4%	$396.0	22.2%	$402.3	22.4%
Total Compensation	100.0%	$1,777.2	100.0%	$1,781.6	100.0%	$1,797.0	100.0%
Avg. per Employee		$44,676		$43,232		$41,797	

Source: Center for Urban Policy Research, Edward J. Bloustein School of Planning and Public Policy, Rutgers University; Casino Association of New Jersey

If we apply the 2006-08 average, as indicated in the above table, to 2009 direct wages paid by the Atlantic City casino industry – which reported a payroll of $948.9 million – this translates into more than $1.7 billion in total compensation provided to direct employees. This, in turn, would imply gratuities of $245.0 million, various employment related taxes of $154.7 million, and benefits valued at $395.6 million for direct employees of the New Jersey casino industry in 2009.

The US Bureau of Economic Analysis publishes multiplier data that estimates total change in employment in all industries (from specific changes to one industry). For the amusement, gambling, and recreation industry in New Jersey, the multiplier figure is 1.44.[8] Furthermore, the US Bureau of Economic Analysis estimates total dollar change in earnings paid

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[7] "The Contribution of the Casino Hotel Industry to New Jersey's Economy," May 2010, Rutgers Project Team, Center for Urban Policy Research, Edward J. Bloustein School of Planning and Public Policy, Rutgers University.

[8] US Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II), 2006

to households for all industries for earning changes in the subject industry; for the amusement, gambling, and recreation industry in New Jersey, the multiplier figure is 1.90.[9]

With that in mind, we project that total employment (direct and indirect) generated by the Atlantic City casino industry was 54,150 in 2009, while wages and other related compensation, such as gratuities, taxes, and benefits, (direct and indirect) exceeded $3.3 billion.

The nature of employment in the casino industry varies from market to market, depending in large measure on factors ranging from:

- Tax rates
- Type of gaming offered (slots, tables, poker, simulcasting, other)
- Variety and type of amenities
- Number of hotel rooms
- Level of capital investment

Those differences are illustrated in the following two figures, by comparing Atlantic City casinos to the regional casinos within a three-hour drive of Atlantic City.

The following figure shows employment by casino for each casino within the New Jersey casino industry for year ended 2009, along with a total and average per casino figure.

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[9] US Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II), 2006

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Figure 20: Employment for New Jersey casino industry (2009)

Gaming facility	Location	Employees
AC Hilton	Atlantic City, NJ	2,225
Bally's Atlantic City	Atlantic City, NJ	4,516
Borgata	Atlantic City, NJ	6,789
Caesars	Atlantic City, NJ	3,506
Harrah's Marina	Atlantic City, NJ	3,927
Resorts	Atlantic City, NJ	2,261
Showboat	Atlantic City, NJ	2,585
Tropicana	Atlantic City, NJ	3,407
Trump Marina	Atlantic City, NJ	1,890
Trump Plaza	Atlantic City, NJ	2,338
Trump Taj Mahal	Atlantic City, NJ	4,136
	Total	37,578
	Average	3,416

Source: New Jersey Casino Control Commission

The following table shows the estimated level of annual employment for each of the eight racinos and two slots-only casinos within a three-hour drive of Atlantic City, through 2009.

Figure 21: Estimated employment levels at regional casinos (non New Jersey)

Gaming facility	Location	Est. Employees
Delaware Park	Stanton, DE	466
Dover Downs	Dover, DE	323
Harrington Raceway	Harrington, DE	448
Empire City at Yonkers Raceway	Yonkers, NY	1,000
Mohegan Sun at Pocono Downs	Wilkes-Barre, PA	979
Parx (formerly Philadelphia Park)	Bensalem, PA	593
Harrah's Chester	Chester PA	1,035
Hollywood Casino at Penn National	Grantville, PA	885
Mount Airy Casino	Mount Pocono, PA	808
Sands Bethlehem	Bethlehem, PA	912
	Total	7,449
	Average	745

Source: Delaware Lottery, Yonkers Raceway, Pennsylvania Gaming Control Board

Contrast the employment levels at these regional casinos, with limited non-gaming amenities, with the level of employment generated by Atlantic City casinos in 2009. The 11 casinos in New Jersey have five times more employees than their 10 counterparts within a three-hour drive of Atlantic City. The average casino in Atlantic City employs 3,416 people, while the average casino in the region outside of Atlantic City only employs an average of 745

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people – meaning the average casino in Atlantic City employs 2,671 more people than the average regional casino.

We note that the above reported levels of employment for these other casinos were before they added table games in Delaware and Pennsylvania. It must be noted, however, that Delaware and Pennsylvania – as well as West Virginia – lowered their tax rates for table games, a move that effectively bolsters our core contention that higher employment levels demand more reasonable tax structures. Because table games are more labor intensive, they cannot operate profitably under gaming revenue tax rates in excess of 40 percent.

Over the past two decades, the Atlantic City casino industry has spent $53.5 billion on the purchases of goods and services from other businesses – an average of $2.7 billion annually. Of this spending, 64.5 percent – or $34.4 billion, or $1.7 billion per year – went to businesses based in New Jersey.

The following chart shows the historical spending on goods and services from other New Jersey businesses, as well as a percentage of grand total spending on goods and services.

Figure 22: Atlantic City casino industry, in-state spending on goods and services
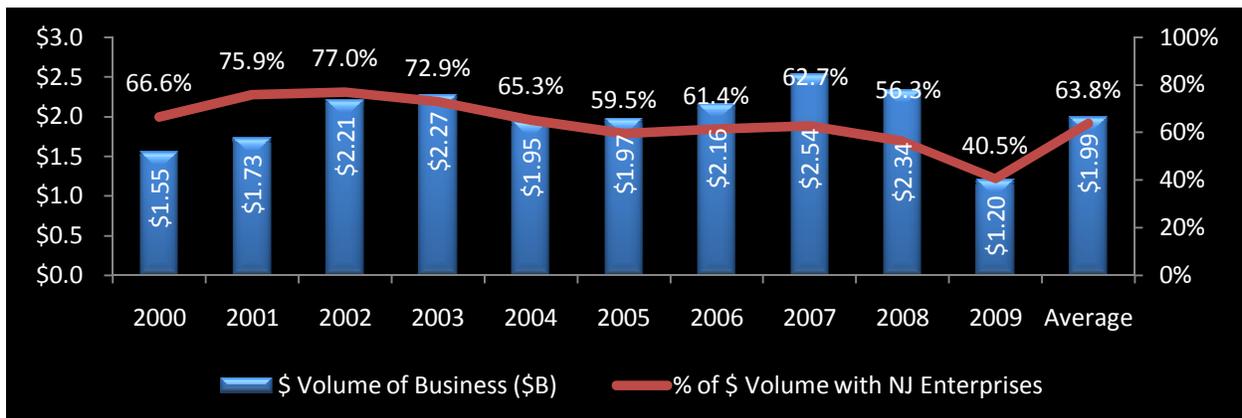
Source: New Jersey Casino Control Commission

We do not have similar data from other states in the region. Still, the inferences to be gauged from such data are telling. Hub properties – which operate as destinations – would clearly be in greater need of more goods and services, ranging from food supplies to construction equipment, all of which can be deemed as its own economic stimulus.

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Massachusetts case study

Spectrum Gaming Group was engaged in early 2008, by the Commonwealth of Massachusetts – namely the Executive Office of Housing and Economic Development, the Department of Business & Technology, the Office of Business Development and the Massachusetts Office of Travel and Tourism – to provide "comprehensive and comprehensible analysis that includes a variety of questions that interested parties may have in connection with the Governor's proposed resort casinos initiative."

We then performed a detailed study that, among other things, analyzed and projected the economic and fiscal impacts of having up to three casino destinations in Massachusetts, each in a different region. Some of our research and findings are detailed here, which largely reflects much of the original language in our 2008 report. Each casino, according to the proposed legislation, would be situated in one of three regions:

- Region 1 - Suffolk, Middlesex and Essex counties

- Region 2 - Norfolk, Bristol, Plymouth, Nantucket, Dukes and Barnstable counties

- Region 3 - Worcester, Hampshire, Hampden, Franklin and Berkshire counties

The proposed legislation that we studied at the time assumed a tax rate of 27 percent on gross gaming revenue, and a license fee of $200 million.

This analysis included the use of modeling software developed by Regional Economic Models Inc., which is based in Amherst, Mass. The REMI model is robust, and uses a variety of variables based on economic, demographic, industry and other data to develop outputs.

We developed a number of assumptions in using this model. For example, our scenarios assume that 50 percent of the employment base at casinos would not compete with jobs at those of existing industries, as there are no casinos now in Massachusetts. This makes sense intuitively, as many of the casino jobs have counterparts at existing industries, ranging from housekeeping to accounting, while many are clearly unique to this industry. At the same time, we cross-checked this assumption with those of other economic models, such as RIMS II, an

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input/output model that was developed by the Bureau of Economic Analysis in the U.S. Department of Commerce.

The REMI model generated an employment multiplier of about 1.5, depending on the scenario, which means that every job created in the casino industry generates 0.5 indirect and induced jobs in other industries. Such jobs would be the result of new employment from suppliers to the gaming industry, as well as jobs created by the new spending power of employees. This is clearly in line with a range of RIMS II models that we have used and analyzed in urban, suburban and rural markets throughout the United States.

Other input assumptions were:

- The licensing fee is assumed to be $200 million, to be renewed every 10 years, resulting in an amortized $20 million annual cost.

- The hotel tax rate is 5.7 percent for the state, while in such areas as Boston, Worcester, Cambridge and Springfield hotels are charged an additional 2.75 percent to pay off convention center bonds. Boston has an additional 4 percent add-on to hotel rooms. The sales tax rate is 5 percent, with exemptions for food and clothing. For personal income tax, we assume the effective rate is 4.7 percent, which is lower than the state rate but projects some anticipated level of deduction. The income tax in the model is based on total personal income generated.

- The property tax rate used in Region 1 (limited to Suffolk County in this model) is $25.92 per $1,000 of assessed value. For the other regions, this ratio was averaged based on differing tax rates, which amounted to $12.36 in Region 2 and $18.48 in Region 3.

- We assumed the assessed value of each casino is $800 million, which we conservatively suggest would be a reasonable net increase in the value of existing property, i.e., not all of the capital investment would be an increase to the assessed valuation of an existing property.

- Staffing for each property is 4,377 positions.

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- The property tax credit is based on an assumed $500 million in gaming revenue per property, assuming 2.5 percent for public health mitigation and an additional 2.5 percent for other mitigation funding. This leaves 22 percent (27 percent minus these allocations) which would be split 50-50 between property tax relief and transportation funding.

- For purposes of our analysis, we assume that none of the government's share of revenue will be used to mitigate any negative impact to the Massachusetts Lottery, as explained in more detail elsewhere in the report.

For each of three properties, we assumed a 90 percent occupancy rate for the hotel, and $92.50 in cash revenue per occupied room night. This is a reasonable set of assumptions for a casino hotel, which would likely operate under a business model that offers complimentary or reduced–rate rooms to gaming customers to generate occupancy and gaming revenue year-round. We will adjust this assumption in some subsequent scenarios.

While the occupancy rate may seem high and the cash revenue per occupied room night might seem low, we are basing this on a casino hotel model, rather than a hotel model. This means that occupancy rates can be inflated by using hotel rooms as marketing tools to reward gaming customers and encourage incremental casino revenue. Such a policy, based on complimentary or reduced-rate room nights, has the concomitant effect of lowering cash revenue per room night. With those assumptions in mind, our first scenario resulted in the following fiscal impacts:

Figure 23: Local and State Government Revenue per year in Massachusetts

Tax / Fee	Massachusetts	Region 1	Region 2	Region 3	Total Local & State
Licensing fee	$60,000,000	$ -	$ -	$ -	$60,000,000
Operational Fee	$405,000,000	$ -	$ -	$ -	$405,000,000
Hotel tax (Direct)	$15,405,000	$2,430,769	$2,430,769	$2,430,769	$22,697,308
Income tax (Direct)	$16,930,879	$ -	$ -	$ -	$16,930,879
Income tax (Indirect and Induced)	$22,361,121				$22,361,121
Sales tax (Direct)	$31,269,231	$ -	$ -	$ -	$31,269,231
Property Tax (Direct)		$20,736,000	$9,888,000	$14,784,000	$45,408,000
TOTAL (Direct)	$528,605,110	$23,166,769	$0	$17,214,769	$581,305,418
TOTAL (Direct, Indirect and Induced))	$550,966,231				$603,666,539

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This scenario would generate a direct total of $581.3 million for government at all levels in Massachusetts, plus an additional $22.3 million from income taxes generated by the indirect and induced employment. Those totals do not reflect projected net increases to government budgets, as it also includes an estimated $165 million in property tax relief that would be distributed to Massachusetts residents, an obligation suggested in the proposed legislation. The total net benefit to the public sector and taxpayers equates to about 40 percent of all projected gaming revenue.

That is an important point that must be underscored in this analysis: Any analysis of the economic benefits of gaming must take into consideration tax revenue from all sources, not just the gaming tax.

We then performed a sensitivity analysis to determine the relationship between government funding and the success of each casino. The following table shows the difference in the amount of revenue (net of property tax relief payments) that would be generated for the Commonwealth from each casino, based on changes in two important factors:

- The level of annual gaming revenue per casino.

- The ratio of casino revenue to overall net revenue.

Figure 24: Changes in revenue for Massachusetts per casino

Gaming revenue as pct. of total net revenue		Annual gaming revenue per destination casino					
		$ 500,000,000	$ 475,000,000	$ 450,000,000	$ 425,000,000	$ 400,000,000	$ 375,000,000
	65%	$121,242,299	$116,464,395	$111,686,491	$106,908,587	$102,130,683	$97,352,779
	60%	$122,538,805	$117,696,076	$112,853,347	$108,010,618	$103,167,888	$98,325,159
	55%	$124,071,040	$119,151,699	$114,232,358	$109,313,017	$104,393,676	$99,474,335
	50%	$125,909,722	$120,898,447	$115,887,172	$110,875,897	$105,864,622	$100,853,347
	45%	$128,156,999	$123,033,361	$117,909,722	$112,786,083	$107,662,444	$102,538,805

The table shows that each $25 million decline in gaming revenue results in a decline of about $4.8 million in annual revenue for state government. This is less than $6.75 million, which would be the direct decline in tax revenue based on 27 percent of gross gaming revenue. This softened impact can be attributed to the assumption that a decline in gaming revenue would not lead to a significant decline in employment levels or hotel occupancy, both of which are sources of tax revenue for the Commonwealth.

Note also, however, that state revenue increases markedly, albeit at a lesser rate, as gaming declines as a percentage of overall net revenue. As that percentage declines, it means more overall revenue (the same gaming dollars equate to a relatively lower percentage of a greater revenue base), so the state's share increases as more dollars are spent in restaurants, hotel rooms and other areas.

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Conclusion

The Massachusetts case study offers a vivid illustration as to how an effective tax policy that is designed to encourage capital investment can better serve the public interest than a tax policy that is simply focused on the highest rate.

Certain conclusions from the Massachusetts model need to be underscored. One is that the public sector has a clear, abiding interest in promoting non-gaming revenue. The other is that the projected tax revenue from all sources is an estimated 40 percent in this scenario, even though the tax rate on gaming revenue is only 27 percent.

That second point is even more dramatic when you consider that a smaller facility at a higher tax rate would likely attract fewer adults visiting less frequently, so the gaming revenue itself would be smaller. Such subtle yet crucial points are often ignored or lost in public debates regarding tax rates.

The final question that this report will address is: What is the ideal tax rate? Indeed, that is a central question that offers no easy answer. One inference from this study may be that the lowest tax rate – similar to Nevada or New Jersey – is the best tax rate, and single digit rates should always be in effect. That would be a misguided conclusion, and one that we suggest is not supportable in most instances.

Each situation requires its own careful analysis, and the factors that may be used to guide tax policy are varied. Such factors may include:

- The demographics of the market
- The presence of an existing tourism infrastructure
- The potential to develop or increase convention and meeting business
- Other public policies, such as a desire to limit hours of operation, the sale of alcoholic beverages or the offering of credit

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The latter points are certainly important, as they would play a role in investment decisions that operators would make. The easiest answer to the question of what is an optimal tax policy is that states must examine these and all other relevant factors, and then view gaming from the standpoint of an investor or operator.

What is the tax rate that would maintain or advance all relevant public policies and still attract a sufficient amount of capital investment? That would be the ideal rate.

About This Report

This report was prepared by Spectrum Gaming Group, an independent research and professional services firm founded in 1993 that serves private- and public-sector clients worldwide. Our principals have backgrounds in operations, economic analysis, law enforcement, regulation and journalism.

Spectrum holds no beneficial interest in any casino operating companies or gaming equipment manufacturers or suppliers. We employ only senior-level executives and associates who have earned reputations for honesty, integrity and the highest standards of professional conduct. Our work is never influenced by the interests of past or potentially future clients.

Each Spectrum project is customized to our client's specific requirements and developed from the ground up. Our findings, conclusions and recommendations are based solely on our research, analysis and experience. Our mandate is not to tell clients what they want to hear; we tell them what they need to know. We will not accept, and have never accepted, engagements that seek a preferred result.

Recent private-sector clients include Harrah's Entertainment, Wynn Resorts, Morgan Stanley, the Pokagon Band of Potawatomi Indians, and the Seneca Nation of Indians. Recent public-sector clients include the Massachusetts Office of Housing and Economic Development, the Connecticut Division of Special Revenue, Broward County (FL), the West Virginia Lottery Commission, the New Jersey Casino Reinvestment Development Authority, the Atlantic City Convention and Visitors Authority, the Singapore Ministry of Home Affairs, Rostov Oblast (Russia) and the Puerto Rico Tourism Company.

We maintain a network of leading experts in all disciplines relating to the gaming industry, and we do this through our offices in Atlantic City, Bangkok, Guangzhou, Harrisburg, Hong Kong, Las Vegas, Macau, Manila and Tokyo.

Michael Pollock, principal author, is a managing director of Spectrum who oversees a broad portfolio of Spectrum services, including policy and impact studies for country, state and local governments, and feasibility and market studies for private-sector clients.

Pollock began analyzing the casino industry in 1978 and served as spokesman for the New Jersey Casino Control Commission from 1991 through 1996. He was a close advisor to the chairman, and oversaw the Office of Legislative Liaison. During this period of rapid deregulation, his charge was to maintain public confidence in the integrity of the regulatory system.

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