Analysis of the Responsible Gambling Trust Machines Research Programme.

A report prepared for the Campaign for Fairer Gambling.

Key Recommendations & Executive Summary

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Declaration of interests

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List of acronyms

ABB	Association of British Bookmakers
BGPS	British Gambling Prevalence Survey
DCMS	Department of Media, Culture and Sport
EGM	Electronic gambling machine
ELM	Elaboration Likelihood Model
ESRC	Economic and Social Research Council (UK)
FLAGS	Focal Adult Gambling Screen
FOBT	Fixed odds betting machine
GOR	Government offices for the regions
GREaT	Gambling, Research, Education and Treatment
IND	Index of Multiple Deprivation
LBO	Licensed bookmaker's office
LCS	Loyalty card survey
PGSI	Problem Gambling Severity Index
PMT	Protection Motivation Theory
RGF	Responsible Gambling Fund
RGSB	Responsible Gambling Strategy Board
RGT	Responsible Gambling Trust
RTP	Return to player
SES	Socio-economic status
VLT	Video lottery terminal

Key Recommendations

The Responsible Gambling Trust (RGT) released seven research papers on December 1 2014 in London, as part of its Machines Research Programme.

These seven research papers are based on research that has been called for over a number of years, as concerns have escalated about the community impact of fixed odds betting terminals (FOBTs) in bookmakers' shops (LBOs) in Britain[1].

This evaluation highlights serious flaws in both the approach and the methodology of research that was supposed to form the basis of new public policy on FOBTs. Disappointingly, the RGT research was a search for individually pitched interventions, rather than much-needed policy change. As argued below, the focus on blaming individuals who play these machines, emphasises so-called harm minimisation measures (like better consumer information on the odds of winning and return to player), which are ineffective in preventing harm. Such measures deflect attention from population level protective measures, like reducing bet limits, aimed at protecting all players from these high intensity machines.

It is concerning that FOBTs in bookmakers shops have proliferated in high street locations, especially in vulnerable communities high on the Index of Multiple Deprivation. Readily accessible high intensity machines encourage money laundering and local authorities have also drawn attention to high crime rates around betting shops.

The RGT has set prescriptive limits on this programme of research, designed to limit the research and predetermine outcomes. Hand-picking researchers rather than putting the research out to international tender under merit-based processes, has compromised the outcomes, by ignoring international research. After two years and over £ 800,000 the RGT-funded researchers say it is all too complex and needs more research.

Despite attempts by RGT to control the research by prescribing a focus on individual measures and saying that only policy options which do not impinge on recreational players, will be considered, the research despite its limitations, does point to the need to urgently implement policy changes.

Importantly, even this heavily managed and prescriptive research, where for the first time British bookmakers' loyalty data was subjected to open research scrutiny and paired with individual player surveys, found the following:

- an astonishingly high rate of problem gambling (47%) among the loyalty card members in data provided by the five main bookmakers;
- a clustering of bookmakers' shops in areas high on the Index of Multiple Deprivation, where households can least afford to lose large amounts of money – where there is high unemployment, high ethnicity and welfare payments; Relevant to the third licensing objective of the 2005 Gambling Act, the geospatial data in the research points to the

[1] In bookmakers, FOBTs offer a range of differently regulated games, which provide various games to gamblers with different maximum stakes and prizes. Players are able to switch between different types of game during a session of play and also increase or decrease their stake size, depending on the maximum limits of the game. These games are:

- B2 games which allow a maximum stake size of £100 and a maximum prize of £500;
- B3 games which allow a maximum stake of £2 and a maximum prize of £500;
- B4 games which allow a maximum stake of £2 and a maximum prize of £400; and
- C games, which allow a maximum stake of £1 and a maximum prize of £100 (Report 4, p. 9).

vulnerability of particular groups to gambling harms, especially non-white, males, living in disadvantaged communities;
- the predilection of loyalty card players for playing B2 casino games on FOBTs requiring no skill and significant evidence of large amounts of money being lost by a sizeable number of regular players;
- patterns of sessional play that should be investigated for money laundering, subjected to more effective regulatory monitoring and enforcement and linked to individual players via loyalty card surveillance; and
- research which is promoted as open-minded and independent, but focused only on the individual, rather than the impact of FOBT stakes and prizes on player behaviour and preventable harms.

KEY POLICY IMPLICATIONS OF THE RESEARCH PROGRAMME

Rather than the current critique being used to justify more research and delays, we recommend that the evidence as it currently stands, points to policy changes that can address the concerns outlined in our evaluation. These policy reforms include:

- There needs to be a change away from individual choice models and discourses that privilege impact on supposedly "non-problem gamblers" as a justification for non-action. What the research points to is the need for a commitment to a public health harm prevention policy, recognising that the social determinants of health reside in factors and influences beyond individual responsibilities. This re-balances gambling policy with attention to principles of:
    - Shared responsibility for generating awareness of the risks associated with gambling,
    - Creating and promoting environments that prevent or minimise problem gambling, and
    - Being responsive to community concerns around gambling (Victorian Gambling Foundation, 2014).

- There needs to be recognition that gambling is a supply-led industry (and not demand-led). This bears upon the need to give local authorities reinstated powers to address clustering of LBOs and counters the industry argument that the bookmaking industry merely responds to demand for example, in areas high on deprivation where there are clusters of betting shops. Evidence in yet-to-be-released Report 8[2], verbally presented at the RGT December 10 forum, on the geospatial distribution of FOBT machine net expenditure (player losses) shows a clustering that reflects impact in response to access, exposure and supply of a harmful product; not a naturally occurring "market".

- The results point to the need for implementation of lowered bet limits to protect players from machines that are calibrated too high for locally accessible venues on high streets The pairing of bookmaker loyalty data with individual gamblers' survey responses (Reports 1-4) gives sufficient evidence to substantiate community concerns about high rates of problem and moderate risk gamblers (a very high 47%) among bookmaker loyalty card holders who are likely to be regular gamblers (54% play weekly). The exposure to risk is well substantiated when this is added to the fact that at some time during a session, about 80% play FOBT machines in B2 mode (with

[2] Geofutures 2015, contextualising machine gambling characteristics by location – final report (February 2015 release subsequent to this review).

higher stakes of £100 per button press) and unsurprisingly, spend more money per session[3]. On average, problem gamblers bet at higher stakes and deposit more money per session. Add to this the finding that even these committed loyalty card players see machines as harmful (69% of those responding disagreed that 'machine gaming is a harmless form of entertainment' and 41% agreed machine gambling should be discouraged).

- This indicates that reforms like a reduction in stake and even player tracking and a Norwegian-style limit on weekly spending could gain wide traction in terms of effective harm prevention. The evidence strongly points to the influence of structural characteristics of the machines themselves rather than lack of information about odds or misunderstanding of return to player (RTP) messages. As the Australian Productivity Commission observed, reforms not addressing structural characteristics of machines are unlikely to impact on problem gambling. In relation to what gamblers think, harm prevention measures like seatbelts and air bags in motor vehicles have not required drivers' agreement but have been introduced on population health and wellbeing grounds and to save the public purse on the cost of accidents. The community cost of gambling is frequently hidden but has now gained traction in the local authority campaign to control exposure via better LBO licensing controls. Earlier we make the point:

  If a regulatory system has prevention via risk identification as a primary or threshold principle, then some false positives are not necessarily a negative result. Indeed, they could be used to give players precautionary public health messages for future safer playing. Player card-triggered interventions need not be framed therefore as a "terrible thing" and false positives need not be seen as a trade-off that would alter the priority on risk prevention.

  The research also bears upon what the Gambling Commission could require bookmakers to ask when patrons join the loyalty program. The research has exposed some deficiencies in the type of information requested of those joining up to betting operator's loyalty card programs. For example, operators do not routinely collect participants' occupation and many do not collect basic demographic information about age and sex, income or place of residence. This means there is considerable merit in considering an improved uniform data collection.

- The ABB code needs to be independently reviewed in light of the findings (Report 3) that the limits set in the ABB code of £250 are rarely reached (only 1.3% of problem gamblers would receive the pop-up message recommended in the code) and even a limit of £100 would identify only 10.7% of problem gamblers (at 8+ on the PGSI). The time limit of 30 minutes was not effective in achieving the aim of notifying players showing problem gambling play. Voluntary codes of conduct are ineffective means of protecting players from harm. Addressing structural characteristics of FOBTs would be preferable and could be combined with limit setting. A lowering of the bet limit to £1 or £2 has sound substantiation in Australian Productivity Commission (2010) research, where a key recommendation was a $1 bet limit to reduce the intensity and to render the machines recreational.

- Community-level reports confirm that FOBT machines are used for **money laundering**. This points to the need for more proactive regulation of bookmakers

[3] Mean stake for B2 was much higher - £14 and mainly on roulette compared with the mean stake of £.87 pence for B3 sessions. (Report 4, p.. 60).

shops by the Gambling Commission to prevent money laundering. Effective new measures would include: re-regulation in the form of: a reduction of stake level on these high street FOBT machines, which would also diminish their suitability for money laundering; implementation of automated software, which can detect patterns of play indicative of money laundering which should be subject to routine monitoring by the Gambling Commission (to replace current in-house manual identification of risky cash-to-stake ratios that rely on the discretion of LBO managers).

- Money laundering could also be prevented with a simple adjustment to information printed on computerised receipts issued for play on FOBT machines. As it currently stands, money launders deposit sums of cash into FOBTs via note acceptors on the machines. They play for a while and then receive a cash out voucher that does not differentiate between funds deposited and won. It would be simple to differentiate pay-ins from winnings on FOBT receipts. Most importantly, cash-out receipts need to specify (i) the person's name, (ii) the cash invested, (iii) time played, (iv) churn and (v) pay-out. This latter measure could be implemented quickly and would curb the attractiveness of FOBTs to money launderers. Mandatory card-based play would serve to make FOBTs less appealing to drug dealers and others as their behavior could be individually tracked.

- At a general level, the opportunity to analyse a whole program of research (The RGT Machines Research Programme) illustrates the captured and compromised governance structure of gambling research and regulation in Britain and the need for a new blueprint for resourcing (including re-consideration of a compulsory levy) and re-structuring the research commissioning process to ensure independence of research from capture by industry. It is unfortunate the Regulator argued at the launch of these reports that this is about individuals and not products, when elsewhere the Commission reportedly espouses a more balanced view that: 'a mix of macro (e.g. stakes and prizes) and micro (e.g., the individual) regulatory approaches may be effective' (cited in Report 2, p. 11). More balanced regulation.

Executive summary

The RGT Machines Research Programme under review here, is a response to concerns voiced for some years by local government, local communities, faith groups, some segments of the gambling industry and the Regulator (Gambling Commission) about the local community impact of FOBTs with high denomination stakes, and the clustering of betting shops in high streets and in areas that are high on the Index of Multiple Deprivation.

Key concerns about FOBTs in betting shops in Britain include:

- Local authorities' incapacity to oppose applications for betting shops (each betting shop license comes with a right of up to four FOBT machines), especially when some local authorities already have nine or more FOBTs on a particular high street;

- The machines themselves are regarded by many as unsafe in terms of recreational entertainment, as they allow each stake (press of the button) of up to £100, with a capacity for players to lose up to £18,000 an hour;

- Games like roulette on FOBTs require no skill and attract people who are vulnerable to being drawn in by the machines to spend more money and time than they can afford; with ripples of negative impact on individuals, families, communities and local economies. (How this works in terms of the social determinants of health/ill health is elaborated in the policy implications provided below.)

- Gambling addictions impact at both individual and community levels: including divorce, family breakdown, depression, anxiety, bankruptcy, suicide and domestic violence. These impacts are well documented in the international literature cited in this evaluation.

- FOBT gambling transfers money out of communities and into bookmaking corporation profits that leave communities.

- Some particularly disadvantaged communities such as in London (like Hackney, Hillington, Newham, Islington and Haringay) have very high ratios of machines to population. The London Borough of Newham led a coalition of 93 boroughs that are calling for the maximum stake on FOBTs to be reduced to £2 a spin.

- Local residents are critical of crime and drug dealing at betting shops, including the use of FOBTs for money laundering and the plethora of pay-day lenders they view as now dominating their high streets. High denomination stakes and the anonymity of playing, mean high stake FOBTs are particularly attractive to money launderers.

From a regulatory point of view, FOBTs with roulette were introduced into betting shops "under the radar" of regulation in 2002. At first, these machines evaded regulation, as FOBTs did not accord to the legal definition of gambling machines. They are networked to centralised computers and hence differ in that respect from other B1, B3 and C machines. Rather than withdrawing them, FOBTs were incorporated into the British regulatory system as B2 machines, which can now also include games regulated under the B3 classification. Yet, the maximum stake of £100 is substantially higher than machines in other high street venues such as adult gambling centres.

FOBTs now contribute about half the revenue of bookmakers, as more traditional wagering and betting have declined. (Similar declines in traditional wagering are evident internationally in

Canada, Australian and New Zealand.) FOBTs need virtually no staff and no extra technology, so they are both profitable and cheap to run and have filled a lucrative gap in declining bookmakers' profits.

For a long time, the pleas of critics of FOBTs went unheard and calls for research into their impacts were ignored. A positive outcome has been a commitment from the Responsible Gambling Trust (RGT) of a substantial research budget of around £800,000+ for the current Machines Research Programme, with potential for British-focused impact research.

Unfortunately, the potential for cutting edge research, with public policy impact, under this Machines Research Programme has been compromised.

- The governance of research in Britain reflects a muddied governance structure influenced by the gambling industry and hence, lacks independence. Since April 1 2012, the RGT (a body identified with industry interests) collects funds from the industry and decides how they will be spent.

- The RGT Machines Research Programme is framed prescriptively, in terms of 'what might limit harmful play without impacting on those who do not exhibit harmful behaviours'. It frames FOBT play as a recreational pursuit that only harms a small minority. This encourages a cost-benefit approach, which delivers compromised policy outcomes. These policy outcomes privilege individual-focused policies and exclude consideration of population level preventative measures that are needed to prevent risk and harm for those not already harmed (for example, those 'who do not [already] exhibit harmful behaviours'). This approach is best aligned with "business as usual".

- **The Responsible Gambling Strategy Board (RGSB) definition of "problem gambling" used in the RGT research programme, is focused on the individual. This prevents examination of the product (FOBTs), environments of consumption (Licensed betting shops) and host responsibilities of the gambling industry.** By aligning itself with the Reno or "individual choice" Model (Blaszczynski, Ladouceur and Shaffer, 2004), the Machines Oversight Panel, adopts the individual choice model, where individuals rather than corporations take responsibility for harms. This crowds out the alternative model based on industry responsibility for harms. Internationally, public health advocates argue that the focus on individual responsibility for harms from alcohol and gambling (the individual choice model adopted by the RGT Machines Research Programme) leaves out the dangers inherent in the products (in this case FOBTs), environments of consumption (pubs, bingo halls, casinos and betting shops) and a normalising regulatory approach, which allows saturation distribution of products and industry advertising (Livingstone et al., 2008; Livingstone and Woolley, 2007; Schull, 2012).

In contrast to individual-centric RGT definitions, a more encompassing two-part definition of responsible gambling, embracing both the individual gambler and the wider community is preferable (Victorian Gambling Foundation, 2014). In this case:

Responsible gambling for individuals means:

- they may gamble for pleasure and entertainment but are aware of their likelihood of losing and understand the associated risks,
- they exercise control over their gambling activity, and
- responsible gambling occurs in balance with other activities in their lives and is not causing problems or harm for themselves or others.

Responsible gambling for the broader community which includes gambling providers, governments, and sporting associations, it means:

- shared responsibility for generating awareness of the risks associated with gambling,
- creating and promoting environments that prevent or minimise problem gambling, and
- being responsive to community concerns around gambling (Victorian Gambling Foundation, 2014 n.p.).

This broader definition demonstrates that internationally, the ground has shifted away from an onus on individuals avoiding harm in relation to gambling exposure, participation and harms, towards acknowledging operators are responsible under their license to operate, to protect consumers and the community from harms that may eventuate from their products and businesses.

It is significant that there was no public commissioning of the research for this programme of research and trusted or insider researchers have been appointed by the RGT to undertake the research. Featurespace, publicly criticised for its links to the industry, features prominently in the research.

It is therefore not surprising that these researchers recommend self-monitored industry codes (the ABB Code of Conduct) which are preferred by the industry in its efforts to avoid more binding regulation. There is clearly a problem when a research firm simultaneously conducts paid research for the industry and claims to conduct the research "independently". Moreover, Independence of the research is open to question when the same RGT employees involved in shaping the Machines Research Programme, also author reports in that programme.

One should also question whether national RGSB members should engage in RGT funded or auspiced research, when they concurrently provide independent advice for setting national gambling policy strategy. Such advice is used for example, by the Gambling Commission to brief the Secretary of State on strategy[4].

A short summary of the key points raised in each of the seven published research reports is provided below.

Report 1: Theoretical markers of harm for machine play in a bookmaker's. A rapid scoping review.
Authors: Heather Wardle, Jonathan Parke and David Excell
NatCen (RGT and Featurespace)

Report 1 identifies 19 potential "markers of harm" that are derived from an inductive process conducted from within the research team. These are reviewed and modified by input from some selected researchers and stakeholders. The identified markers were then assessed against the Bradford Hill criteria. This was followed by a process of seeking to identify the "markers of harm" in industry player loyalty card tracking data (used later in Report 3).

The main glaring omission in Report 1 is the lack of an international literature review of relevant venue observation research, markers of harm and loyalty data analysis research

[4] For example, the Gambling Commission's (2013) June 20 Letter from Philip Graf to Rt Hon Maria Miller MP, Secretary of State, DCMS.

(principally from Saskatchewan, Nova Scotia and Australia[5]). The inductive process appears to have drawn only from the research team, which does not have a background in player tracking research and overlooks over a decade of relevant international research. What the authors of Report 1 term 'contextual metrics,' including patron-staff interactions or patron complaints, aggression or irrational behaviour, are also well examined in the literature.[6] Also of relevance and similarly overlooked, are technology products such as iGap, iCare and MyPlay, which use gambling machine loyalty data combined with other operator data to monitor and risk profile customers (Schellinck et al., 2011, 2011a).

The use of the Bradford-Hill criteria as a guiding framework for assessing the causal significance of the 19 identifiers is problematic. These criteria were developed in 1965 to assess strength of causality in the field of epidemiology (in applied contexts where dose response relationships may have an impact on for example, epilepsy disease reduction). However, the list of 19 criteria were not primarily sourced from epidemiological studies and it is unclear as to why a tool for assessing the strength of causal relationships in medical science related to medical interventions, is set as the standard by which the 19 markers of gambling harms are assessed. With so much robust evidence internationally, the break with scientific protocol that emphasises the review of relevant literature, is unexplained. It would seem more robust to derive a list from an analysis of international evidence on gambling venue observation and loyalty data analysis research.

Not to conduct a rigorous review of this literature has meant that well-established links are overlooked and the report risks "re-inventing the wheel" and being side-tracked away from a testing of well-identified markers.

As the report does not consider current good-practice models for the use of loyalty data, based on international research for the risk profiling of harmful patterns of gambling, its conclusions and findings are limited. The result is a report that draws the self-serving conclusion that there are 'significant gaps in knowledge' and that 'more work is needed to clarify what is meant by behaviours and what thresholds are most likely to capture those who are experiencing harm whilst excluding those who are not' (Report 1, p. 2).

In terms of policy implications, it is no surprise that the evidence base is poor for within-session markers, since the research points to conclusions found elsewhere, that combined session patterns are more important. This points to policy options which track play across sessions, rather than expecting accurate identification of markers of harm within a single session. Given the lack of support for within-session markers, this points to the efficacy of player tracking as a basis of identification of harmful patterns of gambling, rather than single session interventions such as pop up messages based on time spent gambling or the emphasis on information for players about how machines work. If harmful patterns of play can be tracked and identified, then it would seem the next step is to require such tracking as a basis for harm-prevention interventions, as part of operator duty of care.

Report 2: Identifying problem gambling – findings from a survey of loyalty card customers.
Authors: Heather Wardle, David Excell, Eleanor Ireland, Nevena Ilic and Stephen Sharman
NatCen (Featurespace)

[5] See research by Delfabbro, 2009; Delfabbro et al., 2007; Livingstone et al., 2008; Productivity Commission, 2010; Quilty et al., 2014; Schellinck and Schrans, 2004, 2011; Thomas et al., 2014.
[6] See research by Delfabbro et. al., 2007, 2006; Schellinck and Schrans, 2004, 2011.

This study links data from a survey of loyalty card members with data in their loyalty card records. This is an important study and has potential to drill into a group that has been difficult to locate and research. The principal aim is to investigate whether industry data generated by machines in bookmakers shops could be used to distinguish between harmful and non-harmful patterns of play.

The research analysed the paired loyalty and survey data of 4,001 loyalty cardholders (out of 27,565 loyalty cardholders who had gambled on machines in bookmakers' shops gained from data provided by the industry – a response rate of 17%).

Surveys were conducted on two groups of people (machine players and non-machine players) with a loyalty card for Ladbrokes, William Hill or Paddy Power. The survey included questions about gambling behaviour and questions which measured whether someone was a problem gambler or not (using the Problem Gambling Severity Index - PGSI).

Key findings include that:

- *Compared with machines players identified in the British Gambling Prevalence Survey (BGPS) 2010, loyalty card holders were more likely to gamble at least once a week and to take part in more forms of gambling. They were also more likely to be of non-White ethnic origin and live in deprived areas' (p. 7);*

- *36% of Loyalty Card Survey (LCS) participants lived in areas of greatest deprivation in England compared with 22% of BGPS machine players and the profile of LCS participants included a greater number from minority ethnic groups (18% vs. 9%) and contained a lower number of people in full time education (3% vs. 18%) (p. 19);*

- *Significantly, 23% of LCS participants were problem gamblers, 24% were moderate risk gamblers [a total of 47% problem or moderate risk, which is very high] and 24% were low risk gamblers. Overall, problem gambling and at-risk gambling rates were highest among those with lower incomes. (This is significantly higher than the rate of problem gambling in the BGPS (under one per cent were problem gamblers) (p. 8);*

- *On average, stake per bet is higher for problem gamblers who 'also deposited significantly higher amounts of cash into machines in their gambling sessions than non-problem gamblers - £41 on average vs. £23' (p. 92);*

- *Younger players were less likely to use their loyalty cards (29% compared to 42% of older players (p. 26));*

- ***As observed with PGSI status, the average number of sessions per day, stake size, number of gambling activities undertaken, total money deposited into a machine per session and gambling frequency were all significantly higher among those who had more frequent problems with their machine use (p. 94);*** *and*

- *On average, compared to non-problem gamblers, problem gamblers: bet at higher stakes (£7.43 per bet versus £4.27); deposit more cash into the machine when gambling (£41.28 per session versus £22.77); gamble more often (41% gambled every day versus 16%); had fewer days in between visits to a bookmaker's to play machines; and had a higher number of discrete gambling sessions per day (2.2 versus 1.8) (p. 9).*

Curiously, even the players are fairly negative about gambling and more than half disagreed with the statement 'machine gaming is a harmless form of entertainment'. This rises to 69% when non-responses are omitted. (Also of interest, respondents were asked about *gaming*, not *gambling* in this question.) On the question of 'whether it should be discouraged,' 41% agreed and 37% disagreed, again an interesting response from those committed enough to be loyalty card holders.

In terms of critique:
The research methodology is neither new nor unique as claimed and some of the reporting is confused. Analysis using the 'classes of gambling' based on number of gambling activities is misleading and a distraction. Using the number of gambling activities as the basis for determining the four classes has no apparent grounding in terms of being generated from gambling theory or past research. Groups based on frequency, intensity and spend of FOBT gambling would have been more useful.

The use of the 4 'classes' adds nothing to the analysis apart from noise. Other shortcomings of the research are the bias and ambiguity in the interpretation of results and language used and bivariate rather than multivariate analysis. More sophisticated analysis is called for, such as testing algorithms based on newly constructed composite variables derived from loyalty data.

Analysis is focused on differentiating problem from non-problem gamblers and thus on individual rather than product or venue characteristics. The difficulty of clearly distinguishing 'between the behaviours of non-problem and problem gamblers; when it comes to their machine behaviour' is used to caution against interventions that may impinge on non-problem gamblers.

Two major shortfalls in this Report 2 research include:

- the focus on machine gambling in general and the failure to run specific analysis on the sub-group who gamble on machines in bookmakers' shops (FOBTs). There is a substantial available sub-sample, given that 3 out of 4 (74%) of respondents had gambled on FOBTs in the past 4 weeks; and

- the lost opportunity to use bookmakers' loyalty data to examine patterns of gambling linked to survey analysis that goes further than measures of problem gambling using PGSI (a screen that is focused on problem gambling rather than risk). The authors admit that limited time changed the aims of the contracted work and precluded development of new survey questions aimed at measuring gambling-related harm.

Nonetheless, Report 2 does demonstrate that the patterns of machine gambling are significantly more intensive than reported in the British Gambling Prevalence Survey (BGPS). This is perhaps not surprising given the sample was derived from betting operator loyalty programmes. Yet no significance testing is reported and there is no discussion of what such intense patterns of FOBT gambling participation mean for players in terms of exposure to, and likely experience of harms.

This was a lost opportunity to use the loyalty card data in a more theoretical manner informed by previous research.

The authors assume that the key aim is to identify 'regulation that is tailored to individual gamblers' (p. 11), but the key, unrealised potential is to see what loyalty data can tell us about peoples' patterns of play on FOBTs and whether this represents or illustrates harmful patterns of behaviour.

Implications for policy

While the research is promoted as open-minded and independent, it still only focuses on one element – the individual - rather than also focusing on stakes and prizes. The authors do cite the Gambling Commission opinion that: 'a mix of macro (e.g. stakes and prizes) and micro (e.g., the individual) regulatory approaches may be effective' (p. 11). Yet key metrics in this research include: frequency and duration of play, net expenditure, levels of play engagements, number of activities/games types undertaken, and chasing. The omission of stake size from the predictive model analysis is a glaring error that precludes FOBT-related analysis of policy relevance.

In terms of agenda-setting, there is again a search for individually pitched interventions that for example, seek to differentiate problem from non-problem gamblers with the caveat that measures are to be assessed against the extent to which they impinge on supposedly non-problem gamblers. The authors state:

> *A further concern is to ensure that any individual-led policies intervene with those experiencing problems, whilst allowing those who are not experiencing problems to gamble without onerous intervention* (p. 11).

This mitigates against population level protective measures aimed at protecting all players and does not address preventive measures. Instead, the focus of the research is on individual players and individual-level policy interventions, for example, to see if it is possible to distinguish between harmful and non-harmful players based on their patterns of gambling (p. 12). A telling gap is the lack of focus on the machines (eg stake size) and the practical limitations of small bookmaking shops undertaking staff-led interventions, the higher densities od LBOs in disadvantaged areas and examination of reported and documented problems such as crime.

The main point is that if a regulatory system has prevention via risk identification as a primary or threshold principle, then some false positives are not necessarily a negative result. Indeed, they could be used to give players precautionary messages for future safer playing. Player card-triggered interventions need not be framed therefore as a "terrible thing". False positives need not be seen as a trade-off that would alter the priority on risk and prevention.

Despite the fact that FOBTs can be played at varying intensities (B2 or B3 stakes and prizes), it is acknowledged that 'the B2 casino-style content is the most popular' (p. 12). B2 are high stake games with a £100 maximum stake and maximum £500 prize. Significantly, the high level of problem gambling among bookmaker loyalty customers (47% including moderate risk), and the finding that 54% played FOBTs weekly, clearly signal very high levels of problem gambling, which should be sounding alarm bells. These findings give substance to local authority and community claims of harm from FOBTs and point to the need for regulatory action. Ironically the attitudes questions reveal that over half (54%) of those playing the machines recognise they are a harmful form of entertainment and 41% agree they should be discouraged.

Further, the research exposes deficiencies in the type of information requested of those joining betting operators' loyalty card programs. For example, operators do not routinely collect participants' occupation and many do not collect basic demographic information about age and sex, income or place of residence. This means there is considerable merit in considering an improved uniform data collection that links in with more robust regulation.

Report 2 is also highlights the advantages of using industry loyalty data as both a host responsibility and a regulatory tool. This is highly significant for FOBTs as they are the only form of machine play in Britain that is fully networked to central systems rather than autonomous chip-driven machines (although these too may also be networked) such as slots in bingo halls and pubs.

Analysis of loyalty card data has clearly established that it would be relatively easy, using

card-based loyalty data, for operators to distinguish some markers for identifying potential problem play which could for example, trigger an interview regarding potential problems (as occurs in the Holland Casinos). Alternatively, such data can be used to inform machine-generated cut offs from play following recognition of various combinations of harmful play behavior, or a Norwegian-style system of card-based gambling across all forms.

Research findings from this preliminary study point to gamblers in betting shops as vulnerable consumers. This is highly relevant to the enforcement of the third licensing objective of the 2005 Gambling Act , which aims to protect the vulnerable. As Report 2 states:

> *LCS customers who have low incomes, live in deprived areas or are economically inactive gamble on machines in bookmakers more frequently and are more likely to experience gambling problems* (p. 106).

The researchers ask the wrong questions when they query whether for example, the ABB code imposes an effective break in play after 30 minutes and with bets over £250, when the data points to the need for lower limits and different time frames.

Report 3: Using industry data to identify gambling related harm.
Authors: David Excell, Georgiy Bobashev, Heather Wardle, Daniel Gonzalez-Ordonez, Tom Whitehead, Robert J. Morris, Paul Ruddle
Featurespace (NatCen)

This research report extends the analysis of data outlined in Report 2 with particular emphasis on using the survey of the 4001 betting shop loyalty card members who agreed to data linking with their loyalty card data. This report aims to identify harmful patterns of behaviour related to gambling machine patterns of use, with policy approached conditionally, emphasising measures that will not impact on recreational gamblers. The authors ask:

- *Is it possible to distinguish between harmful and non-harmful gaming machine play?*
- *If so, what measures might limit harmful play without impacting those who do not exhibit harmful behaviours?*

Report 3 uses the same 19 indicators developed in Report 1 and has the same individual (problem versus non-problem gamblers) focus as in Report 2. Key metrics in this research include: frequency and duration of play, net expenditure, levels of play engagements, number of activities/games types undertaken, and chasing. – but not stake size

This linked data was analysed by Featurespace and RTI International to see if it was possible to predict being a problem gambler by looking at industry data alone and the combined data. They used the data for predictive modelling, which was then used to examine how different trade-offs might impact in an operational environment. A standard data-splitting method was used to test the predictive validity of proposed models. They also note that some players may have more than one account; and so data underestimates their gambling and some have gambled at times and not recorded it on their account.

One presumes money launderers may not use loyalty cards, but this was not investigated.

The key focus of analysis was on correctly predicting problem gamblers (defined as those with PGSI scores of 8+). This unfortunately meant that scores of 1-7 were included with those scoring

zero as non-problem gamblers. The findings are of quite poor predictability when the model was tested against identified factors in the player data. This could easily be influenced by the poor differentiation between problem/non-problem players on PGSI scores. The concentration of analysis on those scoring 8 or more on the PGSI meant that harm below this threshold was not seen as relevant. This indicates naivety regarding the fact that the PGSI measures gradations of harm (pointing to the need to include those scoring 1-7 or provide better justification as to why they should not be included.) This all shows a muddled approach to the measurement of harm and problem gambling that confuses the findings.

In terms of the level of analysis, the approach taken in this study is quite preliminary in comparison to Canadian and other international research using loyalty data, and tends to make inflated claims to complexity and originality. A key issue is that this analysis has started as if there is no prior research in this field and has hence taken a rather pedestrian approach to research and analysis.

In terms of policy, the research found that the limits set in the ABB code of £250 are rarely reached (only 1.3% of problem gamblers would receive the pop-up message). But a limit of £100 would identify 10.7% of problem gamblers (at 8+ on the PGSI). The time limit of 30 minutes was not effective in achieving the aim of notifying players showing problem gambling play; so one would expect some revision of the ABB code on the basis of these findings.

Similar to other research in this programme, the general focus on machines gambling and broader forms of gambling and the lack of differentiation according to venue (pub, casino, bingo hall or betting shop) detract from the findings in relation to policy issues concerning FOBTs. From this rather fraught research, the authors shy away from a methodology that can pinpoint FOBT play and conclude they cannot '*state categorically whether only gaming machine play predominantly contributes to problem gambling status, or whether this is accounted for by participation in multiple forms of gambling'* (p. 5).

The research ignores the body of work and existing practice in the use of loyalty data for the risk profiling of harmful patterns of gambling and calls, rather self-servingly, for more research.

The lead researcher on this report, Featurespace, has a considerable vested interest in furthering its work for bookmakers in their development of a harm minimisation algorithm, which is contingent to maintaining the maximum stake at £100 a spin. But in an environment where self-monitored codes of conduct are preferred by the industry, which seeks to avoid more binding regulation, this is a problem for a research firm both conducting consultancies for the industry and claiming to conduct research that is 'independent'. It is unsurprising therefore, that Featurespace endorse the ABB code in this report.

Featurespace has also been conducting work for the betting industry to detect fraud by false claims regarding transactions using loyalty data since 2008, so it is curious why fraud and money laundering have not formed part of the analysis.

Loyalty data analysis opens up the issue of whether operators should be required via the License Conditions and Codes of Practice (LCCP), to use this technology for consumer protection interventions. If loyalty data can detect harmful patterns of play, then using data for marketing but not for consumer protection would appear to warrant further action. Stepping up regulatory requirements of operators is another alternative. This comes down to the extent to which the Regulator interprets this as a duty under the third licensing objective of the Gambling Act 2005 resulting in amending the LCCP to include social responsibility provisions obliging operators to use loyalty data for player protection. Players exhibiting harmful gambling behavior could be seen as vulnerable because of what is now known about loss of control when players are in "the zone" (explained in the Overview).

Loyalty data records money deposited [via note acceptors that can take in high amounts of money] as well as wins, losses and payouts. Irrespective of whether money laundering is captured by loyalty data, the networked computer records are held by operators and are likely to reflect large deposits followed by cash-out. Operators could also be put under a duty to take reasonable steps to ascertain the probity of the funds gambled, with forfeiture of profits (player losses) a possible outcome where money laundering is detected. A question for the Regulator is why not then use existing expertise to analyse the patterns of play that reflect money laundering and why not put more responsibility back on to operators to take adequate steps to ascertain the probity of gambled funds?

Report 4: Patterns of play: analysis of data from machines in bookmakers.
Authors: Heather Wardle, Eleanor Ireland, Stephen Sharman, David Excell and Daniel Gonzalez-Ordonez
NatCen (Featurespace)

The five main bookmakers in Britain gave permission for data managers Inspired Gaming and Scientific Gaming to provide data to the researchers, for a 10-month period 2013-2014. The analysis focused on transactional data that was not tied to individual players but that differentiated player sessions involving B2, B3 and B4 games, which are approved games on FOBT machines.

> *Data included: number of bets made, sizes of stakes (including stakes at the maximum amount allowed on the machines), net expenditure, length of gambling sessions, and types of games played. Data for each area of interest were broken down by where the bets were placed (region, local levels of deprivation and population density) and when the bets were placed (time of the day, days of the week and month) and what types of games were played (p. 1).*

This research therefore has potential to provide insight into sessional play on games offered on FOBT machines, including patterns of expenditure for B2 and B3 features, time of day patterns of sessional expenditure, and potentially, geospatial data on location and net gambling losses (limited to broad regional data). It thus has potential to shed light on the FOBT expenditure of vulnerable (high on multiple deprivation index) communities.

Featurespace were responsible for the management and analysis of the data and received data relating to:

- *8297 uniquely identifiable shops;*
- *32,650 uniquely identifiable gaming machines;*
- *9,550,448,367 machine events* (p. 11).

Over a 10-month period, more than 6.7 billion bets were placed on these gambling machines in over 9 billion events.

In terms of findings, the mean net expenditure per session was similar for B2 (£6.31) and B3 (£6.37) but mean stake for B2 was much higher (£14 and mainly on roulette), compared with the mean stake of £.87 pence for B3 sessions (p. 2). Sessions with combined B2 and B3 gambles had a mean net expenditure of £14 per session and were on average, longer (with an average of 12 minutes compared to about 4 minutes for B2 and B3 only sessions); 80% of all sessions involved gambling on B2 machines either solely (73%) or in combination with B3 (7%).

This means that betting shop FOBT players prefer playing B2 (higher stakes and prizes) features for 80 per cent of sessions; which means that data on these sessions is more important in terms of understanding how FOBTs are mainly used.

Time of day showed different patterns and there were sharp increases in the mean stake size in the evening. Stake size rose throughout the day to £5.76 at 8pm, £6.57 at 9pm and £11.10 at 11pm (p. 26); and the proportion of stakes reaching £100 doubled between 10pm and midnight (p. 37).

The focus on sessions that are not aggregated to individuals is problematic. In terms of critique, the focus on gambling sessions was quite arbitrary (the data may be ambiguous as to when a session starts and finishes) and the use of 'proxy sessions' constructed out of the data by the researchers, and the relevant decision rules, was not well accounted for. Sessions appear to be very short with a median of about 4 minutes and a mean of 11 minutes, which may suggest that session divisions may not reflect the real-time playing patterns of what people may regard as a 'session'. If this is the case, then expenditure levels and time spent would be even higher than those presented. (This could be checked against loyalty data but the two may include quite different types of players.) **The other general observation is that the focus on single session analysis has limited usefulness, as it is patterns of play over time, sometimes on the same day or evening with breaks in play,, that can better reflect a session in terms of daily play.**

Investigations reveal game features on FOBT machines where, when players reinvested their winnings on top of the original stake, a stake of over £100 was recorded on the next bet (p. 11). This was a data point that was recorded but did not accurately reflect the player experience. .

Report 4 authors argue there is a 'clear north/south divide in terms of the amount of money gamblers lost on FOBTs' but the macro-regional level of geospatial analysis, the use of the median and not mean as a measure of central tendency, and the lack of significance testing, leaves the analysis ambiguous and not very useful at such a macro level where values are based on averages over a large geographic area that is quite internally diverse.

In terms of policy, the use of 11 GOR regions for Britain rather than more granular geo-spatial analysis, refute the claim that '(t)his report will help policy makers better understand how, when and where these machines are used' (p. 59). If the net gambling loss figures for London are greater and the number of bets placed per person are higher, than for other regions of Britain, then the figures for local authorities and areas within London would have been easy to present. Not doing so is a serious gap in the reported research.

Local authorities in low socio-economic status (SES) areas are concerned about the seepage of discretionary spending from disadvantaged households being lost on FOBTs and this study had the potential to inform the public about the extent of this problem by analysing the proportionate net gambling revenue to the industry from these areas; compared with higher socio-economic areas. Moreover data for regions was presented on maps but the tables from which these were generated were not presented. This is a lost opportunity. Averaging density across a diverse city like London, does not yield policy-relevant level data. Betting sessions and losses were greater per head of population for London but with such a large and diverse city, with areas where there are few or no betting shops compared to areas like Hackney and Islington with high density of licensed bookmakers' offices (LBOs), more granular analysis would have been far more useful.

There is some obfuscation around not showing analysis for both the median and the mean on all results and a reluctance to recognise the significance of bets and expenditures (losses) at the upper end. These are seen as 'extreme outliers' rather than indications of how much money is

bet/lost by smaller numbers of players. (Mean stake per bet on B2 only games was £65 at the 95th percentile indicating bets of significant size.)

The authors find that 'it was clear that those who play machines after 8pm at night have very distinct patterns of play: stake sizes rose dramatically from 8pm, the proportion of sessions that reached the maximum stake doubled between 10pm and midnight and B2 games particularly roulette increased in popularity in the evening' (p. 4). This could point to higher levels of harm among people who gamble in LBOs late at night, but could also point to use of FOBTs for money laundering; of which there is no discussion in Report 4. The research had potential to report on large pay-ins paired with large pay-outs, or the proportion of cash that had been wagered with minimal risk, which are a patterns relevant to the detection of money laundering but no such analysis is differentiated in the report.

In terms of policy related to hours of operation and stake size, the higher frequency of higher-stake bets in the later evening (10pm to midnight) - the proportion of stakes reaching £100 doubled between 10pm and midnight (p. 37) - may indicate high rates of vulnerability to losses later at night.

With regard to stake size, sessions involving only B2 features accounted for 63% of sessions, which, when added to combined B2 and B3 sessions, accounts for approximately 80% of sessions. Therefore the B2 features are more dominant in terms of money lost. This has significant policy implications as it substantiates the dominance of B2 (high stake) betting that is relevant in relation to demands from stakeholder groups that B2 content results in a high proportion of player losses. Even if some aspects of this research are deficient, the findings are very relevant to current calls for a reduction in maximum stake for B2 machines.

Report 5: The role of stake size in loss of control in within-session gambling.
Authors: Adrian Parke, Andrew Harris, Jonathan Parke and Paul Goddard
University of Lincoln and Responsible Gambling Trust

This smallscale study seeks to evaluate whether stake size can temporarily affect an individual's decision-making performance and behavioural control. A sample of 32 regular adult gamblers (30 male, 2 female) were recruited through public and private advertisements in the University of Lincoln area. Participants were required to have played a B2 gambling machine and not be experiencing any gambling-related problems. The research design involved a repeated measures experiment, where each participant was required to undertake four separate gambling conditions, and a control condition. Participants were provided with £132, and were told that the money was theirs. Throughout the experiment, participants' electrodermal activity was recorded using a non-invasive technique, as a measure of arousal change and arousal response to various gambling outcomes (pp. 9-10).

In the high stake condition, participants were found to use less information and tolerate more uncertainty in their decision-making in comparison to the control condition. Impairment in decision-making after higher stake betting was observed, regardless of whether participants were winning or losing the bets. They also found losing more arousing than the control condition where there was no opportunity to win or lose money. It was observed that after gambling at higher stakes an individual is more likely to make decisions of reduced quality in terms of probability of being correct, than after gambling at lower stakes or the control condition.

As the study is exploratory in nature (as recognised by the study authors), the findings are not

generalisable. Given the small sample size (32 regular non problem gamblers, mainly males), the laboratory setting of the study and the modified nature of the machines, the value of the findings (that higher stakes may reduce self-regulation after the gambling event by impairing the quality of evaluative processes in decision-making), appears to be weak. While providing a broad finding on higher stakes and the effect on self-regulation, there is no specific insight into the precise relationship between stake size and reflection impulse deficits.

The contribution of the study to the overall policy debate on the regulation of category B2 machines is unclear. However, what is clear, is that despite the limited findings in this exploratory study, the researchers are quite content to recommend further funding for more research.

Reflective of much of the Machines Research Programme, this small study seeks to investigate and test the factors that contribute to individual "lack of control" as residing in the individual. The authors argue:

> *Problem gambling and gambling-related harm are characterised by a lack of control and impaired decision-making performance, with a disregard for future negative consequences of gambling. Research tends to represent such lack of control and decision-making impairments in problem gamblers as being a result of pre-existing individual vulnerabilities* (p. 5).

The position adopted by Report 5 research is a common approach in medical and psychiatric sciences, which posit that people lose control of their behaviour, impulses and judgment because of differences and/or dysfunctions in how their brains operate relative to other people without these difficulties (Delfabbro, 2013). Due to the multiple factors that contribute to the aetiology and maintenance of at-risk and problematic gambling behaviours, a number of researchers have argued the need for a bio-psychosocial perspective in understanding the pathways into and maintenance of problematic gambling behaviours (for example, Blaszczynski and Nower, 2002; Griffiths and Delfabbro, 2001; Moran, 1970; Orford, 1985).

Report 5 is firmly routed in a "pathology based" model that attempts to identify individual-level characteristics, thereby ignoring the product features and environment/ context (FOBTs, bookmakers shops, voluntary codes of practice on responsible gambling etc.) in which the gambling occurs. **As outlined in our overview, the individual pathology-based model often concludes that having identified the characteristics specific to the individual, the locus for action must be in fixing or "treating" the individual.**

The authors acknowledge a counter-argument in terms of participant responses to size of stake. They say:

> *It is unrealistic to consider that singular structural characteristics of EGMs, such as size of stake playable, will have an effect on gambling behaviour without influence from other structural features of the game such as event frequency. Therefore, in order to inform policy regarding stake size limits it is important to look at the effect of stake size when integrated with other structural and environmental characteristics of EGM gambling within various gambling environments* (p. 11).

This tends to acknowledge a more triangulated approach and factors related to other machine structural characteristics and venue environments, although it is likely pitched at refuting the need for a decrease in stake size.

Based on the current findings, other competing research priorities and constrained research resources, it is hard to justify further funding to develop this exploratory analysis further. It does little to contribute and advance the evidence and knowledge base on the types of policy

interventions likely to reduce the harms associated with category B2 machines.

In terms of policy, Report 5 finds that gambling at higher stakes did cause a reduction in the quality of decision-making and that this was higher for high stake players. Questions remain on the translation of laboratory-based experiments with volunteers into in-vivo venues, where there also may be other variables like speed of play and interaction with the environment (for example, staff interventions).

Stake and speed of the machines and the product itself and its structural characteristics can have an impact on individual loss of control and the findings at higher stakes may be confirmation of this. In Australian research, the intensity of machines and the amount that can potentially be lost per hour underpinned the Productivity Commission's (2010, p. 11.3) main recommendation to pull the machines back to what might better approximate a "recreational" amount of maximum stake of AUD$1 per button press and a maximum loss per hour of around AUD$120 (at December 2014 exchange rates, this would be the equivalent of £0.53 pence per button press and approximately £64 maximum losses per hour).

Report 6: Understanding of Return to Player messages: Findings from user testing.
Authors: Debbie Collins, Sophie Green, Jo d'Ardenne, Heather Wardle & Shauna-Kaye NatCen

The Report 6 research seeks to investigate gambling machine players' understanding of 'return to player' (RTP) messages displayed on gambling machines. (There is a statutory requirement to display RTP messages on machines but there is a lack of understanding about their meaning or significance to players.) The scoping exercise found that many players reported not having seen these messages before or used them in their decision-making whilst playing.

The study comprises qualitative interviews with 25 volunteers obtained from a purposive sampling strategy where the sample was recruited from betting shop venues. Gambling operators, Coral, Praesepe and Rank agreed to participate offering two bookmakers in city centre locations, an adult gaming centre at a busy town location and an edge-of town location.

The authors find that responses suggest that current RTP messages are not well understood for a number of reasons, supporting the Gambling Commission's concerns (p. 2):

- Messages use technical language that does not hold the same meaning for the general population as industry specialists;
- Messages use complex terms that have ambiguous or unclear meaning;
- The provision of messages in English only adds to difficulties with understanding them for those for whom English is a second language;
- The use of mathematical concepts and language such as 'average' pay-out, 'random' pay-out schedule and the expression of win chance as a percentage assume a level of mathematical literacy that some players do not possess; and
- For some, this lack of understanding promoted confusion and or mistrust of both the industry and regulator. Moreover there was some evidence to suggest that the current messages are being interpreted by some as meaning players are going to win. The authors maintain this is of concern as it may indicate that current messages rather than encouraging responsible gambling behaviours, are in fact encouraging some people to continue to play beyond their limits in the hope or expectation of winning a certain percentage of what they stake.

In light of the Gambling Commission's view that players may benefit from greater transparency of information around a range of other game and machine features, participants were presented with a range of alternative messages ranging from the odds of winning any prize/jackpot/different prize levels to the average hourly loss rate and variations showing the amount of money spent.

Overall, the study concludes that participants have a poor understanding of RTP messages due to the use of technical language, messages given only in English and the use of mathematical concepts (percentages and averages that may be confusing). The researchers make a number of recommendations regarding further testing of RTP messages and "more research please".

In terms of critique, the sample size of 25 is small, given that it straddles three types of venue (betting shops, adult gambling centres and casinos) with two types of machines (B2 and B3) with different RTP messages. The attempt to focus across two categories of machine in three different types of venue with such a small sample is counterproductive to conclusions. Further confusion arises from the mix of B2 and B3 games on FOBTs in licensed betting shops and whether results differ for occasional and regular players (weekly) and for different age and gender combinations.

There is no real reason why recruitment of a more meaningful sample could not have been achieved. A larger sample may have clarified whether players of FOBTs are aware of the different RTP when they play FOBT machines in B2 or B3 mode. This is important as scores on the PGSI are highest for regular players, who play in both modes in a session; which may indicate a degree of switching between B2 (roulette) and other B3 games for some.

At a more general level, the study has illuminated the role of RTP messages that have been promoted by the industry as integral to informed choice (players being informed of risks as key to them taking on responsibility for any subsequent harms) when their common-sense misinterpretations of RTP messages shows such assumptions are problematic. RTP is a theoretical notion that does not necessarily correspond to players' understanding. **The lack of discussion of the substantial research on RTP internationally is a gap where such research could have informed a more insightful use of the funding and opportunities used in this study**.

The researchers could have tested understanding of alternative player messages such as: ' The longer you play the more likely you are to exceed your set limits' or 'If you play these machines you have a one in five chance of walking away with money'. Or for example, they could have tested messages on regular gamblers (the at-risk group for problem gambling) based on research such as that by Muñoz et al (2013). On what messages to display, the Productivity Commission noted (2010, p. 26):

> There is also a strong rationale for giving players more information about the cost of playing, since many do not understand the implications of player rates of return. The Commission has recommended price disclosure based on 'cost per hour' and 'loss rates'. They argue: 'new machines should incorporate the ability to continuously inform players on-screen about their expected hourly losses, based on their playing styles ('real-time' price disclosure).

Having also reviewed machine based harm minimisation measures, the Productivity Commission's (2010, p .11.3) number one recommendation was to make the machines safer, rather than relying on messages informing users of their dangers. In this respect they recommended a maximum stake of AUD$1 per button press and a maximum loss per hour of around AUD$120.

In terms of policy, while the further research urged by Machine Research Programme researchers could pose new questions about information from larger samples, this would seem to be a diversion.

Fiddling around with the content and wording of consumer product messages such as RTP, may give gambling researchers endless amounts of research money to find out which messages are comprehensible to those with languages other than English and low formal education. **But whether these messages are connected to prevention of harms generated by playing regularly on high stake machines, the time and money forfeited, and the depth of harm that goes with this loss of control, deems the focus on messages and informed consumption a diversion from looking at the characteristics of the product, its high street locality and issues of local product saturation in areas high on deprivation indexes.** Admittedly, this is difficult when Matthew Hill from the Gambling Commission declares 'this is about individuals and not the product' (Panel discussion RGT forum December 10, 2014).

Report 7: Changes in machine gambling behaviour. Headline findings from a follow-up study of participants to the Health Survey for England 2012, Scottish Health Survey 2012 and the British Gambling Prevalence Survey 2010.
Authors: Heather Wardle & Dan Philo
NatCen

This research purports to be 'a brief statistical bulletin of how machine gambling behaviour has changed among participants,' obtained from three national surveys conducted in either 2010 or 2012 (p. 4). The research drew a sample from three previous surveys where questions had been asked about gambling machine play.

The research is based on 549 respondents who had reported gambling on slot machines or machines in bookmakers' shops in the past year in the previous surveys; and who had agreed to be contacted for further research (a 37.6% response rate). A second matched comparative sample of 1,199 (a 41.4% response rate) was drawn from those who had not reported gambling on machines in the past year in the baseline surveys.

Funding from the RGT was only sufficient for a 10-minute interview. The questionnaire, 'as agreed with the Responsible Gambling Trust', (p. 26) was therefore limited.

A key focus was whether people who had gambled on machines previously or not had changed playing status [their engagement with machines] - 13% of those who had not played machines at baseline had now played machines in the past 12 months (15% for men; 11% for women) (p. 7).

Of those who had not played machines at baseline, 4% had now gambled on machines in a bookmaker's and 11% had played slot machines at least once in the past 12 months (p. 7). Of those who had only gambled on slot machines (not FOBTs) in the baseline surveys only 3% had now gambled on FOBTs only [rather than slot machines]; 37% still gambled on slots, 6% gambled on both slots and FOBTs and 53% had stopped gambling on any machines.

Of those who had only gambled on FOBTs in the baseline surveys, 3% now gambled on slots only [rather than FOBTs], 23% still gambled only on FOBTs, 14% gambled on both FOBTs and slots and 61% had stopped gambling on any machines.

In the scheme of things these results indicates quite small trends in switching behavior and the main trend in both groups has been the high proportions stopping gambling on any machines.; which may suggest they are not a popular as claimed by industry advocates.

In terms of methodology, the selection of a sample from three different sources at different intervals (2 and 4 years) to the current survey is sub-optimal. Differences in methodology used by the three surveys may matter. For example, the Scottish and English health surveys as the other 'sample-generating' studies, asked questions related to PGSI problem gambling screen and type of gambling, but not frequency. The English survey also excluded Wales.

Using number of gambling activities for their analysis rather than frequency or most frequent gambling activity is a distraction. It is common for gamblers to gamble on more than one modality but unless the researchers ask them on what modality they gamble most of the time, the application of scores on problem gambling are nonsensical in terms of insight into whether FOBTs are related to risky/problem gambling.

The group designated as 'slot machine' players is ambiguous. The site of gambling is not specified as to whether it is B3 slots on FOBTs in bookmakers, fruit machines in pubs, slots in clubs, casinos or bingo halls; they are simply referred to as 'slot machines' in the report. This points to another potential issue that **the research assumes a focus on profiles and characteristics of those who gamble, rather than the importance of *gambling environments* (venues) and how these may contribute to type and intensity of gambling and to gambling-related problems**. The location of the gambling venue is important given the concentration of FOBT and gambling venues such as bookmakers on high streets in deprived communities. There is apparently a qualitative report forthcoming in 2015, which may explain some of the questions.

Methodologically, much of the reporting of data is confused and confusing with the use of percentages where in fact there are very small numerators for much of the data; especially when further broken down in analysis. There is little reference, until the tables, to the very small numbers involved, which in some cases negates the validity of breakdowns in analysis.

A key structural deficit of this research is that a likely driver of the research was whether people were switching and swapping their machine use between different venues and how machine engagement was being integrated into changes in gambling behaviour more broadly,. **The report is a hotch-potch of confused labels that do not prioritise a focus on impact of FOBTs. The assumption that respondents in the 2010 and 2012 surveys who said they had not gambled on machines in the past year, 'were non-machine' or non-FOBT gamblers, is not valid. Questions did not ask about lifetime prevalence but only past year.**

The overall aim has very little relevance to questions about impact of FOBTs on players and on communities. **Report 7 purports to give 'a brief statistical bulletin of how machine gambling behaviour has changed among participants', 'to provide contextual information about how many people change machine gambling behaviour over time and to look at their profile', and 'to understand fluctuations in machine use' (p. 4). However, the methodology and reported results do not give much insight into what it is about gambling on machines in bookmakers' shops that may be relevant to gambling over time.**

The authors underplay the finding that very small proportions of those who gambled only on FOBTs or slots have changed over to the other form exclusively (quite small proportions in each case). Importantly, this could indicate that FOBT and slot players tend to constitute different gambling segments and that there is not necessarily a lot of migration across to other forms of machines. In other words, it could indicate that 'venue matters' to gamblers and that aside from some who play both, FOBT and slot players, are quite differentiated over time. The focus on

people who gambled on machines generally (slots) is curious, given ambiguity about the venues in which they gamble and the focus of the RGT Machines Research Programme on FOBTs.

One possibility is that the research brief was driven by a desire to make a finding that people who had gambled previously on other machines in the past year had migrated onto FOBTs and that the pattern worked equally well in the other direction. Such an aim would be predicated on beliefs that machines, no matter where they are, will draw people in and that people are undiscerning. This would not appear to be the case. An assumption of cross-migration between slots and FOBTs as a basis for arguing where they are located is of no consequence, was not born out by the findings.

Report 8: Contextualising machine gambling characteristics by location – final report
Author: Gaynor Astbury and Mark Thurstain-Goodwin
Release held over until January 2015.

Results of the preliminary geo-spatial analysis of bookmaker shop loyalty card player data between 2012-2014[7] on the spatial distribution of LBOs and net player expenditure (losses) data, presented at the RGT December 10, 2014 conference, provides a missing link in past research. The results from this analysis will form Report 8 (yet to be released) and is part of the Machines Research Programme. The significant factor about vulnerability is that gambling prevalence does not indicate the operation of market demand factors but a supply-driven industry where social determinants of vulnerability (rather than some sort of naturally-occurring latent individual demand for gambling) need to trigger protective public policy responses that address the social determinants of gambling (elaborated below under policy implications).

When matched with census data, the analysis shows clusters of LBOs in areas high on unemployment, younger residents, Labour constituencies and higher scores on resident multiple deprivation (verbal presentation, RGT presentations, Thurstain-Goodwin, 2014 reporting on Report 8).

Report 8 also maps the residential locations of loyalty card holders, finding the median distance travelled to an LBO is 3.6 kilometres and concludes that sphere of influence for urban centres is a localised phenomenon for LBO use; while the distance travelled is wider for market and rural towns. The geo-spatial research also confirms from loyalty card analysis matched to loyalty card holder area of residence, that visitors to LBOs are local, high on unemployment, high on economic inactivity and high on the index of multiple deprivation. This confirms that populations exposed to and playing local LBO FOBT machines are vulnerable, and is of direct relevance to the British Gambling Act 2005 third licensing objective.

CONCLUSION

It is significant that there was no public independent commissioning of the research for this programme of research, where trusted or insider researchers have been appointed by RGT to conduct key projects.

In terms of its aim to address key questions that would inform public interest public policy on the issues identified above by the RGT, the Machines Research Programme is poorly aligned. The research frequently asks the wrong questions and uses flawed methodology, with ensuing

[7] Presented at the Responsible Gambling Trust's Harm Minimisation conference held in London on 10 December 2014.

flawed findings, that fall short of the promise to inform progressive public interest policy making.

REFERENCES

Blaszczynski, A., Ladouceur R. and Shaffer, H.J. (2004). A science-based framework for responsible gambling: The Reno Model, *Journal of Gambling Studies*, 20 (3) 301-17.

Blaszczynski, A., and Nower, L. (2002). A pathways model of problem and pathological gambling. *Addiction,* 97, 487-499.

Delfabbro, P. (2009). *AGR4 2008 – Australian Gambling Review,* June 4th edition. Adelaide: Independent Gambling Authority.

Delfabbro, P. (2013). 'Problem and pathological gambling: A conceptual review'. *The Journal of Gambling Business and Economics, 7*(3), 35-53.

Delfabbro, P.H., McMillen, J., and Nevile, M. (2006). *The identification of problem gamblers within gambling venues: A literature review. Report prepared for Gambling Research Australia.* Melbourne: Victorian Department of Justice.

Delfabbro, P.H., Osborn, A., McMillen, J., Nevile, M., and Skelt, L. (2007). *The identification of problem gamblers within gambling venues: Final report. Report prepared for Gambling Research Australia.* Melbourne: Victorian Department of Justice.

Gambling Commission. (2013). June 13. Philip Graf to the Secretary of State, DCMS
At:
http://www.gamblingcommission.gov.uk/pdf/letter%20to%20rt%20hon%20maria%20miller%20re%20triennial%20advice.pdf

Griffiths, M.D. and Delfabbro, P.H. (2001). 'The biopsychosocial approach to the study of gambling'. eGambling: The Electronic Journal of Gambling Issues (Feature article), 5, 1-33, www.camh.net/egambling.

Livingstone, C., Woolley, R., Zazryn, T., Bakacs, L, and Shami, R. (2008). *The Relevance and Role of Gaming Machine Games and Game Features on the play of Problem Gamblers*, Independent Gambling Authority South Australia, Adelaide.

Livingstone, C. and Woolley, R. (2007). 'Risky business: A few provocations on the regulation of electronic gaming machines', *International Gambling Studies*, 7(3), pp. 361-376.

Moran, E. (1970). Varieties of pathological gambling. *British Journal of Psychiatry*, 116, 593-7.

Muñoz Y., Chebat J. C., and Borges A., (2013). 'Graphic gambling warnings: how they affect emotions, cognitive responses and attitude change', *Journal of Gambling Studies,* Sep; 29(3):507-24

Orford, J. (1985). *Excessive Appetites: A Psychological View of Addictions.* Chichester: Wiley

Productivity Commission. (2010). *Gambling,* Report No 50 Volume 2, Canberra, Productivity Commission,

Quilty, L., Avila Murati, D., and Bagby, R. (2014). 'Identifying indicators of harmful and problem gambling in a Canadian sample through receiver operating characteristic analysis'. *Psychology of Addictive Behaviors,* Vol 28(1), 229-237.

Schellinck, T. and Schrans, T. (2004). 'Identifying problem gamblers at the gambling venue: finding combinations of high confidence indicators', *Gambling Research*, 16 (1), pp. 8-24.

Schellinck, T., and Schrans, T. (2011). 'Intelligent design: How to model gambler risk assessment by using loyalty tracking data'. *Journal of Gambling Studies*, 26, 51- 68.

Schellinck, T., Schrans, T., Bliemel M., and Schellinck, H. (2011a). *Development of an Instrument for Identifying Risk for Problem Gambling among Slot Machine Gamblers in Ontario – Final Report.* Ontario: Ontario Problem Gambling Research Centre.

Schull, N. (2012). *Addiction by Design*. Princeton, Princeton University Press.

Thomas, A., Delfabbro, P. and Armstrong, A.R. (2014). *Validation study of in-venue problem gambler indicators*. Melbourne. Gambling Research Australia.

Thurstain-Goodwin, M. (2014). Comments at *RGT Harm Minimisation Conference: Geo-spatial analysis*, 10 December 2014 in London.

Victorian Gambling Foundation (2014). *What is responsible gambling?* Accessed 10 December 2014 at: http://www.responsiblegambling.vic.gov.au/awareness-and-prevention/know-the-odds