

## **Taxing gambling machines to enhance tourism**

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### **Abstract**

*Gambling machines are a key component of global gambling tourism. The taxation of these machines is a highly controversial area of policy debate involving tensions between industry profitability, economic growth and government revenue. We present the background and context to the debate around the optimal taxation of gambling machines, and reach conclusions and recommendations based on the recent and extended literature as to the best way to tax gambling machines in order to enhance tourism. These recommendations provide guidance for jurisdictions in which gambling tourism is a significant actual or potential source of public revenue.*

### **1. Introduction and Background**

A number of countries have at various times in recent years sought to take advantage of the growth of gambling tourism by relaxing laws relating to the casino industry. For example, the Gambling Act of 2005 allowed the introduction into the UK of a much greater number of high stake jackpot machines, liberalised laws on advertising and membership, and made legal the creation of larger scale casinos than hitherto allowed, including ‘resort casinos’ with unlimited jackpots. 68 local authorities applied for permission to have one of the larger casinos, with an additional eight bidding for a ‘resort casino’ (Department for Culture, Media and Sport Select Committee, 2012). In the event, limited expansion has taken place to date largely due to political disputes framed around the issue of problem gambling.

Casinos have, however, been particularly important for UK tourist destinations such as London, Brighton and Blackpool.<sup>1</sup> Indeed, London is now viewed as one of the top four visitor destinations for casino tourism in the world.<sup>2</sup> A range of other cities around the UK such as Cardiff, Glasgow, Newcastle and Sheffield have also emphasised the potential for gambling to regenerate tourism activities (Casino Advisory Panel, 2007).<sup>3</sup>

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<sup>1</sup> See, for example, Visit London ([www.visitlondon.com/things-to-do/nightlife/casino](http://www.visitlondon.com/things-to-do/nightlife/casino)), Visit Blackpool ([www.visitblackpool.com/latest-news/blackpool-hits-the-jackpot-with-major-investment-o/](http://www.visitblackpool.com/latest-news/blackpool-hits-the-jackpot-with-major-investment-o/)) and Brighton and Hove City Council (2017)

<sup>2</sup> See [www.tntmagazine.com/entertainment/games-and-tech/the-top-5-gambling-cities-in-the-world](http://www.tntmagazine.com/entertainment/games-and-tech/the-top-5-gambling-cities-in-the-world)

<sup>3</sup> In 2006, Manchester City Council argued that, “The proposed regional casino not only exploits Manchester’s tourism strengths but also contributes to remedying its weaknesses.” (Manchester City Council, 2006).

In addition to casino gambling serving as a driver for tourism and economic growth, governments around the world depend on casino gambling and its resulting tourism as an important source of tax revenue. Indeed, the significance of revenue obtained from the taxation of tourism dollars is well established (see, for example, Ponjan and Thirawat, 2016; Forsyth et al, 2014; Nikkinen et al, 2018).<sup>4</sup>

Large casinos are considered a particularly important tourist draw (Delfabbro and King, 2017, p. 319), while Wardle et al. (2014) note that in the UK gambling venues are typically concentrated in tourist areas, including seaside suburbs. Even so, the destination attraction of gambling differs depending on demographics and nationality (Rita et al., 2018).<sup>5</sup>

Other research has found potentially significant economic costs of casino gambling.<sup>6</sup> Thompson et al. (2000) assert that costs such as fraud, forgeries, bad debts, and treatment costs outweigh the benefits of casino gambling. Other authors (e.g. Grinols and Mustard, 2001, 2006; Simmons, 2000) also emphasise the social costs of gambling. Simmons (2000) finds that while casinos do create employment in related industries, they also tend to divert consumer expenditures from other businesses, and casinos tend to create lower-paying jobs. More mixed evidence on the employment impacts of casino generation are found by Garrett (2004). Lastly, the displacement effects between casino revenue and state lottery revenue have been studied. Siegel and Anders (2001) report evidence of substitution between casinos and state lotteries, while Popp and Stehwien (2002) find evidence of a negative correlation between Indian casino gambling and state revenues.

A key issue arising from these debates is the economic benefits and social costs of different types of gambling and the displacement effects between them, and the issue of revenue generation for state government through tax and the protection and growth of revenue by gambling operators (e.g. Walker and Jackson, 2011).

Garrett (2001) uses state lottery agencies as a unique object of study as they, unlike other governmental units, openly acknowledge that their primary objective is revenue maximisation. In so doing, he is able to test whether the existing tax structure of lottery games was the revenue maximising structure. He finds strong empirical evidence for the Leviathan model first proposed by Brennan and Buchanan (1977, 1980), in which only constitutional constraints on both the sources of revenue and levels of expenditure can curb government's desire for continued revenue.

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<sup>4</sup> For a broader overview of the economics of tourism, see Song et al. (2012).

<sup>5</sup> Millennial men are more attracted than women to gambling as a tourism motivation, and the unmarried more than the married, whilst Millennial Americans are more attracted to gambling as a tourism motivation than their British counterparts.

<sup>6</sup> A review of the literature on the socioeconomic impacts of gambling is provided in Walker and Sobel (2016).

Martin and Yandle (1990) examine the determinants of states' decisions to operate lotteries, providing an overview of the way that state sponsorship of gambling has been important historically. One issue addressed specifically is that between the use of state lotteries and the taxation of private gambling as a means of revenue generation.

Following on from this, Calcagno et al. (2010) examine the determinants of casino adoption decisions by state governments. Their results suggest a public choice framework in which casino legalisation is determined by state efforts to attract tourism or "export taxes." Still, the literature examining the taxation of electronic gambling ('slot') machines, a sector crucial for the tourism industry around the world, is much more limited.

Philander (2019) considers the implications of any expansion in the prevalence of machine gambling within the wider health perspective related to the prevalence of casino gambling.

## **2. Machine taxation policy in the UK**

There has also long been a significant gambling-machine industry in the UK based not only in casinos but also in bookmakers, bingo halls, pubs, and specialised arcades often located in seaside tourist areas. Until relatively recently, however, UK gambling taxation was sector-specific. Sports betting was taxed based on the gross profits of betting operators (stakes received from bettors minus winnings paid out), whilst machines were subject to an annual licence fee (Amusement Machines License Duty or AMLD) as well as a sales tax (Value Added Tax, or VAT) levied on gross revenue.

The level of AMLD was linked to the type of machine (higher for higher prize machines, ranging in 2012-13 from £3,150 p.a. for B1 machines in casinos to £935 p.a. for C machines – D machines were charged no AMLD).<sup>7</sup> Category B1 machines had a maximum stake of £2 and jackpot of £4,000 – increased in 2014 to £5 and £10,000 respectively. Category C machines have a maximum stake of £1 and a maximum prize of £100. Category D machines have a maximum stake ranging from 10 pence to £1 and a maximum prize ranging from £5 to £50.

Bingo halls were over this period permitted a maximum of eight B3/B4 machines (with a maximum stake of £2 and jackpot of £500), or 20% of the total number of gaming machines. Adult Gaming Centers (AGCs) were permitted a maximum of four such machines.

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<sup>7</sup> See the Gambling Commission website for an explanation of all machine categories. <https://www.gamblingcommission.gov.uk/for-gambling-businesses/Compliance/Sector-specific-compliance/Arcades-and-machines/Gaming-machine-categories/Gaming-machine-categories.aspx>

In July 2011, the number of B3/B4 machines was increased to 20% of all machines. Licensed betting offices (LBOs) were allowed only four machines per betting shop (usually B2 machines – Fixed Odds Betting Terminals). B2 machines had a maximum stake of £100 (reduced in 2019 to £2) and a maximum jackpot of £500.

In 2013, the UK Government decided to bring the tax system for electronic gambling machines into line with other gambling sectors, based on gross profits. From 1 February of that year, the system of licence fees and sales tax for machine gambling was replaced with an exclusive gross profits tax known as Machine Games Duty (MGD).

This followed a consultation exercise on the introduction of a machine games duty, published by HM Treasury on 24 May, 2011. In its document outlining the proposed changes to the taxation of gambling machines, HM Treasury argued that MGD would improve the sustainability and predictability of the tax regime by making it more resilient to changes in technology and regulation, as well as inflation. Because the taxation of machine games is more closely linked to machine profits under MGD, it is also a fairer system and helpful to businesses with less profitable machines.

Key representations to the consultation pointed out that MGD would extend beyond the current scope of AMLD and raised concerns that this would adversely impact venues such as family entertainment centres. Suggestions were also put forward for changes aimed at limiting the impact of the VAT exemption, notably by including a *de minimis* limit for MGD to mirror the VAT threshold and allowing input VAT to be offset against MGD payable. A few business and trade organisations also suggested that instead of introducing MGD, all gambling activities should be made subject to VAT. BACTA, which represents the British amusement and gaming machine industry in the UK, was particularly critical of MGD, claiming that it would introduce additional complexity, compliance burden and cost. This could lead to closures, reduced investment, job losses and loss of tax revenue for the Treasury, and be likely to damage seaside towns and businesses.

In response (HM Treasury/HM Revenue & Customs, 2011b), the Government agreed to limit the scope of MGD to machine games offering cash prizes greater than stakes. Machines such as crane grabs and redemption machines only offering non-cash prizes would remain subject to the VAT. This would, it was argued, help support many small family entertainment centres that are commonly found at British seaside resorts. The suggestions put forward aimed at limiting the impact of the VAT exemption were not adopted because they were either not permissible under existing law, would be highly complex to introduce, or would lead to significant avoidance risks.

The rates of MGD vary by type of machine, from 5% for low stakes (maximum of 20 pence), low jackpot (maximum of £10) machines, to 20% for other machines. A 25% duty was

introduced on machines where the maximum stake can exceed £5, effective for accounting periods starting on or after 1 April, 2014, which took effect on 1 March, 2015. In practice, this applied only to B2 machines. The introduction of MGD was intended to be revenue neutral, defined in terms of the overall impact on the Exchequer (HM Revenue and Customs, 2012, p.3).

There has been a parallel controversy over the problem gambling effects of B2 machines, and the maximum stake size on these machines, with the bookmakers in conflict with major lobbying and media pressure, as well as from the opposition parties in Parliament. However, it was the rate at which the tax was set that proved immediately controversial, as the gross profits tax to that date had been applied almost across the board to the rest of the gambling sector at 15% (a notable exception was sports spread betting at 10% and financial spread betting at 3%). The machine duty rate was set with reference to the price-elasticity estimates derived for HM Revenue and Customs and the Department for Culture, Media and Sport by Paton and Vaughan Williams (2005) – see HM Revenue and Customs, 2012, 2014. The shift in the approach to gambling machine taxation in the UK provides a natural experiment as to the effect of gross profits taxation.

### **3. The switch from a licence fee to a gross profits system for taxing gambling machines**

Garrett et al. (2020) compare the options for taxing gambling machines (licence fees and taxation of machine profits) both by way of a theoretical framework and empirically. In particular, they examine the impact of the switch from a licence fee system of taxation to a revenue-neutral gross profits tax on machines, testing whether it had any significant effect on the number of machines and on machine revenue. They find that the switch from a licence fee system for gambling machines to one based on gross profits led to a significant increase both in the number of machines and in machine revenue in affected categories. These results are consistent with their theoretical analysis in which the change to Machine Games Duty (a gross profits system of taxation) induced companies to introduce more machines.

Specifically, the introduction of the gross profits tax system for machines led to a marked improvement in industry profitability and viability, including an increase in tax revenue from machines from c. £500 million a year to c. £720 million a year between 2012/13 (pre-GPT) and 2018/19 (post-GPT) – see HM Revenue and Customs (2019).

As such, they demonstrate that a shift in the system of taxation of gambling machines can resolve one of the key policy tensions between industry and government over the sustainability and growth of tax revenues versus industry profitability - namely, the enhancement of both public and private revenue.

#### 4. Summary and conclusions

Gambling machines are a key component of global gambling tourism, yet there is very little established literature relating to the optimal taxation of these machines. Even so, the taxation of these machines is a controversial area of debate based around tensions between key stakeholders, linked to industry profitability, economic growth and government revenue.

Garrett et al. (2020) address this gap in the literature by introducing a theoretical framework which shows that under reasonable assumptions, shifting from a per-machine licence fee to a gross profits tax on machine revenue can help to resolve these policy tensions. Their results reveal that the shift from licence fees to a Machine Games Duty based on gross profits led to a significant increase in the number of machines, as predicted by the theory, and in machine revenue.

Based on the evidence presented there, the case for a switch to gambling taxation based on gross profits is especially well made in the context of the importance in many jurisdictions of gambling machine revenues for the tourism industry. For example, Las Vegas and Atlantic City, the casino gambling capitals of the US, each attract in a normal year tens of millions of people, while many local and state governments and hundreds of small communities rely on casino gambling for tourism and economic development.

Gambling is also the dominant source of tourism for Macau, now the largest casino market in the world (see Sheng and Gu, 2018), while a number of other countries, such as Australia and the UK, have relaxed laws relating to the casino industry to attract gambling tourism.

These results provide useful guidance for all parties involved in the gambling taxation debate, especially those jurisdictions in which gambling tourism is a significant actual or potential source of public revenue (Ponjan and Thirawat, 2016; Forsyth et al, 2014; Nikkinen et al., 2018).

#### ***References***

- Brennan, G. and Buchanan, J.M. (1977), Towards a Tax Constitution for Leviathan. *Journal of Public Economics*, 8, 255-73.
- Brennan, G. and Buchanan, J.M. (1980), *The Power to Tax: Analytical Foundations of a Fiscal Constitution*. New York: Cambridge University Press, vol. 9.
- Brighton and Hove City Council (2017), *Gambling Policy (Statement of Principles) 2019 - 2021. Gambling Act. 2005*. Accessed on 7 September, 2020 at: [https://present.brighton-hove.gov.uk/Published/C00000157/M00009212/AI00067046/\\$20180619162337\\_016](https://present.brighton-hove.gov.uk/Published/C00000157/M00009212/AI00067046/$20180619162337_016)

- Calcagno, P.T., Walker, D.M. and Jackson, J.D. (2010), Determinants of the Probability and Timing of Commercial Casino Legalization in the United States. *Public Choice*, 142 (Jan): 690-90.
- Casino Advisory Panel (2007). Appraisal of the shortlisted proposals for a regional casino chapter 7 in *Final Report of the Casino Advisory Panel*, January.
- Delfabbro, P. and King, D. (2017), Gambling is not a capitalist conspiracy: a critical commentary of literature on the 'industry state gambling complex', *International Gambling Studies* 17 (2): 317-331.
- Department for Culture, Media and Sport Select Committee (2012). *The Gambling Act 2005: A Bet Worth Taking?*  
<https://publications.parliament.uk/pa/cm201213/cmselect/cmcmds/421/42106.htm>.
- Forsyth, P., Dwyer, L., Spurr, R. and Pham, T., (2014), The impacts of Australia's departure tax: tourism versus the economy? *Tourism Management*, 40, 126-36.
- Garrett, T.A. (2001), The Leviathan Lottery? Testing the Revenue Maximization Objective of State Lotteries as Evidence for Leviathan. *Public Choice*. October, 1-2, 101-117.
- Garrett, T.A. (2004), Casino Gambling in America and Its Economic Impacts. *Review*. St. Louis, MO.: Federal Reserve Bank of St. Louis., January/February, 86, 9 -22.
- Garrett, T.A., Paton. D., and Vaughan Williams, L. (2020). Taxing Gambling Machines to Enhance Public and Private Revenue. *Kyklos*. Published online, July 28.
- Grinols, E.L. and Mustard, D.B. (2001), Business Profitability Versus Social Profitability: Evaluating Industries with Externalities, the Case of Casinos. *Managerial and Decision Economics*, 22: 143-162.
- Grinols, E.L. and Mustard, D.B. (2006), Casinos, Crime and Community Costs. *Review of Economics and Statistics*, 88 (1), 28-45.
- HM Revenue and Customs (2014). The UK Betting and Gaming Market: Price elasticities of demand and use of promotions. Research Report 313. 26 June.
- HM Revenue and Customs (2012), *Knowledge Analysis and Intelligence, Setting the Rates of Machine Games Duty: technical background*, The Stationery Office, London, May.
- HM Treasury/HM Revenue & Customs (2011a), *Implementing a Machine Games Duty: consultation on policy design*, 24 May. Accessed on 7 September, 2020 at:  
<https://www.gov.uk/government/consultations/machine-games-duty-implementation>

- HM Treasury/HM Revenue & Customs (2011b), *Design of Machine Games Duty consultation: the Government response*, December. Accessed on 7 September, 2020 at: [www.bingo-association.co.uk/documentdownload.axd?documentresourceid=204](http://www.bingo-association.co.uk/documentdownload.axd?documentresourceid=204)
- HM Revenue and Customs (2019), *Betting and Gaming Bulletin*, March, London: HMRC.
- Manchester City Council (2006), *A Proposal to License a Regional Casino at Sportcity, East Manchester*, Manchester: Manchester City Council.
- Martin, R. and Yandle, B. (1990), State Lotteries as Duopoly Transfer Mechanisms. *Public Choice*, 64 (3), 253-64.
- Nikkinen, J., Egerer, M. and Marionneau, V. (2018), Introduction: Gambling Regulations and the Use of Gambling Revenues in Egerer, M., Nikkinen, and Marionneau, V. (eds), *Gambling Policies in European Welfare States: Current Challenges and Future Prospects*. Basingstoke: Palgrave Macmillan.
- Paton, D. and Vaughan Williams, L. (2005). *Modelling the UK Gambling Market*, HM Revenue and Customs and Department for Culture, Media and Sport.
- Philander, K.S. (2019). Regional Impacts of Casino Availability on Gambling Problems: Evidence from the Canadian Community Health Survey. *Tourism Management*, 71 (April), 173-178.
- Ponjan, P. and Thirawat, N. (2016), Impacts of Thailand's tourism tax cut: a CGE analysis. *Annals of Tourism Research*, 61: 45-62.
- Popp, A.V. and Stehwien, C. (2002), Indian Casino Gambling and State Revenue: Some Further Evidence. *Public Finance Review*, 30 (4), 320-330.
- Rita, P., Brochado, A. and Dimova, L. (2018), Millennials' Travel Motivations and Desired Activities within Destinations: A Comparative Study of the US and the UK. *Current Issues in Tourism*. Published online, 16 February.
- Sheng, M. and Gu, C. (2018), Economic Growth and Development in Macau (1999-2016): The Role of the Booming Gaming Industry. *Cities*, 75, 72-80.
- Siegel, D. and Anders, G. (2001), The Impact of Indian Casinos on State Lotteries: A Case Study of Arizona. *Public Finance Review*, 29 (2), 139-47.
- Simmons, L. (2000), High Stakes Casinos and Controversies. *Journal of Community Practice*, 7 (2), 47-69.
- Song, H., Dwyer, L., Li, G., and Cao, Z. (2012), Tourism economics research: a review and assessment, *Annals of Tourism Research*, 39, 3, 1653-1682.
- Thompson, W.N., Gazel, R. and Rickman, D. (2000), Social Cost of Gambling: A Comparative Study of Nutmeg and Cheese State Gamblers. *UNLV Gaming Research & Review Journal*, 5 (1), 1-15.

Walker, D. M. and Sobel, R.S. (2016), Social and Economic Impacts of Gambling. *Current Addiction Reports*, 3 (3), 293-298.

Walker, D. and Jackson, J.D. (2011), The Effect of Legalized Gambling on State Government Revenue. *Contemporary Economic Policy*, 29, 1, 101-114.

Wardle, H., Keily, R., Astbury, G. and Reith, G. (2014), 'Risky places': Mapping gambling machine density and socio-economic deprivation. *Journal of Gambling Studies*, 30, 201-212.