

Advice in relation to the DCMS review of gaming machines and social responsibility measures

31 January 2017

I: Executive summary

1. This document is the advice of the Responsible Gambling Strategy Board in relation to the Review of Gaming Machines and Social Responsibility Measures. It focuses on the case for a reduction in maximum stakes on B2 gaming machines. It also briefly covers some other related issues. When the facts are looked at dispassionately, and with due attention to all the available evidence, the position on B2 machines is more complex than may initially appear.
2. There is sufficient evidence of harm associated with gaming machines (primarily B2s) in licensed betting offices (LBOs) to apply the precautionary principle. Doing so is not, however, entirely straightforward. It requires judgement about the balance of risks.
3. Internationally, studies across a range of jurisdictions have found an association between machine play in general and problem gamblers. In the UK, successive surveys in 2007, 2010 and 2012 have shown high rates of prevalence of problem gamblers among machine players in LBOs. A high proportion of gross expenditure on LBO machines can be attributed to problem gamblers; and a high proportion of the (relatively small) number of problem gamblers who present for treatment identify machines in LBOs as their main form of gambling.
4. The surveys show some other forms of gambling to have a greater association with problem gamblers. That is not, however, a reason to be less cautious about LBO gaming machines.
5. Participation in a large number of gambling activities is a strong predictor of problem gambling. Until recently, it was believed that play on gaming machines in LBOs (B2s and B3s combined) was unique among gambling products in that it retained a significant association with problem gambling even after adjusting for the number of other gambling activities undertaken by the relevant players. Later research suggests the evidence on this point is not conclusive.
6. An association between B2 gaming machines and problem gamblers is not surprising. The machines possess several characteristics known to be associated with greater risk of harm. They are also easily accessible on most high streets, especially in areas with populations more vulnerable to gambling-related harm.
7. Association does not prove causation. The relationship between B2 machines and problem gamblers could be because the machines cause some players to become problem gamblers. But it could also arise because B2 machines are particularly attractive to players who already have a problem with gambling.
8. Demonstrating causation is not, however, always necessary. Whatever the reason, the fact that large numbers of problem and at risk gamblers play on their machines creates an *obligation* on operators to respond and an *opportunity* to implement measures to detect potentially harmful play and mitigate its effects.
9. Many commentators appear to take it for granted that reducing maximum stakes on B2 gaming machines would necessarily make a material contribution to reducing gambling-related harm. The evidence suggests that a reduction in harm is far from certain.

10. A reduction in maximum stake might have some effect on harm. It would reduce the opportunity for players to place large stakes quickly. That could be important for some players, possibly including some of those suffering the greatest harm.
11. But large stakes are placed relatively infrequently, even by problem gamblers; and problem gamblers are found at all levels of staking. Moreover, it is in principle unlikely that a change in one characteristic of one gambling product would have a significant effect on harm when account is taken of:
 - i. The potential impact on styles of play. For example, to get the same level of excitement from lower stakes players may engage in riskier staking behaviour. Lower stakes may also mean that players play for longer, until they exhaust their funds.
 - ii. The opportunity for diversion to other forms of gambling. Identical games to those on B2 machines are, for example, widely available as remote gambling products. The scope for intervention to mitigate harmful play ought to be greater in the case of remote play, but there are no regulatory restrictions on maximum stakes. Alternatively, if play is diverted to B3 machines, the evidence on sessional losses indicates some potential for harm similar to that from B2 machines.
12. There is now relevant empirical evidence following the implementation of the Gaming Machine (Circumstances of Use) (Amendment) Regulations in April 2015. Analysis of real play before and after the regulations provides much more powerful evidence than the limited laboratory simulations quoted by some advocates of a significant reduction in maximum stakes.
13. For most players, the Regulations have had the same effect as a £50 stake limit. It is difficult to conclude from the evidence, however, that even this 50 per cent reduction has reduced harm, bearing in mind that time spent and size of loss are usually regarded as important markers of harm. Staking above £50 reduced by nearly half. But there was a corresponding increase in the value of stakes just within the £50 limit, broadly cancelling out the effect on amounts staked. The average duration of sessions increased and there was a significant rise in very long sessions. There was some impact on (relatively infrequent) exceptionally large losses, but no significant effect on the distribution of other large sessional losses. The implication is that players can readily adapt their play to changes in the characteristics of the products they are offered.
14. The effects of any further changes taking the maximum stake below £50 would not necessarily replicate those following the 2015 regulations. A lower limit would affect a greater number and a different mix of players, and they might respond differently. A very low maximum stake could cause an unpredictable but significant diversion of play away from B2 machines towards other forms of potentially harmful gambling.
15. The first priority objective of the National Responsible Gambling Strategy is, however, that lack of complete evidence should not be allowed to be a barrier to progress. The Strategy argues that action should be taken on the basis of what is known, or can reasonably be inferred. Despite uncertainty about the effects, a reduction in maximum stakes on B2 gaming machines implemented for precautionary reasons could still be a potentially useful part of a coherent strategy to mitigate gambling-related harm, *provided that* the impact on actual harm is carefully monitored and evaluated so that appropriate offsetting action can be taken if necessary.

We take this view because:

- i. £100 stakes can lead to significant losses in a short space of time. Such losses might be harmful even to those who would not be defined by a survey screen as problem gamblers.
 - ii. This concern is amplified by the concentration of LBO machines in areas whose populations are more vulnerable to gambling-related harm.
 - iii. At higher levels of staking there is a greater concentration of problem gamblers. It is difficult to regard something as an unobjectionable leisure time activity if a high proportion of those participating in it suffer harm.
16. It is also important to take account of public opinion in considering the balance between the protection of the vulnerable and enabling the enjoyment of those who gamble. There is some evidence of a shift in public views about gambling towards a more negative stance.

Recommendations

17. Our recommendations are as follows:
- i. We doubt that changing a single characteristic of one gambling product would make a significant impact on levels of gambling-related harm. A reduction in maximum stakes on B2 gaming machines could, however, still be a potentially useful *part* of a coherent strategy to reduce harm, provided the effects are carefully monitored and evaluated.
 - ii. There would be little point in setting a new maximum higher than £50. That is now already the effective limit for many players.
 - iii. There are some arguments for setting a new limit below £50, on precautionary grounds. There is, however, no evidenced-based way of determining any uniquely correct new level.
 - iv. It is desirable that any new maximum stake should be at a sustainable level, and not subject to further frequent changes.
 - v. Despite this, if there was reluctance to set a new limit immediately, it might be possible to pilot a reduction in a defined geographic area (or even different levels of reduction in different areas).
 - vi. A reduction in maximum stakes on B2 gaming machines should not be seen as a substitute for further efforts to reduce gambling-related harm. It should be only part of a comprehensive approach relating to all forms of gambling. The priority actions set out in April 2016 in the National Responsible Gambling Strategy should be pursued vigorously by operators and others. The Strategy needs to be supported by concrete commitments and swift action.
 - vii. Serious consideration should be given to making account-based play mandatory for gaming machines in LBOs (and possibly more widely), unless the gambling industry can implement demonstrably effective alternative means of detecting and mitigating harmful play. There are other issues that would need to be considered. But mandatory account-based play would

provide a much more detailed picture of patterns of play over time by the same player, and better evidence about the impact of interventions.

- viii. The availability of more data has been valuable in the development of this advice. Obtaining it has not, however, always been entirely straightforward. It is desirable that a framework should be agreed with the gambling industry for the future provision and sharing of relevant data. The strategy should apply to all sectors of the industry.
- ix. Appropriate staffing levels are key to the detection and mitigation of harmful play. There must be serious doubt about the extent to which a single member of staff on their own in a betting shop, even at less busy times of the day or night, can simultaneously look after the counter, remain alert to the possibility of under-age play and money laundering, and still be expected to identify potentially harmful play and make appropriate interventions. The Gambling Commission should ask all operators to review safe staffing levels. Larger operators should be required specifically to address staffing levels and safety (of employees as well as players) in their annual assurance statements.
- x. The absence of any regulatory limits on stakes and prizes on remote platforms, including those which offer games identical to those on B2 gaming machines, is anomalous, given the wide accessibility of such platforms and the rapid pace with which they are developing. The remote sector needs swiftly to demonstrate that the risks associated with remote gambling are being managed effectively and comprehensively. If they fail to do so, controls should be placed on stakes and prizes on remote platforms comparable to those on similar land-based products.
- xi. There should be no increase in stakes and prizes on B3 gaming machines until the impact on harm of any reduction in maximum stakes on B2 machines has fully worked through and been evaluated. The effects of the B2 stake reduction would otherwise be difficult to disentangle. Much valuable information might be lost. The evidence suggests that B3 machines also have the capacity to cause harm.
- xii. We have previously advised that the precautionary principle should be considered when new gambling products are proposed. The principle equally applies when significant changes are being considered to products already available.
- xiii. There is a strong argument on precautionary grounds against any increase in maximum stakes on Category C machines located in premises where alcohol is served, where gambling is not the primary activity and where levels of supervision of machine play are likely to be low or non-existent. These machines already occupy an anomalous position in the hierarchy of machines when account is taken of the limited extent of supervision.
- xiv. The availability to children and young people of some forms of relatively low stake gambling is well established in this country, though unusual internationally. Problem gambling rates among children and young people in Great Britain are not unusually high either historically or compared with other countries. But any problem gambling by this group ought to be a matter of concern. Moreover, use of the precautionary principle is particularly justified in anything affecting children. We advise against any increase in stakes and prizes for Category D machines available to children and young people, unless those proposing an increase can demonstrate that no additional harm would be caused. Children's access and exposure to gambling more

generally, including advertising, may need further consideration to ensure that potential risks are not being overlooked.

- xv. The precautionary principle also implies that the onus should be on those proposing loading machines directly from debit cards to demonstrate that the change would not cause additional harm.

II: Introduction

18. This document provides the advice of the Responsible Gambling Strategy Board to the Gambling Commission in relation to the Department for Culture, Media and Sport's review of gaming machines and social responsibility measures.
19. The focus is mainly on maximum stakes on B2 gaming machines, although we briefly cover some other issues relevant to the review.
20. We deliberately left B2 maximum stakes on one side when we published the National Responsible Gambling Strategy earlier this year¹. We did not want our views on this highly charged subject to distract attention from the other elements of the comprehensive strategy we then put forward. It is our view that changing a single characteristic of one gambling product is, prima facie, likely to have only a modest impact, if any, on the overall level of gambling-related harm. An effective approach to reducing harm requires coherent, simultaneous action on multiple fronts, as set out in the Strategy.
21. The Board last gave advice on maximum stakes on B2 gaming machines as part of the 2013 triennial review². We made clear then that we would not have recommended a maximum stake for B2 machines as high as the existing £100, had we been starting from scratch. On balance, we did not think there was at that point sufficient evidence to justify a reduction. But we regarded that judgement as finely balanced. We recommended that future assessment of risk should be based on data from real gambling; and we anticipated that before this next review significant new information about how players used machines would become available from the programme of research on machine play then in hand.
22. Before providing this new advice, we have taken a fresh look at the evidence about B2 machine play, including that becoming available since the last review. We have taken account of all information available to us up to the middle of January, some of it at that point still unpublished. New evidence will become available in the coming months as the result of research commissioned earlier. We have also sought to consider all the arguments put forward by those who have advocated a significant reduction in maximum stakes.
23. Government policy regards gambling as a legitimate leisure activity, to be permitted provided it is consistent with the licensing objectives of the Gambling Act 2005. Our task, within that policy framework, is to provide advice on how best to strike an appropriate balance between protection of the vulnerable and the desirability, other things being equal, of giving players freedom over how they spend their leisure time.

¹ The National Responsible Gambling Strategy 2016-17 to 2018-19, 11 April 2016.

² Attached to Gambling Commission advice on the triennial review of stakes and prize limits on gaming machines. Letter to the Secretary of State for Culture, Media and Sport, June 2013.

24. We have asked ourselves a number of questions:
- i. **Question 1:** Has progress since the last triennial review in identifying and addressing harm, particularly action by licensed betting office (LBO) operators, been sufficient to allay concern about maximum stakes and gambling-related harm?
 - ii. **Question 2:** All forms of gambling are likely to be harmful to some extent, to some individuals. It would only be possible to eliminate this harm by prohibiting gambling altogether, and probably not even then (because legal gambling might be replaced by illegal gambling). The issue is not therefore whether B2 gaming machines are associated with harm to some players. There is little doubt they are. The question is whether there is evidence that B2 gaming machines are disproportionately harmful relative to other gambling products, taking into account the nature of the regulatory controls applied to them. It is not, however, necessary to prove B2 machines to be the *most* harmful form of gambling for action on them to be justified.
 - iii. **Question 3:** Are B2 gaming machines in an anomalous position in the hierarchy of regulated gaming machines? If so, does that justify a reduction in the maximum stakes players can place on them?
 - iv. **Question 4:** Irrespective of the answers to the previous questions, would a reduction in maximum stakes be an effective way of reducing harm? Or would it be more likely to change the way people play, or displace play to other forms of gambling, which could be equally, or more, harmful?
 - v. **Question 5:** Are there other regulatory changes within the scope of the review which should be preferred to, or used in concert with, a reduction in maximum stakes?
25. This advice addresses each of these questions in turn, after first setting out relevant information about the number of and type of gaming machines and about the way players use them. Critics of the current arrangements have made several assertions about stakes and losses on B2 machine play. We set out the facts so that considered, evidence-based judgements can be made. The final sections describe some of what is known about public opinion in relation to gambling and briefly discuss some other issues related to the review. We then present our conclusions and recommendations.
26. We continue to believe, as we did at the time of the last review, in the relevance of the precautionary principle. The precautionary principle is applied where evidence and understanding are incomplete, but where there are plausible reasons for thinking that the risk of harm is potentially significant. It usually results in a new product or procedure being banned completely, unless and until those proposing it can demonstrate that harm would not be caused. In this case, B2 machines already exist in large numbers, and there is the (possibly more proportionate) option of lowering stakes to reduce the risk of harm, rather than banning the machines altogether.

III: Nature and number of machines and how they are played

Machine categories

27. The current regulatory framework allows six different types of gaming machines, as shown in Table 1. They are differentiated according to:
- i. **Stakes:** The amount that can be gambled on a single play.
 - ii. **Prizes:** The amount that can be won on a single play.
 - iii. **Speed of play:** The amount of time that must elapse between plays.
 - iv. **Location/number of machines per location:** The premises where machines can be located and the maximum number of machines that can be located there. Distinctions are made between different types of premises (eg casinos, LBOs, bingo halls, adult gaming centres, pubs) rather than geographic location.
28. Gaming machines which are thought to pose the greater risk to players are permitted only in gambling-specific premises. At the top of the hierarchy, B1 (and, in theory, Category A) gaming machines are allowed only in casinos, where oversight of players is intended to be tightest. At the bottom, Category D machines are the only gaming machines that children can use.
29. Other important characteristics of machines are:
- i. **Return to player (RTP):** RTP is not stipulated by regulations.³ It is the percentage of all the money staked which a machine is set up to return to players over its lifetime. The remainder is the percentage of staked amounts which the operator would expect to retain. Many players appear to have only limited understanding of the RTPs of particular types of machine games, and what that means for the losses they can expect to experience over a period of time. That does not necessarily imply, however, that regular players cannot recognise when a machine game is paying out less than others. RTPs can vary even between machines of the same type.
 - ii. **The volatility of outcomes:** Volatility measures the extent to which the outcomes in a single game or session experienced by players may deviate from outcomes that could be expected over a much longer period. It is determined both by the characteristics of specific games and by how people play them.

³ [How much should a gaming machine pay out in winnings?](#) Gambling Commission.

Table 1: Overview of machine categorisation

Machine category	Maximum stake	Maximum prize	Game cycle (seconds) ⁴	Allowed premises	Number in Great Britain across all gambling sectors (Average Oct 2014-Sept 2015)
A	Unlimited	Unlimited	2.5	Regional Casino (There are no Regional Casinos in Britain)	0
B1	£5	£10,000 (with the option of a maximum £20,000 linked progressive jackpot on a premises basis only)	2.5	Large Casino, Small Casino, Pre-2005 Act Casino and Regional Casinos	2,646
B2	£100	£500	20	Betting premises and tracks occupied by pool betting and all of the above	34,890
B3	£2	£500	2.5	Bingo premises, adult gaming centre and all of the above	20,109
B3A	£2	£500	2.5	Members' club or Miners' welfare institute only	No data available ⁵
B4	£2	£400	2.5	Members' club or Miners' welfare club, commercial club and all of the above.	242 ⁶
C	£1	£100	2.5	Family entertainment centre (with Commission operating licence), Qualifying alcohol licensed premises (without additional gaming machine permit), qualifying alcohol licensed premises (with additional local authority gaming machine permit) and all of the above.	73,637 ⁷

⁴ Minimum time required to complete a single game.

⁵ Machines present in venues which are not licensed by the Gambling Commission.

⁶ Figure does not include machines provided in venues not licensed by the Commission.

⁷ Figure does not include machines provided in venues not licensed by the Commission.

D money prize	10p	£5	2.5	Travelling fairs, unlicensed Family entertainment centre (with a local authority permit) and all of the above	39,611 ⁸
D non-money prize (other than crane grab machine)	30p	£8	These types of machine do not behave like traditional gaming machines. So it is not possible to provide meaningful figures for speed of play.	All of the above.	
D non-money prize (crane grab machine)	£1	£50		All of the above.	
D combined money and non-money prize (other than coin pusher or penny falls machines)	10p	£8 (of which no more than £5 may be a money prize)		All of the above.	
D combined money and non-money prize (coin pusher or penny falls machine)	20p	£20 (of which no more than £10 may be a money prize)		All of the above.	

⁸ Figure does not include machines provided in venues not licensed by the Commission.

Number of gaming machines

30. The average number of B2 gaming machines in LBOs in the reporting period ending in March 2016 was 34,890 (Table 2).⁹ This number represents a small reduction on the previous year. It is an increase over the equivalent figure of 33,350 in the period ending in March 2012.¹⁰ Most B2 machines also allow B3 play. In addition, LBOs contain a very small number of B3 only terminals and some Category C terminals.¹¹

Reporting period	Apr 2011 – Mar 2012	Apr 2012 – Mar 2013	Apr 2013 – Mar 2014	Apr 2014 – Mar 2015	Oct 2014 – Sept 2015
Number of B2 machines	33,350	33,467	34,717	35,067	34,890

31. Most LBOs now host the maximum number of four B2 gaming machines allowed under the regulations. The number of machines is therefore closely related to the number of LBOs. As shown in Table 3, there were 8,809¹³ LBOs in Great Britain on 31 March 2016, 319 less than four years earlier.¹⁴ The number of LBOs has been on a slow downward trend for some years. The widely-held belief that numbers are increasing may be caused by the clustering of premises on some high streets, sometimes in the form of multiple outlets of the same operator, which gives them greater prominence.

Date	As at 31 March 2012	As at 31 March 2013	As at 31 March 2014	As at 31 March 2015	As at 31 March 2016
Number of LBOs	9,128	9,100	9,111	8,975	8,809

32. There are many other gaming machine products that are equally, or more, widespread in their availability. B2 gaming machines account for only around 20 per cent of all gaming machines in gambling-specific premises. In September 2015, there were 50,934 gaming machines in adult gaming centres¹⁶, 59,539 in bingo premises,¹⁷ and 2,833 in casinos.¹⁸ Similar or identical gambling products are even more widely available from remote operators, including on mobile platforms, with no regulatory restrictions on the amounts which can be staked or speed of play.
33. It is estimated that there are 55,000 Category C machines in the pub sector and a further 9,000 in members' or commercial clubs.¹⁹

⁹ Gambling Commission Industry Statistics report an average figure over the annual reporting period, rather than a single snapshot at the point the data are collected.

¹⁰ 2011-12 is the earliest year covered by the Gambling Commission's Industry Statistics.

¹¹ 62 Category B3 and 41 Category C machines as of September 2015, [Gambling Industry Statistics April 2011 to September 2015](#), Gambling Commission, 2016.

¹² [Gambling Industry Statistics April 2011 to September 2015](#), Gambling Commission, 2016.

¹³ [Gambling Industry Statistics April 2011 to September 2015](#), Gambling Commission, 2016.

¹⁴ There was a peak of around 16,000 in the 1970s and 1980s.

¹⁵ [Gambling Industry Statistics April 2011 to September 2015](#), Gambling Commission, 2016.

¹⁶ 10,032 B3, 63 B4, 27,819 C, 13,020 D. based on latest available data from [Gambling Industry Statistics April 2011 to September 2015](#), Gambling Commission

¹⁷ 10,014 B3, 179 B4, 43,625 C, and 5,721 D).

¹⁸ 2,646 of these were Category B1 machines.

¹⁹ Gambling Act 2005: Triennial Review of Gaming Machine Stake and Prize Limits – Proposals for changes to maximum stake and prize limits for Category B, C and D gaming machines, January 2013.

How machines are played

34. Since our previous advice three years ago, valuable information about how players use B2 and B3 machines in LBOs has become available following the decision of the major operators to provide their data for research purposes. The findings of independent analysis of all 178 million B2 and B3 machine sessions in the premises of the five largest LBO operators over the ten-month period September 2013 to June 2014 were published in 2014. Additional secondary analyses were published in 2016.²⁰ Further analysis of the original data set, and of more recent ones, continues.
35. A weakness of the main data set is that it cannot link sessions of play by the same player over time, even when those sessions take place in the same LBO on the same day on the same machine. The 2016 secondary analyses partly filled that gap by using a sample of loyalty card holders. For these players it was possible to link sessions, as long as they consistently used their cards when playing. This sample is, however, likely to have been biased towards more engaged players.
36. The data help put in context some of the assertions that are made about staking behavior and losses.
37. Key findings from the main data set include the following:²¹
- i. **Staking:** The average stake in all plays on B2 content in the premises of the five largest LBO operators over the 10 months covered was £14.07. Five per cent of stakes were above £65.
 - ii. Nearly 5.5 million (three per cent) of sessions included stakes of £100.
 - iii. **Losses:** The average loss per session on B2 only content was £6.31. The average loss per session on B3 only content was much the same, at £6.37.²²
 - iv. Sessions involving both B2 and B3 content had an average loss of £14.16. The mean stake in these mixed sessions was £2.59, implying that high staking is not the only factor determining session outcome. Other factors, such as length of session and player staking strategies, also have an effect.
 - v. 70 per cent of all sessions involving B2 only content resulted in a loss of under £13.²³ Five per cent of sessions involved losses greater than £105.
 - vi. Very large losses in a single session did occur. They were, however, relatively rare.²⁴ Only seven of the 178 million sessions involved a loss greater than £10,000.²⁵ Cumulative losses from different sessions over time are only available for the loyalty card sample (see below).

²⁰ [Analysis and secondary analysis into B2 and B3 gaming machines](#), Responsible Gambling Trust. The analysis covered both stakes (a single play on a machine) and sessions (which are made up of a series of stakes made continuously by an individual player on the same machine over a period of time).

²¹ These findings are based on net session outcomes, and include winnings 'recycled' within those sessions.

²² [Patterns of play: analysis of data from machines in bookmakers](#), Natcen 2014. The relevance of the comparison is that B3 machine play, often available in LBOs on the same machines as B2 play, has much lower maximum stakes (£2), but allows a higher speed of play.

²³ [Patterns of play: analysis of data from machines in bookmakers](#), Natcen 2014.

²⁴ Much play has been made by some commentators with the fact that in theory it is possible to lose as much as £18,000 an hour by placing £100 bets as fast as the machine allows, and losing every time. In our advice for the 2013 triennial review we put the odds on that happening in practice at 11 million trillion to one.

²⁵ [Machine gambling research: advice to the Gambling Commission from the Responsible Gambling Strategy Board](#), Responsible Gambling Strategy Board, 2015.

- vii. **Session length.** The median session length was 3 minutes 54 seconds. The mean was 11 minutes 10 seconds. Some very long sessions led to this notable difference between mean and median values.
38. Key findings from the secondary analysis of the loyalty card sample include:
- i. Problem gamblers in the sample were found at all levels of staking, including very low stakes.²⁶
 - ii. Average longer-term losses were fairly modest, though still potentially significant for those on lower incomes. The average cumulative loss per loyalty card holder in the ten-month period was £392 (weighted)²⁷. Over the same period, problem or moderate risk gamblers on average lost a greater amount of money cumulatively on LBO machines than non-problem or low risk gamblers. The mean loss for problem gamblers was £449. The comparative figure for non-problem gamblers was £342. It was £336 for low-risk gamblers. The equivalent median figures were much lower (£32 for non-problem gamblers and £66 for problem gamblers), suggesting that some instances of very large losses were skewing the mean.²⁸
39. Care is needed when interpreting these data. At face value, they present a picture where most stakes are made at relatively modest levels and average losses are not excessive. Averages can, however, conceal a wide range of outcomes. Moreover, relatively small losses can build up quickly for regular players, leading to significant harm for those with limited means. It would be wrong to underestimate the potential significance of apparently small losses to those incurring them.
40. Research also provides information about the profile of players using gaming machines.²⁹ Participation in playing machines in LBOs, using slot machines, gambling online on slots or casino style games, and betting on sports events is above average for the unemployed. In addition, machines in LBOs, table games in casinos, slot machines and online gambling on slot or casino style games are more popular among younger adults. Those living in social housing show the highest rates of playing machines in bookmakers and online gambling on slots and casino style games.
41. One commentator has pointed out that expenditure on other leisure activities is not normally referred to as a loss, and suggested that players may regard their losses as a reasonable price to pay for the enjoyment they derive from gambling.³⁰ We agree use of language is important. Unlike, say, paying for entry to a football game, however, the level of expenditure that will result from a gambling session is not clear at the start, especially to those who have difficulty in controlling their behaviour.

²⁶ [Gambling machine research programme, Report 2: Identifying problem gambling – findings from a survey of loyalty card customers](#). Natcen, November 2014.

²⁷ The design for the loyalty card survey included oversampling more frequent machines players. There is therefore a significant skew in the unweighted data. Weighting adjustments were made to take this into account and to allow for differences between those who responded to the survey and gave permission to link their data and those who did not.

²⁸ [People who play machines in bookmakers: secondary analysis of loyalty card survey data](#), Natcen, 2016. Although this sample is skewed towards more engaged players, it is our only source of evidence where sessions are linked and longer-term losses can be measured.

²⁹ [Gambling behaviour in England and Scotland, Findings from the Health Survey for England 2012 and Scottish Health Survey 2012](#), Natcen, 2014.

³⁰ [Fixed odds betting terminals](#), Institute of Economic Affairs, September 2016.

The nature of £100 stakes

42. There is limited current information on how £100 stakes are placed when they do occur. It is known, however, that roulette is the most popular game on B2 machines. While we cannot be certain, it is reasonable to expect that people playing machine-based roulette do so in a similar way to those playing roulette on a casino table. For any one turn of the wheel, players will often spread their stake over several different outcomes (for example: red or black, odd or even, single or groups of numbers), thus reducing both the chance of losing their entire stake and the volatility of their play outcomes.
43. Limits on the maximum pay outs on any one play on a B2 machine also mean that there are caps on the amounts that can be staked on riskier outcomes. The maximum prize of £500 means that the most that can be placed on the possibility of a single number coming up (the riskiest possible bet) is £13.85.³¹ The effect is to impose some constraint on the way large stakes can be placed, reducing the volatility of losses experienced.

IV: Question 1: Has progress since the last triennial review in identifying and addressing harm been sufficient to allay concern about maximum stakes and gambling-related harm?

44. At the time of the last triennial review it was suggested that one factor to be considered in this new review should be the extent of the progress made by the industry in the intervening period in identifying and addressing harm relating to machines.
45. There are two aspects:
 - i. To what extent can the gambling industry demonstrate that it is taking responsible gambling seriously, particularly LBO operators in relation to B2 machine play?
 - ii. To what extent, three years later, are there now, or soon likely to be, effective tools to mitigate harm other than reducing stakes or changing other characteristics of machine play?
46. We acknowledged in the National Responsible Gambling Strategy that many parts of the industry, including LBO operators, are now taking their social responsibility licensing obligations more seriously than three years ago. Operators have been obliged to do so by successive amendments to the Licence Conditions and Code of Practice (LCCP). But many industry leaders are showing growing recognition of the interdependence of their commitment to the promotion of responsible gambling and the sustainability of their business models.
47. There are, in consequence, some encouraging developments, including a professed willingness to experiment with new methods of identifying and mitigating harmful play.

³¹ Mathematically, a stake of £13.88 would be possible, but machines do not generally allow bets in units of under five pence.

48. However, in relation to LBO operators:
- i. Some of the approaches being developed, such as algorithms intended to help identify harmful patterns of play, still have a considerable way to go before they can be considered successful.³² Their wider application to non-account-based play (the majority of play in LBOs) is likely to prove particularly challenging. Take-up of account-based play, which would otherwise have mitigated this problem, has continued to be low.
 - ii. There has also been low player take-up of voluntary self-setting limits.³³
 - iii. Considerable work still needs to be done to evaluate the impact of self-setting limits and other social responsibility tools and techniques such as player messaging and timeouts. Building a culture of evaluation, in line with priority action 3 of the National Responsible Gambling Strategy, and focusing evaluation on impact and not just process, remain key challenges for the industry.

Conclusion on Question 1: Is progress on other harm mitigation measures sufficient to allay concern about maximum stakes and gambling-related harm?

49. We recognise the effort and resource now being put by LBO operators into their responsible gambling activities. We believe, however, that there is need for, and scope for, considerable improvement in methods of identifying harmful play and in the development of interventions to help players that might be suffering harm. We return to this issue in Section VIII. Progress so far does not, in our view, justify becoming more relaxed about the issue of maximum stakes.

V: Question 2: Are gaming machines, and B2 machines in particular, disproportionately harmful?

50. This section looks in turn at:
- i. Statistical evidence of a possible association between B2 and other gaming machines and the prevalence of problem gamblers.
 - ii. The potential importance of the relative concentration of LBOs (and hence B2 and B3) gaming machines in areas where local populations have characteristics associated with greater vulnerability to problem gambling.
 - iii. The evidence relevant to the claim of a link between B2 machine play and violence in LBOs.

³² For example, [Evaluation of the player awareness system implementation](#), PriceWaterhouseCoopers, Responsible Gambling Trust, October 2016. Or [Responsible Gambling and Player Protection, Evaluation of early impact among machine gamblers](#), Natcen, 2015.

³³ ABB Code for Responsible Gambling and Player Protection: Evaluation of early impact among machine gamblers, NatCen, 2015.

Statistical evidence of an association between machine play and problem gambling

51. There is an important limitation in the research relevant to a possible association between B2 machine play and problem gambling. Much of the evidence on machine play in LBOs relates to all machine play that takes place there. It does not distinguish between B2 and other categories of games played on the same or other terminals.
52. We know, however, that nearly three quarters of sessions on LBO machines take place on B2 content. A further seven per cent involve a mix of B2 and B3 content (Table 4). It ought therefore to be possible to regard LBO machines as a reasonable proxy for B2 gaming machines, depending on the use to which the data are put.

Session type	Number of sessions	Per cent of sessions
B2 only	130.9 million	73.4
Mixed: B2 and B3	12.1 million	6.8
B3 only	28.0 million	15.7
Other ³⁵	7.3 million	4.1

53. With this reservation in mind, relevant evidence includes the following:
- i. Analysis of the 2012 health surveys showed a high rate of problem gamblers using machines in LBOs.³⁶ Analysis of earlier prevalence surveys gave similar results. 7.2 per cent of past year LBO machine gamblers in the 2012 surveys were categorised as problem gamblers according to either screening tool. Previous surveys also suggest that prevalence among regular players is higher still.
 - ii. Treatment providers consistently report that a significant proportion of those who present for treatment cite machine gambling in LBOs as one of their main gambling activities.³⁷ It is possible, however, that this could be the result of better signposting and referrals in some areas of gambling than in others. The group of people seen by treatment providers could also be unrepresentative of all problem gamblers.
 - iii. Analysis of the British Gambling Prevalence Survey (BGPS) 2010 data, the last time this information was collected, suggested that around 25 per cent of expenditure on machines in LBOs was attributable to the 8.8 per cent of B2 machine players who were problem gamblers.³⁸
 - iv. Spending levels in the 2010 survey were self-reported and therefore need to be treated with caution. Similarly high levels of expenditure by problem gamblers on LBO gaming machines were, however, found in the 2014 analysis of data from people who hold LBO loyalty cards.³⁹

³⁴ [Patterns of play: analysis of data from machines in bookmakers](#) (Annex C), Natcen, 2014.

³⁵ 'Other' is defined as sessions where the games played were B4, C games or the game played could not be categorised.

³⁶ [Gambling behaviour in England and Scotland](#), Findings from the Health Survey for England 2012 and Scottish Health Survey 2012, Natcen, 2012.

³⁷ [Gamcare annual statistics 2014/15](#). Additional evidence will become available in the future through GambleAware's Data Reporting Framework.

³⁸ [What proportion of gambling is problem gambling?](#) Estimates from the 2010 British Gambling Prevalence Survey, Orford, Wardle, Griffiths, 2012.

³⁹ Identifying problem gambling, findings from a survey of loyalty card holders, Natcen, 2014.

- v. The same loyalty card survey data showed that 15 per cent of men and 11 per cent of women reported experiencing problems with their machine play most of the time they played.⁴⁰ Most of these respondents took part in other forms of gambling, but experienced particular problems with machines.
54. We also know specifically about B2 machine play that:
- i. Problem gamblers are more likely than non-problem gamblers to have placed a maximum stake bet of £100.⁴¹
 - ii. Problem gamblers are also more likely to place maximum stakes more often than other gamblers.⁴²
 - iii. B2 sessions including a maximum stake lasted on average 21 to 26 minutes compared to nine to 11 minutes on average.⁴³ Time, as well as money spent, could be an indicator of harm.
 - iv. More broadly, a higher proportion of problem gamblers is found at most or all higher staking levels. In the loyalty card sample, 44 per cent of players who had placed a stake at £28 or above were identified as problem gamblers. Only 12 percent were categorised as neither problem nor moderate/low risk gamblers.⁴⁴
55. When there are more problem gamblers than non-problem gamblers at a certain stake level, it becomes difficult to regard play as an unobjectionable leisure-time activity where the right balance is being struck between protection of the vulnerable and the potential enjoyment of others.
56. Loyalty card holders may not be representative of all machine gamblers. They are, however, likely to be more representative of more engaged gamblers, and therefore of a subset of people more likely to be at risk of harm.
57. The existence of an association between machines and problem gambling is not surprising. Most problem gamblers engage in a significant number of different forms of gambling.⁴⁵ Participation in a large number of gambling activities is a strong predictor of problem gambling. Machines in LBOs on high streets are an easily accessible form of land-based gambling.
58. Moreover, there are several characteristics of machine play that are known to be associated with greater risk of harm, including the opportunity to stake large amounts, anonymity, the frequency of near misses, volatility, and speed of play.
59. Comparison of B2 gaming machines with other gambling products across these dimensions is not straightforward. Speed of play is relatively slow on B2 gaming machines compared to other machine categories. It is still fast, however, when

⁴⁰ [Gambling machine research programme, Report 2: Identifying problem gambling – findings from a survey of loyalty card customers](#). Natcen. November 2014.

⁴¹ [People who play machines in bookmakers: secondary analysis of loyalty card survey data](#), Natcen, 2016. These data cover the 5 per cent of players who have loyalty cards, and may not be representative of the other 95 per cent.

⁴² [People who play machines in bookmakers: secondary analysis of loyalty card survey data](#), Natcen, 2016. These data cover the 5 per cent of players who have loyalty cards, and may not be representative of the other 95 per cent.

⁴³ Forthcoming - FOBTs in British betting shops: Further analysis of machine data to examine the impact of the £50 regulations, David Forrest & Ian McHale, University of Liverpool and University of Salford, February 2017.

⁴⁴ Based on secondary analysis of the loyalty card survey data. At stake levels of £28, 44 per cent of players were problem gamblers and 25 per cent were at moderate risk of problem gambling. 19 per cent were scored as low-risk.

⁴⁵ [Gambling behaviour in England and Scotland, Findings from the Health Survey for England 2012 and Scottish Health Survey 2012](#), NatCen, 2014. On average, problem gamblers took part in 6.6 activities in the past year.

compared to casino table games and most sports betting. Maximum stakes on B2s are high relative to other machine categories, not when compared to the remote sector. In remote play stakes and prizes are only limited by what operators are prepared to offer. On the other hand, remote play necessarily takes place through an account, which in principle ought to give operators greater opportunity to monitor play and target interventions appropriately.

60. Table 5 helps to put the figures in paragraph 53 (i) in context. It shows that LBO machine gambling is placed towards the higher end of the spectrum of products associated with problem gamblers, but not at the absolute top. It follows that, if the figures relating to LBO machine play are regarded as a source of particular concern, so logically should those relating to some other forms of gambling.

Gambling activity	Past year participation (%)	Problem gambling prevalence according to either screen (DSM-IV or PGSI) (%)
Spread betting	0.5	20.9
Poker in pubs/clubs	1.3	13.2
Other events (betting on) (not online)	1.1	12.9
Betting exchange	0.9	10.6
Any other gambling	1.6	9.8
Machines in bookmakers	3.0	7.2
Online gambling on slots, casino or bingo games	3.1	6.3
Casino table games (not online)	3.2	6.0
Sports events (not online)	4.7	5.8
Dog races (not online)	2.8	4.2
Football pools	2.8	4.0
Online betting with a bookmaker	4.9	3.8
Bingo (not online)	5.4	3.4
Slot machines	7.3	2.6
Horse races (not online)	10.1	2.3
Private betting	5.4	2.2
Other lotteries	14.3	1.8
Scratchcards	19.5	1.7
National Lottery Draw	52.4	0.9

Is there a unique association between machines in LBOs and problem gambling?

61. Until recently, it was believed that play on gaming machines in LBOs (B2s and B3s combined) was unique among gambling products in that it retained a significant association with problem gambling even after adjusting for the number of other gambling activities undertaken by the relevant players. That belief was based on one study using data from the 2007 British Gambling Prevalence Survey.⁴⁷

⁴⁶ [Gambling behaviour in England and Scotland: Findings from the Health Survey for England 2012 and the Scottish Health Survey 2012](#). NatCen, 2014.

⁴⁷ [Disordered gambling, type of gambling and gambling involvement in the British Gambling Prevalence Survey 2007](#), La Plante, Nelson, LaBrie & Shaffer, 2009.

62. The Gambling Commission has recently repeated the same analysis with data from the British Gambling Prevalence Survey 2010 and the 2012 health surveys.⁴⁸ The earlier finding was not replicated. In the later surveys the data do not suggest that machine play in LBOs had a unique association with problem gambling. After controlling for participation in multiple activities, there were no consistent links across the three data sets between problem gambling and any single form of gambling.
63. There is some potentially interesting further evidence from a recent follow up of the loyalty card customers of LBOs first surveyed in 2014.⁴⁹ The 2016 follow up found that, of those who were not problem gamblers in 2014, those who played machines in LBOs on a weekly basis were significantly more likely to have become problem gamblers by 2016. This association was significant after engagement in other gambling activities was taken into account. However, the study was based on a sample of highly engaged gamblers with a history of gambling on machines in LBOs. It is not representative of all machine players. The extent to which similar findings would be evident if analogous surveys were made of other sectors (like regular casino gamblers) is not known.
64. The loyalty card follow up study also found that those who increased their participation in machines in LBOs were more likely to have socio-economic characteristics associated with vulnerability to gambling-related harm.
65. A further interesting finding from this research is the extent to which those surveyed had changed their problem gambling status over the two years. In addition to those who were not problem gamblers in 2014 becoming so by 2016, some players had moved in the opposite direction. In total, 46 per cent of participants changed their status whilst overall problem gambling prevalence rates remained the same.⁵⁰ The implication is that apparently stable problem gambling rates can conceal significant changes within the underlying population.
66. These findings do not yield any firm conclusions on the question posed. It may be that for some gamblers, and for some at risk and problem gamblers, B2 machines are uniquely attractive and engage them in a way that leads to more harm than other gambling products. But we cannot be certain.

Limitations of arguments based on overall problem gambling prevalence rates

67. It has been suggested that the fact that the number of problem gamblers in Great Britain has remained relatively stable over the past two decades when the number of machines has been increasing implies that the machines could not be contributing significantly to problem gambling.⁵¹ We do not find this argument persuasive. The relatively low numbers of people playing LBO gaming machines compared to other forms of gambling would require an extremely large increase in problem gambling on machines for this to be detectable in population level data. It also ignores the influence of any other factors which may have changed over the same period.
68. Nor should too much weight be placed the Gambling Commission's omnibus survey data, which appear to show a doubling in the population rate of problem gambling,

⁴⁸ Forthcoming.

⁴⁹ Follow up study of loyalty card customers, changes in gambling behaviour over time, Natcen, December 2016.

⁵⁰ Follow up study of loyalty card customers, changes in gambling behaviour over time, Natcen, December 2016.

⁵¹ [Fixed odds betting terminals](#), Institute of Economic Affairs, September 2016.

and a tripling among some sub-groups (particularly those aged 18-24).⁵² As the sub-sample of problem gamblers in this survey is relatively small, these changes are subject to a large margin for error. Greater confidence should be placed in the larger and more robust Health Surveys that include full problem gambling screens.⁵³

Evidence from other jurisdictions

69. It is worth noting that studies relating to other countries also consistently demonstrate relatively high participation by problem gamblers in machine gambling.⁵⁴
70. Machines are also among the most frequently reported form of gambling cited by treatment-seeking problem gamblers in Australia, Belgium, Denmark, Finland, Germany, Iceland, the Netherlands, Poland, Slovakia and Sweden.⁵⁵
71. Evidence from other jurisdictions needs, however, to be treated with caution. There are differences in products, culture, regulatory frameworks and the availability of different forms of gambling.

Association and causation

72. An association does not necessarily imply a causal relationship. An association between problem gamblers and machine play in general, or B2 play in particular, *could* result from play on machines having the effect of creating more problem gamblers than other forms of gambling. But it could also arise because B2 or other gaming machines are a particularly attractive form of gambling for those who are already problem gamblers. Or it could result from a combination of both. The evidence does not allow us to distinguish between these different explanations.
73. For some purposes, however, inability to determine causation may not be problematic. If machines do more than other forms of gambling to encourage problem gambling, that supports an argument for tighter controls. If, on the other hand, they are particularly attractive to pre-existing problem gamblers, measures related to B2 or other machines (including measures other than a reduction in maximum stakes) may be thought likely to be particularly effective in reducing harm because they impact on a large group of such gamblers. Whatever the direction of causality, the existence of significant numbers of problem gamblers among B2 gaming machine players places both an obligation on operators to do what they can to mitigate harm and improve the safety of their customers, and an opportunity to do so.

The geographical concentration of machines

74. There is a clear pattern in the geographical distribution of LBOs, and therefore of B2 gaming machines. Areas containing a high density of machines tend to have greater levels of income deprivation and more economically inactive residents – factors known to be associated with greater vulnerability to gambling-related harm. A 2015 report by Geofutures⁵⁶ looked at average ‘deprivation scores’ in the 400-metre area surrounding LBOs. The analysis found that, in England, Scotland and

⁵² [Gambling participation: activities and mode of access](#), Gambling Commission, July 2016.

⁵³ PGSI and DSM-IV.

⁵⁴ Afifi et al 2010, Dorion & Nicki 2011, APC 2010, Rush et al 2002, Smith & Wynne 2004, and Urbanoski & Rush 2006.

⁵⁵ [A critical review of the link between gaming machines and gambling-related harm](#), Blaszczyński, 2013.

⁵⁶ Contextualising machine gambling characteristics by location - final report. A spatial investigation of machines in bookmakers using industry data, Geofutures, 2015.

Wales, the 'LBO-proximate average deprivation score' was higher than the national and urban averages. In England, the average deprivation score for areas within 400 metres of LBOs was 29.6, compared to the urban average of 23.4.⁵⁷

75. Subsequent research found that people who live close to a cluster of LBOs have higher rates of problem gambling.⁵⁸
76. The concentration of LBOs is not necessarily the result of deliberate action by operators to target the more vulnerable. LBOs tend to be opened in locations with high footfall (and therefore with access to more customers) and lower commercial rents.
77. Other types of gambling premises may also be concentrated in particular areas. Casinos are often in city centres. Bingo premises are also more likely to be in less prosperous areas. The same may be true of pubs with Category C machines. There are, of course, far fewer casinos (147) and bingo halls (599) than LBOs (8,809).⁵⁹
78. If machines are particularly associated with harm, their availability in significant numbers in easily accessible premises ought to be a cause of concern. On the same basis, their concentration in areas whose residents are more likely to be vulnerable is an additional reason for disquiet.

Violence

79. Some of those who advocate a reduction in maximum stakes on B2 gaming machines have suggested an association between B2 machines and violence.
80. In assessing this assertion, it is necessary to distinguish between:
 - i. LBOs as a target because of the combination of the availability of cash on their premises and relatively light levels of staffing.
 - ii. The extent to which players exhibit violence to machines or to shop staff as a consequence of playing on machines, thus exhibiting a loss of control which may indicate problem gambling or other mental health issues.
81. LBOs are not unique in the first respect. Other retail outlets such as convenience stores face similar concerns. It is a serious issue for the industry. But it is not one which sheds any obvious light on the harmfulness of B2 or other machines.
82. The second issue, while relevant, is not conclusively supported by evidence. We are not aware of any reliable peer-reviewed research on the subject.⁶⁰ There have been some very serious cases of violence directed at staff. The impact on the victims should not be downplayed. But statistical evidence on the prevalence of the problem is hard to come by, and may be unreliable. For example, Metropolitan Police data apparently show an increase of 11 per cent in the number of police call-outs to LBOs

⁵⁷ Deprivation scores are the averages of multiple deprivation score for the area surrounding the betting premises. The higher the value the more 'deprived' the area is considered. The multiple deprivation scores for England, Wales and Scotland are just under 22 (21.67, 21.98 and 21.7 respectively). Average multiple deprivation scores for urban areas in England, Wales and Scotland were 23.45, 24.07 and 23.19.

⁵⁸ Secondary Analysis of Machines Data, Examining the effect of proximity and concentration of B2 machines to gambling play, Geofutures, 2016.

⁵⁹ [Gambling Industry Statistics April 2011 to September 2015](#), Gambling Commission.

⁶⁰ We are aware of one paper which has not been peer reviewed: Do Crime-Prone Areas Attract Gambling Shops? A Case of London Boroughs, Kumar and Yoshimoto, July 2016.

in London between 2012/13 and 2015/16.⁶¹ But these figures relate to all incidents, including theft, not just those involving machines. In addition, we understand that LBOs are often used as location markers for recording incidents, for example if a car is broken into whilst parked outside.⁶²

83. If taken at face value, the bookmaking industry's figures, based on the results of FOI requests to British police forces, support their claim that, when compared with other high street premises, the number of police incidents in betting offices is relatively small (2,269 in 2013 compared to 2,163 incidents in fast food outlets, 6,226 in clothes shops, 18,989 in pubs and 59,431 in food stores). Table 6 put these figures alongside latest estimated numbers of outlets for each type of premises. As far as we are aware, however, these figures have not been independently verified and the nature of crimes across different types of premises will vary greatly.⁶³

Table 6: Comparison of reported incidents of crime between different types of retail outlet			
Premises	Number of incidents in 2013⁶⁴	Estimated number of premises	Known incidents per outlet⁶⁵
Betting shops	2,269	9,100 ⁶⁶	0.25
Fast food	2,163	47,928 ⁶⁷	0.05
Pubs	18,989	52,500 ⁶⁸	0.36
Food stores	59,431	53,045 ⁶⁹	1.1
Clothes shops	6,226	25,470 ⁷⁰	0.24

84. Violence might be expected to result in damage to machines. An alternative way of looking at this issue is therefore to consider the extent to which machines need to be replaced or repaired.
85. We have been told by machine suppliers that each machine experiences on average 5.7 faults per year⁷¹. We have no way of judging whether this is higher or lower than would be expected for machines with both mechanical and electronic features. Failures could be caused by wear and tear and software issues as well as violence. Failure due to violence, evidenced for example by smashed screens, is asserted to be relatively infrequent and concentrated in particular areas such as some inner London boroughs. But recording the reasons for failure is not currently undertaken by machine manufacturers or most operators. We find this surprising, in view of the high profile the issue of violence has taken in public debate.
86. In the absence of reliable data, it is difficult to reach any firm conclusions about the extent to which gaming machines in LBOs are or are not particularly conducive to the loss of control leading to violence.

⁶¹ Response to Freedom of Information request, Metropolitan Police, 2016.

⁶² In addition, a further caveat provided with this data was that location names (ie areas and roads) that contain the name of an operator (for example: Ladbroke Grove) could also be miscoded within the data that the police were able to provide.

⁶³ There are also issues with the data covering different years (as the data on incidents of crime is from 2013), and the fact that not all police forces responded to the Freedom of Information request that generated the data ('over half' responded with information).

⁶⁴ [Bookmaker staff and customers safer since Safe Bet Alliance](#), Politics Home, June 2014.

⁶⁵ As stated above, these figures should be treated as indicative as not all police forces provided data.

⁶⁶ Gambling Commission Industry Statistics, 2013.

⁶⁷ [Public Health England \(2016\) Density of Fast food outlets in England](#) – metadata and summary of local authority data (note: data apply to England only)

⁶⁸ [British Beer & Pub Association](#), statistics section of website, 2013.

⁶⁹ [ONS Enterprise/local units by 4 Digit SIC and UK Regions 2015](#). Retail sale of food in non-specialist (SIC 4711,47,270) and specialist (SIC 4729, 5,775) stores (UK), Office for National Statistics, 2015.

⁷⁰ [ONS Enterprise/local units by 4 Digit SIC and UK Regions 2015](#). Retail sale of clothing in specialised stores (SIC 4771) (UK). Office for National Statistics, 2015.

⁷¹ Unpublished data provided by machine manufacturers.

87. The risk of violence or other crime is not, however, the only potential reason to be concerned about light levels of staffing in many LBOs at certain times of the day. There must be considerable doubt about the extent to which staff operating on their own in a shop can, consistent with their licensing obligations, simultaneously look after the counter, remain alert to the possibility of under-age customers and money laundering, and still be expected to identify potentially harmful machine play and make appropriate interventions. We return to this issue in our recommendations.

Conclusion on Question 2: Are gaming machines, and B2 machines in particular, disproportionately harmful?

88. A 2013 review of international literature on gaming machines concluded:
- “Electronic gaming machines are associated with harms and this is an undeniable claim. Whether or not it is the most virulent form that requires special public health attention over and above other gambling products is debatable”.⁷²*
89. Our view in relation to machines in Great Britain is more nuanced.
90. We agree that it is not possible on the basis of the existing evidence to state *categorically* that LBO gaming machines generally, and B2 machines in particular, are more harmful than other forms of gambling relative to the regulatory requirements relating to them. We have also found unproven the assertion that B2 machines are particularly associated with loss of control leading to violence.
91. On the other hand, we are mindful of:
- i. The consistent finding across a range of jurisdictions of an association between machine play in general and problem gamblers.
 - ii. The relatively high rates of problem gambling among players on LBO machines (most of which are B2 machines) as revealed by the BGPS and later surveys.
 - iii. The high proportion of gross expenditure on LBO machines which can be attributed to problem gamblers.
 - iv. The high proportion of those who present for treatment who identify machines in LBOs as their main form of gambling.
 - v. The relatively high proportion of the more engaged gamblers in the loyalty card survey who reported a problem with their play on LBO machines.
 - vi. The fact that, in the same sample, there were more problem and at-risk gamblers than non-problem gamblers placing stakes above a staking level as low as £28.
 - vii. The greater concentrations of LBO machines in geographic areas where residents may be more vulnerable to gambling-related harm.
 - viii. The surprising reluctance of machine operators to produce data to respond to claims of violence caused by machine play.

⁷² A critical examination of the link between gaming machines and gambling-related harm, Blaszczyński, 2013.

92. We also think it could be a mistake not to act on B2 machines simply because there is insufficient evidence to conclude that they are the *most* harmful form of gambling. If other forms of machine play, or other forms of gambling, are harmful to a similar but unacceptable extent, then action should be taken on them as well.
93. The combination of these factors is, in our view, a sufficient justification to look more closely on a precautionary basis at greater regulatory controls over machines in LBOs, including maximum stakes on B2 machines.

VI. Question 3: Are B2 gaming machines in an anomalous position in the hierarchy of regulated gaming machines?

94. As described earlier, the regulatory regime permits different categories of machines to offer different levels of stakes, prizes and speed of play and controls the types of premises in which they can be located. One way of combining some of these characteristics is to calculate an Expected Average Theoretical Cost per hour (EATC/h) for different categories of machines. The EATC/h is the statistical expectation of the loss a player would experience if they were playing a machine for an hour, assuming play takes place at the maximum speed and with the highest stake possible.
95. Table 7 shows the EATC/h for different categories of machine.

Table 7: Expected average theoretical cost per hour (EATC/h) of different categories of machines				
Category & type/location	Max stake (£)	RTP⁷³ (percent)	EATC/h (£)	Time required to complete each game (seconds)
B1	5	92.5	540	2.5 (1440 games per hour max)
B2 (roulette) ⁷⁴	100	97.3	486	20 (180 games per hour max)
B3	2	89.5	302	2.5 (1440 games per hour max)
B4	1	80	288	2.5 (1440 games per hour max)
C (AGCs) ⁷⁵	1	88	173	2.5 (1440 games per hour max)
C (pubs)	1	78	316	2.5 (1440 games per hour max)
D ⁷⁶	10p	70	43	2.5 (1440 games per hour max)

96. There are three important caveats in interpreting this table:
- i. EATC/h is theoretical. The actual loss (or gain) experienced by any one player in a session may be very different from another player using an identical machine, or from the same player's experience on a later occasion using the same or identical machines. We noted earlier, for example, that analysis of actual sessions of play in the 2013-14 data set suggested very similar average losses for B2 and B3 only sessions, despite their different EATC/hs. B2 machines do, however, offer the *potential* for higher losses, or winnings, in shorter periods of time.
 - ii. The comparison is only with other land-based machine products. Online gambling products can have unlimited stakes and prizes. Their EATC/hs can

⁷³ RTP taken as the midpoint in the range of typical RTP values provided by the Gambling Commission.

⁷⁴ There are also a small number of B2 slots, subject to the same regulations about stakes and prizes and speed of play. They account for about 5 per cent of B2 play.

⁷⁵ Different typical RTP rates are found for Category C machines in different types of venues.

⁷⁶ Category D money prize gaming machine. Meaningful figures cannot be provided for those Category D machines that have a non-monetary prize element.

be much higher.

- iii. Changes in RTP rates, which are not controlled by regulation, can make a significant impact on EATC/h. From the point of view of return to the operator, regulatory changes to stake size and speed of play can be compensated by changes to the RTP offered on games or by marketing content on games with a lower RTP.
97. In principle, it might be expected that higher categories of machines would have higher EATC/hs. It might also be thought that this progression would be broadly related to the tightness of the oversight of players which is supposed to apply in the premises in which the machines are located. In practice, this appears only partly to be the case:
- i. The EATC/h for B2 machines is higher than that for B3 machines, which is what might be expected in the light of the availability of B3 machines in premises other than LBOs. But the size of the difference (£486 compared with £302) looks a little disproportionate, unless it is believed that the degree of supervision of players in LBOs is that much significantly better than in bingo halls or adult gaming centres.
 - ii. The existence of an EATC/h for Category C machines in pubs (using a median RTP) which is higher than that for B3s looks wholly anomalous. This is particularly concerning in light of the availability of these machines in premises where gambling is not the primary licensed activity and where alcohol is served.
98. The relevance of this analysis does, however, partly depend on the weighting attached to different risk factors. If, for example, speed of play is regarded as a particularly important risk factor, it would be appropriate for faster machines like B3s to have lower EATC/hs relative to the much slower B2 machines, explaining part of what might otherwise look like anomalies. However, this would also make the EATC/h of Category C machines even more anomalous in relation to that of B2 machines. C machines are eight times faster than B2s.
99. The potential volatility of returns may also be a risk factor to take into account. As mentioned earlier, volatility depends on a player's betting strategy as well as on a game's characteristics. It does not therefore necessarily manifest itself in the way expected. One analysis of over 1,000 games showed the volatility of returns on B2 roulette games in the sample to be +/- 6 per cent of target RTP (when adopting a low risk strategy) or +/-36 per cent (with a high-risk strategy).⁷⁷ The comparative figures for B3 slot games were +/-35per cent (without gambles) and +/-73 per cent (with gambles).⁷⁸ The implication is that returns on B3 games have the potential to be more volatile than those on B2 games, despite the much higher maximum stakes on B2 games.
100. Nor is the relationship between volatility and harm straightforward. Parke et al have suggested that the greater unpredictability of rewards in a high volatility game may encourage players to continue gambling even when they are repeatedly losing, and

⁷⁷ NMI Gaming, Volatility in gaming machines – discussion paper for Machines Research Oversight Panel. Based on simulated games, 2013.

⁷⁸ Category B3 machines contain a 'gamble' feature where the player can gamble their winnings from the current game on a 'double up' feature – for example, guess the colour or suit of a virtual playing card.

might enhance the gambling experience by increasing the suspense associated with each spin. Alternatively, moderately volatile games could be more likely to encourage persistent gambling than less or more volatile ones, because they combine reasonably high levels of unpredictability with realistic chances of winning significant sums.⁷⁹ The ability to place a high stake, at relatively short odds, might be necessary for some games to maintain a sufficient mix of risk and reward to appeal to some players.

Conclusion on question 3: Are B2 machines in an anomalous position in the regulatory hierarchy?

101. It is possible to use Table 7 to argue for a reduction in the maximum stake for B2 machines to bring its EATC/h into a more appropriate relationship to those of other machines. The maximum stake which would give B2 machines broadly the same EATC/h as B3 machines is £62.80, using the RTPs shown in the table.
102. The strength of the argument for reduction in B2 stake does, however, depend partly on the weight attached to different risk factors and the real extent of differences between the degree of oversight in different types of gambling-specific premises. For example, reducing maximum stakes below £62.80 would be reasonable if you were particularly concerned about the potential for a player to lose several hundred pounds on an LBO machine, in a relatively short period. If this argument was accepted, reducing the maximum stake would not, however, be the only way to reduce the B2 EATC/h.
103. The most anomalous issues suggested by Table 7 are not the position of B2 gaming machines. They are:
 - i. The relatively high EATC/h of Category C machines in pubs and other non-gambling specific premises.
 - ii. The absence of any limits on stakes and prizes in games identical to those available on B2 gaming machines, when they are played on much more widely available remote platforms.
104. The only justification for the absence of maximum stakes on remote play on B2 type games would be if remote operators could show that they were taking advantage of the lack of anonymity of their players to implement more effective harm-minimisation strategies than is possible for non-account-based play in LBOs. We do not believe operators have yet demonstrated this convincingly, though we are aware of some efforts currently being made.
105. We do not think that the anomalous position of remote play is a convincing argument for relaxing the controls on machine play in LBOs. It is more a reason for considering the imposition of controls on equivalent games on remote platforms. We return to this point in our recommendations.

⁷⁹ [Key issues in product-based harm minimisation, examining the theory](#), evidence and policy issues in Great Britain, J Parke, A Parke, Blaszczyński, 2016.

VII. Question 4: Would reducing maximum stakes on B2 gaming machines reduce gambling-related harm?

106. There would be limited point in a reduction in maximum stakes on B2 gaming machines if it had no effect on reducing gambling-related harm. The key question is therefore whether a reduction in maximum stakes would reduce harm.
107. The focus should be on total B2 gaming machine–related harm, not just that suffered by identifiable problem gamblers. There are likely to be a number of B2 machine players who would not be classified as problem gamblers, but who could, nevertheless, experience harm as the result of their machine play, for example because of the possibility of large losses which they cannot afford. This could include the larger pool of people classified as ‘at-risk’ of problem gambling. The secondary analysis of the loyalty card survey showed that those with the lowest incomes on average lost just as much as those with the highest incomes. For loyalty card holders, it appears in general not to be the case that those who lose the most have the most available to spend.
108. There are two issues:
- i. Would a reduction cause a diversion to other forms of play which could potentially be equally or more harmful?
 - ii. Even if diversion does not occur on a major scale, what reason is there to think that a reduction in maximum stakes would necessarily reduce harm? For example, would the style of play on machines change, perhaps leading to longer sessions with similar financial outcomes?
109. On the first question, it is known that problem gamblers typically engage in multiple forms of gambling (as noted earlier, breadth of engagement is one of the best indicators of problem gambling).⁸⁰ The implication might be that problem gamblers are likely to be able readily to switch to other forms of gambling.
110. On the other hand:
- i. There is a small proportion of problem gamblers who gamble only on machines. The study of loyalty card holders found that among those who play B2 gaming machines weekly, six per cent only played B2 machines and did not engage in any other gambling activities on a weekly basis. A further four per cent gambled only on B2 machines and lotteries. Even among the most engaged machine players, therefore, there are ten per cent for whom machines are the main focus of their gambling activity. This group of players is possibly less likely to switch in the event of a reduction in stakes.⁸¹
 - ii. Even if some players do react to a reduction in stake size by shifting to other forms of gambling, it does not *necessarily* follow that those alternatives are more harmful to them than B2 machines. A shift to remote play, for example, would mean that there would also be no limits on maximum stakes, yet play would be account-based and subject in principle, though possibly not yet in practice, to different forms of intervention.

⁸⁰ Disordered gambling, type of gambling and gambling involvement in the British Gambling Prevalence Survey, La Plante, Nelson, LaBrie & Shaffer, 2009.

⁸¹ People who play machines in bookmakers, secondary analysis of loyalty card data. Natcen, April 2016.

111. On the second issue, there are many players identified as problem gamblers who placed stakes well below £50 even before the regulations were changed. The mean stake in single B2 and B3 plays by problem gamblers in the 2013 data set was £7.43.⁸² The same report found that the highest staking 10 per cent of problem gamblers had an average stake of £20. There is little reason to think the harm these players suffer would be affected by a reduction in maximum stakes, unless the reduction was to levels some way below £50, and possibly not even then.

The Gaming Machine (Circumstances of Use) (Amendment) Regulations 2015

112. Some useful insight on both questions is provided by looking at the impact of regulatory changes that came into effect in April 2015. The Gaming Machine (Circumstances of Use) (Amendment Regulations) 2015 introduced a requirement that single machine stakes over £50 on B2 gaming machines can only be placed after discussion with counter staff or through account-based play. The intention was to nudge players away from placing larger stakes, without removing their ability to do so altogether.
113. An initial evaluation of these changes was published by DCMS in 2016⁸³. Subsequent analysis has been carried out to compare patterns of play in the time periods before and after the introduction of the regulations.⁸⁴ This research used a more up to-date data set, covering a longer period of time,⁸⁵ which allowed the influence of pre-existing trends to be taken into account. The key findings were:
- i. A large reduction in the number of stakes above £50 (45 per cent). The fall in the value of stakes above £50 was, however, offset by a corresponding increase in the value of stakes just within the £50 limit, leaving the total amount wagered broadly unchanged relative to the underlying trend.
 - ii. An increase in the duration of sessions (10.3 per cent on average). There was also a notable increase in very long sessions (for example, 45 minutes to one hour, one hour to two hours, etc.).
 - iii. A small (£0.41) immediate reduction in loss per session. This effect was, however, substantially eroded as time went on.
 - iv. Some reduction in the very largest losses (which were relatively small in number anyway). But little evidence of any significant impact on sessional losses still large enough to be considered to be markers of harm. Losses in the ranges £100 to £200, £200 to £500, £500 to £1,000 and £1,000 to £5,000 all remained broadly similar to before the change after taking into account the underlying trend.
 - v. Limited evidence of a switch from B2 to B3 play. There was an increase in B3 play. But it could be explained as part of a longer-term trend. Players' adaption to the regulatory change focused on B2 play.
114. It seems clear that:
- i. Many players regard their anonymity as important. They would rather change their staking patterns than identify themselves to counter staff or use accounts.

⁸² The £7.43 figure includes play on B3 content. [Gambling machine research programme, Report 2: Identifying problem gambling – findings from a survey of loyalty card customers](#). Natcen. November 2014.

⁸³ Evaluation of Gaming Machine (Circumstances of Use) (Amendment) Regulations 2015, DCMS, 2016.

⁸⁴ Forthcoming - FOBTs in British betting shops: Further analysis of machine data to examine the impact of the £50 regulations, Forrest & McHale, February 2017.

⁸⁵ February 2014 to October 2016.

- ii. Players readily adapt how they gamble to the characteristics of the products available to them. It is possible that some players of roulette games (the vast majority of those played on B2 machines) have an implicit preference for a particular level of risk. With higher stakes, they can place their bets conservatively, spreading the stake over a range of possible outcomes in a single play. To get the same level of enjoyment from lower stakes they may feel the need to engage in riskier staking behaviour.
 - iii. The effect on the volume of harm is, to say the least, highly uncertain.
115. The effects of a reduction to a maximum stake level significantly below £50 would not necessarily replicate those following the change in regulations. A lower limit would impact on a greater number and a different mix of players and they might respond differently.

Evidence from simulated player sessions

116. A recent study funded by the trade association for amusement arcade operators (Bacta) concluded that there would be a reduction in harm if stakes were substantially reduced.⁸⁶ This conclusion was largely based on simulated player sessions using laptops and involving a sample of 58 gamblers. Laboratory experiments of this kind can be useful for some purposes. We do not believe, however, that simulated sessions in artificial circumstances involving small samples over a very short period provide evidence nearly as compelling as analysis of real play over a sustained period. The study also has the serious methodological weakness that it makes no allowance for the possibility that over time players will adapt their style of play to changes in product characteristics.⁸⁷ We do not believe that any weight should be placed on its conclusions.

Evidence on patterns of loss on B3 machines in LBOs and other environments

117. The issue of diversion to other forms of gambling, and machine play in particular, is given greater prominence by recently available data on patterns of play.⁸⁸ This shows that:
- i. The profiles of sessional losses on B3 play in Adult Gaming Centres (AGCs) and bingo premises are broadly similar to that for B2 play on roulette in LBOs.
 - ii. Some levels of sessional loss large enough to act as a marker of harm occur in similar proportions in B3 sessions in AGCs and bingo premises to those in B2 sessions in LBOs. For example Table 8 shows that 3.9 per cent of B2 roulette sessions in LBOs resulted in a loss between £100 to £200, compared with 4.9 per cent in AGCs and 3.3 per cent in bingo premises. B2 roulette did, however, lead to a higher proportion of losses over £500 compared to B3 play in AGCs, bingo premises and LBOs.

⁸⁶ [Report on results of research into the likely effects of substantially reducing the maximum stake of £100 per 20-second spin on Category B2 electronic gambling machines in UK betting shops](#), Collins, Barr, Scott, 2016.

⁸⁷ The study itself recognises a number of limitations in simulated play, such as the absence of real winning and losses and the fact that simulations are taking place in an artificial environment.

⁸⁸ Forthcoming, Gambling Commission, 2017.

- iii. Levels of sessional losses on mixed sessions (which include B2 and B3 content) in LBOs, were higher than either those on B2 roulette play or B3 sessions in AGCs, bingo premises and LBOs.

Session outcome	Bingo B3	AGC B3	LBO		
			B3	B2 (Roulette)	Mixed sessions
Greater than £5000	0.0	0.0	0.0	<0.0*	<0.0*
£1000.01 to £5000	<0.0*	<0.0*	<0.0*	0.1	0.2
£500.01 to £1000	0.1	0.3	0.1	0.5	1.0
£200.01 to £500	1.2	2.3	0.7	2.3	5.2
£100.01 to £200	3.3	4.9	2.2	3.9	8.4
£50.01 to £100	7.3	8.6	5.5	6.4	12.1
Base – Total number of sessions (million) ⁸⁹	6.3	4.1	51.7	128.2	26.1

* Value non-zero but lower than 0.0% when rounding to the nearest decimal place

118. The implications are that:
- i. Some of the concerns about B2 play may be just as relevant to B3 play. There is potential for harm from both products.
 - ii. There may be a case for looking particularly carefully at B2 mixed sessions and reconsidering the controls placed on them.

Effect of increase in maximum stakes on B1 gaming machines following last triennial review

119. Further evidence that changes in the behaviour of machine players can be expected to follow changes in stake sizes is provided by analysis⁹⁰ of the impact of the increase in maximum stake sizes on B1 machines in casinos from £2 to £5 after the last triennial review. Two key findings were that:
- i. The use of B1 slots machines went up, as some players switched from table games. The implication might be that, to be attractive to some players, gaming machines need, in the absence of jackpots, to offer a combination of risk and reward not sufficiently present when the maximum stake was £2.
 - ii. The switch was only observed in casinos in more deprived areas, suggesting that socio-economic factors have an influence over changes in behaviour following changes in stake sizes.

Lessons from other case studies

120. There are few international gambling case studies from which we can learn what diversion effects reducing stakes might have. In Norway, gaming machines were banned entirely for a period in 2007. One study concluded that gambling participation

⁸⁹ The data for bingo and AGCs was provided by both large and small operators. It covers 643 AGC premises and 266 bingo premises. Based on the latest industry statistics this represents 46 per cent of the 575 total number of bingo premises and 47 per cent of the 1,337 total number of AGCs.

⁹⁰ Evaluating the impact of the uplift of stakes and prizes on B1 gaming machines in casinos. Forrest, McHale & Wardle, 2015.

and gambling-related problems were reduced after machines were removed from the market, and that other types of gambling did not substitute for machine play.⁹¹ An observed increase in online gambling was thought to be due to an existing trend and unconnected to the removal of machines. It has been suggested that the consequences included an increase in illegal gambling. There is, however, no way of measuring this. There are no data on the number of transactions made on illegal websites or at premises illegally providing machines.

121. Case studies in other fields suggest that the extent to which the intended effects of policy interventions are undermined by displacement activity is highly dependent on the context. The introduction in the UK of controls on the sale of large quantities of paracetamol with the aim of reducing their availability to those contemplating suicide does appear to have had the desired effect to some extent. This happened despite the apparent ease with which the regulations could be circumvented (for example, by accumulating a fatal dose of paracetamol from several high-street shops).⁹² On the other hand, a US study found that fast-food customers responded to an intervention to encourage them to buy healthier main meals by choosing less-healthy side orders and drinks.⁹³

Conclusion on Question 4: Would a reduction in maximum stakes on B2 gaming machines be likely to lead to a reduction in gambling-related harm?

122. In an earlier section we expressed the view that it was unlikely that changing a single characteristic of any one gambling product would have more than a modest impact on the overall level of gambling-related harm. There is little in the evidence we have subsequently considered to make us regard this view as incorrect in relation to a reduction in the maximum stake on B2 gaming machines.
123. No-one can predict the effect of a reduction in maximum stakes with any confidence.
124. There could be some reduction in harm because of the effect on a player's ability to place very large stakes quickly. That might be important, not only to problem gamblers but also to those players who might not be categorized as problem gamblers but who may nevertheless be harmed as the result of their gambling.
125. Unless it was to a very low level, however, a reduction in maximum stake would have no effect on the very large proportion of problem gamblers who typically place stakes at relatively modest levels. The analysis of the impact of the effective halving of the maximum stake for the majority of players unwilling to identify themselves, demonstrates that the effects might have no significant effect on harm at all. In the event of a large reduction in maximum stake, the extent of diversion to other forms of gambling and the size of changes in behaviour might both be more significant than after the nudge towards stakes below £50. But the nature of the shift, and the effect on overall harm, are impossible to predict.
126. Account would also need to be taken of the commercial response of the LBO operators. A large reduction might cause them to put more emphasis on B3 machines or on their remote platforms. B3 gaming machines are subject to less stringent controls on their availability, but appear in practice to be causing similar

⁹¹ Gambling Behaviour and the Prevalence of Gambling Problems in Adult EGM Gamblers when EGMs are Banned. A Natural Experiment, Lund, 2009.

⁹² <http://news.bbc.co.uk/1/hi/health/783080.stm> [Improved reference requested].

⁹³ Promoting Healthy Choices: Information versus Convenience. Wisdom, Downs, and Loewenstein, American Economic Journal, Applied Economics, 2010.

average losses to B2 gaming machines, and some large losses in broadly similar proportions. We have pointed out several times that there are no limits on remote play other than those imposed by the operator.

127. All these effects must be regarded as very uncertain. One implication is that, if a reduction does take place, it will be important to monitor and evaluate its impact very carefully.

VIII: Question 5: Are there other regulatory changes which should be preferred to, or used in concert with, a reduction in maximum stakes?

128. Our conclusion that the effects on gambling-related harm of a reduction in maximum stake sizes on B2 gaming machines are uncertain and unpredictable invites the question whether there are other ways of addressing the issue. Such measures could be important whatever the explanation of the association between gaming machines and problem gamblers.
129. We concluded earlier (paragraph 49) that many of the harm-identification and reduction techniques currently being developed by LBO and other operators had yet to prove themselves, or to be fully developed. That should not be taken as implying that we think they are likely to be fruitless, nor that there should be any let-up in efforts to improve them. On the contrary, uncertainty about the effects on harm of any reduction in maximum stake sizes makes it even more important to press on vigorously with the development of these techniques.
130. The National Responsible Gambling Strategy set out a number of priority actions relating to the need to improve methods of identifying harmful play and developing effective interventions to support players who are at risk of harm. Possible measures include improved messaging, options for timeouts, compulsory session breaks, or more effective ways of limit-setting. The key, as argued in the Strategy, is experimentation, followed by robust evaluation of what works so that good practice can be spread rapidly.
131. There are two other measures which should, in our view, be seriously considered as ways of strengthening the strategy.
132. First, the detection and mitigation of harm depends crucially on the availability of well-trained staff in customer facing roles. We have already recorded our doubts about the extent to which staff in single staffed shops, however well-trained, can successfully combine their responsibilities for effective monitoring and harm mitigation with their responsibilities for managing the counter and other housekeeping duties. We understand that the Gambling Commission is considering issues surrounding single-staffing. In our view the Commission should review the compatibility of single staffing with social responsibility requirements. The Commission should also ask larger operators to address the issue directly in their annual assurance statements.
133. Second, there are considerable limitations on the use of algorithms to detect potentially harmful patterns of play in LBOs when these can only be applied to the minority of customers using loyalty cards. Making all machine play in LBOs account-based would be likely to make the consistent identification of harmful play, and its subsequent mitigation, considerably easier. Unless the industry can devise equally effective alternative means of detecting harmful play, we continue to believe that

serious consideration should be given to making account-based play mandatory for all machines in LBOs (and perhaps more widely). We recognize that there are a number of considerations which would have to be taken into account before such a step was taken.

Conclusion on Question 5; Are there steps that could be taken to reduce harm other than a stake reduction?

134. A reduction in maximum stake should in no sense be regarded as a substitute for other measures to reduce or mitigate gambling-related harm in LBOs. Piloting and evaluation of other harm minimisation measures as set out in the Strategy should be progressed as quickly as possible, irrespective of any reduction in maximum stakes which may be decided. The compatibility of single staffing with LBO operators' social responsibility obligations, and the possibility of making account-based play mandatory for machine play in LBOs (and perhaps more widely) should be given serious consideration.

IX: Public opinion

135. We pointed out at the beginning of this advice that our task was to advise on the appropriate balance between the need to protect the vulnerable and the desirability, other things being equal, of giving players freedom in how they spend their leisure time.
136. Where that balance should be struck is a matter of judgement. It is not solely a technical issue. It is important to take account of the opinions of the communities in which gambling occurs, including those who may be affected by its consequences.
137. In that context, we note the following :
- i. The 2010 British Gambling Prevalence Survey showed that, on balance, views of gambling were rather more negative than positive, but that, consistent with the public policy position, the public supported the view that people had the right to gamble if that is what they wanted.⁹⁴
 - ii. There is emerging evidence that public attitudes towards gambling in general have subsequently been hardening. A recent update of questions asked in the 2010 British Gambling Prevalence Survey⁹⁵ showed that the proportion of respondents who believe gambling to be dangerous to family life has increased from 62 per cent in 2010 to 71 per cent. The proportion of respondents who believe that people should have the right to gamble whenever they wanted has reduced from 78 per cent to 69 per cent. The proportion who believes that gambling should be discouraged has increased from 36 per cent to 56 per cent.
 - iii. A follow-up survey was used to explore reasons for these changes.⁹⁶ When respondents were asked about their views on gambling and its impact on society, only 1.2 per cent specifically mentioned gaming machines.⁹⁷ Larger

⁹⁴ British Gambling Prevalence Survey (Table 9.1, page 128), Gambling Commission, 2010

⁹⁵ The 2010 data are from the British Gambling Prevalence Survey, conducted face-to-face. The 2016 data set was produced by just one quarterly telephone survey, not yet published. It should be treated as indicative until a full year's data have been collected. Data from the year to December 2016 will be published in the Gambling Commission's annual participation report in February 2017

⁹⁶ Forthcoming - Data taken from on-line tracker survey into gambling behaviour to be published in February 2017.

⁹⁷ 1.2 per cent of all respondents, unprompted open question.

numbers of respondents were concerned about the addictive nature of gambling (24 per cent), its financial impact (16 per cent) or its accessibility (13 per cent). These concerns are not unique to gaming machines.

- iv. An additional question in the same series of surveys asked respondents to rank statements about priorities for the regulation of gambling in order of importance. The findings are shown in Table 9. 'Having controls in place to ensure that children and young people are not exposed to gambling' was rated as the highest priority by 30 per cent of respondents and appeared in the top three of over half of the respondents' answers. 'Setting a stake limit on machines in bookmakers was the top priority for 11 per cent of respondents.

	% of respondents ranking as highest priority	% of respondents ranking in top three
Having controls in place to ensure that children and young people are not exposed to gambling	29.7	52.6
Increased regulation of non-UK based online gambling operators	12.1	35.5
Setting a stake limit on machines in bookmakers	11.2	35.4
Regulating the number of gambling premises on the high street	11.1	38.2
Restrictions on the volume of gambling advertising	9.9	30.5
Multi-operator self-exclusion schemes	9.8	31.6
Restrictions on the timing of gambling advertising on TV	6.3	28.4
Restrictions on the content of gambling advertising	5.8	27.9
Setting a maximum allowance for the number gaming machines permitted in bookmakers' premises	4.1	19.9

- 138. Attitudes towards gambling are therefore becoming more negative in some respects. It does not appear, however, that gaming machines in LBOs are the only issue which concerns the public.
- 139. Other relevant factors are that:
 - i. A significant number of local authorities – who have a responsibility for looking after the well-being of their residents - have been pressing for a significant reduction in maximum stakes and/or the devolution of greater powers to control the presence of LBOs on their high streets.⁹⁹
 - ii. There has been persistently critical media coverage of the current maximum stake on B2 machines.
 - iii. There has also been increasing Parliamentary interest.¹⁰⁰ Beyond Westminster, the issue has received attention in the Scottish Parliament,

⁹⁸ Forthcoming – Data taken from on-line tracker survey into gambling behaviour to be published in February 2017.

⁹⁹ See, for example, [Newham's Sustainable Communities Act proposal and betting shop campaign](#), Newham LBC, 2014.

¹⁰⁰ For example: [House of Lords debate](#). Daily Hansard, 11 March 2016. Column 1523.

with further powers being devolved that will allow variations in the numbers of gaming machines for new betting premise licences in Scotland.¹⁰¹

140. It is possible that the true extent of public anxiety may be exaggerated. But nor should these signs of concern be discounted. The regulation of gambling needs to be rooted in an understanding of what is acceptable in society.

X: Other issues

141. The bulk of this advice has been on the issue of maximum stakes on B2 gaming machines. There are, however, points to make in relation to stakes and prizes on other gambling products:
- i. The Gambling Commission's 2015-16 Annual Report stated that '*with very few low-risk exceptions, gambling should be confined to dedicated gambling premises that is casino, betting or bingo premises*'.¹⁰² Category C machines are situated in pubs and other qualifying alcohol licensed premises. Their ETAC/h suggests they have a relatively high potential to cause losses compared to other types of gaming machine. But they can be located in premises where gambling is not the primary activity, where staff are much less likely to be able to identify and intervene in problematic play and where players can combine their gambling with drinking alcohol. The machines are also harder to avoid for people who do not want the temptation to gamble; and they are more visible to young people than those in LBOs or AGCs. Even allowing for reservations about the suitability of EATC/h as a method for making comparisons, the combination of these factors suggest at least a prima facie cause for concern. There should in our view be no question of increasing the maximum stakes on these machines, as has been proposed.
 - ii. Great Britain is unusual internationally in allowing the use of any, albeit very low stake, gaming machines by young people and children in the form of Category D fruit machines. Problem gambling rates among children and young people in Great Britain are not unusually high either historically or compared with other countries.¹⁰³ But any problem gambling by this group ought to be a matter of concern. Moreover, use of the precautionary principle is particularly justified in anything affecting children. We therefore advise strongly against any increase in stakes and prizes for Category D machines available to children and young people, unless those proposing an increase can demonstrate that no additional harm would be caused. Children's access and exposure to gambling more generally, for example to advertising, may need further consideration to ensure that potential risks are not being overlooked.
 - iii. There have long been claims, particularly from those operating adult gaming centres, for an increase in maximum stakes on B3 gaming machines, partly on the basis that it would create a more level playing field with B2 gaming machines in LBOs. In evidence for the current review the relevant trade association (Bacta) has asked for an increase in maximum stake from £2 to £2.50. We understand the argument. But the evidence set out earlier suggest that B3 gaming machines are potentially harmful too. Unlike B2 machines, they do not yet offer self-set limits on time or money spent (although it is possible these may be introduced in the future). If there is to

¹⁰¹ [Scotland Act 2016](#) (Section 52).

¹⁰² Annual report and financial statements 2015/16 (page 22), Gambling Commission, July 2016.

¹⁰³ [Children and young people's gambling: research review](#), Valentine, University of Sheffield, 2016.

be any levelling of the playing field, we regard it as better achieved by a reduction in B2 maximum stakes. It would, moreover, be premature in our view to make any increase in B3 maximum stakes until the effects on playing behaviour of any reduction in B2 maximum stakes are fully worked through and analysed.

- iv. We have frequently referred in this advice to the widespread availability of remote gambling and the lack of any limitation on stakes and prizes other than those imposed by operators. This position looks increasingly anomalous. The justification for the absence of limits when others have them can only be the availability of better (account-based) data to monitor play and intervene where harm is identified. We are yet to see strong evidence that the remote sector is using this greater access to data to deliver a more effective player protection than is present in other sectors. It is vital that the remote sector demonstrates that the risks associated with remote gambling are being managed effectively and comprehensively. If they fail to do so, the case for imposing controls on stakes and prizes comparable to those on gambling products posing similar risks in the land-based sectors will be very strong.

XI: Conclusions and recommendations

142. If the evidence available so far is looked at objectively and dispassionately, the relationship between maximum stakes on B2 gaming machines and gambling-related harm is more complex than many appear to believe.
143. There is reasonably convincing evidence of a strong association between B2 machines and problem gamblers. The association may be even stronger for some other forms of gambling. But that is not a reason to be more relaxed about B2 machines, particularly in the light of their concentration in more vulnerable areas.
144. Nor does it matter that it is not possible to determine whether the association arises because the machines cause problem gambling or simply reflects their easy availability and the attraction of machine play to those who already have a problem with their gambling. Large numbers of problem gamblers playing on their machines, for whatever reason, creates both an obligation on operators and an opportunity to take steps to detect potentially harmful play and to mitigate its effects.
145. There is no compelling evidence that a reduction in maximum stakes would necessarily make a material contribution to reducing gambling-related harm. There is even a risk that some effects in some circumstances could be perverse.
146. But the first priority objective of the National Responsible Gambling Strategy is that lack of complete evidence should not be allowed to be a barrier to progress. The Strategy argued that action should be taken on the basis of what is known, or can reasonably be inferred. Despite the uncertainty about the effects, we believe that a reduction in maximum stakes on B2 gaming machines implemented for precautionary reasons could still reasonably form part of a coherent strategy to mitigate gambling-related harm, *provided that* the impact on actual harm is carefully monitored and evaluated, so that offsetting action can be taken if it proves necessary.
147. We take this view because we think that, on the balance of probabilities, the small risk of an increase in harm is outweighed by the following:

- i. £100 stakes can lead to significant losses in a short space of time. Such losses might be harmful even to those who would not be defined by a survey screen as problem gamblers.
 - ii. This concern is amplified because of the concentration of LBO machines in areas whose populations are more vulnerable to gambling-related harm.
 - iii. At higher levels of staking there is a greater concentration of problem gamblers. It becomes difficult to regard something as an unobjectionable leisure time activity if a high proportion of those participating in it suffer harm.
148. We also think it important to take account of public opinion in considering the balance between the protection of the vulnerable and enabling the enjoyment of those who gamble. There is some evidence of a shift in public views about gambling towards a more negative stance.
149. In no sense should a reduction in maximum stake be regarded as an alternative to other efforts to reduce gambling-related harm. The priority actions set out last April in the National Responsible Gambling Strategy should be pursued with vigour and commitment.
150. There is no evidenced-based way of determining any new uniquely right level for the maximum stake. But we make the following observations:
- i. It is desirable that any new maximum should be sustainable and not subject to further frequent changes unless the evidence justifies it. The uncertainty otherwise generated could be damaging, not only to the industry but also to public confidence in the integrity of the regulatory system. Arguably, the focus on maximum stakes over the last few years has distracted attention from the other steps which need to be taken to promote responsible gambling. It has also made it more difficult for different sectors of the industry to work together on areas where they should be co-operating. It must be doubtful whether the 2015 change in regulations has achieved a sustainable situation in the light of current political and other pressures.
 - ii. There would be little point in a new maximum being more than £50. That is already the de facto limit for a majority of players. Moreover, the loyalty card data, to the extent they are representative, suggest that an absolute £50 limit would affect less than five per cent of pre-April 2015 problem gamblers.¹⁰⁴ Conversely, it would only affect around 1 per cent of non-problem gamblers, which may be why the regulations appear to have been accepted without a great deal of protest from players. It may be reasonable to conclude that they regard the detriment or loss of utility to them as insignificant, though it could also be because they retain the possibility of higher stakes. We note, however, that a maximum stake of £50 would give B2 machines an EATC/h which is lower than that for B3 machines (see Section 6), which would create a new anomaly, unless it is (not unreasonably) thought that the possibility of losing large amounts very quickly on a B2 machine justifies that.
 - iii. A reduction to as low as £2, as some have argued, would effectively abolish B2 gaming machines altogether. There would be little point in anyone playing on a B2 machine when the same stakes would be available on B3 machines with a faster rate of play and the same prize level. It is not for us to consider

¹⁰⁴ People who play machines in bookmakers, secondary analysis of loyalty card data, Natcen, April 2016

the economic damage a reduction to £2 might do to the bookmaking and related industries. But we would find it difficult to regard so strong an action as being proportionate on the basis of the existing evidence. The 95 per cent of players who currently place stakes at higher levels might feel that their enjoyment had been significantly affected, particularly since playing roulette with a stake as low as £2 makes it difficult to spread the bet in any meaningful way. The way in which players (and operators) would react would be very difficult to forecast and could create a variety of unintended and potentially harmful consequences.

- iv. If a reduction is made in maximum stake, it may be necessary also to look at maximum prizes, for technical reasons.¹⁰⁵
151. Despite what is said above about the desirability of avoiding frequent changes, if policy makers are reluctant to set a new limit immediately, it might be possible to pilot a reduction in a defined geographic area (or even different levels of reduction in different areas). A pilot would, however, be complex to set up, and would raise various design issues, for example if players were able easily to transfer their machine gambling from the pilot to another area. It would also require co-operation by all licensed operators in the pilot area, including independent LBOs; and some way would need to be found to assess the effect of diversion to other forms of gambling, including on remote platforms. A pilot is likely to take at least two years to plan, implement and evaluate.

Recommendations

152. Our recommendations are:
- i. We doubt that changing a single characteristic of one gambling product would make a significant impact on levels of gambling-related harm. A reduction in maximum stakes on B2 gaming machines could, however, still be a potentially useful part of a coherent strategy to reduce harm, provided the effects are carefully monitored and evaluated.
 - ii. There would be little point in setting a new maximum higher than £50. That is now already the effective limit for many players.
 - iii. There are some arguments for setting a new limit below £50, on precautionary grounds. There is, however, no evidenced-based way of determining any uniquely correct new level.
 - iv. It is desirable that any new maximum stake should be at a sustainable level, and not subject to further frequent changes.
 - v. Despite this, if there was reluctance to set a new limit immediately, it might be possible to pilot a reduction in a defined geographic area (or even different levels of reduction in different areas).
 - vi. A reduction in maximum stakes on B2 gaming machines should not be seen as a substitute for further efforts to reduce gambling-related harm. It should be only part of a comprehensive approach relating to all forms of gambling. The priority actions set out in April 2016 in the National Responsible

¹⁰⁵ With £500 prize limits/£100 stakes a player can make seven maximum single figure bets with one £100 stake. With a £50 maximum stakes a player can only make three, which may have implications for expected loss rates.

Gambling Strategy should be pursued vigorously by operators and others. The Strategy needs to be supported by concrete commitments and swift action.

- vii. Serious consideration should be given to making account-based play mandatory for gaming machines in LBOs (and possibly more widely), unless the gambling industry can implement demonstrably effective alternative means of detecting and mitigating harmful play. There are other issues that would need to be considered. But mandatory account-based play would provide a much more detailed picture of patterns of play over time by the same player, and better evidence about the impact of interventions.
- viii. The availability of more data has been valuable in the development of this advice. Obtaining it has not, however, always been entirely straightforward. It is desirable that a framework should be agreed with the gambling industry for the future provision and sharing of relevant data. The strategy should apply to all sectors of the industry.
- ix. Appropriate staffing levels are key to the detection and mitigation of harmful play. There must be serious doubt about the extent to which a single member of staff on their own in a betting shop, even at less busy times of the day or night, can simultaneously look after the counter, remain alert to the possibility of under-age play and money laundering and still be expected to identify potentially harmful play and make appropriate interventions. The Gambling Commission should ask all operators to review safe staffing levels. The larger operators should be required specifically to address staffing levels and safety (of employees as well as players) in their annual assurance statements.
- x. The absence of any regulatory limits on stakes and prizes on remote platforms, including those which offer games identical to those on B2 gaming machines, is anomalous, given the wide accessibility of such platforms and the rapid pace with which they are developing. The remote sector needs swiftly to demonstrate that the risks associated with remote gambling are being managed effectively and comprehensively. If they fail to do so, controls should be placed on stakes and prizes on remote platforms comparable to those on similar land-based products.
- xi. There should be no increase in stakes and prizes on B3 gaming machines until the impact on harm of any reduction in maximum stakes on B2 machines has fully worked through and been evaluated. The effects of the B2 stake reduction would otherwise be difficult to disentangle. Much valuable information might be lost. The evidence suggests that B3 machines also have the capacity to cause harm.
- xii. We have previously advised that the precautionary principle should be considered when new gambling products are proposed. The principle equally applies when significant changes are being considered to products already available.
- xiii. There is a strong argument on precautionary grounds against any increase in maximum stakes on Category C machines located in premises where alcohol is served, where gambling is not the primary activity and where levels of supervision of machine play are likely to be low or non-existent. These machines already occupy an anomalous position in the hierarchy of machines when account is taken of the limited extent of supervision.

- xiv. The availability to children and young people of some forms of relatively low stake gambling is well established in this country, though unusual internationally. Problem gambling rates among children and young people in Great Britain are not unusually high either historically or compared with other countries. But any problem gambling by this group ought to be a matter of concern. Moreover, use of the precautionary principle is particularly justified in anything affecting children. We advise against any increase in stakes and prizes for Category D machines available to children and young people, unless those proposing an increase can demonstrate that no additional harm would be caused. Children's access and exposure to gambling more generally, including advertising, may need further consideration to ensure that potential risks are not being overlooked.
- xv. The precautionary principle also implies that the onus should be on those proposing loading machines directly from debit cards to demonstrate that the change would not cause additional harm.

Responsible Gambling Strategy Board
31 January 2017

Annex

Introduction

1. We submitted the advice to which this annex is attached to the Gambling Commission on 31 January 2017. Since then nine months have passed. Not surprisingly, during this time a limited amount of further potentially relevant evidence has become available. We summarise the new information in this annex. We do not believe that it requires us to change our advice in any substantive way.

Participation and prevalence data

2. Most of the figures in our advice relating to gambling participation and problem gambling prevalence rates use 2012 data covering England and Scotland. In August 2017 the Gambling Commission published combined figures for 2015 from the Health Survey for England 2015, the Scottish Health Survey 2015 and the Wales Omnibus Survey.¹⁰⁶ This is the first time since the BGPS 2010 that aggregate population level data covering all three nations has become available.
3. The 2015 figures show a relatively stable picture compared with the previous 2012 data for England and Scotland¹⁰⁷.
 - Overall rates of participation in gambling remained broadly similar, with 65 per cent of adults participating in the past twelve months compared with 63 per cent in 2012.
 - Overall rates of problem gambling also remained stable, with 1.4 per cent of gamblers classed as problem gamblers (0.8 per cent of the population) and 6.4 per cent at-risk (3.9 per cent of the population), very similar to the rates published in the 2012 report.
 - Participation in gambling on machines in bookmakers remained unchanged, with 3 per cent of the population taking part in this activity in both the 2015 and 2012 data sets.
 - Changes were observed in the rates of problem gambling and at-risk problem gambling, but these were not statistically significant.
 - There remained a strong correlation between the number of gambling activities a person participated and problem gambling. 11.9 per cent of people who took part in seven or more activities in 2015 were classed as problem gamblers.
 - Prevalence of problem gambling amongst unemployed people remained unchanged at 7 per cent, the same rate as in 2012.

Public perceptions and attitudes

4. Section 9 of the advice refers to a hardening trend of public attitudes towards gambling. Further relevant data was published by the Gambling Commission in 2017. The new survey results suggest that only 34 per cent of people think gambling is fair

¹⁰⁶ [Gambling behaviour in Great Britain in 2015](#): Evidence from England, Scotland and Wales, Natcen, August 2017

¹⁰⁷ [Gambling behaviour in England and Scotland](#), Findings from the Health Survey for England 2012 and Scottish Health Survey 2012, Natcen, 2014

and can be trusted (or 38 per cent of those who had gambled in the past twelve months).

5. 39 per cent of people think that gambling is associated with criminal activity, including theft, fraud, money laundering and match fixing. Due to fluctuations in historical data, longer term trends in this data set are difficult to interpret.
6. Wider stakeholder research has also been carried out with the public and MPs.¹⁰⁸ Gambling was reported as the least trusted industry by both public and MPs. It is also in the top 2 of those industries regarded as needing more regulation, together with gas and electricity. It was ranked highest by MPs and second by the public.

Analysis of loyalty card data

7. In section five of the advice we make use of research on loyalty card data from machine play in bookmakers.¹⁰⁹ New evidence is now available from secondary analysis of the data set used for that research providing further information on problem gambling rates at different levels of staking.
8. As we report in the advice, the sample of players used in this analysis is unlikely to be representative of all players. In particular, problem gambling rates are higher amongst this cohort than amongst those who played machines in bookmakers in the population level Health Survey; and the data include play on B3 as well as on B2 content.
9. With these reservations in mind, the results are nevertheless interesting. In particular Table 1 shows that amongst this group relatively high rates of problem gambling are found at all staking levels, including £2 or less. But at higher staking levels, there is a general trend towards higher rates of problem and at-risk gambling.

Table 1: Problem gambling status by average staking level (Loyalty card holders who played machines in bookmakers – includes B3)					
PGSI status	Average staking level				
	£2 or less	£2.01 to £10	£10 or more	£20 or more	£30 or more
	%				
Non problem gambler	32	29	19	13	16
Low risk gambler	25	25	22	21	19
Moderate risk gambler	24	23	28	23	23
Problem gambler	19	24	31	42	42
<i>Base</i>					
<i>Weighted</i>	<i>1669</i>	<i>1704</i>	<i>612</i>	<i>230</i>	<i>88</i>
<i>Unweighted</i>	<i>1611</i>	<i>1708</i>	<i>668</i>	<i>239</i>	<i>96</i>
<i>*Caution advised because of very small base values</i>					

Progress in player protection

11. Our advice asked whether sufficient progress had been made since the last triennial review in identifying and addressing harm, particularly in licensed betting offices, to allay concern about maximum stakes and gambling-related harm more generally. In June 2016, we published our report on progress made in the first year of the National

¹⁰⁸ The public versus parliamentarians: what do they think of regulation?. Populus, June 2017

¹⁰⁹ Follow-up study of loyalty card customer: changes in gambling behaviour over time. Wardle et al. (2016).

Responsible Gambling Strategy. It stated that, across all sectors, there was concern that progress was too slow trialling, testing and evaluating player protection measures.

12. Although this assessment of progress was not solely in relation to bookmakers, it does not support a change to the position set out in the original advice (paragraph 49). This stated there is a need for considerable improvement in methods of identifying harmful play and in the development of interventions to help players that might be suffering harm.

Other evidence and research

13. In addition to the evidence and research outlined above, a number of other related studies and pieces of information have become available since January 2017. Other reports include an investigation of eye-tracking on electronic gaming machines¹¹⁰ and the evaluation of the first phase of the multi-operator self-exclusion scheme in bookmakers' premises.¹¹¹
14. These pieces of research add to the knowledge base on player protection opportunities in relation to machine play, but do not provide insights which change the views set out in our original advice. Nonetheless, the findings of this work will be useful as operators take steps to improve the player protection measures that they have in place, both in relation to play on B2 gaming machines and other gambling products.
15. Industry statistics show that the numbers of B2 gaming machines in the market have remained stable over the last year.¹¹²

Summary

16. Attempting to understand the association between specific gambling products and gambling-related harm remains complex, and predicting the impact of changes to a product is more difficult still. The new evidence that has become available does not contradict the conclusions we set out in January, and in many places it appears to strengthen them. Therefore, we consider that our advice is as relevant now as it was when we first submitted it to the Gambling Commission.

Responsible Gambling Strategy Board

¹¹⁰ A scoping investigation of eye-tracking in Electronic Gaming Machine (EGM) play. Rogers et al, 2017

¹¹¹ Evaluation of the Multi-operator self-exclusion scheme (MOSES). Chrysalis Research, 2017

¹¹² Industry statistics – April 2013 to March 2016, Gambling Commission, May 2017