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Social and Economic Impacts of Gambling

Douglas M. Walker¹ · Russell S. Sobel²

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Abstract

Purpose of Review This paper is a review of the recent academic literature on the socioeconomic impacts of gambling. The purpose is to provide a review of the most recent contributions to the growing literature regarding the economic and social impacts of gambling, with a focus on casinos. We divide our review into two sections: economic impacts and social impacts.

Recent Findings Better data availability across a wider set of jurisdictions has resulted in improved research quality in recent contributions to this literature.

Summary The most recent literature in this area suggests that casinos often have at least a modestly positive economic impact on their host economies. It is more difficult to measure the social impacts, and the net social impacts of casinos remain unclear. The variety of conclusions from recent research suggests that the industry's impacts vary with characteristics of the hosting state, country, or regional economy.

Keywords Social costs · Economic impacts · Casino gambling · Employment · Taxes · Consumer benefits · Crime · Drunk driving · Bankruptcy

This article is part of the Topical Collection on *Gambling*

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Introduction

Most of the research on the social and economic impacts of gambling dates back only to the early 1990s. The development of this literature was largely concomitant with the introduction and growth of the casino industry in the USA. Although there is a body of literature that examines impacts of lotteries and pari-mutuel gambling, the majority of recent research has focused upon casino gambling, the largest sector of the gambling industry.

Research on the impacts of casinos falls generally into two categories: economic and social. The economic impacts of casinos analyzed in the literature include local employment and wages, government tax revenues, consumer benefits, industry competition, and economic development. The social impacts of gambling generally consist of a long list of mostly negative impacts that are often attributed to disordered gamblers. These negative social effects may include bankruptcy, crime, personal health issues, and family problems such as divorce, among other problems.

Economic Impacts

We begin by reviewing the more measurable economic impacts of the casino industry.¹ These include employment and wages, government tax revenues, consumer benefits, industry competition, and economic development. We first summarize the more established literature, and then discuss any contributions

¹ We do not believe there is an important distinction between the “economics of the casino industry” and the “economics of gambling”; since the casino industry facilitates gambling as its key service, gambling and the casino industry are synonymous vis-à-vis their impacts on society. However, we do acknowledge that lotteries and, to a lesser degree, pari-mutuel gambling may have social and economic impacts on society.

published mainly within the past 3 years in each of the above-listed topic areas.

When casino expansion is being contemplated by a state or national government, the key economic benefits touted by the casino industry and proponents relate to employment, wages, and casino tax revenues. Interestingly, public debate on these impacts commonly omits peer-reviewed empirical evidence.

Employment, Wages, and Per Capita Income

Among the early contributions to the literature on the labor-market impacts of casinos are a variety of negative claims about employment and wages. For example, some authors have suggested that whatever jobs are created by casinos come at the expense of other industries, so that casinos are unlikely to produce a net increase in overall employment (1–6). Others have suggested that casinos do not have any substantial impacts on average wages (7) or that casino jobs are “bad jobs.” Many of the early studies in this area were published with no substantive empirical analysis.

In contrast to studies that offer no empirical evidence, there have been a few more substantive papers which have suggested at least modest employment and wage benefits from casino industry expansion (8, 9). The most comprehensive of the published labor market studies is by Cotti (10), which finds positive employment and wage impacts in casino-hosting counties in the USA. However, most of the employment and wage benefits are confined to the hospitality and entertainment sector of the economy.²

Recent findings in this area roughly support the previous literature. Using data from Canada, Humphreys and Marchand (11••) find positive labor-market benefits from casinos, but that they are relatively short-lived. The positive impact on employment and earnings appears to be present only for about 5 years, with the benefits being limited to the hospitality and entertainment industries. Using data for counties in the Mid-Atlantic region, Economopoulos (12) also finds that positive income and employment effects erode over time, but also adds that the economic effects are larger in urban areas and may actually be negative in rural areas.

Rather than looking specifically at employment, Hicks (13•) examined county-level income data in Indiana from 1990 through 2008; a state with a well-established casino industry. The findings suggest a modest income growth in casino counties. However, there are small, insignificant neighboring county income declines (13•). While Geisler and Nichols also find that income and employment rise in casino

counties, in contrast to Hicks, they find neighboring counties also experience a small increase in income (14).

Walker and Jackson (15) expanded beyond employment and wage benefits and examined the impact of commercial casinos on overall economic growth measured by growth in per capita income. They report that indeed, casinos result in increases in per capita income and growth, a finding which is consistent with the previous literature on this topic (16, 17).

Overall, the more recent literature tends to support prior literature that there are likely modest gains in employment, at least in the short run, from casinos that seem to be isolated mostly to the hospitality and entertainment industries. However, overall per capita income and economic growth are positively influenced by casino legalization and expansion.

Government Tax Revenues

Besides economic development and job creation, possibly the most important political motivation for the introduction of gambling—either lotteries or casinos—has been an effort to increase government tax revenue. Tax rates on gambling activities vary across and within countries. In the USA, for example, casinos’ gross gambling revenues range from a low of around 7–9 % in Nevada, New Jersey, and Mississippi, to more than half, as in Illinois (50 %), Maryland (67 %), Pennsylvania (55 %), and New York (60–69 %).³ The casino industry faces perhaps the highest average tax rate of any industry, at least in the USA.

Much of the older literature on casinos and tax revenues focus on individual jurisdictions (e.g., counties, states, or provinces) and only for short sample periods. The result is a variety of findings that cannot be generalized (18–20). In 2011, a more comprehensive study was published that analyzed data from all U.S. states, from 1985 to 2000. The finding was an insignificant effect of gambling on state government revenues (21). However, when casino impacts on tourism and state-level economic growth are controlled for, the results could be interpreted as casinos having a modestly positive impact on state tax revenues.

More recently, Nichols et al. (22••) use county-level data from 1987 through 2007 to examine the fiscal impact on casino-hosting counties (including tribal casinos). Supporting previous literature, Nichols et al. find that casinos do not have a significant impact on per capita government spending or revenues overall (22••).

Other recent studies offer normative tax policy guidance to governments. Gu and Tam (23) discuss casino tax policy with regard to Macau, which has significant casino tourism. They argue that finding ways to segment the market to have lower

² In addition to the academic studies on employment and wages, there are a variety of consulting reports performed for various governments (e.g., state governments such as Florida and Kansas). However, these studies are generally not reviewed here as they do not undergo a formal peer review process.

³ For a listing of 2015 casino tax rates, see the National Conference of State Legislatures list at <http://www.ncsl.org/research/financial-services-and-commerce/casino-tax-and-expenditures-2013.aspx>

taxes on casinos serving locals, while raising taxes on casinos serving tourists, can increase the welfare of local citizens. They argue the key is in finding ways to ensure the tax is more heavily imposed on tourists and not residents. Gu and Tam (24) discuss this in more detail and also argue that the higher taxes on casino tourism can help to compensate for social costs of gambling. Philander (25•) further discusses the application of normative tax theory to gambling taxes. The analysis suggests that fixed license-based taxes may be preferable to taxes based on gross gaming revenue. When taxes are based on revenue the authors offer guidance on how those taxes should be set in combination with taxes on other complementary industries (25•).

One new avenue explored recently is the impact of these taxes on employment levels. Philander et al. (26) specifically examine casino tax rates and labor decisions by casino firms. As one would likely expect, they find that higher casino taxes tend to lead to less casino employment. The tradeoff, they argue, may be worthwhile for low-tax casino states, estimating these governments could generate tax revenues of \$430,000 per job destroyed, by increasing casino tax rates (26).

Overall, the literature on casino taxes shows that jurisdictions have adopted a wide variety of tax structures, many of which are likely inefficient. Economists have suggested that many governments could improve their policies with respect to casino taxes.

Consumer Benefits

Despite the common notion that the key economic benefits of legalized gambling relate to employment and tax revenues, economists also stress the benefits to consumers who gain utility from being able to gamble (27–30). Several researchers have attempted to measure this “consumer surplus” and add in other benefits such as lower prices for entertainment due to increased competition (27, 31) or benefits relating to reduced travel costs to casinos (32).

More recently, other benefits have been identified, such as increased variety in entertainment options (33). Also recently, Forrest’s (34•) survey article of the impacts of gambling in Great Britain estimates the consumer benefits to be equivalent to £75 per household per year. He notes this is substantially greater than estimates of the social costs of gambling, although the margin is more narrow for machine gaming.

Industry Competition

One common concern of policymakers contemplating the introduction or expansion of legalized gambling is how the industry is likely to impact other industries. There has been a variety of papers published on how specific types of gambling affect other types of gambling (“intra-industry competition,” e.g., how the lottery affects casinos), as well as on how the

gambling industry affects non-gambling industries (“inter-industry competition,” e.g., how casinos affect nearby restaurants). Much of the work published in the 1990s argued that legalized gambling would tend to “cannibalize” other industries. In other words, the argument was that the revenues at casinos would come at the expense of spending on other goods and services, and those other industries would suffer as a result, as discussed in the employment section above. Regarding the relationships among different types of gambling, the literature is mixed. While most studies have found a negative or “substitute” relationship between casinos and lotteries, the relationship between lotteries and pari-mutuels, for example, is not clear (35).

Recent literature has explored the competitive effects of new entrants to the casino industry. Two studies of mature riverboat casino markets have found that new riverboat casinos do indeed cannibalize business from existing riverboats (36•, 37). However, the studies also find that these impacts decline rapidly with the distance between casinos. The two studies differ on the effects of casino expansion on competing casinos’ revenues. Economopoulos and Luxem (38), studying the Mid-Atlantic states, find further evidence that casinos in different states compete with each other.

Some current research attention has shifted to the relationship between online gambling and traditional (“bricks and mortar”) casino gambling. Philander et al. (39) find that online gambling and land-based gambling are complementary. The study is based on self-reported gambling activity of UK respondents. Stronger evidence of complementarity is found by Philander and Fiedler (40••), identifying a positive correlation between online poker and offline gaming. As casino revenue increases so does online poker revenue, and vice versa.

Social Impacts

In addition to the easier-to-measure economic impacts discussed in the previous section, there is a body of literature that examines other impacts of gambling (mostly casino gambling) on society. Many of these impacts result from the negative consequences associated with disordered gambling and may include decreased productivity on the job, depression and physical illness due to stress, increased suicide attempts, unpaid debts and bankruptcies, and divorce. It should be noted that all of these issues have been explored in the recent literature.

Numerous researchers have attempted to measure the monetary value of these various “social costs.” These estimates are typically presented as an amount per pathological (disordered) gambler, per year. The estimates vary greatly, ranging from around \$2000 up to over \$30,000 (2, 41–43). Grinols (2) summarizes many of the studies from the 1990s and concluded their average estimated social cost of gambling to be around \$10,000.

Unlike the economic impacts discussed in the previous section; however, the measurement of these impacts is fraught with methodological problems. Indeed, there is still widespread disagreement on what constitutes a “social cost” (30, 44), and the monetary estimates of these costs has been widely disputed (45, 46).

Recent evidence, such as that discussed by Forrest (34•), argues that the benefits of legalized gambling far outweigh these costs. Due to the difficulties in measuring these total costs in monetary terms, recent research has focused more on the measurement of individual social impacts. We discuss the literature for some of these areas below.

Crime

Among the social impacts associated with or attributed to gambling, crime is certainly the one that has received the most research attention. A 2010 survey of the literature (47) shows that most of the earlier literature on casinos and crime focused on Atlantic City, using data from the 1970s and 1980s. The evidence from those studies was mixed, although most of the studies that examined data for jurisdictions other than Atlantic City tended to find little relationship between casinos and crime. The studies of casinos and crime published after 2000 were much more empirically sophisticated. These studies also examined a wider range of jurisdictions. Still, the results were mixed. The most comprehensive and widely-cited crime study is that by Grinols and Mustard (48). They used county-level crime data in the USA from 1977 to 1996 and reported that casinos are a significant catalyst of crime; counties with casinos see a crime rate roughly 8 % higher than non-casino counties.

Interestingly, most of the studies that have found a link between casinos and crime rates have measured the crime rate based only on the resident population and not adjusting this population by visitors to the area (47). Since casinos can and typically draw a large number of tourists, studies that exclude visitors from the crime rate measure are likely to overstate the actual victimization rate (49). The study of Indiana crime by Reece (50) improved upon much of the literature by controlling for casino visitors (using turnstile count) and hotel rooms (as a measure of tourism in the area). When controlling for these factors, Reece found little support for a casino-crime link. Overall, the older literature provides little clarity on whether casinos exacerbate crime.

Recent literature has tended to support Reece’s results. For example, a study by Falls and Thompson (51) of crime rates in Michigan counties indicates that most types of property crime are not affected by the presence or size of casinos in the county or in nearby counties, with the exception being motor vehicle theft. However, one could argue this may be due to the larger number of cars visiting the area after the casino’s opening. Johnson and Ratcliffe (52•) used data for a new casino opening

in Philadelphia to examine the impact on crime. They found no significant impact on violent street felonies, vehicle crime, drug crime, or residential burglary. Using data from Canada, Arthur and Belanger (53) concluded that legalized gambling likely has a minor or negligible impact on crime that is limited to non-violent property crime. In another Canadian study, Humphreys and Soebbing (54••) examine the existence of legal casinos and VLTs and their relationships to criminal behavior. While they did find a small link between VLTs and credit card fraud, they found no significant increases for other types of crime. Thus, overall, the current literature points to minimal impacts on crime of legalized gambling.

Drunk Driving

Only recently, researchers have begun to study the potential link between casinos and drunk driving. Given that many casinos offer free alcohol to their patrons, one might expect a positive relationship between casino gambling and the prevalence of drunk driving. A 2013 study by McGowan (55) attempts to reconsider a previous result found by Cotti and Walker (56••) that casinos result in increases in drunk driving and alcohol-related fatal traffic accidents in rural areas but the opposite in urban areas. McGowan examined data from five states, and his results are supportive of the general county-level results found by Cotti and Walker.

Bankruptcy

As with other social impacts of casinos, there is a small literature on gambling and bankruptcy, and the evidence is once again mixed. While some papers have found a link between casino openings or existence (57–59), others find no evidence of a link (60, 61). A study by Garrett and Nichols (62) found higher bankruptcy rates in states with higher rates of travel to out-of-state casinos. A study by Boardman and Perry (63•) found no link between casinos and bankruptcy, but that bankruptcies did increase in counties within 25 miles of a pari-mutuel racing facility. This suggests that there may be effects of pari-mutuel gambling that are different from the effects of casinos, but may cloud the analysis if they are not separately considered.

More recently, Grote and Matheson (64) explore how lottery and casino adoptions impact personal bankruptcy rates. While they find that states that adopted lotteries and casinos prior to 1995 did experience significantly higher personal bankruptcy rates, the effect has disappeared since that time.

Conclusion

The legalization and expansion of the casino industry has been an important and contentious policy issue in the USA since

1990, as a Supreme Court case and a subsequent act of Congress paved the way to tribal casinos and commercial casino legalization at the state level. The casino industry has also dramatically developed in Australia, Canada, Macau, the UK, and to a lesser degree in a variety of other countries around the world. Research on the economic and social impacts of gambling dates back to the 1990s. More recently, research in this area has benefitted from greater availability of data and better empirical techniques. Still, the evidence on the social and economic impacts of gambling is mixed.

Current research on economic and fiscal impacts suggests at least modest, short-run benefits from casino legalization and operation, through increased employment, per capita income, and tax revenues. However, these results are sensitive to time and jurisdiction.

On the social side, with the exception of drunk driving, recent studies have found a weaker link between casinos and both crime and bankruptcies. The social impacts of casinos are more difficult to measure than the economic impacts.

Taken at face value, estimates of both the benefits and costs of legalized casino gambling appear to be diminishing. This may be expected as casinos become more widespread and gambling becomes more widely socially acceptable, rather than being concentrated in select tourist areas. More research is still needed to provide a clearer picture of the economic and social impacts of gambling.

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Compliance with Ethical Standards

Conflict of Interest Dr. Walker reports personal fees from Gambling Research Exchange Ontario, personal fees from Kansas Lottery Gaming Facilities Review Board, personal fees from Maryland State Lottery & Gaming Control Agency, personal fees from State of Florida Legislature, outside the submitted work. Dr. Sobel has nothing to disclose.

Human and Animal Rights and Informed Consent This article does not contain any studies with human or animal subjects performed by either of the authors.

References

Papers of particular interest, published recently, have been highlighted as:

- Of importance
- Of major importance

1. Goodman R. Legalized gambling: public policy and economic development issues. *Econ Dev Rev.* 1995;13:55–7.
2. Grinols EL. *Gambling in America: Costs and benefits.* New York: Cambridge University Press; 2004.

3. Gazel RC, Thompson WN. *Casino gamblers in Illinois: Who are they?* Unpublished UNLV paper. 1996.
4. Goodman R. *The luck business: the devastating consequences and broken promises of America's gambling explosion.* New York: The Free Press; 1995.
5. Grinols EL, Mustard DB. Business profitability versus social profitability: evaluating industries with externalities, the case of casinos. *Manag Decis Econ.* 2001;22:143–62.
6. Kindt JW. The economic impacts of legalized gambling activities. *Drake Law Rev.* 1994;43:51–95.
7. Morse EP, Goss EA. *Governing fortune: Casino gambling in America.* Ann Arbor: University of Michigan Press; 2007.
8. Hashimoto K, Fenich GG. Does casino development destroy local food and beverage operations?: development of casinos in Mississippi. *Gaming Law Rev.* 2003;7:101–9.
9. Garrett TA. Casino gaming and local employment trends. *Fed Reserve Bank St Louis Rev.* 2004;86(1):9–22.
10. Cotti CD. The effect of casinos on local labor markets: a county level analysis. *J Gambl Bus Econ.* 2008;2(2):17–41.
11. •• Humphreys BR, Marchand J. New casinos and local labor markets: evidence from Canada. *Labour Econ.* 2013;24:151–60. **This study finds positive labor-market benefits from casinos, limited to the hospitality and entertainment industries, but that they are present for only about 5 years.**
12. Economopoulos AJ. Examining the impact of casinos on economic development: a spatial analysis of the counties in the Mid-Atlantic region. *J Gambl Bus Econ.* 2014;8(2):77–92.
13. • Hicks MJ. Do good fences make good neighbors? The cross border impact of casino entrance. *Growth Chang.* 2014;45(1):5–20. **This study examines county-level data in Indiana, from 1990 through 2008, and finds modest income growth in casino counties with insignificant impacts on neighboring counties.**
14. Geisler KR, Nichols MW. Riverboat casino gambling impacts on employment and income in host and surrounding counties. *Ann Reg Sci.* 2015;56(1):101–23.
15. Walker DM, Jackson JD. Casinos and economic growth: an update. *J Gambl Bus Econ.* 2013;7(2):80–7.
16. Walker DM, Jackson JD. New goods and economic growth: evidence from legalized gambling. *Rev Reg Stud.* 1998;28(2):47–69.
17. Walker DM, Jackson JD. Market-based "disaster relief": Katrina and the casino industry. *Int J Soc Econ.* 2008;35(7):521–30.
18. Anders GC, Siegel D, Yacoub M. Does Indian casino gambling reduce state revenues? Evidence from Arizona. *Contemp Econ Policy.* 1998;16:347–55.
19. Siegel D, Anders GC. Public policy and the displacement effects of casinos: a case study of riverboat gambling in Missouri. *J Gambl Stud.* 1999;15:105–21.
20. Popp AV, Stehwienc C. Indian casino gambling and state revenue: some further evidence. *Public Finance Rev.* 2002;30(4):320–30.
21. Walker DM, Jackson JD. The effect of legalized gambling on state government revenue. *Contemp Econ Policy.* 2011;29(1):101–14.
22. •• Nichols MW, Tosun MS, Yang J. The fiscal impact of legalized casino gambling. *Public Finance Rev.* 2015;43:739–61. **This study uses county-level data from 1987 through 2007 and finds that casinos do not have a significant impact on per capita government spending or revenues.**
23. Gu X, Tam PS. Tax incidence and price discrimination: an application of theories to gambling markets. *China Econ Rev.* 2014;28:135–51.
24. Gu X, Li G, Tam PS. Casino tourism, social cost and tax effects. *Int Gambl Stud.* 2013;13(2):221–39.
25. • Philander KS, Philander KS. A normative analysis of gambling tax policy. *UNLV Gaming Res Rev J.* 2013;17(2):17–26. **This study suggests that fixed license-based taxes may be preferable to taxes based on gross gaming revenue, but if revenue-based taxes are employed they should be set in combination with taxes on other complementary industries.**

26. Philander KS, Bernhard BJ, Wimmer BS, Singh AK, Eadington WR. U.S. casino revenue taxes and short-run labor outcomes. *J Policy Model*. 2015;37(1):35–46.
27. Australian Productivity Commission. *Australia's Gambling Industries*. Canberra, Australia: Australian Government Productivity Commission, 1999.
28. Eadington WR. The legalization of casinos: policy objectives, regulatory alternatives, and cost/benefit considerations. *J Travel Res*. 1996;34:3–8.
29. Collins PC. *Gambling and the public interest*. Westport: Praeger; 2003.
30. Walker DM, Barnett AH. The social costs of gambling: an economic perspective. *J Gambl Stud*. 1999;15(3):181–212.
31. Crane Y. *New casinos in the United Kingdom: costs, benefits and other considerations* [Ph.D. Dissertation]. Salford, U.K.: Salford Business School; 2006.
32. Grinols EL. Distance effects in consumption: measuring distance value with application to casino siting. *Rev Reg Stud*. 1999;29(1):63–76.
33. Walker DM. *Casinomics: The Socioeconomic Impacts of the Casino Industry*. New York: Springer; 2013.
34. Forrest D. An economic and social review of gambling in Great Britain. *J Gambling Bus Econ*. 2013;7(3):1–33. **This article surveys the impacts of gambling in Great Britain and estimates that consumer benefits are substantially greater than the social costs of gambling.**
35. Walker DM, Jackson JD. Do U.S. gambling industries cannibalize each other? *Public Finance Rev*. 2008;36(3):308–33.
36. Gallagher RM. An examination of cannibalization effects within the riverboat gaming industry: the case of Illinois-area casinos. *Growth Chang*. 2014;45(1):41–59. **This study finds that new riverboat casinos do indeed cannibalize business from existing riverboat casinos, but these impacts decline rapidly with distance.**
37. Walker DM, Nesbit TM. Casino revenue sensitivity to competing casinos: a spatial analysis of Missouri. *Growth Chang*. 2014;45(1):21–40.
38. Economopoulos AJ, Luxem U. Examining the impact of competition on casino revenues and prices in the Mid-Atlantic states. *UNLV Gaming Res Rev J*. 2015;19(1):1–15.
39. Philander KS, Abarbanel BLL, Repetti T. Consumer spending in the gaming industry: evidence of complementary demand in casino and online venues. *Int Gambl Stud*. 2015;15(2):256–72.
40. Philander KS, Fiedler I. Online poker in North America: empirical evidence on its complementary effect on the offline gambling market. *Gaming Law Rev Econ*. 2012;16(7/8):415–23. **This study finds that online poker gambling and land-based gambling are complementary; as casino revenue increases so does online poker revenue, and vice versa.**
41. Grinols EL. Gambling as economic policy: enumerating why losses exceed gains. *Ill Bus Rev*. 1995;52:6–12.
42. Thompson WN, Gazel RC, Rickman D. Social and legal costs of compulsive gambling. *Gaming Law Rev*. 1997;1:81–9.
43. Task Force on Gambling Addiction in Maryland. *Final report*. Baltimore, MD: Maryland Department of Health and Mental Hygiene; 1990.
44. Walker DM. Methodological issues in the social cost of gambling studies. *J Gambl Stud*. 2003;19(2):149–84.
45. National Research Council. *Pathological Gambling*. Washington, DC: National Academy Press; 1999.
46. Clement D. *Gambling: A sure thing?* Fedgazette. Minneapolis: Federal Reserve Bank of Minneapolis; 2003.
47. Walker DM. Casinos and crime in the U.S.A. In: Benson BL, Zimmerman PR, editors. *Handbook on the economics of crime*. Northampton: Edward Elgar; 2010. p. 488–517.
48. Grinols EL, Mustard DB. Casinos, crime, and community costs. *Rev Econ Stat*. 2006;88(1):28–45.
49. Walker DM. Evaluating crime attributable to casinos in the U.S.: a closer look at Grinols and Mustard's "Casinos, crime, and community costs". *J Gambling Bus Econ*. 2008;2(3):23–52.
50. Reece WS. Casinos, hotels, and crime. *Contemp Econ Policy*. 2010;28(2):145–61.
51. Falls GA, Thompson PB. Casinos, casino size, and crime: a panel data analysis of Michigan counties. *Q Rev Econ Finance*. 2014;54(1):123–32.
52. Johnson LT, Ratcliffe JH. A partial test of the impact of a casino on neighborhood crime. *Secur J*. 2014;Online First:1–17. **This study uses neighborhood data for Philadelphia, and finds no significant impact of a new casino on violent street felonies, vehicle crime, drug crime, or residential burglary.**
53. Arthur JN, Williams RJ, Belanger YD. The relationship between legal gambling and crime in Alberta. *Can J Criminol Crim Just*. 2014;56(1):49–84.
54. Humphreys BR, Soebbing BP. Access to legal gambling and the incidence of crime: evidence from Alberta. *Growth Chang*. 2014;45(1):98–120. **This study examines the link between crime and both legal casinos and VLTs, finding little significant results other than a slight increase in credit card fraud from VLTs.**
55. McGowan R. Casino gambling and drunk driving: how are communities impacted? *Gaming Law Rev Econ*. 2013;17(10):747–59.
56. Cotti CD, Walker DM. The impact of casinos on fatal alcohol-related traffic accidents in the United States. *J Health Econ*. 2010;29(6):788–96. **This study finds that casinos result in significant increases in drunk driving and fatal alcohol-related traffic accidents for rural counties but opposite in more populated areas.**
57. Nichols MW, Stitt BG, Giacopassi D. Casino gambling and bankruptcy in new United States casino jurisdictions. *J Soc Econ*. 2000;29:247–61.
58. Barron JM, Staten ME, Wilshusen SM. The impact of casino gambling on personal bankruptcy filing rates. *Contemp Econ Policy*. 2002;20(4):440–55.
59. Goss E, Morse EA, Deskins J. Have casinos contributed to rising bankruptcy rates? *Int Adv Econ Res*. 2009;15:456–69.
60. de la Vina L, Bernstein D. The impact of gambling on personal bankruptcy rates. *J Soc Econ*. 2002;31:503–9.
61. Thalheimer R, Ali MM. The relationship of pari-mutuel wagering and casino gaming to personal bankruptcy. *Contemp Econ Policy*. 2004;22:420–32.
62. Garrett TA, Nichols MW. Do casinos export bankruptcy? *J Socio-Econ*. 2008;37:1481–94.
63. Boardman B, Perry JJ. Access to gambling and declaring personal bankruptcy. *J Soc Econ*. 2007;36:789–801. **This study finds that states that adopted lotteries and casinos prior to 1995 did experience significantly higher personal bankruptcy rates, but that the effect has disappeared since that time.**
64. Grote KR, Matheson VA. The impact of state lotteries and casinos on state bankruptcy filings. *Growth Chang*. 2014;45(1):121–35.