

A Review of the DCMS Evaluation of the £50 Regulations for B2 Gaming Machines

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Executive Summary

In January 2016 the Department for Culture, Media and Sport [DCMS] published *Evaluation of Gaming Machine (Circumstances of Use) (Amendment) Regulations 2015* (hereafter referred to as "the DCMS Evaluation"). This is an evaluation of regulations implemented by the Coalition Government on 6th April 2015 which required customers using Category B2 gaming machines (commonly known as Fixed Odds Betting Terminals or FOBTs) to either:

- a) Authorise stakes of £50 or more via account based play;
- b) Authorise stakes of £50 or more via over-the-counter staff authorisation.

Hereafter in this report the regulations are referred to by the summary term "the £50 regulations".

The DCMS evaluation lists three expected effects of the £50 regulations:

- 1) An improvement in the information players have about their playing habits via verified accounts leading to greater player control and more conscious decision making;
- 2) Increased opportunities for interaction and intervention with appropriately trained staff, leading to greater player control; and
- 3) A reduction in industry revenue as a result of changing player behaviour causing a fall in stakes over £50 and a smaller increase in stakes under £50. The reduction in industry revenue means a corresponding reduction in player losses. This would be due either to players exercising more control through more conscious decision making (players now have to actively unlock over £50 staking) or having a preference for playing with anonymity.

This review of the DCMS evaluation is an assessment of the quality of the evaluation. The main findings are as follows:

- The DCMS evaluation suffers from several problems with **quality and availability of data**. In particular:
 - The range of data sources used in the evaluation was limited;
 - DCMS was unable to measure changes in amount staked *per player* over any particular period (rather than per machine, or per session) – which is the most important piece of data in terms of identifying the impact of the regulations on the extent of problem gambling.
 - The data on total amount staked was not used particularly effectively in the evaluation;

- The data on implementation costs provided by operators lacked detail and there were substantial differences between reported costs from different operators, which look implausible.
- DCMS's **interpretation of the results** of the evaluation is problematic:
 - In the absence of a pilot programme to test the impact of the £50 regulations under more rigorous conditions, the evaluation suffers from simultaneity problems – it is difficult to separate out the impact of the £50 regulations from the impact of other policies on responsible gambling introduced at or around the same time.
 - DCMS's interpretation of the statistics derived from the data submitted by machine operators – e.g. the trends in the number of registered accounts and the average length of playing sessions – is often contentious.
- The evaluation **omits some key questions** which are important to consider when looking at the success or failure of the £50 regulations. For example, the question why B2 machine players might wish to remain anonymous (e.g. because of the potential for money laundering) is not discussed.
- Potential **adverse side effects** of the £50 regulations are not considered in the evaluation. In particular:
 - There is potential for account-based play to lead to players being targeted by more specific direct marketing initiatives than when play is cash-based.
 - It is not clear that increased staff interaction will necessarily reduce problem gambling – in the worst case scenario, it could actually do the opposite.

Overall, the evidence that the £50 regulations have worked as intended is very weak at best.

Introduction

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This review of the DCMS evaluation is essentially an assessment of the quality of the evaluation. The report aims to address five key questions:

- Has the evaluation made full use of all the available data? If not, what other data could have been used?
- Is DCMS's interpretation of the results of the evaluation correct?
- Is DCMS asking the right questions (in terms of its initial 3 expected effects of the policy?)
- Have any potential adverse side-effects of the £50 regulations been considered?
- If the £50 regulations have not worked as intended, what alternative measures are available to the Government?

The review is structured as follows. Chapter 1 examines overarching methodological issues raised by the DCMS evaluation. Chapter 2 assesses the statistical analysis of B2 machine operations which DCMS undertakes as part of the review. Chapter 3

looks at evidence on the costs of implementing the £50 regulations which FOBT operators submitted to DCMS. Chapter 4 assesses the conclusions which DCMS comes to as a result of the review, while Chapter 5 presents our own conclusions, based on the five questions listed above.

1 Methodological issues

1.1 Evidence on problem gamblers

One of the desired outcomes of the £50 regulation is to promote 'greater player control', with a view to reducing the incidence of problem gambling¹ among B2 machine players. DCMS recognises that "some [B2 machine] players have experienced considerable problems from gambling on these machines" and "there is some evidence to suggest higher stake sizes can increase the risk of gambling-related harm through spending more money or time than intended."

Given this emphasis, it is surprising that DCMS does not appear to have attempted to analyse data on the number and extent of problem gamblers before and after the introduction of the £50 regulations, as a key measure of success of the policy is whether there is a decrease in the number of problem gamblers. The official sources of data on problem gambling are the Health Survey for England (HSE) and the Scottish Health Survey (SHeS), but unfortunately neither of these datasets are published quickly enough after the data collection stage to be able to provide evidence only one year after the regulations came into force. However, statistics from the GamCare helpline are available more quickly – the website currently has the statistics for the 2014/15 financial year and as data is collected monthly, DCMS could presumably have approached GamCare to provide the first six months (for example) of data from the 2015/16 financial year towards the end of 2015. This would have allowed time to feed the data into the DCMS Evaluation. It would have been particularly instructive to see whether the number of calls to the GamCare helpline fell significantly after the £50 regulations were introduced. If there was a significant fall, then this would be stronger evidence than anything in the DCMS

¹ Problem gambling is defined by the American Psychiatric Association as 'gambling to a degree which compromises, disrupts or damages family, personal or recreational pursuits'. See Lesieur HR, Rosenthal MD (1991), *Pathological gambling: A review of the literature prepared for the American Psychiatric Association Task Force on DSM-IV Committee on disorders on impulse control not elsewhere classified*. Journal of Gambling Studies 1991; Issue 7, pp 5-40.

Evaluation that the £50 regulations had helped increase player control (although still not conclusive evidence: see Section 1.2 on simultaneity issues below). Conversely, to the extent that helpline calls do not fall after the introduction of the £50 regulations, this is evidence that the regulations are not having the desired impact of increasing player control.

1.2 Simultaneity problems

As mentioned in the DCMS evaluation, the £50 regulations are not the only policy change occurring on or near 6th April 2015. The following other changes also occurred close to this date:

- 1) An increase in Machine Games Duty (MGD) from 20% to 25% on gaming machines where the charge payable for playing can exceed £5 (currently only B2 gaming machines are in this category);
- 2) Social responsibility measures introduced by the Gambling Commission in May 2015 including the following requirements:
 - operators to pay due diligence towards socially responsible policies such as adequate funding of research, protecting children and vulnerable people and issuing messages to customers;
 - staff to be trained to interact or intervene with customers;
 - operators to have robust self-exclusion schemes in place by April 2016;
 - money limits to be offered on all B2 gaming content in bookmakers.
- 3) New social responsibility measures from the Association of British Bookmakers (ABB) including measures to improve responsible gambling advertising in place from January 2015 consisting of responsible gambling promotions on machines, Gamble Aware week, a national TV advertising campaign, and 20% of bookmaking shop windows devoted to responsible gambling messages.

Given that many of these measures were introduced within a few weeks of each other it is particularly difficult to determine with certainty what the impact of the £50 regulations (if any) is compared to the other measures. This potential problem probably helps to explain why the DCMS evaluation is so heavily focused on analysing changes in the amounts staked in individual bets of more than £50 compared to stakes between £40 and £50 (for example), as this is the most obvious measure of impact which is likely to be related specifically to the £50 regulations rather than anything else. However, an unfortunate corollary of this is that there isn't any focus on the possible wider impact of the £50 regulations (including, for example, the impact on problem gambling).

To be fair to DCMS, this kind of simultaneity problem is always a potential issue when more than one policy changes at the same time, and without doing local pilots

in different areas there is no completely safe way to control for it. One way of isolating the impact of the £50 regulations would have been to pilot the regulations first on a randomly chosen subset of betting shops and then to compare any changes in gambling patterns in the shops participating in the pilot with changes in shops where the regulations were not implemented. Using a pilot scheme would have also allowed a range of different options to be trialled, such as setting the limit for account authorisation at different levels in different betting shops involved in the pilot – for example, at £25 or £75. Unfortunately, no pilot scheme was included in the initiative.

Given the lack of a pilot programme, it is a shame that DCMS do not acknowledge the problem of simultaneity bias more explicitly; it is only mentioned in passing once, on page 27 of the evaluation.

1.3 The effectiveness of staff interaction

The DCMS evaluation makes claims for the efficacy of increased staff interaction for B2 stake levels of £50 and greater which seem to be anecdotal rather than evidence-based. The evaluation states that: "making staff interaction a component of high staking machine play ensures greater opportunities for intervention where patterns of behaviour indicate that someone may be at risk of harm from their gambling, or for other reasons, such as preventing crime. Stakeholders have indicated regular interaction can give players a reality check."

No academic or other research source is cited for this assertion and nor is any further information on which 'stakeholders' were consulted for views on this matter. The original four-page draft of the DCMS evaluation contains a note next to the sentence "stakeholders have indicated regular interaction can give players a reality check", stating simply: "*stakeholder opinion, not sure of evidence, will investigate.*" On the basis of what was contained in the final version of the evaluation, it appears that hard evidence – as opposed to anecdote – on this crucial issue was not available.

A board briefing for the Gambling Commission from March 2014, which the Campaign for Fairer Gambling obtained under a Freedom of Information request, casts doubt on the effectiveness of bookmakers' staff training initiatives. As noted by the CFG in an article for *Politics Home* in June 2015:

One of the key strands of the Code concerning harm minimisation strategies, centred on staff training for awareness of problem gambling indicators. The ABB hailed this training as enabling staff to "detect the signs of potential problem gambling more quickly". However, the Commission noted that by the time the Code was being rolled out the ABB had "not yet provided a list of what such indicators might be." The new

minimum standard for staff training laid down by the bookmakers was described in the briefing as NOT "going beyond existing principles." The bookmakers were doing no more than was already laid down under existing licensing conditions².

This scepticism regarding the effectiveness of staff training is reinforced by the recent (February 2016) Gambling Commission investigation of Paddy Power in relation to protecting vulnerable people from being harmed or exploited³. The Commission states:

Paddy Power... acknowledges that it:

- *failed to have and apply a customer interaction policy which complied with social responsibility code provision 3.4.1 (1)(c), which is a condition of its licence, as it did not include: "circumstances in which consideration should be given to refusing service to customers and/or barring them from the operator's gambling premises";*
- *interpreted the duty to be socially responsible in relation to potential problem gambling as being limited to monitoring and interacting with customers, rather than considering refusing service;*
- *had, despite being aware that [a customer] displayed signs of having a serious gambling problem, asked staff to encourage him to continue to visit and spend. This was grossly at odds with the licensing objective of preventing vulnerable people from being exploited by gambling.*

Clearly, if bookmakers are using staff interactions to "encourage [customers] to continue to visit and spend" rather than to "give players a reality check", increased staff/player interaction could potentially exacerbate problem gambling rather than reduce it.

1.4 The effectiveness of account-based play

The other option for B2 players looking to stake more than £50 is account-based play. The DCMS evaluation states that:

account-based play... provides greater opportunities for the provision of information, which is also believed to be beneficial in helping customers make informed decisions. More specifically, account-based play allows players access to up-to-date and accurate information in the form of activity statements and real time information about their session of play which can reduce biased or irrational gambling-related

² "Why hasn't the Gambling Commission cracked the bookmakers' code?" Campaign for Fairer Gambling, June 2015. <http://www.stopthefobts.org/why-hasnt-the-gambling-commission-cracked-the-bookmakers-code/>

³ Gambling Commission, "Paddy Power Holdings Ltd: Failures in anti-money laundering and social responsibility controls", Public Statement, February 2016.

decisions and help people maintain control. The Government considers that tailored player information such as account summaries or activity statements may be a particularly effective way of giving clear and accurate information to players regarding their game play and patterns of net expenditure.

There are several potential issues with this view of account authorisation. Firstly, just because account-based play allows players to access this information, there is no guarantee that they will do so. Secondly, as with the staff interaction point above, there is no reference to any academic research (or research from any other source) which might show a definite effect of account authorisation and the availability of transaction history. Finally, no attempt has been made in the evaluation to measure the number of players who actually want feedback on their behaviour. As with the discussion of regular interaction, DCMS's approach here comes across as anecdotal and speculative.

Additionally, there is a confusion in the evaluation over what "account verification" means, as two separate means of accessing stakes over £50 in B2 machine play are lumped together. Specifically, the evaluation mistakenly refers to "over the counter" (OTC) access to stake levels above £50 as "verified accounts". This is not actually the case; accounts with OTC authorisation are only verified in terms of a PIN code being sent to the player via a text message⁴. No further details are required and no account based information is provided. Therefore, it seems inaccurate to include OTC authorisation within the scope of "verified accounts."

A further consequence of account-based play (where player details are given to the FOBT operator) is that it has facilitated direct marketing to FOBT players via mobile or email. This may mean that an increase in the amount of account-based play has adverse consequences (in terms of *increasing*, rather than decreasing, the extent of problem gambling) as FOBT players are more likely to be targeted by sophisticated direct marketing strategies designed to encourage them to gamble more. Again, DCMS does not appear to consider this possibility.

⁴ Furthermore, new techniques are now being tested by bookmakers which would remove even the minimal level of staff interaction associated with OTC authorisation. For example, Coral PLC is testing a new system of player verification *at the terminal*, where the customer enters their mobile number on screen and a code is sent to their mobile phone to be input for access to stakes over £50. This process completely removes any aspect of staff interaction.

1.5 Why do players want to be anonymous?

DCMS notes that: "Despite marketing campaigns there has been a relatively low uptake of verified accounts", but the evaluation does not attempt to address the question of *why* certain FOBT players are so determined to maintain their anonymity (and hence shun account-based play). The Gambling Commission's recent investigation of Paddy Power⁵ (referred to previously in Section 1.3 above) established that Paddy Power "had an anti-money laundering (AML) policy which was inadequate in that it did not include reference to the spending of the proceeds of crime and therefore failed to take into account the Gambling Commission's published advice and guidance about managing the risks of money laundering." In view of this recent evidence that money laundering is a serious problem in betting shops, DCMS should have taken account of this in the evaluation. It is highly likely that problem gamblers prefer to maintain their anonymity and gamble in a cash-based environment. By contrast, either playing remotely or signing up for a loyalty card means being identified.

1.6 Logic model and theory of change

Some key links in the "logic model" presented on page 10 of the DCMS evaluation seem questionable without further evidence, either from other academic studies or evaluations, or from the evaluation itself:

- the link between activity ("introduction of software and hardware which restricts staking over £50 without using a verified account or interacting with staff") and outputs ("increased proportion of plays using verified accounts"; "increased staff interaction"; "more conscious decision making or a desire for anonymity leading to a reduction in stakes over £50") seems unproven. Also, as indicated in Section 1.5 above, the reasons why players might want anonymity are ignored.
- the link between player-related outcomes (up-to-date activity statements for players; regular interaction with staff and responsible gambling interventions) and impacts (improved player control) is also asserted rather than proven.

DCMS also suggests that "one other indirect potential positive outcome not captured by the logic model is that with a reasonable level of use of verified accounts, operators may be able to develop algorithms to identify problem gambling. This could then give operators a greater ability to initiate a responsible gambling

⁵ Gambling Commission, "Paddy Power Holdings Ltd: Failures in anti-money laundering and social responsibility controls", Public Statement, February 2016.
<http://www.gamblingcommission.gov.uk/pdf/Paddy-Power-public-statement-February-2016.pdf>

interaction with a problem gambler". Following advice from the Gambling Commission to DCMS in 2015⁶, operators are being encouraged by the Government to introduce algorithms to identify problem gambling and are developing commercial link-ups with companies that develop such algorithms. However, whilst such algorithms are already used for marketing and commercial ends, there remain serious questions as to whether they can be used to reduce gambling related harm.

For example, Graham Weir from Ladbrokes told the Responsible Gambling Trust conference in December 2015 that the "Player Awareness System" being used by operators is an algorithm based on past known problem gamblers. There are a number of issues with this. Firstly, players have to be signed up to a loyalty card and provide accurate contact information for it to work. Secondly, if a player is a problem gambler, they will have already experienced harm and therefore considerable losses proportionate to their income. Thirdly, the proposed "messaging" is less likely to be effectively targeted at problem gamblers. Furthermore, the technology available to the UK betting sector is based on research conducted by FeatureSpace, which was about 70% effective at identifying problem gamblers, with a high rate of 'false positives' where non-problem gamblers are identified. Indeed, as the Gambling Commission noted in their advice to government, the algorithm "would still fail to identify a significant number of problem gamblers".

⁶ "[recent research] supports the case for more targeted methods of regulating gambling that place more emphasis on the way that players interact with gambling products and environments.... [but] there is some way to go before we can rely on a strategy based on targeted intervention by gambling operators. For any such strategy to be successful, the gambling industry will need to be able to demonstrate that it can identify people at risk of gambling-related harm and then tackle the problem without unduly disrupting play for people who are able to enjoy their gambling responsibly. The research suggests that gambling operators are more likely to identify people at risk where they can build up a picture of a player from a broad range of evidence, including the customer's patterns of play over time. It is hard to do that when the majority of gambling transactions are currently from anonymous play. Moreover, the much richer information that account-based play provides would significantly improve the industry's ability to evaluate its efforts to identify and mitigate risk. Consequently, we recommend encouraging operators to promote account-based play with the aim of increasing uptake significantly. If they succeed, playing anonymously might itself become a useful indicator of risk. If operators fail to make sufficient progress with promoting account-based play, then the case for making it mandatory would need very serious consideration". Philip Graf (chair, Gambling Commission), letter to Secretary of State for Culture, Media and Sport, 30 March 2015. <http://www.gamblingcommission.gov.uk/pdf/Recent-research-into-Gaming-Machines.pdf>.

2 Statistical analysis of data from B2 machine operators

This section of the report looks at the data which DCMS received from the two major B2 machine operators in the UK – SG Gaming and Inspired Gaming – on particular metrics which were viewed as important to the evaluation, in particular:

- the uptake of verified accounts and how this compared with account usage before verification was introduced;
- the percentage of sessions which contain use of a verified account or OTC authorisation to enable stakes of £50+;
- duration of sessions;
- how the proportion of plays in different stake bin ranges has changed, e.g. the percentage of plays staking over £50 and the percentage of plays staking under £50;
- how the proportion of total amounts staked in different stake bin ranges has changed, e.g. the percentage of total amount staked which is over £50 and the percentage of total amount staked which is under £50.

2.1 Verified account usage

Chart 1 of the evaluation (page 13) shows that clearly there is a large increase in the number of stakes linked to an account between weeks 9 and 13 of 2015, just before the £50 regulations are introduced, and this coincides with the introduction of account verification. However, once verification has been introduced the percentage of stakes linked to account verification falls (from around 11% to just over 8%). This is a substantial drop over a short period of time (around 25 weeks) but the potential reasons why are not explained in the paper. One possibility (which would be positive in terms of reduction in high-stakes gambling) is that some players are giving up accounts as they no longer stake over £50 in any sessions, or alternatively that accounts are still being held but used less often (and so the percentage of stakes linked to any account reduces).

Chart 2 (page 14) shows statistics on number of unique users using an account, but the interpretation by DCMS is dubious. DCMS claims that "Chart 2... does show something of a step change in numbers of unique users using an account which suggests that there is an increase in the number of individuals using an account, be it a loyalty account pre-implementation or a verified account post implementation." But this is not clear. There is an upward trend in the number of players who had logged into [any kind of] accounts before the implementation of the £50 regulations (rising from around 40,000 to 70,000). Then, using a different measure (the number of players who had logged into a verified account) this appears to be static at about 40-50,000 (other than a blip at week 24, apparently corresponding to a marketing push by the industry to encourage use of verified accounts (including free bet incentives). Because the two measures of accounts (players with any account and players with verified accounts) are not strictly comparable, it is not clear to what extent the number of players who are account-based really has increased (although presumably there has been *some* increase as the population of verified accounts is, by definition, a subset of the whole population of accounts.)

Another possibility is that the roll-out of account-based play was driven by incentives offered to players to encourage sign-up. It is arguable that players took those offers and then ceased use once the offers ran out. On this interpretation, the long-term effect on high stakes gambling is unclear, and may be negligible.

A further problem with the data presented by DCMS in Charts 1 and 2 is that representing "account based play" as including accounts activated by OTC authorisation (using a text message-based PIN or staff authorised through remote loading at the counter and no other information) as well as accounts with card registration (which require more detailed authorisation) is misleading, and may account for at least a proportion of the measured increase in "account-based play".

Additionally, it should be noted that OTC engagement is very low and static at under 1 per cent of total sessions (as shown in Chart 4 on page 16). The report acknowledges that "this would suggest the reach of the regulation in terms of stimulating customer interaction may have been limited". Given that increasing customer interaction was a key strand of the overall objective, on this measure it looks as if the policy has performed poorly.

2.2 Analysis of percentage of sessions containing at least one £50+ play

Chart 3 (page 15) shows a substantial drop in the percentage of sessions containing at least one play worth £50 or more during 2015 (from around 7 per cent before the £50 regulations were implemented to less than 2 per cent after implementation). However, by itself that information does not show that there has been a reduction in the number of problem gamblers or that B2 machine players are exercising more 'control' because players are easily able to bet just as much as before – albeit more slowly – by decreasing their individual stakes per play below £50. So, for example, a player could bet £49 twice instead of betting £98 in one go.

DCMS claims that:

"the low engagement with [OTC] authorisation, and the large shift in players moving from the £50+ range into the £40-£50 staking category, indicates that the majority of players are making a conscious choice to control their stake levels or staking less per play to maintain their anonymity, keeping them below £50 for most sessions."

While it is true that players are keeping their stake level *per play* below £50 this says nothing about the impact on players' total stake *per session*, or indeed players' total gambling per month or per year – these are surely the crucial outcome variables in terms of measuring the impact of the £50 regulations on reducing problem gambling.

There is also the possibility that players could be betting exactly the same amount as before the £50 regulations were introduced and just as quickly *by using two B2 machines at once*. The evaluation does not mention this as a possibility but it seems plausible.

2.3 Data on responsible gambling interactions

The evaluation states (page 17) that "ideally data on the number of responsible gambling interactions (RGIs) would be assessed; unfortunately, data on the number of RGIs linked specifically to £50-plus staking is not available." While this is an unfortunate gap in the data, it would nonetheless be useful to have data on the total

number of RGIs in bookmaking outlets – including both those linked specifically to £50-plus staking, and those for any other reason – to assess whether the total number of RGIs increased, went down or stayed the same after the £50 regulations were introduced.

Note however that even if such data were available, the interpretation of them would not be straightforward. On one hand, an increase in RGIs following the introduction of the £50 regulations could be seen as a good thing to the extent that potential problem gamblers are receiving more interventions from bookmaking staff. On the other hand, a decrease in RGIs could also be seen as a good thing if it arose because gamblers were staking less (perhaps to avoid having to interact with staff).

Moreover, without additional information on the content of interactions between staff and customers, there is no way of assessing whether the interaction is linked to responsible gambling. For example, a staff member might ask a customer if they would like a tea or coffee; this would be logged as a staff/customer interaction but has nothing to do with responsible gambling.

2.4 Player session duration

As admitted by DCMS in the evaluation, the interpretation of data on player session duration is not straightforward. On one hand, "players taking longer to stake the same amount may reflect more conscious decision making to their actions due to increased control." But on the other hand, "as player session length increases they are becoming more 'time poor'... spending longer gambling can be a sign of problematic gambling behaviour." In other words, it is impossible to say whether longer session duration *per se* is more or less likely to be correlated with an increase in problem gambling.

Chart 5 (page 17) suggests a very slight increase in the average session duration of "B2-only" gaming sessions, from around 8 minutes to between 8.5 and 9 minutes. There is a bigger increase in average duration for sessions where all stakes are below £50 (from an average of around 7 minutes before the £50 regulations were introduced to just over 8 minutes after the regulations were introduced). For sessions where all stakes were over £50, the average duration of session increases from around 10 minutes to around 12 minutes. However, it is likely (though not certain) that this is a sample selection effect. Chart 6 (page 19) shows that the proportion of B2 sessions featuring at least one £50+ stake fell from around 9 percent before the £50 regulations were introduced to around 3 percent after they were introduced.

Thus it may well be that a 'hard core' set of long-session B2 gamers, who continued with £50+ stakes after the new regulations were introduced, drove up the averages. On the other hand, it could be that the 'hard core' B2 gamers are playing for longer.

Another potential factor is that the impact of messaging and spend alerts for players staking more than £50 could be contributing to longer sessions (although there are also messaging alerts for players staking under £50 – they can be asked if they would like to set limits and have to respond 'yes' or 'no'). DCMS acknowledges that the interpretation of the data is ambiguous; unfortunately, the inevitable implication of this is that it is very difficult to draw any conclusions about the impact of changes in session length on 'problem' gambling or player control. It's not even clear *a priori* whether longer sessions for the same total stake are a good or bad thing. Longer sessions might, for example, make staff interaction – an objective of the policy – more likely.

Importantly, gaming machine supplier data on average speed of play for B2 roulette (which is the most popular B2 game) has changed very little after the implementation of the £50 regulations compared to beforehand. DCMS admits that the data are not enough to draw conclusions by themselves:

"What is not apparent from the data is whether some people are playing slower and some faster and it is averaging out at a similar speed. We would require more detailed data on speed of play during sessions to examine this issue."

2.5 Analysis of total amount staked

Chart 7 shows the total amount staked on B2 machines in 2015 (up to week 44) compared to 2014. Three distinct periods seem to emerge from the data (this is not discussed particularly well by DCMS):

- i) For the first 12 weeks of 2015, B2 revenue for 2015 is slightly above revenue for the equivalent period in 2014.
- ii) At the time of and immediately following implementation of the £50 regulations in week 14, B2 revenue for 2015 falls below revenue for the equivalent period in 2014.
- iii) From around week 30 onwards, the weekly B2 revenue for 2015 tracks the revenue performance for 2014 very closely, with no systematic positive or negative deviation.

The most obvious interpretation of this data is that either the £50 regulations, or some other policy change (as discussed in Section 1.2 above) or some combination of the two, led to a fall in total B2 amounts staked from around April 2015 onwards, relative to the pre-April trend. However, at least some of this fall was temporary and from late summer onwards B2 revenues partially rebounded.

Chart 10 is interesting in this regard because it appears to show a substantial reduction in total amount staked on B2 roulette (from between £9.0 and £9.6 million

in each quarter of 2014 to around £8.8 million in 2013q3.) It is not clear how this analysis squares with Chart 7, and DCMS make no attempt to explain the discrepancy.

One possible explanation for the fall-off in B2 revenue being temporary, rather than permanent, is that it was at least partially caused by changes to terminal functionality or changes in machine cabinet, which take place every 3 or 4 years. These changes to the 'look and feel' of B2 gaming machines are noted by customers, sometimes being treated with suspicion and nearly always have a short term effect on yield. Both Ladbrokes in 2014 and more recently William Hill have reported such impacts across their estate as a consequence of cabinet swap outs. DCMS does not mention this as a possible cause of the observed patterns in revenue.

On pages 26-28 of the analysis DCMS attempts to estimate what the growth rate in different components of B2 gaming machines – B2 roulette and B2 slots and other B2 games, and other gaming machines (categories B3 and others) would have been in the absence of the £50 regulation being introduced. The method used here is simplistic; basically a linear extrapolation of the 2014 trends compared with actual outcomes for quarters 2 and 3 of 2015. It would have been better if DCMS had used an econometric model – even if only a simple one – to control for other factors which might affect B2 and B3 machine expenditure (for example, growth in real GDP per head, wages, employment etc).

Crucially on page 27, DCMS admits that the interpretation of the counterfactual – what would have happened to B2 machine revenues in the absence of the £50 regulations – is difficult:

"Attribution is difficult here though, with many other factors at play, such as the introduction of responsible gambling measures by the industry and the Gambling Commission, as well as changes to the gambling duty regime. The impact of any changes in disposable income at a national level could also have an effect. It is also not possible to say what this means over the medium and long term for the industry. Business may adjust their products and consumers can adjust their behaviour so the effects we have seen in the first two quarters may not be representative going forward."

The interpretation of growth in B3 revenue is also not straightforward. Growth in B3 revenue between 2014 and 2015 is stronger than B2, but the industry has conceded that before the £50 regulations were implemented there was less focus on B3 game development and post-implementation there has been an increased focus.

The analysis also estimates gross yields based on game profit margin. The "B2 slots and B2 other" category shows a margin of 3.69%, while B3 margin is estimated at 8.03%. Using margin estimates based on turnover, the estimated decline in yield is between £66 million and £78 million. However, this finding is accompanied by a caveat – that other factors may have influenced the first two periods where the

biggest changes in staking behaviour took place, and that "the effects we have seen in the first two quarters may not be representative going forward." In other words, it is not at all clear whether the trends observed in the two quarters following the implementation of the £50 regulations will continue. Without more detailed econometric modelling – and better data – it is impossible to say for sure.

2.6 Analysis of total amount staked by stake bin range

Chart 9 shows a clear shift away from stakes over £50 and towards stakes in the £40.01 to £50 category; this category has now become by far the most popular category for games stakes. The most obvious interpretation of this data is that a large number of players – potentially all those outside the 'hard core' who have chosen to play using verified accounts or OTC authorisation – are staking similar amounts to those which they staked before the regulations changed, but are doing so in bets of £50 (or slightly less) rather than bets of between £50 and £100. This does not however imply that the incidence of 'problem' gambling has decreased because by itself this data says nothing about the amount being staked *per player*, which is the crucial missing variable in the DCMS analysis.

3 Analysis of implementation costs

On page 29 of the evaluation, DCMS considers other potential costs to operators of complying with the new regulations – including training and new IT system costs.

The level of marketing costs quoted by the operators appear to vary greatly – from £0.3m to £3.4m according to which operator is asked. This seems a very wide range and it would seem sensible to be sceptical of the larger cost figure given here. It is strange that there is no comment here on the costs associated with card account management (unless included in IT or marketing costs). It is also curious that ongoing training costs have not been indicated by operators when interventions based on problem gambler characteristics are fundamental to the £50 measures and presumably an ongoing cost. Only one-off transition costs for training and new systems have been given.

In general, the poor quality of costs data is a problem when trying to evaluate the impact of the £50 measures on operators. As the DCMS evaluation points out:

government requires greater granularity of cost data from business to more robustly assess the training, IT and marketing cost impact the regulations have had and from a wider range of businesses. This data should be gathered as part of any future research on impact.

4 Analysis of DCMS's conclusions

Pages 30 to 32 of the evaluation comprise DCMS's conclusions. We are particularly interested here on the impact of the £50 regulations on player control.

Given the problems with interpretation of the data used for the evaluation, DCMS are understandably non-committal in their conclusion, stating that the fall in the amount bet in stakes of over £50 and the increase in the total amount staked in the £40-£50 range could be interpreted as either:

- 1) *players circumventing authorisation of higher stakes to maintain their anonymity with no associated increase in control of their play; or*
- 2) *it is possible that those who are no longer staking over £50 are doing so because the authorisation mechanisms have given them greater control over their staking behaviour. In this respect it could be said to have increased player control in line with the policy's objective. The increase in duration could also reflect players taking more considered action. There is not conclusive evidence that this is the case though.*

In other words, DCMS are completely unable to determine whether the £50 regulations have led to an increase in 'player control' or not – let alone whether the regulations have led to a reduction in the number of problem gamblers. Given the problems with the data sources used and the paucity of other potential data or evidence sources considered, this is not a surprising conclusion to reach.

Similarly, the evidence on session duration and speed of play does not allow an unambiguous interpretation and DCMS are unable to draw strong conclusions from these data, ending up with calls for more and better data on session length and speed, data on the number of responsible gambling interactions, and survey data and qualitative data on what has driven players' behaviour.

5 Conclusion

This final section offers conclusions on the DCMS evaluation, focusing on the five questions identified in the introduction. To recap, these were as follows

- Has the evaluation made full use of all the available data? If not, what other data could have been used?
- Is DCMS's interpretation of the results of the evaluation correct?
- Is DCMS asking the right questions (in terms of its initial 3 expected effects of the policy?)
- Have any potential adverse side-effects of the £50 regulations been considered?
- If the £50 regulations have not worked as intended, what alternative measures are available to the Government?

5.1 Data issues

The DCMS evaluation suffers from several problems with quality and availability of data. Firstly, the range of data sources used in the evaluation was very limited. In particular, no data was used on the number of problem B2 machine gamblers (e.g. from GamCare). It may be that this data could not be made available in time for the evaluation to report in January 2016 – but in that case it might have been best to postpone the evaluation until better data were available. The data used from the machine operators on stakes and revenues before and after the introduction of the £50 regulations also suffer from a number of deficiencies which mean that they do not allow unambiguous and clear assessment of whether the £50 regulations were a success. In particular, DCMS was unable to measure changes in amount staked *per player* over any particular period (rather than per machine, or per session) – which is the most important piece of data in terms of identifying the impact of the regulations on the extent of problem gambling. Additionally, the data on total amount staked was not used particularly effectively on pages 26-28 of the evaluation, with the analysis relying on simple extrapolation of trends to measure the impact of the regulations on stake amounts, where a more sophisticated econometric model would have been more appropriate. Finally, the data on implementation costs provided by operators lacked detail and there were substantial differences between reported costs from different operators, which look implausible.

5.2 Interpretation of results of evaluation

There are a number of problems with DCMS's interpretation of the results of its evaluation. Firstly, in the absence of a pilot programme to test the impact of the £50 regulations under more rigorous conditions, the evaluation suffers from simultaneity problems – it is difficult to separate out the impact of the £50 regulations from the impact of other policies on responsible gambling introduced at or around the same time. Secondly, DCMS's view of the potential benefits of accounts-based play seems to be overly optimistic – for example, the department appears to assume that just because account-based play allows players to access more statistical information about their gambling, they will in fact do so, but there is no particular reason why this should be the case. Finally, DCMS's interpretation of the statistics derived from the data submitted by machine operators – e.g. the trends in the number of registered accounts and the average length of playing sessions – is often questionable.

5.3 Is DCMS asking the right questions?

DCMS's evaluation seems to omit some key questions which are important to consider when looking at the success or failure of the £50 regulations. One is why players might wish to remain anonymous (particularly as regards the potential for money laundering using B2 gaming machines). Another is possible alternative explanations for the rebound in B2 machine revenues a few months after the £50 regulations were implemented – this could be due to the temporary effects of changes to gaming machine software or cabinets, for instance.

5.4 Potential adverse side-effects of the regulations

Potential adverse side effects of the £50 regulations are not considered in the evaluation. In particular, the algorithms to identify problem gamblers which operators are introducing (facilitated by increased uptake of verified accounts) may not work as well as DCMS believes, and there is potential for account-based play to lead to players being targeted by more specific direct marketing initiatives than when play is cash-based. Also, given the recent well-publicised problems with responsible gambling codes at Paddy Power, it is not clear that increased staff interaction will necessarily reduce problem gambling – in the worst case scenario, it could actually do the opposite.

5.5 Alternative measures

The evidence that the £50 regulations have worked as intended is very weak at best. Therefore, it is worth asking what alternative policy measures might be available to the government. DCMS acknowledges that staking at lower levels represents more controlled play. Therefore, it is surprising that reducing the maximum stake on B2 gaming machines has not been considered as an alternative measure. In 2015, 93 local authorities in England and Wales called for a reduction in the maximum stake from £100 to £2, but the UK government rejected this proposal and kept the maximum stake at £100. Even if the £50 regulations had been clearly shown to be effective (which they have not), a maximum stake of £50 before the regulations 'kick in' is still much higher than any other form of terminal-based gambling and still allows players to rack up very large losses in a short space of time. The government urgently needs to review maximum stakes on B2 gaming machines.