**Institution: Nottingham Trent University**

**Unit of Assessment:**
**C19 Business and Management Studies**

**Title of case study:**
The Modernisation of Gambling Taxes

**1. Summary of the impact** (indicative maximum 100 words)

Vaughan Williams demonstrated the benefits to consumers, betting operators and government of switching from a tax regime based on turnover to a gross profits tax (GPT). Applied initially by the UK Government to general betting (i.e. through bookmakers) and then to bingo and pools betting, GPT was extended in 2013 to gaming machines through a new machine games duty. HM Revenue and Customs used Vaughan Williams' elasticity estimates in setting the rate of machine games duty and to successfully challenge regulatory discrepancies relating to gaming machines and stake limits. Since 2011 other European countries have followed the UK's lead and switched to gambling taxation based on GPT.

**2. Underpinning research** (indicative maximum 500 words)

The year 2000 saw UK tax receipts and the revenues of high street betting operators under threat from the advent of online and offshore betting. The Government launched a consultation document *Our Stake in the Future,* and sought independent academic research into the options for reform. HM Customs & Excise commissioned Vaughan Williams as Principal Investigator, along with Paton and Siegel of Nottingham University, to undertake a research project entitled, '*An economic analysis of the options for taxing betting*'. The findings demonstrated that a GPT regime (in effect a tax on the stakes placed with bookmakers minus winnings paid out) would result in lower prices for consumers and higher turnover for UK bookmakers, than would the existing tax levied on bettors' stakes. More generally, Vaughan Williams et al. demonstrated that the new tax system was optimal in terms of efficiency, equity and the long-term protection of tax revenues. The Government adopted this approach, introducing GPT for general betting in 2001. Subsequent research for HM Customs & Excise in 2002-3, in a research project entitled '*Evaluation of the gross profits tax on betting*', was designed to test the original 2000 research findings. Research by Vaughan Williams and colleagues showed that the new tax system had been successful in terms of its stated objectives, and that the forecasts of the effect of the new tax regime had been substantiated in terms of increased turnover and lower prices.

In 2004 Vaughan Williams was commissioned to lead further research, this time in a research project entitled, '*Modelling the UK gambling market',* jointly sponsored by HM Customs and Excise and the Department for Culture, Media & Sport. As part of this research Vaughan Williams and Paton derived elasticity estimates for different betting activities, examining the responsiveness of demand in each case to changes in price. The findings highlighted the potential imbalance caused by different taxation regimes.

The UK gambling market was studied in greater depth in two further research projects for what is now HM Revenue & Customs in 2006 and 2009, designed to (a) evaluate the competition between conventional gaming machines and the new fixed odds betting terminals, and (b) provide empirical estimates of the impact of fixed odds betting terminals on other gaming machines in the UK. Using a propensity score-matching approach Vaughan Williams and Paton found no significant evidence that fixed odds betting terminals were displacing conventional gaming machines except in licenced betting offices. Following this the UK Government implemented further reform of gambling taxation when in February 2013 a new tax regime, based on GPT, came into force for gaming machines. This reform of gambling taxation brought this sector in line with the taxation regime for the rest of the gambling sector, thereby unifying UK gambling taxation.

**3. References to the research** (indicative maximum of six references)

1. PATON, D., SIEGEL, D.S. and VAUGHAN WILLIAMS, L., 2002. A policy response to the e-commerce revolution: the case of betting taxation in the UK . *Economic Journal* 112(480), pp. F296-F314. [URL: http://www.jstor.org/stable/798376] (Journal ranked as 4* in 2010 ABS list)

2. PATON, D., SIEGEL, D.S. and VAUGHAN WILLIAMS, L., 2004. Taxation and the demand for

gambling: new evidence from the United Kingdom. *National Tax Journal* 57(4), pp. 847-861. [available on request]

3. PATON, D. and VAUGHAN WILLIAMS, L. 2013. Do New Gambling Products Displace Old? Evidence from a Postcode Analysis. *Regional Studies* 47 (6), pp. 963-973. [listed in REF2] (Journal ranked as 3* in 2010 ABS list)

4. VAUGHAN WILLIAMS, L. and PATON, D. 2013. The Taxation of Gambling Machines: A Theoretical Perspective, in Vaughan Williams, L. and Siegel, D.S. (eds.) *The Oxford Handbook of the Economics of Gambling*, Oxford University Press, New York, NY, pp. 692-700 [available on request]

Further indicators of research quality are:

PATON, D., SIEGEL, D. and VAUGHAN WILLIAMS, L. 2000. *An Economic Analysis of the Options for Taxing Betting: A Report for HM Customs and Excise.* [end of project report (competitive tender) for HM Customs and Excise, value: £20,000; date: May-Sept 2000] [available on request]

PATON, D. and VAUGHAN WILLIAMS, L. 2005. *Modelling the UK Gambling Market. A Report for HM Customs and Excise and the Department for Culture, Media and Sport*. [End of Project Report (competitive tender) for HM Customs and Excise, value: £25,000; date: Jan 2004-Feb 2005] [available on request]

VAUGHAN WILLIAMS, L., PAGE, L., PARKE., J. AND RIGBYE, J. 2008. British Gambling Prevalence Survey 2007: Secondary Analysis. [end of project report (competitive tender and peer reviewed) for Gambling Commission, value £23,000; date: Sept 2007-Aug 2008] [URL:http://www.gamblingcommission.gov.uk/research__consultations/research/bgps/bgps_2007/bgps_2007_related_research/bgps_2ndry_gam_part__prob_gam.aspx]

**4. Details of the impact** (indicative maximum 750 words)

***The internationalisation of Gross Profits Tax (GPT)***

Vaughan Williams' research has strongly influenced the modernisation of gambling taxes in the context of new technologies and new forms of betting, through a move to GPT. The chairman of William Hill commented that GPT was "the single most important and influential development in betting and racing in 30 years. At a stroke it has removed the benefit of betting offshore" (HM Customs & Excise, 2003). Bettors benefited as bookmakers offered tax-free betting and lower prices. Bookmakers' revenue rose from £7billion in 1999-2000 to £32billion in 2003-04 and several repatriated operations to the UK, creating 2,000 extra jobs (National Audit Office, 2005). The UK Government benefited as tax revenues from general betting rose by a third to £400million.

The benefits of a GPT regime were increasingly recognised by the international gambling industry who welcomed the provision of a level playing field and greater certainty, factors that provided operators with more security leading to the introduction of new products and greater choice for consumers. Consequently the major gambling operators and trade associations lobbied for the introduction of GPT as a way of enabling countries to retain customer spend on gambling within their jurisdictions. This led to both Spain and Greece, two Eurozone countries faced with serious public finance issues, introducing GPT in 2011. For Greece this was particularly important since it is the sixth largest gambling market in the EU. Denmark and Italy followed suit in 2012 and 2013.

***Tax harmonisation and the introduction of Machine Games Duty***

The success of the switch to GPT led the UK Government to extend it to bingo, pools betting and betting exchanges. However gaming machines remained outside the new gambling tax regime. This reflected changes taking place in the machine gambling market, in particular the introduction in 2001 of fixed odds betting terminals into high street betting offices, and a rapid rise in their popularity. Given their higher stakes and pay-outs than conventional gaming machines, this raised the prospect of conventional gaming machines (which operated on higher margins) being displaced. At this time operators of gaming machines were subject to amusement machine licence duty, linked to turnover and VAT. Following research by Vaughan Williams and Paton in 2006 and 2008/2009, in 2009 the Chancellor announced plans to extend GPT to all gambling machines. In the Finance Act (2012),

amusement machine licence duty and VAT were replaced with a new gross profits tax called machine games duty, which came into force in February 2013.

***Setting the level of Machine Games Duty***

In calculating the impact on government revenues of the new machine games duty, HM Revenue and Customs constructed an economic model which compared the differences between anticipated government income before and after the tax change (corroborating source 5). In setting the level of machine games duty, HM Revenue and Customs used a price elasticity of demand of 0.5, citing the earlier research of Vaughan Williams and Paton (2005) as the basis for this (corroborating source 4, p.5).

***Stake limits on Machine Games***

As well as influencing the taxation regime (via machine games duty), a secondary legislative impact of Vaughan Williams' research also relates to the stake limits on machine games. One possible justification for discriminating against certain types of machine gambling is that they may place vulnerable consumers at risk of becoming 'problem' gamblers. This was rejected by Government when they decided to raise stake limits on these machines and to increase the permissible number of machines in adult gaming centres and bingo clubs. The Minister for Tourism and Heritage cited the work of Vaughan Williams et al. (2008) in justifying the decision to raise the stake limits on B3 gaming machines (corroborating source 6, p.78). This regulatory change was introduced on the 30th June 2011, as secondary legislation.

Overall, Vaughan Williams' research has consistently called for a move towards gambling tax regimes based on ad valorem taxes, e.g. GPT. First introduced for general betting in the UK, machine gambling was, until recently, an exception in this regard, in that it was subject to a turnover-based tax. The introduction of machine games duty not only brought this sector into line with the rest of the gambling sector, it also marked the completion of the UK Government's switch to a tax regime based on Vaughan Williams' research. By this time the benefits of GPT, in terms of achieving the twin objectives of efficiency and revenue sustainability in a manner which is proof against technological and economic changes over time, were sufficiently evident for other European countries to follow suit, spurred on by the financial problems in the Eurozone.

5. **Sources to corroborate the impact** (indicative maximum of 10 references)


1. HM Customs & Excise (2003) *The Modernisation of Gambling Taxes: A Report on the Evaluation of the Gross Profits Tax on Betting*, The Stationary Office, London.
   [ Available on request]
   [- Corroborates statement from chairman of William Hill about the impact of GPT].

2. Hansard, House of Commons Standing Committee on the Finance Bill 2003 (part 6), 15th May 2003.
   [URL:http://www.publications.parliament.uk/pa/cm200203/cmstand/b/st030515/am/30515s06.htm]
   [ - Corroboration by the Economic Secretary to the Treasury, John Healey, MP of the benefits of the move to GPT].

3. HM Revenue and Customs (2012) *Machine Games Duty,* Stationary Office, London.
   [URL: http://www.hmrc.gov.uk/tiin/tiin738.pdf]
   [ - Provides details of Finance Bill replacing amusement machine licence duty with machine games duty and examines impact of tax change].

4. HM Revenue and Customs, Knowledge Analysis and Intelligence (2012) *Setting The Rates Of Machine Games Duty: Technical Background,* Stationary Office, London.
   [URL: http://www.hm-treasury.gov.uk/d/consult_machine_games_duty_technical_background.pdf]
   [ - Acknowledges that Vaughan Williams' elasticity estimates were used in analysing behavioural effect of tax reform].

5. Head of Excise & Financial Transactions Policy Analysis, HM Revenue & Customs.
[ - To corroborate that elasticity estimates produced by Vaughan Williams' research were used to model the impact of GPT].

6. Department for Culture, Media and Sport (2011)
Impact Assessment under the Gambling Act 2005,(Ia No: Dcms007), Final.
Gambling Act 2005: Category B3 Gaming Machines.
[URL: http://www.culture.gov.uk/images/publications/Cat_B3_Impact_Assessment.pdf]
[ - Cites the results of Vaughan Williams' secondary analysis were used to justify the decision to raise the limits on B3 gambling machines].

7. National Audit Office (2005) HM Customs & Excise: Gambling Duties, HC 188 Session 2004-05, The Stationary Office, London.
[URL: http://www.nao.org.uk/wp-content/uploads/2005/01/0405188.pdf]
[ - Provides evidence of changes to bookmakers' UK operations post tax reform].