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Impacts of Casino Legalization

This report examines the potential impacts of casino legalization, focusing on the economic and social costs and benefits of relaxing gambling regulation within Vermont.

Current Vermont Laws

Under Title 13, Chapter 51, professional gambling has been outlawed within the State of Vermont.¹ The only exception are casino events, with the “purpose of raising funds to be used in charitable, religious, educational, and civic undertakings or used by fraternal organizations to provide direct support to charitable, religious, educational, or civic undertakings with which they are affiliated.”² Casinos and gambling machines are illegal within the state. Bill S.59, passed by the Vermont State Senate on June 17th, 2020, created the Sports Betting Study Committee. The committee became active on July 1st, 2020.³ Its purpose is to examine the legalization, taxation, and regulation of sports betting.

Tourism

Recreational and natural amenities can bring tourists to an area.¹ Ian Pulsipher, an economic analyst for the National Conference of State Legislatures, found that “gambling has come to be regarded as an important part of a complete state tourism package.”² In 1989, Iowa tried to increase tourism by legalizing social gambling on riverboats casinos but set the loss limit to \$200 per cruise per night and set a maximum amount of space the boats could have dedicated to gambling.³ While this legalization briefly raised revenues in Iowa during 1991, the 1990

¹ Deepak Premkumar, Austin Quackenbush, Georgeanne Artz, and Peter Orazem, “If You Build It, Will They Come?: Fiscal Federalism, Local Provision of Public Tourist Amenities, and the Vision Iowa Fund,” *Review of Regional Studies* 43, no. 2,3 (Winter 2013): 155-173.

² Ian Pulsipher, “Counting on Gambling: State Lawmakers Often Look at Gambling to Increase Revenues, But Is It Worth It?,” *State Legislatures* (a publication of the National Conference of State Legislatures), February 2005, https://www.ncsl.org/Portals/1/documents/pubs/slmag/2005/05SLFeb_gambling.pdf, 25.

³ Lawrence J. Truitt, “Casino Gambling in Illinois: Riverboats, Revenues, and Economic Development,” *Journal of Travel Research*, (Winter 1996): 89-96, <https://doi.org/10.1177%2F004728759603400313>.

legalization of riverboat casinos in Illinois, which involved fewer restrictions, mitigated Iowa's revenue gains as people chose the Illinois casinos.⁴

A casino with a tourist-based business model is a good way to limit some of the negative social effects of casinos while still reaping some economic benefits. For instance, if a problem gambler who is visiting comes to the local casino, they are unlikely to stay for long. The surrounding community remains, for all intents and purposes, unaffected by the social costs of problem gambling as the cost is borne by the visitor's home locality.⁵ Additionally, attracting out-of-state gamblers brings in new revenue, rather than reallocating local spending.⁶ Thus, it is an efficient way to raise tax revenue and grow the local economy quickly.⁷ A tourist-based gambling model may also increase demand for related industries in surrounding areas, such as hospitality, further stimulating economic activity in the area.⁸ Pulsipher found that gambling facilities "bring little or no positive change" to an area's economic development unless they draw outside money into the community by bringing in visitors.⁹ In the long run, a tourist-based model is unstable as the market can become oversaturated and casinos located closer to any patron may be a substitute good.¹⁰

Illinois

A study of Illinois casinos found that the rural facilities had to emphasize tourist gambling more than those in the Chicago metro area did.¹¹ The Player's Club, now Players International, riverboat casino in Metropolis, IL successfully attracted tourists, aided by their internationally known gambling brand.¹² Previously a remote and economically depressed area with a 14% unemployment rate, the Metropolis casino was able to effectively market to tourists, bringing them to town and creating an increased demand for infrastructure and businesses in town.¹³ Ultimately, the Metropolis unemployment rate dropped below 5% and property values rose.¹⁴

⁴ Truitt, "Casino Gambling in Illinois"; Maria Teresa Alvarez-Martinez and Michael L. Lahr, "Gaming, States, and Tax Revenues—The Tortoise or the Hare: A CGE Comparative Assessment of Casino Resorts and Games-Only Casinos," *Growth and Change* 47, no. 2 (June 2016): 236-258, <https://doi.org/10.1111/grow12134>, 240.

⁵ Xinhua Gu, Guoqiang Li, and Pui Sun Tam, "Casino Tourism, Social Costs, and Tax Effects," *International Gambling Studies* 13, no. 2 (2013): 221-239, <https://doi.org/10.1080/14459795.2012.760641>.

⁶ Gu, Li, and Tam, "Casino Tourism, Social Costs, and Tax Effects."

⁷ Gu, Li, and Tam, "Casino Tourism, Social Costs, and Tax Effects."

⁸ Chad Cotti, "The Effect of Casinos on Local Labor Markets: A County-Level Analysis," *The Journal of Gambling Business and Economics* 2, no. 2 (2008): 17-41, <https://doi.org/10.5750/jgbe.v2i2.529>.

⁹ Pulsipher, "Counting on Gambling," 25.

¹⁰ Truitt, "Casino Gambling in Illinois," 90; Alvarez-Martinez and Lahr, "Gaming, States, and Tax Revenues," 240; Cotti, "The Effect of Casinos on Local Labor Markets."; Pulsipher, "Counting on Gambling."

¹¹ Truitt, "Casino Gambling in Illinois."

¹² Truitt, "Casino Gambling in Illinois."

¹³ Truitt, "Casino Gambling in Illinois," 94.

¹⁴ Truitt, "Casino Gambling in Illinois," 94.

Tax Revenue

Commercial casinos are one of the highest-taxed industries in the US.¹⁵ Their taxation rates vary greatly from 6.25% in Nevada to 55% in Pennsylvania and even up to 70% in New York.¹⁶ In most states, however, casino tax revenue does not represent a major source of income and it is worth noting that casinos may act as a substitute entertainment good, reallocating spending from other economic sectors.¹⁷ Depending on the diversity of the games on the floor, high taxes can deter against opening casinos due to different tax rates on facility types by some states.¹⁸ This is the case in Massachusetts, where the Plainville Racetrack, which only has slot machines, is taxed at 49% on their gross gaming revenue (GGR). MGM in Springfield, which has more diverse gaming options, is only taxed at 25% on their GGR.¹⁹

The MGM Casino in Springfield, MA produced \$66 million in tax revenue in their first four months (August-December 2018) of operation.²⁰ This figure is 0.006% of the over \$11 billion dollars in tax revenue the state received for the same period.²¹ In 1996, Illinois riverboat casinos generated \$526 million for state and local governments, when state tax revenues were around \$20 billion.²² In Metropolis, IL riverboat casinos generated an average of \$400,000 a month in gambling taxes.²³

A 2011 study by Douglas Walker, Professor of Economics at the College of Charleston, and John Jackson, Professor Emeritus at Auburn University, found that casinos across the U.S. appear to harm overall state revenues rather than adding economic value when examining the 15 years between 1985 and 2000. Walker and Jackson found that “each additional dollar of casino revenue causes a \$1.44 decline in state revenue.”²⁴ A 2015 county-level study, however, found no statistically significant impact of casinos on per capita government expenditures and

¹⁵ Alvarez-Martinez and Lahr, “Gaming, States, and Tax Revenues”; Douglas Walker and Russell S. Sobel, “Social and Economic Impacts of Gambling,” *Current Addiction Reports* 3, no. 3 (September 2016): 293-298, <https://doi.org/10.1007/s40429-016-0109-8>.

¹⁶ Alvarez-Martinez and Lahr, “Gaming, States, and Tax Revenues”; Walker and Sobel, “Social and Economic Impacts of Gambling.”

¹⁷ Pulsipher, “Counting on Gambling.”

¹⁸ Alvarez-Martinez and Lahr, “Gaming, States, and Tax Revenues.”

¹⁹ Tom Peake, Andrew Hall, Ellen Aron, and Kazmiera Breest, *MGM Springfield First Year of Operation: Economic Impacts Report* (Amherst, MA: University of Massachusetts, 2020), https://massgaming.com/wp-content/uploads/MGM-Springfield-First-Year-of-Operation-Economic-Impacts-Report-9.20_Report.pdf, 21, 32.

²⁰ Peake, Hall, Aron, and Breest, “MGM Springfield First Year of Operation,” 29.

²¹ Massachusetts Department of Revenue, *FY2018 Actual Tax Collections and FY2019 Year-to-Date and Monthly Tax Collection Benchmark Ranges* (2019), <https://www.mass.gov/files/documents/2018/08/01/dor-fy19-public-benchmarks.pdf>.

²² Illinois General Assembly Legislative Research Unit (LRU), “Historical Look at State Revenue Sources,” *LRU First Reading* 23, no. 2 (Nov. 2009): 1-4, <https://www.ilga.gov/commission/lru/nov2009firstrdg.pdf>, Figure 1.

²³ Illinois General Assembly LRU, “Historical Look at State Revenue Sources.”

²⁴ Douglas M. Walker and John D. Jackson, “The Effect of Legalized Gambling on State Government Revenue,” *Contemporary Economic Policy* 29, no. 1 (2011): 101-114, <https://doi.org/10.1111/j.1465-7287.2010.00198.x>, 110.

revenue.²⁵ Moreover, the increased revenue flows that are seen in the first years of operation are not guaranteed to last, especially if the market becomes over-saturated with gaming facilities.²⁶

Types of Taxes

In addition to standard taxes such as property tax levied on casino properties, there are three main forms of gambling taxation: licensure and application fees, admission fees, and taxes on adjusted gross receipts (AGR) or gross gaming revenue (GGR).²⁷ In Illinois, gaming was legalized with the aim to better fund the state's public schools. As a result, these licensure and application fees are put into a general education fund.²⁸ Illinois previously charged a \$2 admission fee per person, which was split evenly between the city and state.²⁹

Indiana imposed a slightly higher admission fee at \$3.³⁰ With the 2017 passage of the Indiana House Enrolled Act 1350, however, Indiana changed the admissions tax to a 3.5% supplemental wagering tax on the AGR of the casinos.³¹ As this change was in response to casino owner's pleas for lower tax burdens, this switch was expected to cut tax revenue generated by casinos to cities and towns by \$3.6 million in 2019.³²

Illinois also taxes casinos' AGR at 20%, which is split between the riverboat sponsor, receiving 25% of the tax, and the state, receiving 75% of the tax.³³ New Jersey and Massachusetts impose a similar tax upon casinos but on GGR instead of AGR. In Massachusetts, the taxation rate is determined for individual casinos by formula, while in New Jersey, it is a flat tax of 8%.³⁴

²⁵ Mark W. Nichols, Mehmet Serkan Tosun, and Jingjing Yang, "The Fiscal Impact of Legalized Casino Gambling," *Public Finance Review* 43, no. 6 (November 2015): 739–61, <https://doi.org/10.1177/1091142115574900>.

²⁶ Jackson Brainerd, "States Are Betting on Gaming to Score A Revenue Windfall," *State Legislatures*, December 1, 2016, <https://www.ncsl.org/bookstore/state-legislatures-magazine/states-are-betting-on-legal-gambling-to-boost-revenue-jackpot.aspx>.

²⁷ Adjusted gross receipts is equal to the gross receipts less the monetary and material winnings of the gamers.

²⁸ Truitt, "Casino Gambling in Illinois," 91.

²⁹ Truitt, "Casino Gambling in Illinois," 91.

³⁰ Henry I. Robinson, "Rolling the Dice: The Impact of HEA 1350 on Casino Tax Revenues and Distributions in Indiana," *Indiana Law Review* 52, no. 1 (2019): 183-205.

³¹ Robinson, "Rolling the Dice."

³² Robinson, "Rolling the Dice," 183-184.

³³ Truitt, "Casino Gambling in Illinois," 91.

³⁴ Peake, Hall, Aron, and Breest, "MGM Springfield First Year of Operation," 19; United States General Accounting Office, *Impact of Gambling: Economic Effects More Measurable than Social Effects*, GAO/GGD-00-78, 2000, https://massgaming.com/wp-content/uploads/MGM-Springfield-First-Year-of-Operation-Economic-Impacts-Report-9.20_Report.pdf, 24.

Ways to Use Revenue

In Illinois, gaming was legalized with the aim to better fund the state's public schools. Thus, a lot of the revenue from casino taxation is spent on education.³⁵ Other areas that benefit from casino taxation in Illinois are the local communities, though the state is currently trying to increase the local area of financial impact from casinos.³⁶ Metropolis, IL shares the benefit by giving residents a utility tax credit from the local casino tax revenue, while Joliet, IL contributes to the town's master planning fund used for town infrastructure.³⁷ Towns in Indiana, notably Evansville, with 12 million tax dollars coming from casinos, use casino tax revenues to pay for essential services such as police, fire, and government workers, as well as town infrastructure repair projects that would otherwise go overlooked.³⁸ Indiana, Michigan, and Puerto Rico specifically cite using these funds for economic development, while Colorado uses these revenues for historical preservation, and New Jersey provides the elderly and disabled with financial assistance.³⁹

Effects on Employment and Income

Employment

In 2008, Chad Cotti, Professor of Economics at the University of Wisconsin-Oshkosh, published a study in the *Journal of Gambling Business and Economics* looking at the economic impact of casinos at the county level. He found that the introduction of casinos within a county increases aggregate employment relative to those without casinos.⁴⁰ Karl Geisler, Associate Professor of Economics at Idaho State University, and Mark Nichols, Professor of Economics at the University of Nevada, Reno, conducted a similar county-level study in 2015, focusing on riverboat casinos. Their work supported Cotti's conclusions: Casino counties experienced higher employment than non-casino counties.⁴¹ Cotti asserted that this increase was strongest in rural areas with low populations, confirming former Federal Reserve Economist Thomas A. Garrett's 2004 findings.⁴² Geisler and Nichols also reached these conclusions. Defining urban areas as those with more than 50,000 residents, the pair found that rural counties experienced greater increases in employment than urban counties.⁴³ Outside of the host county, Cotti found that

³⁵ Truitt, "Casino Gambling in Illinois," 95.

³⁶ Truitt, "Casino Gambling in Illinois."

³⁷ Truitt, "Casino Gambling in Illinois," 95.

³⁸ Robinson, "Rolling the Dice," 183.

³⁹ Pulsipher, "Counting on Gambling."

⁴⁰ Cotti, "The Effects of Casinos on Local Labor Markets," 2.

⁴¹ Karl R. Geisler and Mark W. Nichols, "Riverboat Casino Gambling Impacts on Employment and Income in Host and Surrounding Counties," *The Annals of Regional Science* 56, (2016): 101-123, <https://doi.org/10.1007/s00168-015-0721-x>.

⁴² Cotti, "The Effects of Casinos on Local Labor Markets," 35; Thomas A. Garrett, "Casino Gaming and Local Employment Trends," *Federal Reserve Bank of St. Louis Review* 86, vol. 1 (January / February 2004): 9-22, <https://doi.org/10.20955/r.86.9-22>.

⁴³ Geisler and Nichols, "Riverboat Casino Gambling Impacts," 112.

the presence of casinos has a very small effect on employment in neighboring counties.⁴⁴ Geisler and Nichols also found that the impacts on neighboring employment are negligible.⁴⁵

In addition to looking at general employment, Cotti examined the effects of casinos on specific industries, namely entertainment and hospitality. He found that “casinos increase employment in the entertainment sector by over 50 percent relative” to non-casino counties, though that increase includes jobs in the casinos themselves and in rural areas, where the entertainment sector was initially small.⁴⁶ Paired with the earnings increase Cotti found in the entertainment sector (see the following section), he concluded that casinos increase labor demand in the entertainment industry.⁴⁷ In the hospitality industry, excluding hotel casinos, he found that the effects on employment were not statistically significant.⁴⁸

When considering whether these effects are sustainable, Cotti observed that the effects on employment change over time. In his study, he found that, within the host county, the positive employment effects are moderate for a few years before tapering off.⁴⁹

Income

Research findings on the impact of casinos on income growth is mixed. Cotti found that, although effects on income are positive, average weekly earnings increased by a much smaller amount than employment.⁵⁰ This positive relationship between casino introduction and income was confirmed by Geisler and Nichols’ study as well as one conducted in 2013 by Douglas Walker and John Jackson. The Geisler and Nichols study found that casino counties had 10% more real per capita county income than non-casino counties, on average, in the riverboat casino states.⁵¹ Similarly, when looking at the effects of casinos from 1991-2010, Walker and Jackson found a correlation between casinos and economic growth: Casino earnings were associated with an increase in personal per capita income.⁵² This finding supported their 1998 study, though contradicted their 2007 study. In all of their studies, their methods were the same, though the 1998 and 2013 studies included more periods of recession compared to that in 2007.⁵³ One interpretation they offered for the contradictory results was that casinos have a counter-cyclical effect on the economy.⁵⁴ Despite this agreement, Michael Wenz, Associate Professor of Economics at Northeastern Illinois University, contradicted the claims that casinos

⁴⁴ Cotti, “The Effects of Casinos on Local Labor Markets,” 38.

⁴⁵ Geisler and Nichols, “Riverboat casino gambling impacts,” 117.

⁴⁶ Cotti, “The Effects of Casinos on Local Labor Markets,” 28.

⁴⁷ Cotti, “The Effects of Casinos on Local Labor Markets,” 28.

⁴⁸ Cotti, “The Effects of Casinos on Local Labor Markets,” 28.

⁴⁹ Cotti, “The Effects of Casinos on Local Labor Markets,” 32.

⁵⁰ Cotti, “The Effects of Casinos on Local Labor Markets,” 27.

⁵¹ Geisler and Nichols, “Riverboat Casino Gambling Impacts,” 109.

⁵² Douglas M. Walker and John D. Jackson, “Casinos and Economic Growth: An Update,” *The Journal of Gambling Business and Economics* 7, no. 2 (2013): 80-87, <https://doi.org/10.5750/jgbe.v7i2.757>.

⁵³ Walker and Jackson, “Casinos and Economic Growth,” 86.

⁵⁴ Walker and Jackson, “Casinos and Economic Growth,” 86.

increase the income in a community in his 2008 study. He found no significant effect on per capita income.⁵⁵

Using the same definition of urban areas mentioned above, Geisler and Nichols found that rural counties experienced greater increases in income than urban counties.⁵⁶ In fact, the two researchers found that the effects of casinos on real per capita income in urban areas were statistically insignificant, while those in rural areas were significant.⁵⁷ Geisler and Nichols also found that increases in income in neighboring counties are smaller than those in casino counties.⁵⁸

When breaking the economy into entertainment and hospitality sectors, Cotti found a much steeper increase in earnings within the entertainment industry than in the economy as a whole, with a 19% increase from casino introduction.⁵⁹ However, this high number may exclusively represent casino workers.⁶⁰ Either way, as mentioned earlier, these increases in income and employment in the entertainment sector reveal higher demand for labor in entertainment.⁶¹ In the hospitality industry, the effects of casino introduction on earnings were positive and significant.⁶² Based on this finding and the statistically insignificant effects on employment within the hospitality sector, Cotti concluded that there are positive effects for existing employees even if new jobs are not being created.⁶³

Again, considering the longevity of these changes, Cotti found that income effects follow a similar trend to the employment effects, which are moderate for a few years before tapering off.⁶⁴

Case Study: Atlantic City, New Jersey

Atlantic City's economy was declining before the legalization of casinos in 1977.⁶⁵ Unemployment had risen 7.5% between 1972 and 1977, and the population had decreased about 20% between 1960 and 1970.⁶⁶ The city was seeing fewer visitors, and almost 6,000

⁵⁵ Michael Wenz, "Matching Estimation, Casino Gambling and the Quality of Life," *The Annals of Regional Science* 42, no. 1 (February 2008): 235-49, <https://doi.org/10.1007/s00168-007-0148-0>.

⁵⁶ Geisler and Nichols, "Riverboat Casino Gambling Impacts," 112.

⁵⁷ Geisler and Nichols, "Riverboat Casino Gambling Impacts," 112.

⁵⁸ Geisler and Nichols, "Riverboat casino gambling impacts," 117.

⁵⁹ Cotti, "The Effects of Casinos on Local Labor Markets," 28.

⁶⁰ Cotti, "The Effects of Casinos on Local Labor Markets," 28.

⁶¹ Cotti, "The Effects of Casinos on Local Labor Markets," 28.

⁶² Cotti, "The Effects of Casinos on Local Labor Markets," 28.

⁶³ Cotti, "The Effects of Casinos on Local Labor Markets," 28.

⁶⁴ Cotti, "The Effects of Casinos on Local Labor Markets," 32.

⁶⁵ United States General Accounting Office, "Impact of Gambling: Economic Effects More Measurable than Social Effects," GAO/GGD-00-78, 2000, <https://www.gao.gov/new.items/gg00078.pdf>, 6.

⁶⁶ United States General Accounting Office, "Impact of Gambling," 6.

hotel rooms closed between 1966 and 1976.⁶⁷ Following the legalization of casinos, total jobs in the city increased from 21,000 in 1977 to 62,000 in 1997, although the local unemployment rates remained higher than state and national rates.⁶⁸ This confirms Cotti's work, as well as Geisler and Nichols's, demonstrating a connection between employment increases and the introduction of casinos.

Case Study: Springfield, Massachusetts

Springfield, Massachusetts is the third-largest city in the state and has been characterized as a "Gateway City."⁶⁹ In other words, it is "a city experiencing economic hardships from the decline in industries that used to be a 'gateway' to the American Dream."⁷⁰ Poverty and unemployment rates have been higher than their state counterparts—in 2010, Springfield's unemployment was 13.7%, which was 5.1% higher than the state's rate during the Great Recession.⁷¹ The median household income in the city was \$36,730 between 2014 and 2018, less than half of the state's \$77,378.⁷² MGM Springfield, one of two resort-style casinos in the state, was established in August 2018.⁷³ In its first year of operations, the casino contributed \$356.9 million in new personal income and \$974.2 million in new output in the Massachusetts economy.⁷⁴ \$640.1 million was value added.⁷⁵ This increase in income is consistent with the studies mentioned above.

Effects on Surrounding Businesses

Chad Cotti, in his study, split the entertainment and hospitality sectors of counties with casinos into sub-sectors to determine how casinos were impacting other businesses. He found that the performing arts sector experienced an increase in employment, though there was insufficient data to check whether this increase was independent of the new jobs casinos created in this area.⁷⁶ When looking at the subsectors of museums, zoos, and parks as well as other recreational centers (including golf, skiing, bowling, etc.), there was no statistically significant effect from casino introduction.⁷⁷ In terms of hospitality sub-sectors, Cotti found that the hotel industry, excluding hotel casinos, shows no statistically significant effects on employment and only a marginally significant increase in income; examination of the bars and restaurants sub-sector revealed a potentially mild substitution effect.⁷⁸ Ian Pulsipher, from the NCSL, argues

⁶⁷ United States General Accounting Office, "Impact of Gambling," 6.

⁶⁸ United States General Accounting Office, "Impact of Gambling," 6-7.

⁶⁹ Peake et al., MGM Springfield First Year of Operation: Economic Impacts Report, 3.

⁷⁰ Peake et al., MGM Springfield First Year of Operation: Economic Impacts Report, 3.

⁷¹ Peake et al., MGM Springfield First Year of Operation: Economic Impacts Report, 3.

⁷² Peake et al., MGM Springfield First Year of Operation: Economic Impacts Report, 3.

⁷³ Peake et al., MGM Springfield First Year of Operation: Economic Impacts Report, 2.

⁷⁴ Peake et al., MGM Springfield First Year of Operation: Economic Impacts Report, vi.

⁷⁵ Peake et al., MGM Springfield First Year of Operation: Economic Impacts Report, vi.

⁷⁶ Cotti, "The Effects of Casinos on Local Labor Markets," 36.

⁷⁷ Cotti, "The Effects of Casinos on Local Labor Markets," 36.

⁷⁸ Cotti, "The Effects of Casinos on Local Labor Markets," 37.

that a cannibalization effect is possible with the introduction of casinos, where “gambling operations can hurt local firms, ultimately driving them out of business,” specifically “those offering other leisure activities.”⁷⁹ He cites a study conducted at the University of Wyoming that found 78 businesses were converted to casinos in Deadwood, South Dakota within one year of casino legalization.⁸⁰

Geisler and Nichols found an increase in labor force participation and a decrease in unemployment with the advent of casinos, causing them to suggest that the introduction of casinos has a net positive effect on jobs in the host county and does not simply take employees from existing firms.⁸¹ This is consistent with Thomas A. Garrett’s study and one conducted by Michael Wenz while he was a professor at Winona State University.⁸²

Crime

One of the largest concerns surrounding casino development is the potential for crime. There are multiple studies about the impact of legalized casinos on regional crimes; however, results tend to be inconclusive.

Analysis done on Michigan counties and casino size in relation to crime showed no significant relationship between the introduction of a casino and crime within the county. The model utilized FBI property crime statistics (crimes per 100,000 population) for these counties and analyzed the effects that casino presence had on said crime statistics. Size, age, and relative proximity of casinos were all variables used to explore this relationship. The property crimes analyzed are “robbery, burglary, larceny, and motor vehicle theft.”⁸³ Their empirical model shows casinos have a significant effect only on motor vehicle theft in surrounding counties⁸⁴

Another study by Mark Nichols approached the issue of crime and casino gambling on a similar county-by-county basis, with differing results from the previous study.⁸⁵ Nichols found an initial rise in crime due to casinos, which was not permanent. The study demonstrated a positive correlation between crime and the opening of commercial casinos in a county for the first six years.⁸⁶ After year six, crime began to decrease. A significant decrease is shown by years fifteen and sixteen. Surrounding counties receive the same uptick for five years, without the

⁷⁹ Pulsipher, “Counting on Gambling,” 26.

⁸⁰ Pulsipher, “Counting on Gambling,” 26.

⁸¹ Geisler and Nichols, “Riverboat casino gambling impacts,” 109-10.

⁸² Garret, “Casino Gaming and Local Employment Trends,” 9-22; Wenz, “Matching Estimation, Casino Gambling and the Quality of Life,” 235-49.

⁸³ Falls, Gregory A, and Thompson, Philip B. "Casinos, Casino Size, and Crime: A Panel Data Analysis of Michigan Counties," *The Quarterly Review of Economics and Finance* 54, no. 1 (2014): 126.

⁸⁴ Falls and Thompson, "Casinos, Casino Size, and Crime: A Panel Data Analysis of Michigan Counties," 123-132.

⁸⁵ Nichols, Mark W, and Tosun, Mehmet Serkan. "The Impact of Legalized Casino Gambling on Crime." *Regional Science and Urban Economics* 66 (2017): 1-15.

⁸⁶ Nichols and Tosun, "The Impact of Legalized Casino Gambling on Crime," 7.

corresponding decrease.⁸⁷ It should be noted that the Native American casinos analyzed showed a less severe crime increase and a more substantial decrease.⁸⁸

The reasoning for this may lie in improved fiscal conditions as a result of the casino, which take time to impact the communities. However, this is purely speculative, and the Nichols study did not show a causal relationship between the rise and fall in crime and the introduction of a casino. However, it does indicate that casinos are associated with non-permanent crime increases.⁸⁹ Data regarding embezzlement and fraud is not publicly available, which impacted the study's conclusiveness.

Social Impacts

The introduction of casinos and their potential impact on individuals with gambling disorders are another area of concern. A gambling disorder is defined as a "behavioral addiction, characterized by high involvement in gambling in terms of time and/or money spent on the activity, along with continued play despite substantial negative outcomes personally, socially, and/or financially."⁹⁰

A study by Dr. Kahlil S. Philander, Assistant Professor of Hospitality Business Management at Washington State University, researched the effects exposure to casinos has on problem gambling.⁹¹ He modeled the likelihood of gambling and the severity of gambling problems as a function of the exposure quantity, the types of gambling, the duration of exposure, additional public health factors, and an error term (to account for statistical inaccuracies).⁹²

The results of this model indicated that the presence of casinos has a positive correlation with the number of individuals belonging to moderate-risk or problem gambling categories and suggested "that at one casino per 100,000 residents, there is a 47.8% increased in the likelihood of belonging to the moderate-risk or problem gambling categories, versus the non-problem or low-risk categories."⁹³ The study suggested a robust relationship between casino presence and problem gambling. There has been an overall drop in the prevalence of problem gambling amongst the general population compared to earlier studies, which could be a function of social learning and increased support for gambling disorders.⁹⁴

⁸⁷ Nichols and Tosun, "The Impact of Legalized Casino Gambling on Crime," 1-15.

⁸⁸ Nichols and Tosun, "The Impact of Legalized Casino Gambling on Crime," (2017): 7.

⁸⁹ Nichols and Tosun, "The Impact of Legalized Casino Gambling on Crime," 1-15.

⁹⁰ Philander, Kahlil S. "Regional Impacts of Casino Availability on Gambling Problems: Evidence from the Canadian Community Health Survey." *Tourism Management (1982)* 71 (2019): 174.

⁹¹ Philander, "Regional Impacts of Casino Availability on Gambling Problems," 174.

⁹² Philander, Kahlil S. "Regional Impacts of Casino Availability on Gambling Problems" 173-178.

⁹³ Philander, "Regional Impacts of Casino Availability on Gambling Problems," 175.

⁹⁴ Philander, "Regional Impacts of Casino Availability on Gambling Problems," 176.

Other studies on the prevalence of pathological and problem gamblers in relation to casino proximity reached similar results. In a New Zealand study by Jamie Pearce et al., researchers found that proximity to casinos and gambling venues resulted in higher gambling rates and higher problem gambling rates.⁹⁵

A study that anonymously surveyed casino patrons in Southern California indicated higher rates of at-risk gambling, problem gambling, and pathological gambling among casino patrons.⁹⁶ Many studies have examined problem gambling rates in the general population and this study sought to explore problem gambling prevalence among casino patrons. The study surveyed 176 casino patrons, which is smaller than the previous two studies (50,408 respondents and 12,529 respondents, respectively).⁹⁷ Similar conclusions around the presence of casinos and an increase in problem gambling were reached.⁹⁸

Pathological and problem gambling are often associated with external costs, such as higher rates of bankruptcy, job loss, and criminal activities.⁹⁹ A study that examined the impact of casinos in relation to these social costs used county-wide data to assess the validity of the association.¹⁰⁰ The study employed two regression models for analysis and found that there was no statistically significant effect regarding these social costs. Casino presence only increased personal bankruptcy filings by a very small increment.¹⁰¹

Conclusion

While there are potential benefits to using casinos to increase tax revenue and tourism, there is no guarantee these effects would be realized. There is a general consensus among scholars that casinos result in higher employment within their host communities, though employment in neighboring communities remains unaffected. This effect is more pronounced in rural areas, with the new employment concentrated in the entertainment industry. Most studies revealed an increase in income with the advent of casinos, though Wenz's study and one by Walker and Jackson contradict this finding. Income in neighboring communities also appears to be

⁹⁵ Pearce, J, Mason, K, Hiscock, R, and Day, P. "A National Study of Neighbourhood Access to Gambling Opportunities and Individual Gambling Behaviour." *Journal of Epidemiology and Community Health* (1979) 62, no. 10 (2008): 867

⁹⁶ Fong, Timothy W. "Problem and Pathological Gambling." *The American Journal on Addictions* 18, no. 3 (2009): 254.

⁹⁷ Philander, "Regional Impacts of Casino Availability on Gambling Problems," 173-78; Pearce, Mason, Hiscock, and Day, "A National Study of Neighbourhood Access to Gambling Opportunities and Individual Gambling Behaviour," 862-68.

⁹⁸ Fong, Timothy W. "Problem and Pathological Gambling." *The American Journal on Addictions* 18, no. 3 (2009): 254.

⁹⁹ Koo, Jun, Rosentraub, Mark S, and Horn, Abigail. "Rolling the Dice? Casinos, Tax Revenues, and the Social Costs of Gaming." *Journal of Urban Affairs* 29, no. 4 (2007): 367-81.

¹⁰⁰ Koo, Rosentraub, and Horn, "Rolling the Dice? Casinos, Tax Revenues, and the Social Costs of Gaming," 367-81.

¹⁰¹ Koo, Rosentraub, and Horn, "Rolling the Dice? Casinos, Tax Revenues, and the Social Costs of Gaming," 380.

positively affected by casino introduction. When examining effects on surrounding businesses, there is mixed evidence of a substitution or “cannibalizing” effect. Conflicting evidence is found around the introduction of casinos and crime. One study indicates no relationship between the two, and the other indicates an association between the introduction of casinos and crime. Casinos do increase the presence of problem and pathological gamblers, and it may behoove Vermont to invest in support services for gambling addiction if casinos are introduced.

This report was completed on March 9, 2021, by Fallon Clark, Cynthia Miller, and Owen Sette-Ducati under the supervision of VLRS Director, Professor Anthony “Jack” Gierzynski in response to a request from Representative Paul Martin.

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