No Ifs, Ands or Butts:
Illinois Casinos Lost Revenue after Smoking Banned

By Thomas A. Garrett and Michael R. Pakko

In January 2008, the state of Illinois implemented the Smoke-Free Illinois Act, prohibiting smoking in all public places and places of employment, including privately owned bars, restaurants and casinos.[1] Many states and communities have enacted similar legislation in recent years, but the Illinois smoking ban was the first to include a smoking prohibition on the gambling floors of commercial casinos.[2, 3] During debate leading up to the act's passage, the casino industry and many other industries argued for an exemption from the statewide smoking ban. They were unsuccessful.

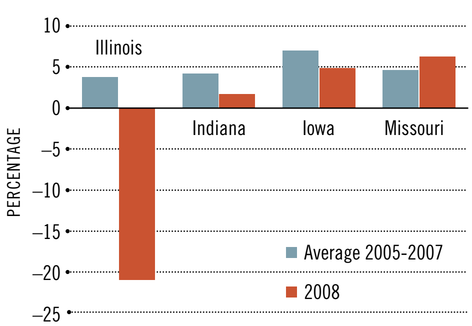
In the first year after the smoking ban took effect, revenue at Illinois casinos fell sharply from the previous year.[4] As shown in the figure, the decline in revenue stands in sharp contrast both to the growth of recent years and to the performance of casinos in nearby states.

According to the Illinois Casino Gaming Association (an industry organization), the smoking ban was responsible for a 19 percent decline in revenue during its first year. Critics of this claim have suggested that the general economic downturn is more to blame than is the smoke-free law.[5]

Raising the Stakes

Smoke-free laws have been controversial, facing opposition from the owners of bars and restaurants, as well as from the owners of casinos. The policy discussion on prohibiting smoking in casinos has generated sharper debate than smoking bans in bars and restaurants for several reasons. First, the marginal contribution of one or two casinos to local employment and tax revenue, most notably in the Midwest and South, is much greater than from a bar or restaurant; in many small communities, one or two casinos employ a large percentage of the population and provide a large percentage of tax revenue to local communities. Second, many state and local governments earmark casino revenue to specific programs like infrastructure and education. Third, a casino-smoking ban is likely to have a greater negative revenue impact on the gambling industry than a smoking ban would have on the restaurant industry because customers patronize casinos for longer time periods than they do restaurants. Finally, the view by some that casino gambling is a sinful activity increases attention to any public policy affecting casino gambling.

Casino Revenue Growth



SOURCE: State gaming boards of Illinois, Indiana, Iowa and Missouri.

One key factor in the potential revenue loss from a ban on smoking in casinos is the percentage of gamblers who smoke. Those in the casino industry argue that a smoking ban unfairly hurts their industry because casino customers have a higher smoking rate than the general population does. Some evidence also suggests that casino customers who smoke spend more on gambling than nonsmoking customers.[6] Regardless of the specific underlying reasons, a general observation seems to be that smoking and gambling constitute what economists call "complementary goods," meaning that they tend to be consumed together.

Smoking Ban or Recession?

Although the Illinois Casino Gaming Association has claimed that the smoking ban was largely responsible for the declining revenue of casinos, others have suggested that the downturn in general economic conditions was the culprit. In its 2008 annual report, the Illinois Gaming Board acknowledges the potential role of these two factors, leaving their relative importance as an open question:

> *There are two factors underlying the reductions in this year's gaming revenues. The first is the smoking ban. ... According to the casino industry, implementation of this act has caused the AGR [revenues] per admission to fall. This is because habitual smokers take smoking breaks, during which time they do not engage in gaming activity. The second factor is the downturn in the Illinois and national economies. As a discretionary form of spending, gaming expenditures are especially prone to reductions during hard economic times. The relative importance of the above two factors has not yet been quantified with certainty.*
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> *—2008 Annual Report, Illinois Gaming Board, p. 12*

In a newly released working paper, we take on this question.[7] Using monthly data for adjusted gross receipts and total admissions at each of Illinois' nine casinos, we estimate statistical models to explain the pattern of revenue over the period 1997 through 2008. The models include controls for trends, seasonal patterns, regulatory changes and the general pace of economic activity. After controlling for all these factors, we evaluate the remaining change in revenue that is attributable to the Smoke-Free Illinois Act, identifying the effects of the smoking ban by the timing of its implementation.

Our estimate for the effect on total revenue for all nine casinos is representative of our general findings: We estimate that the smoking ban is associated with a 20 to 22 percent revenue decline, amounting to a total loss in casino revenue of more than $400 million. This estimate implies that casino revenue in Illinois would have been approximately flat in the absence of the smoking ban (+/– 1 percent), rather than experiencing the 21 percent decline shown in the chart.

The presence of riverboat gambling in three states adjacent to Illinois provides an opportunity for comparing this finding with the experience of similar casinos that were not subject to the Illinois smoking ban. Using data for gambling revenue at casinos in Indiana, Iowa and Missouri, we find no significant change associated with the adoption of the Illinois smoking ban. The same calculation that leads to our finding of a 22 percent decline in Illinois revenue yields very small increases in Iowa (2.2) and Missouri (1.9) and literally zero percent change in Indiana. Statistically, these estimates are all consistent with no change in revenue. This observation confirms—at least at the statewide level—that the effect we identify for Illinois is unique. Casinos in each of these states suffered roughly the same downturn in economic activity, but only the Illinois casinos suffered the losses that our model associates with the implementation of the smoking ban.

Analyzing total attendance, rather than revenue, yielded further insights into the impact of the smoking ban. Again, after taking account of other factors, we found that the smoking ban was associated with a statistically significant decline in admissions of 12.3 percent. Estimates for surrounding states showed small declines in each state, but in none of the cases was the decline statistically significant. So, not only did customers tend to gamble less and, therefore, generate lower revenue for the Illinois casinos (as indicated in the Illinois Gaming Board's annual report), they also attended the casinos less often.

Our full research report also compares attendance and revenue of individual casinos in Illinois with their nearby competitors. Our findings for these regional markets around the state further refine our estimates, but do not change the nature of the results: Riverboat casinos in Illinois as a group experienced significant downturns in attendance and revenue after the implementation of the Smoke-Free Illinois Act.[8] In fact, after summing our estimated revenue losses for the individual casinos, we find the same outcome, an aggregate decline of approximately 22 percent.[9]

The Bottom Line

One of the reasons that the smoking ban has been more contentious for casinos than for other types of businesses is the contribution that gambling taxes make to state and local tax revenue. In Illinois, casinos are subject to a per-capita admissions tax, as well as a progressive tax on gambling revenue. Revenue from these taxes is divided between the state government and the governments of the communities in which the casinos are located.

Using our estimates of revenue losses and declining attendance at each of the casinos in Illinois, we find that the tax loss was more than $200 million in 2008. For the local communities, the total loss in tax revenue amounted to over $12 million.

The economic effects of the Smoke-Free Illinois Act—specifically with regard to casino revenue and government tax receipts —represent only part of the act's overall impact. In a full analysis, these costs need to be considered alongside other costs and benefits, including the public health benefits of the legislation. But as policymakers in Illinois and elsewhere ponder the implications of the Illinois smoking ban, the impact on revenue, attendance and taxes should not be ignored.

Thomas A. Garrett and Michael R. Pakko are economists at the Federal Reserve Bank of St. Louis. For more on their work, see http://research.stlouisfed.org/econ/garrett/ and http://research.stlouisfed.org/econ/pakko/.

ENDNOTES

1 Full text of the Smoke-Free Illinois Act (SB0500, Public Act 095-0017) as well as the voting history, can be found at www.ilga.gov/search/iga_search.asp?scope=sentran95.
2 One closely related case is a 2002 smoking ban in Delaware that applied to state-sponsored electronic gambling machines at racetracks (so-called racinos). Research on this case study is summarized in a previous article in *The Regional Economist* (Pakko, January 2008).
3 At the same time the Illinois law took effect, Colorado implemented a smoking prohibition that applied to commercial casinos. In this study, we consider only the experience of the Illinois gambling industry.
4 Our measure of casino revenue is adjusted gross receipts (AGR), defined as gross receipts less winnings paid out to gamblers.
5 See, for example, Long, Ford and Slife.
6 Petry and Oncken conducted a survey of gamblers who smoke and those who do not and found that smokers gambled on more days and spent more money gambling than did nonsmoking gamblers.
7 See Garrett and Pakko.
8 In only one case, the Par-A-Dice Casino in East Peoria, was this pattern different. For that casino, the change in revenue was negative and significant, but the estimate for attendance showed a small but significant increase. This might be attributable to the fact that the Par-A-Dice faces no nearby competition, or it may be due to some other factor that is not explicitly included in our analysis.
9 The point estimate for the statewide total is 22.1 percent. For the sum of individual casinos' revenue, the figure is 21.8 percent.

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