

Open Access Policy Paper/Review

Taxation as a Policy Instrument For Social and Economic Effects of Gambling

Hamdi Furkan Günay, PhD.^{1,2*}

Citation: Günay, H. F. (2023). Taxation as a Policy Instrument For Social and Economic Effects of Gambling. Journal of Gambling Issues.

Editor-in-Chief: Nigel E. Turner, PhD

ISSN: 1910-7595

Received: 06/06/2023

Accepted: 09/08/2023

Published: 10/05/2023



Copyright: ©2023 Günay, H. F. Licensee CDS Press, Toronto, Canada. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>)

¹Department of Public Finance, Gümüşhane University, Gümüşhane, Turkey

²ORCID: 0000-0002-0690-4903

*Corresponding author: Hamdi Furkan Günay, hamdifurkangunay@gmail.com

Abstract: The personal and social benefits and harms of gambling, which has been more accessible, diversified, and widespread thanks to global internet use, sometimes find their place in country agendas. Due to its characteristics, the gambling sector requires effective management through public policies. In this direction, governments determine sectoral policies in two ways: by choosing to ban gambling activities completely or by regulating the sector by legalizing certain types. In this context, taxes stand out as one of the policy tools adopted by many countries. This research aimed to evaluate the success of taxes—as a public policy tool—in controlling the social and economic effects of the gambling industry. Through a systematic review, the role and success of taxation against the social and economic influences of gambling have been evaluated in light of literature research and application examples. The present study revealed that taxes, as a policy tool, are insufficient and may lead to undesirable results in combating gambling, which has limited-positive contributions to the country's economies but harms society by creating severe addictions and other irreversible social costs.

Keywords: Gambling, Gambling Tax, Tax Policy, Gambling Addiction, Public Revenue.

Introduction

Social states are responsible for consumer protection. One of the leading policy tools for this purpose is taxes. Tax policies are employed to reduce the consumption of certain goods with external costs, fight harmful habits, and conduct behaviors. As well as combating negative externalities, the fact that such taxes promise additional public revenue has made them widespread (Cnossen, 2005; Haile, 2009). In this context, many countries have utilized taxes in the fight against the issues such as excessive alcohol and cigarette consumption, environmental pollution, and obesity characterized by considerable social costs for many years. Tax policies are also employed to control the gambling industry, whose social risks are often emphasized by public opinion and academic writings.

Since ancient times, gambling has gained its place in societies in various forms. As a popular activity dating back to ancient times, gambling is often associated with other criminal elements and can cause much material and moral damage to people. Although most people evaluate gambling as an enjoyable and harmless activity of daily life, a significant part of society cannot adequately control their gambling behaviors, which causes material and moral negativities to numerous people around them as well as themselves (Latvala et al., 2019). Besides economic benefits, gambling undoubtedly causes considerable social costs to societies (Wan et al., 2011). Indeed, various studies have highlighted that gambling causes severe economic, social, and health problems (Langham et al., 2015; Dowling et al., 2018; Abbott et al., 2018; Hofmarcher et al., 2020). There are strong economic motivations for governments to legalize and popularize gambling, such as high tax revenue collection, reviving the tourism industry and thus the economy, and creating employment (Parmalee, 2011; Walker & Sobel, 2016). In terms of the harmful social effects of gambling, the literature has mainly focused on relationships with family and friends, criminal events, financial difficulties, and psychological impacts (Turner et al., 2009; Grinols, 2011; Walker & Sobel, 2016). In the face of a moral dilemma arising from these two main effects, governments seek to control the sector with strict policies in order to reduce the social costs and, therefore, enforce regulatory methods such as the total prohibition of gambling, prohibition of certain types, taxation, and making legal regulations. However, the construction of tax policies for the sector is an issue that requires consideration of many factors.

Some studies suggest that tax policies to be applied to the sector should increase tax revenues and combat the negative externality created by gambling (Clotfelter, 2005; Meich, 2008; Gu et al., 2013). Philander (2013) states that a fixed license fee for tax revenues is "more preferable" and that Pigovian taxation (see Note 1)—to the extent of the negative externality created by gambling—will contribute to economic welfare by internalizing the social cost of gambling. Gu & Li (2009) state that low taxation is preferable for the government's financial purposes, while high taxes are preferable "for curbing externalities" and "financing socioeconomic

development projects." Smith (2000), on the other hand, states that tax policies will be ineffective against the social costs of gambling, and prohibition and restriction policies may be more effective against the harms of gambling. Therefore, it is possible to come across opinions in favor of and against taxes as a policy tool in the face of the economic and social effects created by the sector.

From this point of view, the current study aimed to examine the economic and social dimensions of gambling and the role and success of taxes in controlling these dimensions as a public policy tool in light of literature research and practice examples. This research, which systematically reviewed the literature, sought to evaluate the economic and social effects of legal gambling and the possible influences of tax policies. In this context, Google Scholar, Web of Science, and Scopus databases were systematically searched, and the bibliographies of the publications reached in line with this search were examined. This research consisted of three parts: The first part examined the economic and social dimensions of the gambling industry. The second part presented some country practices in taxation of the gambling sector. The third part evaluated the role of taxes in controlling the gambling industry and offered some suggestions.

The Economic and Social Dimensions of Gambling

Gambling is a gaming behavior that involves risking money or valuables due to a game, competition, or other activity whose outcome partially or entirely depends on luck (Mackay, 2004). Gambling is a type of risk-taking behavior (Slutske et al., 2005), and even skill-requiring popular gambling types, such as poker and sports betting, contain a significant level of luck (Derevensky, 2012). In addition, in terms of game theory, gambling is an example of a zero-sum game in which one player's gain equals the other player's loss (Choliz, 2018).

Lotteries, electronic gaming machines and casino games are today's most common forms of gambling. In addition, with the developing technology and wide-spreading internet usage, online gambling has become a favorite form of betting (McCormick & Cohen, 2007). Internet-enabled access and increased game diversity have led numerous people to gamble, making gambling a growing industry worldwide.

The effects of gambling generally separate into two categories: economic and social (Williams et al., 2011; Walker & Sobel, 2016). However, one should recall that these individual, social, and state-oriented effects can be more complex than they seem.

Economic Impacts

From an economic point of view, casinos might positively affect economic development, tourism, employment, tax revenues, industrial competition, etc., in countries where they are legal. Because of such positive economic effects, numerous countries have increasingly legalized gambling activities (Bazargan et al., 2000; Tse et al., 2012). So much so that many

states and communities worldwide see no harm in allowing legal gambling as a means of economic development (Doeden, 2010; Nichols & Tosun, 2017). In addition, another economic dimension is that casinos ignite economic activities by attracting foreign tourists and providing fresh money flow to the region (Bjelde et al., 2008). However, some studies indicate that the gambling industry contributes to tourism development in a limited way due to its competitive nature (Mason & Stranahan, 1996; Felsenstein & Freeman, 2001). Another frequently cited positive financial aspect of gambling is the creation of new job areas, especially in underdeveloped regions (Bjelde et al., 2008). In addition, opening casinos may increase demand for non-casino goods and services and new business activities. Casino operations require skillful staff to work in the departments such as accounting, card issuance, security, and other specialist positions. Planning to open casinos in a rural area with a less qualified workforce will promote the flow of external "experts" into the region, which gives fewer employment chances for the local people (Garrett, 2004). However, some authors argue that the gambling industry hurts other businesses in the long run and that jobs created at the expense of other sectors do not result in a net increase in overall employment (Grinols & Mustard, 2001; Walker & Jackson, 2007). The casino openings might cause the closure of local businesses and lead to layoffs. In short, the relationship between casinos and employment is more complex than it looks.

As well as their contributions to economic development and employment, legal gambling activities attract countries also due to their contributions to tax revenues. Although tax revenue from legal gambling activities has a small share of the country's budget, it plays a significant political role. States are more likely to expand their gambling activities under severe economic pressure or need to raise funds for new spending programs. So much so that many states in the USA supported gambling activities to compensate for their massive tax-revenue declines during the 2008 economic crisis. However, the gambling-related increase rate in public revenue collections is not influential (Dadayan, 2016). Trends show that increasing gambling activity may temporarily increase tax incomes, but huge revenues cannot be possible unless casinos are revised (Srinivasan & Lambert, 2016). Because of the reasons such as saturation of the market, harsh sectoral competition, and administrative difficulties of legal gambling activities, massive increases in tax revenues die out in the short term. Empirical findings on the effect of gambling activities on public revenues also support this situation (Pop & Stehwien, 2002; Walker & Jackson, 2011; Nichols et al., 2015). On the other hand, legal gambling activities can indirectly affect tax revenues by affecting tourism, transportation, and other sectors. However, despite this potential tax revenue, government budgets—especially in cases such as gambling addiction—may face various cost elements such as therapy and treatment costs, unemployment benefits, and other social expenses.

Another economic dimension of gambling activities manifests itself in consumer benefit and harm. Presumably, the most considerable potential advantage of legal gambling comes from the consumers' gambling pleasure (Walker, 2006). However, the rate of encountering risks such as job and income losses, debt, and bankruptcy is higher for gamblers than for people who do not gamble. There are also some social and economic costs of gambling. In parallel with the increase in crime rates, gambling also produces various costs related to criminal justice, divorce, and physical and mental health services (Grinols & Mustard, 2001; Thompson & Schwer, 2005; Badji et al., 2023).

Legal gambling activities can also have a significant economic impact on other industries. The literature shows that gambling businesses might develop different both sector and non-sector relationships. Most studies have claimed that the gambling industry negatively affects other sectors. Behind this view lies the idea that the income generated by the casinos comes at the expense of the expenditures on other goods and services (Walker & Sobel, 2016). Intra-sector competitive effects are somewhat more complex. So much so that while some games have adverse effects on each other (cannibalization effects); for example, casinos and lotteries, horse racing and dog racing; some games support each other—for example, casino and horse racing, dog racing and lottery, and horse racing and lottery (Walker & Jackson, 2008).

Social Impacts

People gamble with different motivations. While some people consider gambling as entertainment or leisure-time activity, others take it as a tool to relieve boredom, meet new people and have social interaction, or realize their wealth dreams (Wiebe & Cox, 2005; Martin et al., 2011; Williams et al., 2013). Despite some positive effects, gambling can pose severe and problematic traumas in some people's lives. Gambling that has been uncontrollable for these individuals unfavorably affects many aspects of their lives. Many studies have drawn attention to gambling-driven financial, legal, and professional problems, as well as psychological and physical health problems among individuals of all ages (Grinols & Mustard, 2001; Battersby et al., 2006; Tse et al., 2010). Gambling—*which is started for fun or to try one's luck*—can become a habit over time and devastate an individual's life (Bayindir, 2018). A gambling addict will continue to gamble until they exhaust their financial, emotional, or psychological resources (Bazargan et al., 2000). Gamblers, who might have problematic and pathological features, face extremely unfavorable outcomes with tangible economic costs. In addition, very severe consequences, such as broken families, broken homes, and broken social relations, are the “intangible costs” of gambling. While the mentioned costs only impact the gambler at the outset, they quickly start to cover family, friends, colleagues, and society (Langham et al., 2015; Banks et al., 2018).

One of the most underlined social effects of gambling is its relationship with crime. Although gambling has a direct crime-reducing effect as it increases legal business opportunities through wage-effect and economic development, Grinols & Mustard (2006) state that gambling can affect criminal behaviors in various ways: (1) negatively affects the local economy and harms economic development by increasing prostitution and illegal activities, (2) creates opportunities for criminals, (3) encourages gamblers to crime for financing their gambling addictions, (4) may boost crime by triggering crime-prone or victim-prone visitors.

In addition to evidence showing that gambling is associated with high rates of depression and lifetime mood disorders (Bagby et al., 2007; Shek et al., 2012; Takamatsu et al., 2016), there is also research showing that suicidal ideation and suicidal attempts are associated with gambling problems. (Newman & Thompson, 2007; Black et al., 2015). Besides its adverse psychological effects, gambling also negatively affects physical health. Studies report that gambling may be associated with various health problems, especially heart diseases, high blood pressure, and weight problems (Latvala et al., 2019). Additionally, some studies documented that problematic gambling behavior has other negative impacts, such as bankruptcy, drunk driving, and broken family and social relationships (Goss et al., 2009; Cotti & Walker, 2010; Holdsworth et al., 2013).

Economic and social effects of gambling activities range from “social entertainment with positive impacts” to “social nightmare scattering material and moral damages and fatal health problems on people.”

Taxation of Gambling and Examples from the World

Due to the above-mentioned negative externalities, some countries like Norway, Taiwan, Brazil, and Turkey have prohibited gambling except a few types—for example, lottery and sports betting—while others put strict regulations on it. Different countries may apply different practices to regulate the sector. The state may offer gambling as a monopoly or authorize non-profit actors to conduct gambling activities. Another option—as is the case in many countries—is to grant a license or concession to private companies and allow them to operate in some types of gambling. However, even when such permits are granted to private companies, companies are under strong government regulations and financial controls (Nikkinen et al., 2018). Besides, some countries restrict the local people's access to gambling and allow casinos to operate in specific regions for tourism revenues. For example, the government banned local people from entering casinos in Goa as of February 2020. However, it is a fact that the gambling industry boosts the revenue of the local people, hotel and casino owners, and the government (Kadam, 2022). Similarly, in Monte Carlo, casinos are not open to Monaco citizens, and only one gambling entrepreneur, in which most shares are state-owned, operates the gambling activities (Mullenex & Richard, 2020). Besides, Slovenia, England, France, and Italy are among the countries where some of the profits obtained by gambling are used for

various purposes, such as developing tourism infrastructures, financing sports and cultural activities, and funding charities (Nikkinen et al., 2018).

On the other hand, informal and illegal gambling types are also available. Informal gambling usually refers to betting activities conducted between individuals. Governments usually believe that this gambling type requires no regulation or control. Illegal gambling, on the other hand, defines organized gambling activities in violation of government restrictions and is monitored more in detail by decision-makers through sector-oriented policies (Clotfelter, 2005).

Governments legalize gambling by considering factors such as the government's financial stress, tax revenue potential, and contribution to tourism and export tax revenues (Calcagno et al., 2010). In addition to people's positive expectations toward gambling and casinos, the principle of volunteerism in gambling reduces the public's reaction to gambling taxes. Furthermore, Turner et al. (1999) emphasized that the economic benefits expected from casinos (jobs, stores, income) significantly impact people's approval and positive attitudes toward casinos. Similarly, Wan et al. (2011) stated that the spread of casino games boosts cities' financial strength, infrastructure, landscape, entertainment and recreational facilities as well as individuals' income. In addition, gambling is a voluntary action with various motivational backgrounds, and only those who choose to gamble should be subject to a gambling tax. Therefore taxpayers' low resistance to paying taxes in the gambling sector—which is based on voluntariness—also makes gambling taxes a quick and efficient source of income for governments. However, gambling revenues are sensitive to competition with other taxation areas and different forms of gambling. Therefore, gambling is unreliable as a long-term source of tax income (Dadayan, 2016; Hill, 2018).

Unlike other sectors, the volume and condition of legal gambling are determined by governments employing different tax policies. These tax policies often differ significantly from country to country. As an outstanding example of compensating the negative externalities of vices using taxes, the gambling tax—also called the sin tax—is a significant tax policy in countries legalizing gambling. Governments should consider the contribution of gambling to the national economy, its potential impact on the state budget, its relationship to other sectors, and its influence on public health when designing taxation policies.

In the USA, especially since the late 90s, the gambling industry has gained significant momentum, and tax revenue from the industry has become a great source of income for states and local governments (Srinivasan & Lambert, 2017). With a total economic size of more than 40 billion dollars in the USA, the sector creates direct and indirect employment contributions of 800,000 people and annual tax revenues of up to 10 billion dollars (Garrett et al., 2020). The taxation rates of gambling revenues considerably vary between states. While a progressive tax tariff generally applies in gambling taxation, rates can vary from state to state and from 0.25 to 75%, depending on the type of gambling (AGA, 2021). In the US, the

governments encourage the states to allow casinos—the driving force behind the gambling industry—and target an equal distribution of casinos in all the states. Gambling, which would provide tax revenue and economic growth in a state where it is legal, could concurrently decrease the potential tourism and tax revenue of the neighboring state where it is illegal and thus creates an additional tax burden on this state's citizens (McGowan, 2008).

Independent of the overall economic growth of the US in recent years, tax and license fee revenues from the gambling industry in states have increased due to the expanding gambling activities (Dadayan, 2016). Therefore, depending on the growth of the gambling sector, the share of tax revenues from the gambling sector in the state budgets is gradually increasing. According to McGowan (2008), this situation results in states expanding legal gambling activities and loosening related regulations to protect gambling income. Thus, the function of taxes as a policy tool steadily slims down in the face of gambling-based social costs. On the other hand, based on their study that tests the effect of the gambling industry on state revenues in the USA, Walker & Jackson (2011) stated that the gambling industry might not always be the best option to increase the states' incomes.

The UK constitutes one of the largest gambling markets in the world. The total gross revenue of the country's gambling industry from April 2021 to March 2022 is £14.1 billion. It is 0.8% lower than the period before the COVID-19 outbreak (Gambling Commission, 2022). In 2022-2023, the total profit from betting and gaming taxes were 3.3 billion pounds, of which 30% was from Lottery Duty, 29% from Remote Gaming Duty, 21% from betting, and the rest from other gambling elements (HMRC, 2023). Despite seven types of gambling taxes for different gambling types in the country, all taxes share similar logic and are generally levied on net profits from gambling. These taxes are General betting duty, Pool betting duty, Remote gaming duty, Gaming duty, Machine games duty, Bingo duty, and Lottery duty. Tax rates vary according to the type of game and the number of winnings. The highest tax rate applies to casino gambling revenues and ranges from 15% to 50% (HMRC, 2022).

Evaluating the effect of taxes on gambling behavior in the UK, Paton et al. (2004) stated that betting demand is sensitive to changes in tax rates. On the other hand, Garrett et al. (2020) found that taxation on gross profit—instead of the license fee collections for gambling machines—will increase the machine number and their income and thus benefit industry profitability more. In their study on the economic effects of the gambling sector in the UK, Corfe et al. (2021) announced that the gambling sector has significant economic contributions, but it is necessary to reduce gambling expenditures by reducing the number of problem gamblers. They claimed that this situation would increase net economic benefits and tax revenues thanks to the extensive supply chains of other sectors and higher economic multipliers. On the other hand, Newall & Rocklof (2022) announced that taxes on gamblers' or operators' earnings carried risks such as increasing

gambler losses, promoting the black market, and passing taxes on to gamblers and suggested a hypothetical tax of 1% on gambling profits for the research, education, and treatment of gambling.

Although gambling was rampant in China's ancient history, it is now banned and under strict control. However, certain types of gambling are legal in Macau, a special administrative region of the People's Republic of China. Especially after 2002, with an increasing number of casinos on the island, Macau became an outstanding tourism center and experienced significant boosts in GNP (McGowan, 2008). In addition to casinos, horse and greyhound racing, sports betting, and some lottery types are also legal here. While the total sectoral earnings exceeded 45 billion dollars in 2013, it decreased to 11 billion in 2021 (DICJ, 2022). Tax revenues from the gambling industry—which have a prominent place in the budget—have diminished in recent years due to the impact of the COVID-19 epidemic. While the gambling sector made up 80% of the total public revenues in 2019, this rate decreased to 37% in 2021 (DSEC, 2022). The Special Gaming Tax—the most noticeable source of gambling tax revenues—is applied as 35% of gross game income in Macau. Casino concessionaires must pay 1.6% of their gross income to the Macau Foundation, while 1.4-2.4% for urban development, tourism promotion, and social security contributions. In addition, casinos are obliged to pay annual concession premiums for variable elements such as gaming tables and machines (Proença & Coelho, 2019).

Gu et al. (2013) revealed that "a tax equivalent to the cost of gambling" approach in accordance with the "Pigovian taxation spirit" increased revenues and prevented social costs from harming the local economy in Macau. The researchers claimed that although the tax incurs certain costs for casinos and tourists, it can reduce the uneven growth of the gambling industry by redistributing resources. In another study, Gu & Tam (2011) reported that the economic growth momentum created by the gambling industry in Macau caused side effects, such as the Dutch disease (see Note 1), high inflation, income inequality, increasing social costs, and unbalanced economic growth. However, they claimed that gambling taxation might help alleviate these socioeconomic problems.

Australia is one of the prominent examples in which the legal gambling industry has come to the fore. With the liberalization of gambling since the 1990s, the sector has entered a growth and maturation trend. Various types of gambling are a favorite activity among the public, including table games, lotto, scratch cards, electronic gaming machines, betting, and online gaming. According to the Queensland Government, the Australian gambling market was worth over \$225 billion in 2019 (QGSO, 2021). While the sector contributed 773 million dollars to the economy from only casinos in the 2018-19 financial year, it added 3.669 billion dollars through a direct effect on hotels, clubs, and tourism (Australian Gaming Council, 2022a). Besides, the tax revenue obtained from the sector in the country is approximately 6.6 billion dollars. About \$4 billion of this revenue

comes from gaming machines and Keno (Australian Gaming Council, 2022b). The financial obligations applied to the gambling industry in Australia are direct taxes, license fees, and mandatory contributions. Taxes on gambling operators vary significantly from state to state and across different types of gambling. For example, in Queensland, tax rates are applied as 35% to monthly earnings of gambling machines in hotels, 0-35% to clubs depending on income level, and 30% to casinos. The tax rate applied to table games in the same state is 20% of monthly income (NSW Treasury, 2018). Taxes on the lottery in this country are relatively high (Productivity Commission, 2010).

Smith (2000) argued that gambling taxes in Australia aim at generating revenue rather than reducing gambling behavior or penalizing gambling forms with the highest social cost. In this country, while the taxation on gaming machines—with a greater risk of addiction and social costs—is relatively low, taxes are high on lotteries—a more moderate type of gambling. In another study focusing on tax policy for the Australian gambling industry, Paton et al. (2001) stated in light of theoretical and empirical evidence that ad valorem taxation on net income is more preferable in terms of allocative efficiency and economic welfare.

Gambling Taxes: Criticisms and Recommendations

All widespread consumption taxes, such as gambling, tobacco, and alcohol, have been to generate revenue for governments for many years. As they are used to deter unwelcome consumption and contribute to public revenues, the public approach such taxes optimistically. However, gambling taxes, which are complex with their various forms and institutional details, have remarkable structures (Clotfelter, 2005). Although taxation is effective in tobacco, alcohol, and sugary drinks, it carries risks in the gambling sector, especially due to the harmful effects of excessive gambling losses (Newall & Rockloff, 2022). In addition, the conflict-of-interest relationship between the economic benefits expected from taxation and the aims of reducing the social costs arising from consumption is more evident in the gambling sector compared to other sectors. It is known that although gambling behavior exposes gamblers and their environment to significant financial and health risks, a significant portion of gambling tax revenues consists of the losses of addicted and problem gamblers. At this point, governments that face a conflict of interest rely on gambling tax revenues on the one hand, but on the other hand, play a regulatory role in avoiding the societal costs of gambling (SACOSS, 2016). The same conflict of interest applies to the gambling industry as well. Like other industries, this industry has fundamental goals such as maximizing profits. Therefore, the gambling industry act in the company's and shareholders' best interests rather than the consumers'. Therefore, Orford (2005) stated that eliminating the problem gambling would generate an unacceptable cost for the gambling industry. At this point, the regulatory role of the government gains importance. However, if governments heavily rely on tax revenues from gambling, they will be vulnerable to the gaming industry lobbies (Buchanan

& Elliott, 2017). Thus, the construction of tax policy should be well designed between the objectives of taxation to provide economic benefits and to combat the negative externalities of gambling. In this respect, in a taxation policy targeting gamblers' earnings, levying higher taxes on the most addictive types of gambling (gambling machines, casino games, etc.) and lower taxes on gambling types with less negative externalities, such as the lottery, may be beneficial in terms of deterring gambling and fighting addiction. When casinos are private, and only operating profits are subject to taxes and licensing fees, the ability of taxes to guide gamblers' behavior will be weak, and the public revenue aspect of gambling taxes may come to the fore.

The tax rates applied to the gambling sector are generally higher than other sectors (Mallach, 2010). However, one of the significant factors in determining tax rates for gamblers is the fact that excessive taxes on the sector may further increase the financial burden of problem gamblers and their families, contrary to the social purpose of gambling tax. For such gamblers, the Gambling Demand Curve is not elastic. There is also uncertainty about the incidence of gambling tax and who will pay the tax. Most studies indicate that gambling taxes are regressive and mainly affect low-income groups (Beckert & Lutter, 2009; Gandullia & Leporatti, 2019; Roukka & Salonen, 2020).

In practice, two strategies determine the financial liabilities for the sector: ad valorem tax and license fee. Although some think that ad valorem taxation is more effective in combating addiction, the license fee method is preferred as it slightly affects seller and consumer behaviors compared to ad valorem taxes. In addition, applying license fees instead of taxing the earnings of gamblers will reduce the share of income generated by problem gamblers in total sectoral income (Philander, 2013). Accordingly, if governments aim to combat gambling and reduce the frequency of gambling in society, they should prefer "ad valorem" taxation that evaluates the "profit of the game." However, if the purpose is "taxing profits of the gambling industry" and "managing sectoral competition," then "license fees" should be implemented for the "gambling operators." In practice, two taxation approaches generally serve together. On the other hand, it may be more appropriate for governments that aim to increase their gambling tax revenues to expand the tax base instead of increasing the tax rates.

The regressive nature of the taxes used to reduce the consumption of products such as gambling, alcohol, and cigarettes is one of the issues criticized in terms of justice (Gandullia & Leporatti, 2019). Applying the tax to gamblers rather than gambling operators will result in a larger tax burden on low-income people's budgets and negatively affect income distribution to the detriment of the poor. On the other hand, the effects of different types of gambling on income distribution are different. For example, the fact that the players of casino games usually comprised wealthy tourists and that it requires certain costs to play (transportation, participation fee, etc.) makes it less regressive compared to other types of

games. However, as the accessibility of gambling increases, the tax burden shifts to lower-income groups (Rolling, 2001; Philander & Bernhard, 2013). However, the net effect of gambling taxes on tax distribution can be changed by policies in favor of low-income groups, and new regulations can be made on income taxes.

Externalities arising from gambling constitute perhaps the most complex issue in formulating tax policy for the sector. From the axis of combating negative externalities, gambling taxes are expected to target problem gamblers because, according to this approach, players who play only for spending of leisure or entertainment do not cause social costs. On the other hand, taxes on gamblers' earnings do not make a distinction and take all players into account. The legalization of gambling can inflict severe costs, especially on problem gambling addicts; they can go bankrupt, neglect their families, and destroy their relationships. Since the legalization of gambling will make life worse for these problem gamblers, the legal force that allows gambling also helps citizens to combat gambling addiction. In line with the Pigovian taxation logic, the tax income from gambling reflects the social cost of gambling (Clotfelter, 2005). A certain portion of gambling taxes must be spent to remedy the social costs of gambling—gambling research, addiction-fighting education, and treatment services. Just as the decision to legalize gambling is solely for the government, developing and financing treatment programs for gambling-related addiction and other problems would be the government's responsibility (Azmier, 2000).

Another topic in the legalization of gambling appears in tourism revenues. Gambling is a brilliant way to promote tourism worldwide and generate income by exporting legal gambling to people in other jurisdictions (Collins, 2003). Certain regions in the world where gambling is legal have considerable tourism revenues. However, rising tax competition in tourism and tax incomes introduces a method of reducing tax rates to attract new gambling businesses and customers; but this will contradict the purpose of combating gambling addiction. Therefore, in the gambling industry, taxation policies should be managed considering the social costs of gambling.

Illegal gambling is one of the issues that policymakers should consider when it comes to gambling regulation and taxation. Regulatory policies are also necessary for the illegal gambling industry since illegal gambling increases the incidence of tax evasion, money laundering, theft, fraud, and sexual felonies (Israeli & Mehrez, 2000; Ferentzy & Turner, 2009). Legalizing and controlling gambling activities through taxes can relieve gambling from the control of illegal powers. However, extremist tax policies encourage illegal activities by directing gamblers to tax-free areas. Increasing illegal gambling can lead to reduced tax revenues and failure to combat gambling addiction. Accordingly, in addition to taxes, the sector should be administered with various public policies and measures, such as prohibiting advertisements and incentives, explaining the harms of

gambling to the public through the media, and prohibiting gambling outside certain regions.

Conclusion

With an ancient historical background and many modern types, gambling is an area where the states completely prohibit or control through various public tools, especially taxes. Today, in parallel with the increase in access opportunities over the internet, the interest in gambling is increasing worldwide. The increasing popularity of gambling in the world ignites public discussions on the benefits and harms of gambling, and the issue regarding the legalization or prohibition of gambling comes to the fore. Some factors, such as increasing tax revenues, tourism, employment, and economic growth, push governments to legalize and diversify gambling. However, gambling is not a completely risk-free experience, either financially or spiritually. Gambling has financial and morally destructive effects on gamblers, their families, and their circles. Because of these societal costs, governments generally follow gambling closely. In this direction, taxes come to the fore as a policy tool that protects society from the social costs of gambling beyond its function of generating income.

As well as generating income, gambling taxes meet the social costs of gambling in public and combat gambling addiction. However, implementing taxes as "blind policy tools" can bring many undesirable side effects. Some of the adverse impacts of excessive taxes are: directing gamblers to "lower cost illegal gambling" instead of "costly legal gambling," creating extreme financial pressure on problem gambling addicts, and negatively affecting income distribution due to its regressive nature. Therefore, designing "ideal" gambling taxes, structurally including various factors that serve "ideal" purposes, is challenging. Above all, the government should strictly demarcate legal gambling and focus on combating illegal gambling. The gambling industry can serve limited goals, such as stimulating regional tourism. However, if governments get caught up in ambitions such as immediately creating high financial resources, employment, and economy, the results inevitably will be worse than the starting point.

The limits of the gambling sector, which are very dynamic and complicated to control, should be determined in line with policy objectives. While doing this, the socioeconomic benefits and costs of gambling should be calculated by considering the characteristics of the society. As part of the government's regulatory role, the legal and illegal dimensions of the sector should be controlled using policy tools, including taxes. However, solely gambling taxes never suffice for combating addiction and other adverse social effects on society. The tax policy and other policies should be coordinated and supported by alternative strategies to minimize the likely unfavorable impacts of taxation.

This study discussed the role of taxes as a policy tool against some economic and social effects of the gambling industry by reviewing the

literature and current applications. More research is necessary for policy recommendations and generalizable implications for the points where tax policies have failed or succeeded. Future research can offer tax policy recommendations handling economic benefits and social costs. In this context, testing the effectiveness of taxes in reducing and internalizing various social costs of gambling with national and international data may motivate future research.

Note 1: Based on A C Pigou's contributions to the literature, the use of taxes to eliminate negative externalities is called Pigovian taxation. Accordingly, applying a tax equal to the external cost arising from the activity that creates a negative externality can compensate for the social costs created by the activity (Masur & Posner, 2015).

Note 2: The Dutch disease refers to a situation where a dominant industry with massive growth can harm other industries. The damage of the energy sector, which developed with the discovery of gas deposits in the Netherlands in the 1960s, on other sectors is an example of this situation (Gu et al. 2013).

Declaration of conflict of interest

None declared.

Statement of Competing Interests

None declared

Ethics

Not required.

Funding

None.

Research Promotion

Taxes have been used as a policy tool to control consumption in negative externality-causing areas and generate public revenue for many years, and one of these areas is gambling. The construction of tax policies for the gambling industry is a complex issue requiring various factors to consider. Especially in fighting against addiction and reducing other social costs, taxes might be insufficient and cause undesirable results.

References

- Abbott, M., Binde, P., Clark, L., Hodgins, D., Korn, D., Pereira A., Quilty, L., Thomas, A., Volberg, R., Walker, D. & Williams, R. (2015). *Conceptual Framework of Harmful Gambling: An International Collaboration (Revised Edition)*. Guelph: Gambling Research Exchange Ontario (GREO). <http://hdl.handle.net/1880/51023>.
- American Gaming Association (AGA) (2021). State of the States 2021 The AGA Survey of the Commercial Casino Industry. https://www.americangaming.org/wp-content/uploads/2021/05/AGA-2021-State-of-the-States_FINALweb-150ppi.pdf.
- Australasian Gaming Council (2022a). Economic Contribution of the Australian Gambling Industry. https://austgamingcouncil.org.au/sites/default/files/2022-03/D%26CO_AG_C_Factsheet_Contribution_2022_Final.pdf.
- Australasian Gaming Council (2022b). Gambling Taxation. https://austgamingcouncil.org.au/sites/default/files/2022-03/D%26CO_AG_C_Factsheet_GamblingTax_2022_Final.pdf.
- Azmier, J. J. (2000). Canadian Gambling Behaviour and Attitudes. *Gambling in Canada Research Report*. <http://hdl.handle.net/1880/309>.
- Badji, S., Black, N. & Johnston, D. W. (2023). Economic, Health and Behavioural Consequences of Greater Gambling Availability. *Economic Modelling*, 123. <https://doi.org/10.1016/j.econmod.2023.106285>.
- Bagby, R. M., Vachon, D., Bulmash, E. L., Toneatto, T., Quilty, L. C. & Costa, P. T. (2007). Pathological gambling and the five-factor model of personality. *Personality and Individual Differences*, 43, 873– 880. <https://doi.org/10.1016/j.paid.2007.02.011>.
- Banks, J., Andersson, C., Best, D., Edwards, M. & Waters, J. (2018). *Families living with problem gambling: Impacts, coping strategies and help-seeking*. Sheffield Hallam University. <https://shura.shu.ac.uk/23407/1/Families%20Living%20with%20Problem%20Gambling.pdf>.
- Battersby, M., Tolchard, B., Scurrah, M. & Thomas, L. (2006). Suicide Ideation and Behaviour in People with Pathological Gambling Attending a Treatment Service. *Int J Ment Health Addiction*, 4, 233–246. <https://doi.org/10.1007/s11469-006-9022-z>.
- Bayındır, G. (2018). Kumar ve Şans Oyunlarına Toplumsal Bakış: Niğde Örneği. *Millî Kültür Araştırmaları Dergisi*, 2(2), 58-83. <https://dergipark.org.tr/tr/download/article-file/599118>.
- Bazargan, M., Bazargan, S. & Akanda, M. (2000). Gambling habits among aged African Americans. *Clinical Gerontologist: Journal of Aging and Mental Health*, 22(3–4), 51–62. https://doi.org/10.1300/J018v22n03_06.
- Beckert, J. & Lutter, M. (2009). The inequality of fair play: lottery gambling and social stratification in Germany. *European sociological review*, 25(4), 475-488. <https://doi.org/10.1093/esr/jcn063>.
- Bjelde, K., Chromy, B. & Pankow, D. (2008). Casino Gambling Among Older Adults in North Dakota: A Policy Analysis. *J Gambl Stud*, 24, 423–440. <https://doi.org/10.1007/s10899-008-9102-z>.
- Black, D. W., Coryell, W., Crowe, R., McCormick, B., Shaw, M. & Allen, J. (2015). Suicide ideations, suicide attempts, and completed suicide in persons with pathological gambling and their first-degree relatives. *Suicide and Life-Threatening Behavior*, 45(6), 700–709. <https://doi.org/10.1111/sltb.12162>.

- Buchanan, J. C. & Elliott, G. (2017). Reconciling Conflicting Demands in the EGM Industry: Government, Industry, Media and the Community. *Journal of Gambling Issues*, 35, 125-157. <http://dx.doi.org/10.4309/jgi.2017.35.6>.
- Calcagno, P. T., Walker, D. M. & Jackson, J. D. (2010). Determinants of the Probability and Timing of Commercial Casino Legalization in the United States. *Public Choice*, 142, (1/2), 69-90. <https://doi.org/10.1007/s11127-009-9475-2>.
- Choliz, M. (2018). Ethical Gambling: A Necessary New Point of View of Gambling in Public Health Policies. *Front Public Health*, 6(12), <https://doi.org/10.3389/fpubh.2018.00012>.
- Clotfelter, C. T. (2005). Gambling Taxes. In Sijbren Cnossen (Ed.). *Theory and Practice of Excise Taxation*. New York: Oxford University Press, 84-119. <https://doi.org/10.1093/0199278598.001.0001>.
- Cnossen, S. (2005). Economics and Politics of Excise Taxation. In Sijbren Cnossen (Ed.). *Theory and Practice of Excise Taxation*. New York: Oxford University Press, 84-119. <https://doi.org/10.1093/0199278598.001.0001>.
- Collins, P. (2003). *Gambling and the public interest*. London: Praeger.
- Corfe, S., Bhattacharya, A. & Shepherd, J. (2021). Double or nothing?. <https://www.smf.co.uk/wp-content/uploads/2021/03/Double-or-nothing-March-2021.pdf>.
- Cotti, C. D. & Walker, D. M. (2010). The impact of casinos on fatal alcohol-related traffic accidents in the United States. *Journal of Health Econ*, 29(6), 788-796. <https://doi.org/10.1016/j.jhealeco.2010.08.002>.
- Dadayan, L. (2016). *State Revenues From Gambling*. The Blinken Report. The Nelson A. Rockefeller Institute of Government. https://rockinst.org/wp-content/uploads/2017/11/2016-04-12-Blinken_Report_Three-min.pdf.
- Derevensky, J. L. (2012). *Teen gambling: understanding a growing epidemic*. New York: Rowman & Littlefield Publishing.
- DICJ (2022). Statistics. <https://www.dicj.gov.mo/web/en/information/DadosEstat/index.html>.
- Doeden, M. (2010). *Legalized Gambling Revenue Boom or Social Bust?*. Lerner Publishing Group.
- Dowling, N. A., Cowlshaw, S., Jackson, A. C., Merkouris, S. S., Francis, K. L. & Christensen, D. R. (2015). The prevalence of comorbid personality disorders in treatment-seeking problem gamblers: a systematic review and meta-analysis. *J Personal Disord*, 29(6), 735–54. https://doi.org/10.1521/pedi_2014_28_168.
- DSEC (2022). Macao in Figures. https://www.dsec.gov.mo/getAttachment/8311b8c9-e835-4599-9975-3bacfd015102/E_MN_PUB_2022_Y.aspx.
- Felsenstein, D. & Freeman, D. (2001). Estimating the impacts of crossborder competition: the case of gambling in Israel and Egypt. *Tourism Management*, 22, 511-521. [https://doi.org/10.1016/S0261-5177\(01\)00006-1](https://doi.org/10.1016/S0261-5177(01)00006-1).
- Ferentzy P. & Turner N. (2009). Gambling and organized crime: a review of the literature. *J Gambl Issues*, 23, 111–55. <https://doi.org/10.4309/jgi.2009.23.6>.
- Gambling Commission (2022). Industry Statistics – November 2022, <https://www.gamblingcommission.gov.uk/statistics-and-research/publication/industry-statistics-november-2022>.
- Gandullia, L. & Leporatti, L. (2019). Distributional effects of gambling taxes: empirical evidence from Italy. *The Journal of Economic Inequality*, 17, 565–590. <https://doi.org/10.1007/s10888-019-09423-9>.

- Garrett, T. A. (2004). Casino gaming and local employment trends. *Fed Reserve Bank St Louis Rev*, 86(1), 9–22. <https://doi.org/10.20955/r.86.9-22>.
- Garrett T. A., Paton, D. & Williams, L. V. (2020). Taxing Gambling Machines To Enhance Public and Private Revenue. *Kyklos*, 73(4), 500-523. <https://doi.org/10.1111/kykl.12247>.
- Goss, E., Morse, E. & Deskins, J. (2009). Have Casinos Contributed to Rising Bankruptcy Rates?. *International Advances in Economic Research, Springer; International Atlantic Economic Society*, 15(4), 456-469. <https://doi.org/10.1007/s11294-009-9234-7>.
- Grinols, E. L. & Mustard, D. B. (2001). Business profitability versus social profitability: evaluating industries with externalities, the case of casinos. *Manag Decis Econ*, 22, 143–62. <https://doi.org/10.1002/mde.1004>.
- Grinols, E. L. & David, B. M. (2006). Casinos, Crime, and Community Costs. *The Review of Economics and Statistics*, 88(1), 28-45. <https://doi.org/10.1162/rest.2006.88.1.28>.
- Grinols, E. L. (2011). The Hidden Social Costs of Gambling. The Gambling Culture. Waco: The Center for Christian Ethics, Baylor University. <https://www.baylor.edu/content/services/document.php/144584.pdf>.
- Gu, X. & Li, G. (2009). Why do various gaming markets adopt different tax rates?. *Journal of Gambling Business and Economics*, 3(1), 65-87. <https://doi.org/10.5750/jgbe.v3i1.542>.
- Gu, X. & Tam, P. S. (2011). Casino Taxation in Macao: An Economic Perspective. *J Gamb Stud*, 27:587–605. <https://doi.org/10.1007/s10899-010-9235-8>.
- Gu, X., Li, G. & Tam, P. S. (2013). Casino tourism, social cost and tax effects. *International Gambling Studies*, 13(2), 221-239. <https://doi.org/10.1080/14459795.2012.760641>.
- Haile, A. J. (2009). Sin Taxes: When the State Becomes the Sinner. *Temple Law Review*, 82, 1041-1070. <http://dx.doi.org/10.2139/ssrn.1425621>.
- Hill, M. (2018). Lottery, Casino and Other Gambling Revenue: A Fiscal Game of Chance. <https://itep.org/lottery-casino-and-other-gambling-revenue-a-fiscal-game-of-chance/>.
- HMRC (2022). Gambling duties: detailed information. <https://www.gov.uk/topic/business-tax/gambling-duties>.
- HMRC (2023). UK Betting and Gaming Statistics tables (October 2022 to March 2023). https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1152910/2023_Mar_Bet_and_Gam_Tab_V2.ods.
- Hofmarcher, T., Romild, U., Spångberg, J., Persson, U. & Håkansson, A. (2020). The societal costs of problem gambling in Sweden. *BMC Public Health*, 20(1), 1921, 1-14. <https://doi.org/10.1186/s12889-020-10008-9>.
- Holdsworth, L., Nuske, E., Tiyce, M. & Hing, N. (2013). Impacts of gambling problems on partners: partners' interpretations. *Asian J of Gambling Issues and Public Health*, 3(11), <https://doi.org/10.1186/2195-3007-3-11>.
- Israeli, A. A. & Mehrez, A. (2000). From illegal gambling to legal gaming: casinos in Israel. *Tourism Management*, 281-291. [https://doi.org/10.1016/S0261-5177\(99\)00059-X](https://doi.org/10.1016/S0261-5177(99)00059-X).
- Kadam, P. V. (2022). Legal Perspective of Gambling with Special Reference to Casinos in Goa. *Journal of Emerging Technologies and Innovative Research (JETIR)*, 9(12), 822-827. <https://www.jetir.org/papers/JETIR2212192.pdf>.
- Langham, E., Thorne, H., Browne, M., Donaldson, P., Rose, J. & Rockloff, M. (2016). Understanding gambling related harm: a proposed definition, conceptual framework, and taxonomy of harms. *BMC Public Health*, 16:80, 1-23. <https://doi.org/10.1186/s12889-016-2747-0>.

- Latvala, T., Lintonen, T. & Konu, A. (2019). Public health effects of gambling – debate on a conceptual model. *BMC Public Health*, 19:1077, 1-16. <https://doi.org/10.1186/s12888-019-7391-z>.
- MacKay, T. (2004). Internet Gambling in Canada Waits in Legal Purgatory, National Policy Working Group. <http://www.jogoremoto.pt/docs/extra/LPjNQz.pdf>.
- Mallach, A. (2010). *Economic and social impact of introducing casino gambling: A review and assessment of the literature*. Community Affairs Discussion Paper 10-01, Federal Reserve Bank of Philadelphia. https://www.philadelphiafed.org/-/media/frbp/assets/community-development/discussion-papers/discussion-paper_casino-gambling.pdf.
- Martin, F., Lichtenberg, P. A. & Templin, T. N. (2011). A longitudinal study: casino gambling attitudes, motivations, and gambling patterns among urban elders. *J Gambl Stud*, 27(2), 287–97. <https://doi.org/10.1007/s10899-010-9202-4>.
- Mason, P. M. & Stranahan, H. (1996). The effects of casino gambling on state tax revenue. *Atlantic Economic Journal*, 24, 336–348. <https://doi.org/10.1007/BF02298435>.
- Masur, J. S. & Posner, E. A. (2015). Toward a Pigouvian State. *University of Pennsylvania Law Review*, 164(1), 93–147. <http://dx.doi.org/10.2139/ssrn.2559393>.
- McCormick, A. V. & Cohen, I. M. (2007). A Review of Online Gambling Literature. <https://cjr.ufv.ca/wp-content/uploads/2017/01/Review-of-Online-Gambling-Literature.pdf>.
- McGowan, R. (2008). *The Gambling Debate*. London: Greenwood Press.
- Meich, B. F. (2008). The Power to Destroy: The Psychology of Gaming Taxation. *Gaming Law Review and Economics*, 12(5), 458-465. <https://doi.org/10.1089/glr.2008.1250.7>.
- Mullenex, D. & Richard, A. (2020). Gaming in Monaco: overview. [https://uk.practicallaw.thomsonreuters.com/w-027-8785?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://uk.practicallaw.thomsonreuters.com/w-027-8785?transitionType=Default&contextData=(sc.Default)&firstPage=true).
- Newman, S. C. & Thompson, A. H. (2007). The association between pathological gambling and attempted suicide: Findings from a national survey in Canada. *Canadian Journal of Psychiatry*, 52(9), 605-612. <https://doi.org/10.1177/070674370705200909>.
- Newall, P. W. S. & Rockloff, M. J. (2022). Risks of using taxation as a public health measure to reduce gambling-related harms. *Correspondence*, 7(8), E654. [https://doi.org/10.1016/S2468-2667\(22\)00144-X](https://doi.org/10.1016/S2468-2667(22)00144-X).
- Nichols, M. W., Tosun, M. S. & Yang J. (2015). The fiscal impact of legalized casino gambling. *Public Finance Rev*, 43, 739–61. <https://doi.org/10.1177/1091142115574900>.
- Nichols, M. W. & Tosun, M. S. (2017). The impact of legalized casino gambling on crime. *Regional Science and Urban Economics*, 66, 1-15. <https://doi.org/10.1016/j.regsciurbeco.2017.05.005>.
- Nikkinen, J., Egerer, M. & Marionneau, V. (2018). Introduction: Gambling Regulations and the Use of Gambling Revenues in European Welfare States. In Egerer M., Marionneau V., Nikkinen J. (Eds.), *Gambling policies in European welfare states: Work and welfare in Europe* (pp. 1-14). Palgrave Macmillan.
- NSW Treasury (2018). Interstate Comparison of Taxes 2017-18. <https://www.treasury.nsw.gov.au/sites/default/files/2018-04/TRP18-01%20Interstate%20Comparison%20of%20Taxes%202017-18.pdf>.
- Orford, J. (2005). Disabling the Public Interest: Gambling Strategies and Policies for Britain, *Addiction*, 100(9), 1219–25. <https://doi.org/10.1111/j.1360-0443.2005.01143.x>.

- Parmalee, T. A. (2011). *Legalized Gambling*. Minnesota: ABDO Publishing Company
- Paton, D., Siegel, D. S. & Williams, L. V. (2001). Gambling Taxation: A Comment. *The Australian Economic Review*, 34(4), 437–40. <https://doi.org/10.1111/1467-8462.00211>.
- Paton, D., Siegel, D. S. & Williams, L. V. (2004). Taxation and the Demand for Gambling: New Evidence from the United Kingdom. *National Tax Journal*, 57(4), 847- 861. <https://doi.org/10.17310/ntj.2004.4.04>.
- Philander, K. S. (2013). A Normative Analysis of Gambling Tax Policy. *UNLV Gaming Research & Review Journal*, 17(2), 17-26. <https://digitalscholarship.unlv.edu/grrj/vol17/iss2/2>.
- Philander, K. S. & Bernhard, B. J. (2013). *Informing the Public Debate: Economic Impacts of Casinos*. UNLV International Gaming Institute, 1-14. <https://jobs.unlv.edu/sites/default/files/24/InformingThePublicDebate-EconomicImpacts.pdf>.
- Popp, A. V. & Charles Stehwiens. (2002). Indian Casino Gambling and State Revenue: Some Further Evidence. *Public Finance Review*, 30 No. 4 (July), 320-330. <https://doi.org/10.1177/109421030004005>.
- Productivity Commission (2010). Gambling, Report no. 50, Canberra. <https://www.pc.gov.au/inquiries/completed/gambling-2010/report>.
- Proença, R. P. & Coelho, C. E. (2019). Gaming in Macau: overview. https://www.mdme.com.mo/xms/files/PUBLICATIONS/Thomson_Reuters_Practical_Law_Gaming_in_Macau_Overview_2019.pdf.
- Rolling, B. (2001). A Game Worth Playing? The Distributional Effects of Casino Gambling: An Emphasis on Iowa. *Major Themes in Economics*, 3, 3-16. <https://scholarworks.uni.edu/mtie/vol3/iss1/3/>
- Roukka, T. & Salonen, A. H. (2020). The Winners and the Losers: Tax Incidence of Gambling in Finland. *Journal of Gambling Studies*, 36, 1183–1204. <https://doi.org/10.1007/s10899-019-09899-0>.
- QGSO (2021). Australian Gambling Statistics 36th edition Summary tables 2018–19. <https://www.qgso.qld.gov.au/issues/2646/australian-gambling-statistics-36th-edn-1993-94-2018-19-summary-tables.pdf>.
- SACOSS (2016). Gambling Tax Winners and Losers. https://www.sacoss.org.au/sites/default/20files/public/documents/Fact%20Sheets/Winners_and_Losers_FINAL.pdf.
- Shek, D. T. L., Chan, E. M. L. & Wong, R. H. Y. (2012). Associations between Pathological Gambling and Psychiatric Comorbidity among Help-Seeking Populations in Hong Kong. *The Scientific World Journal*. <https://doi.org/10.1100/2012/571434>.
- Slutske, W. S., Caspi, A. Moffitt, T. E., & Poulton, R. (2005). Personality and problem gambling: A prospective study of a birth cohort of young adults. *Archives of General Psychiatry*, 62(7), 769-775. <https://doi.org/10.1001/archpsyc.62.7.769>.
- Smith, J. (2000). Gambling Taxation: Public Equity in the Gambling Business. *The Australian Economic Review*, 33(2), 120–44. <https://doi.org/10.1111/1467-8462.00143>.
- Srinivasan, A. K. & Lambert, T. E. (2017). The Impact of Stagnating Casino Revenues on State and Local Governments Tax Receipts. *Public Budgeting & Finance*, 37(1), 26-46. <https://doi.org/10.1111/pbaf.12123>.
- Takamatsu, S. K., Martens, M. P. & Arterberry, B. J. (2016). Depressive Symptoms and Gambling Behavior: Mediating Role of Coping Motivation and Gambling Refusal Self-Efficacy. *J Gambl Stud*, 32, 535–546. <https://doi.org/10.1007/s10899-015-9562-x>.

- Thompson, W. & Schwer, K. (2005). Beyond the Limits of Recreation: Social Costs of Gambling in Southern Nevada. *Journal of Public Budgeting, Accounting & Financial Management*, 17(1), 62-93. <https://doi.org/10.1108/JPBAFM-17-01-2005-B004>.
- Tse, S., Hong, S., Wang, C. & Cunningham-Williams, R. (2012). Gambling behavior and problems among older adults: a systematic review of empirical studies. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 67(5), 639–652. <https://doi.org/10.1093/geronb/gbs068>.
- Turner, N. E. Ialomiteanu, A. & Room, R. (1999). Checkered expectations: predictors of approval of opening a casino in the Niagara community. *The Journal of Gambling Studies*, 15, 45-70. <https://doi.org/10.1023/a:1023067012971>.
- Turner, N. E., Preston, D. L., Saunders, C., McAvoy, S. & Jain, U. (2009). The Relationship of Problem Gambling to Criminal Behavior in a Sample of Canadian Male Federal Offenders. *J Gambl Stud*, 25, 153–169. <https://doi.org/10.1007/s10899-009-9124-1>.
- Walker, D. M. (2006). Quantification of the social costs and benefits of gambling. Paper presented at *5th Annual Alberta Conference on Gambling Research*, “Social and Economic Costs and Benefits of Gambling”, Banff, April 20-22, 2006. <https://prism.ucalgary.ca/server/api/core/bitstreams/078f6dbe-8729-4235-b0c7-7d0e28b4d394/content>.
- Walker, D. M. & Jackson, J. D. (2008). Do U.S. Gambling Industries Cannibalize Each Other?. *Public Finance Review*, 36(3), 308-333. <https://doi.org/10.1177/1091142106292777>.
- Walker, D. M. & Jackson, J. D. (2011). The effect of legalized gambling on state government revenue. *Contemp Econ Policy*, 29(1), 101–14. <https://doi.org/10.1111/j.1465-7287.2010.00198.x>.
- Walker, D. M. & Sobel, R. S. (2016). Social and Economic Impacts of Gambling. *Curr Addict Rep*, 3:293–298. <https://doi.org/10.1007/s40429-016-0109-8>.
- Wan, Y. K. P., Li, X. C. & Kong, W. H. (2011). Social impacts of casino gaming in Macao: A qualitative analysis. *Tourism*, 59(1), 63-82. <https://hrcak.srce.hr/en/file/101945>.
- Wiebe, J. M. D. & Cox, B. J. (2005). Problem and Probable Pathological Gambling Among Older Adults Assessed by the SOGS-R. *Journal of Gambling Studies*, 21(2), 205-221. <https://doi.org/10.1007/s10899-005-3032-9>.
- Williams, R. J., Rehm, J. & Stevens, R. M. G. (2011). The Social and Economic Impacts of Gambling. Final Report prepared for the Canadian Consortium for Gambling Research. March 11. <http://hdl.handle.net/10133/1286>.
- Williams, R. J., Lee, C. & Back, K. J. (2013). The prevalence and nature of gambling and problem gambling in South Korea. *Soc Psychiatry Psychiatr Epidemiol*, 48, 821–834. <https://doi.org/10.1007/s00127-012-0580-z>.