

# Betting on the Future: The Economic Impact of Legalized Gambling

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## Executive Summary

For over a decade, advocates and opponents of casinos in the Commonwealth have argued about whether legalized gambling would produce prosperity or ruin. Our analysis — which compares the experience of counties in the United States that house casinos with those that do not — suggests that both sides are wrong.

Instead, the introduction of a casino appears to produce a few modestly positive effects, a few modestly negative impacts, and, in several areas, no statistically significant effects at all. Specifically, we found that the introduction of casinos was associated with:

- More jobs dispersed among more people: The population of casino counties grew 5 percent faster than the population of non-casino counties and employment in casino counties grew 6.7 percent faster than in non-casino counties. As a result, there was little difference between employment rates in casino and non-casino counties.
- No impact on unemployment rates: The combination of increased population and employment meant that casino counties generally saw little change in their overall unemployment rates.
- A limited positive effect on some house prices: Median house prices in casino counties rose about \$6,000 more than in non-casino counties. This effect, however, seems to have been concentrated in sparsely populated rural counties. Median house prices in more urban casino counties were about equal to those in similar non-casino counties.
- A modest increase in bankruptcies: Personal bankruptcy rates in casino counties rose by about 10 percent (from about 2.98 bankruptcies per 1,000 residents to 3.27 bankruptcies per 1,000 residents). The increase was slightly higher in more populous counties.
- More total crime but less per-capita crime: Total reported crimes can be expected to increase slightly in casino counties, but only because of population increases associated with casinos. The crime rate (the number of crimes per 1,000 residents) actually declined.
- No impact on total revenues or expenditures: The changes in total revenues and spending in areas where casinos opened in the 1980s and 1990s were not signif-

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icantly different from changes in non-casino areas. Spending by local and county governments on roads, police, and education was also unaffected.

- A decline in per-capita spending and revenues: Given that population increased in areas with casinos, per-capita spending and revenues did not increase as quickly in those areas as it did in non-casino counties.

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These results suggest that economic, fiscal, or public-safety factors are insufficient to either deny or invite casinos into Massachusetts. Consequently, policymakers considering proposals to allow legalized casino gambling in Massachusetts must consider other less quantitative factors.

**Methodology**

This study focuses the county-level impacts of an Indian-owned casino. We analyze the effects of casinos at the county level rather than the state level because entire states are simply too large to discern a casino’s influences on outcomes such as employment or crime. Indian casinos are analyzed because of the availability of comprehensive data and because approval of any casino-style gambling facility may enable recognized tribes to open their own casinos in the state.

Standard statistical techniques are used to compare changes in outcomes such as house prices, crime, and local services, in counties that host a casino with counties that do not. The specific techniques are designed to separate the impacts of the casinos on surrounding areas from the

impacts of larger trends occurring at the same time.

We use a dataset that William N. Evans and Julie H. Topoleski, economists at the University of Maryland, compiled to examine the impact of 365 Indian casinos located in 156 different counties in 26 separate states. In addition, because Massachusetts’ counties are more densely populated than most counties with casinos, we also look separately at results for the 766 counties above the 75<sup>th</sup> percentile of population for the nation as a whole (which meant they had at least 55,000 residents in 1990). Fifty-seven of these counties contained at least one Indian casino. To better assess the impact of a very large-scale resort casino of the type proposed in Massachusetts, we also looked separately at 21 counties that are home to the largest 10 percent of Indian casinos, as measured by the number of slot machines. (These “big slot” counties had at least 1,760 slot machines in 1990.) Our analysis captures a large enough number of observations to statistically separate the county-level effects of casinos from nation-wide trends, the timing of casino-introduction, or the prior characteristics of the counties where casinos locate.

To further focus on very large casinos near population centers, we also separately examine the experience of 16 relatively urban counties with the largest-capacity Indian-run casinos introduced in the 1990s. This provides a simple snapshot comparison of conditions in the years before and after the introduction of casinos that we benchmark against statewide trends.

To assess casino’s fiscal impacts on county and local governments, the study also uses a new dataset overseen by Katherine Baicker, an economist at Dartmouth College, which allows reliable estimates of local fiscal effects using data across states with different sharing of responsibilities between the county and municipal levels of government. Using data that combines municipal and county data, we examined how casinos impact integrated “area-level” govern-

ment revenues and expenditures as well as local government expenditures on policing, roads, and education.

## Population

Casino advocates often argue that by providing economic opportunities, a casino will stem and perhaps reverse population and employment declines in distressed areas. Casino critics, on the other hand, sometimes argue that problems associated with casinos may hasten the exodus from troubled areas.

On average, counties with casinos were home to about 155,000 people, almost two times more than the average U.S. county, which contained approximately 85,000 people. Counties with “large” casinos (more than 1,760 slot machines) were home to 479,000 people, more than five times the population of the average counties.

Casinos also seem to attract new residents. Between 1990 and 2000 the population of counties with casinos grew about 5 percent faster relative to similar counties that did not have a casino. “High-population” casino counties grew about 8 percent faster relative to similar counties without a casino. Population growth in “big-slot” counties, however, was not statistically different than growth in similar counties without casinos. However, although the population of Connecticut’s New London County, which has more slot machines than any other county in the country, grew by 1.5 percent in the 1990s, that growth was 3 percent slower than the state average.

## Employment

Casinos can create jobs by directly employing people to deal cards, serve drinks, maintain order, clean bathrooms, and perform other casino-related tasks. Casinos also can create jobs when they attract patrons from outside the county who spend money at local hotels, gift shops, or other attractions. Employees at local casinos and casino-related businesses may also generate additional jobs if their incomes rise and they spend

more at local businesses. On the other hand, if local residents lose money gambling, they may also spend less money at local businesses, reducing employment. Casinos could also reduce local employment (or at least redistribute jobs away from local businesses) if people come to a casino instead of patronizing local businesses.

We found mixed results. Compared to similar counties, the introduction of a casino corresponds to a 6.7 percent increase in the number of people reporting full or part-time employment. Due to population growth, however, the employment rate – the portion of the population with jobs – increased only 1.1 percent.

In more populous casino counties, such as those typically found in Massachusetts, the number of jobs increased 5.7 percent over the decade. Due to population increases, however, the employment rate actually decreased by 1.7 percent. This effect showed by far the strongest level of statistical significance among all the employment findings.

In counties with larger-capacity casinos, total employment increased almost 15 percent faster than similar counties without casinos. While the employment-to-population rate in these counties showed a 2.8 percent increase, this relationship was barely statistically significant and it vanished among the nine large-slot counties that are also large-population counties. In other words, large counties with large casinos showed no change in their employment rate.

Casinos also appear to have a strong — but uneven — impact on employment in our before-and-after comparison of the 16 largest and most urban casino counties. Before these casinos opened, the average employment rate in those counties stood three-quarters of a percentage point lower than the average in their respective states. In the years after at least one casino opened in those counties, the average employment exceeded their respective state averages by about 1 percent. The data is not conclusive, however as shown by the fact that employment

rates in five of these 16 counties did not exceed state averages after those casinos opened.

**Unemployment**

Casinos seem to produce small and mixed effects on unemployment rates. For all counties, the introduction of a casino did not cause statistically significant differences in unemployment compared to counties without casinos. Among populous counties, those that introduced a casino saw a 0.5 percent higher unemployment rate than those without a casino. However, the unemployment rate in the large-capacity casino counties dropped by 0.6 percent compared to similar counties. And the unemployment rate dropped by 1.2 percent in the nine counties with large populations and large casinos.

In our separate snapshot of the nation’s 16 largest-capacity casino counties, we generally found a small reduction in unemployment compared to statewide averages. In 1990, before the introduction of casino gambling, the unemployment rate in these 16 counties was on average 0.1 percent higher than their respective state rates. But in 2001, after casinos had opened, the counties had average unemployment rates that were 0.7 percent lower than their respective state rates. The pattern was not uniform, however, as illustrated by the fact that the unemployment rate in Connecticut’s New London County rose 0.1 percent compared to the statewide average after the introduction of casinos.

**Home Values**

Because population increases in casino counties, it seems likely that house prices in these counties would rise as well. Even if population did not increase, moreover, casinos might make communities more attractive by producing revenues that their host communities could use to improve public services and/or lower residential tax bills. On the other hand, if casinos were associated with problems such as crime, traffic congestion, and unmet needs for greater public services, then existing residents might be eager

to sell their homes at lower prices.

To sort out temporary and place-specific real-estate trends from the larger effect of casinos on how much people value living in a community, we look at home prices over an extended period and across numerous cases. We use U.S. Census data to compare countywide self-reported median home values from the 1990 Census with median values from 2000 Census.

This analysis produces mixed results. Within the broadest sample, houses in counties where a casino opened in the 1990s were about 2 percent more expensive than houses in similar non-casino counties, a difference of about \$6,000. Casinos in high-population counties, however, had no statistically significant effects on house prices. Similarly, house prices in counties that housed the largest casinos did not grow any faster than house prices in counties without large casinos. And house prices in our snapshot of the 16 largest and most urban casino counties increased at a rate that was 2 percent slower than the average statewide increase in the states where those counties are located.

**Crime and Bankruptcy**

Communities that consider introducing a casino worry about social problems such as crime and bankruptcy. If casinos substantially increase local incomes and employment, individuals may be less likely to commit crimes or file for bankruptcy. On the other hand, problem gamblers are more likely to have financial problems that lead to bankruptcy and may be more likely to turn to illegal activities as a way to pay debts and support their habit.

Turning first to crime, previous large-scale studies suggest that casinos increase certain kinds of crimes. Evans and Topoleski, for example, found that after four years of opening a casino, the total amount of violent crime rate reported in a county increased by 9 percent and property crimes—primarily auto thefts and larcenies—increased by 4.4 percent.

Our analysis shows that while total crime can be expected to increase when casinos open, the increase is due to increased population, not to a casino-created crime wave. Looking at FBI-indexed crimes per resident in all counties, we find that introducing a casino is associated with a decrease of 3 reported crimes per 1,000 people. The introduction of a casino, however, had no statistically significant effect on per-capita crime rates in either large-population casino counties or in large-casino counties. The per-capita crime rate in the 9 large-population counties that also hosted large-capacity casinos dropped 9 crimes per 1,000 residents, however.

Turning to bankruptcy, previous research indicates that proximity to casinos leads to increases in both overall gambling and the incidence of problem gambling. Industry studies, for example, report that 26.6 percent of Metro Boston residents and 29 percent of Bay Staters gamble at casinos. This percentage sits above the national average of 26 percent, though well below

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Connecticut’s 38 percent rate. Commonwealth residents who do gamble at casinos make an average of 4 visits a year, less than the national average among casino gamblers of nearly 6 trips – and far less than the 8 trips-per-year average in Connecticut or nearly 23-trip average in Nevada. More frequent trips, moreover, are associated with heavier gambling and more problem gambling, according to the National Opinion Research Center, which found that the presence of a casino within 50 miles was associated with an increase in average per-capita casino expenditures from \$52 to \$178 and a doubling of problem and pathological gambling. And, according

to the National Gambling Impact Study Commission, pathological gamblers owed \$1.20 for every dollar of their income, compared to \$0.60 dollars of debt for non-gamblers. Moreover, 19 percent of pathological gamblers reported having ever declared bankruptcy, compared to 4 percent of non-gamblers in the study.

We also find that proximity to casinos tends to increase personal bankruptcies. Our analysis measures the rate of personal bankruptcies per 1,000 people before and after introducing a casino. The mean in the United States during this period is 2.98 personal bankruptcies per 1,000 people. Looking at all counties that introduced casinos, the effect appears to increase the bankruptcy rate by about 10 percent from 2.98 to 3.27 personal bankruptcies per 1,000 people. In more populous counties the bankruptcy rate rose to 3.44 bankruptcies per 1,000 people. We found no additional statistically significant effects when we looked only at larger casinos. Whether or not these increases are alarming is a matter of judgment. The evidence suggests, for instance, that a casino in southeastern Massachusetts’ Bristol County, which had 534,678 residents in 2000, would lead to 246 additional bankruptcies per year.

**Revenue and Spending**

For many state and local officials, casinos are attractive because they promise to provide significant new revenues at a time when all levels of government face serious fiscal problems. It is difficult, however, to predict the overall fiscal impacts of prospective casinos. The changing legal and political terrain surrounding Indian casinos shifts the bargaining leverage and thus the likely terms of revenue-sharing compacts between states and tribes and any ancillary agreements between tribes and localities. It is also unclear to what extent new casinos in Massachusetts would lead to more gambling or merely redistribute existing patrons – and the revenues they generate for states and localities – among a larger number of facilities.

If casinos spur economic development around gambling facilities, localities near casinos should see rising revenues from increased property-tax revenues, sales taxes, and revenuesharing agreements from casinos owned by Indian tribes that are exempt from local taxes. On the other hand, casinos and casino-related growth could increase the demand for government services such as policing, roads, and schools.

In fact, casinos had surprisingly little impact on local revenues and expenditures. Specifically, combined total revenues and spending for county and municipal governments in areas that introduced casinos did not increase (or decrease) at rates that were significantly different than areas without casinos. This is true for high-population counties and those with largecapacity casinos as well.

The fact that casinos are associated with significant increases in population without increases in total revenues or spending means that per-capita spending and revenues grew more slowly for counties that introduced casinos than those without casinos. When we analyzed the area fiscal data on a per-capita basis, this is exactly what we found. Similarly, we found that per-capita spending grew more slowly than statewide averages in all 16 of the largest and most urban casino counties we examined in our before-and-after snapshot, an average of 10 percent slower growth between 1987 and 1997.

The findings should not be construed to mean that casinos retard growth; but they do not support the notion that casinos foster growth or make it possible for local governments to spend more on services or to reduce local property taxes.

We also examined whether casinos prompt local governments to spend more on some services or less on others.

### ***Police***

Casinos can impose extra burdens on localities to maintain public safety. After Foxwoods casin-

o opened in 1992, for example, the nearby town of Preston reported receiving a five-fold increase in annual calls for emergency services. The adjoining town of Ledyard's Planning Director cited casino-related traffic problems as prompting the town to increase its full-time police force from 14 to 19 officers. And spending on policing in New London County, home to the Foxwoods and Mohegan Sun casinos increased from approximately \$20 million in 1987 to more than \$37 million in 1997, a 91 percent increase that outpaced the 78 percent increase on police spending in areas across Connecticut.

Our analysis of local and county finances, however, did not show spending on police by local and county governments in counties with casinos outpacing non-casino counties. None of the broader samples of counties showed any statistically significant effects of casinos on area spending for police. This is true even when we look only at "large casino" counties (those with casinos that had more than 1,760 slot machines).

### ***Highway and Roads***

The increased traffic associated with casinos could place greater stress on local roads. The Southeastern Connecticut Council of Governments, for instance, estimated that traffic on Connecticut Route 2 near Foxwoods increased more than six-fold between 1980 and 1996. Similarly, the nearby town of Ledyard's Planning Director calculated a four-fold increase in traffic on roads in their jurisdiction since the casino opened.

We examined the effect of introducing a casino on the combined-county-and-municipal spending on roads and other transportation projects within a given county. We found no statistically significant effect of casinos on area-level transportation expenditures.

### ***Education***

Casinos can affect both the demand for education and the resources available to pay for it. If, for example, casinos attract workers with families, they will create increased demand for—and spending

on—schools. And if casinos generate additional revenues for local governments, they could lead to increases in per-capita spending on education. On the other hand, if casinos result in demands for other public services, such as additional policing, or lead to economic declines that reduce tax revenues, education spending (either in total or on a per-capita basis) might lag in counties that introduce casinos.

To see how casinos affect local spending on education, we examined data on changes in area-level education expenditures by county, both as totals and in terms of per-pupil spending between 1987 and 1997. To compare changes in per-pupil spending, we divide total spending by the number of pupils. We compare counties that introduced a casino between 1987 and 1997 to those that did not. Because state policies on education vary widely, moreover, we also compared the change in spending on education in casino counties with the change in their state’s other non-casino counties.

Measuring on a per-pupil basis, counties that introduced casinos increased their education spending by 12 percent less per-pupil than in counties that did not introduce casinos. When casino counties are compared to non-casino counties in the same state, however, discrepancy seems to disappear. This suggests that the negative results are due to the fact that casinos are more likely to locate in states where spending on education has increased more slowly than in the nation as a whole.

The negative effect also disappears when we look at large-capacity casino counties (with over 1,760 slot machines). Per pupil spending on education in those counties increased at about the same rate as in non-large-casino counties. Since the large-capacity counties grew faster than non-large-casino counties this means that total spending on education was 8 percent greater in large-casino counties than in non-large casino counties.

## Conclusion

For over a decade, advocates and opponents of casinos in the Commonwealth have argued about whether legalized gambling would produce prosperity or ruin. Our analysis indicates that at the county level—where any positive or negative effects are likely to be concentrated—casinos would have only relatively minor effects. (See table, page 8) On the positive side, they may create more jobs and they are likely to attract more residents as well. However, since the increases in jobs and population are about equal, jobless rates are not likely to change dramatically in areas with new casinos. On the negative side, total crime may increase, but the increase appears to be due solely to the increase in population. Bankruptcies are likely to rise in counties with casinos but the total number of people affected by the increase is relatively small. Perhaps most surprising is that casinos appear to have little or no effect on home values (at least in populous counties) or on total spending for either policing or roads. They do not seem to impact per-pupil spending on education.

These findings do not mean that casino gambling is a trivial issue—only that employment, finances, and crime are insufficient rationales for deciding whether to deny or allow casinos in Massachusetts. Policymakers, therefore, must consider oth-

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er issues when deciding whether to allow casino gambling in the state. These might include questions such as whether (and how) casinos would alter the Commonwealth’s character, whether it is problematic to rely on gaming revenues to fund public services; and whether allowing limited casino gambling will compromise the state’s ability to control gambling in the future.

## Summary Findings: County-Level Effects of Introducing Casinos

Statistically significant results are in bold (95% confidence interval).  
Asterix denotes higher levels of statistical significance (99% confidence).

	All casino-counties	Large -capacity casino counties	Populous casino counties	Average effect
Population growth (%)	<b>+5*</b>	<b>+8.6</b>	<b>8.1*</b>	<b>+7.2</b>
Total employment (%)	<b>+6.7*</b>	<b>+14.9*</b>	<b>5.7</b>	<b>+9.1</b>
Unemployment (%)	-0.3	<b>-1.2*</b>	<b>+0.5</b>	-0.3
House prices	<b>+\$5,869</b>	<b>+\$8,924</b>	+\$7,083	+\$7,292
Bankruptcy (rate per 10,000 people)	<b>+3*</b>	0	<b>+5*</b>	3
Crime (per 1,000 people)	<b>-3</b>	<b>-6</b>	-1	-3
Change in annual local government revenue (%)	-2.9	+1.4	+3.2	+0.6
Per-capital change in local government revenue (%)	<b>-7.7*</b>	<b>-6.6</b>	<b>-4.8</b>	<b>-6.4</b>

Notes:

1. Total crimes actually increase due to population gains.
2. Results for all casino counties reports how adjusted outcomes in 156 counties that introduced Indian-run casinos during the 1990s differed from the other 2,959 that did not.
3. Large-capacity casino reports the effect for 21 counties in the top 10th percentile in terms of number of slot machines (over 1,760).
4. Populous counties reports the effect for the 57 casino counties in the top population quartile (over 55,000 residents).
5. The average is the statistical mean of the first three columns.

### RELATED PUBLICATIONS

For more detailed statistical tables as well as background information on other forms of legalized gambling in Massachusetts, gambling patterns among different socioeconomic groups, the effects of casinos on lottery revenues, historic trends in gambling, and methodology, visit <http://www.ksg.harvard.edu/rappaport/research/gambling.htm>