

# **B2 machine gambling in the UK: how large is a “large-scale loss?”**

**A report by Howard Reed of Landman Economics for the Campaign for Fairer Gambling**

**January 2018**

## Introduction

The Department for Digital, Culture, Media and Sport (DCMS) recently launched a Consultation on proposals for changes to gaming machines and social responsibility measures (DCMS, 2017; hereafter referred to as “the DCMS Consultation”.) One of the primary aims of the consultation is to look at options for reducing the maximum stake on B2 gaming machines from its current level of £100 to a lower level. DCMS analyse the impact of 4 different options for B2 stake reduction:

- Option 1 – Maximum stake reduced to £50;
- Option 2 – Maximum stake reduced to £30;
- Option 3 – Maximum stake reduced to £20;<sup>1</sup>
- Option 4 – Maximum stake reduced to £2.

A key rationale for the UK Government reducing the level of maximum stake for B2 machines is “in order to reduce the potential for large session losses and therefore [to reduce] potentially harmful impacts on players and their wider communities” (DCMS 2017, p 5). This raises the key issue of what counts as a “large session loss” on B2 machines.

The DCMS Consultation defines a “large-scale loss” as any loss of over £500 in a single gaming session (DCMS 2017, para 2.9). However, no particular rationale is offered by DCMS for setting the level for a “large-scale loss” at £500. This short report analyses what difference it would make to the estimates of the extent of large-scale losses from B2 machines if the definition of what constitutes a “large-scale loss” were set at a lower level – for example £100 or £200. The report also looks at what criteria might be useful in assessing how large a loss from a machine gaming session has to be in order to qualify as “large-scale”, using data on the distribution of total losses from B2 gaming machines by size of individual session losses.

---

<sup>1</sup> Strictly speaking, Option 3 consists of reducing the maximum stake to £20 on B2 non-slot games and £2 on B2 slot games. However in this report we are solely concerned with B2 non-slots games (see footnote 3 below).

# 1 Analysis of sessions leading to large-scale losses on B2 gaming machines by stake level

The DCMS Consultation uses data from B2 machine manufacturers on play sessions undertaken between July 2015 and June 2016 (supplied by machine manufacturers to the Gambling Commission<sup>2</sup>) to conduct an analysis of the stake composition of B2 sessions leading to large-scale losses (with a “large-scale” loss from a session defined as a loss of greater than £500).

DCMS calculates the breakdown of stake levels for those sessions on B2 non-slot games<sup>3</sup> which end with losses to the player greater than £500. Table 1 presents this information in percentage terms, in the first column of the table. The other two columns show similar calculations but using smaller thresholds for “large scale losses”, of greater than £200 (middle column) and greater than £100 (right-hand column).

**Table 1. Analysis of sessions on B2 non-slots ending with large-scale losses: breakdown by average stake size, for different definitions of “large-scale loss”**

<b>Average in-session stake size up to maximum:</b>	<b>Proportion of sessions ending with losses greater than:</b>		
	<b>£500</b>	<b>£200</b>	<b>£100</b>
£50 (Option 1)	78%	88%	93%
£30 (Option 2)	17%	36%	51%
£20 (Option 3)	6%	18%	30%
£2 (Option 4)	0%	0%	0%

Source: author’s analysis of B2 machine session data published by Gambling Commission (2017)

Table 1 shows that, using DCMS’s preferred cut-off point of losses greater than £500 to define sessions leading to “large scale losses”, 78 percent (almost four-fifths) of such sessions feature an average stake size of up to £50 (DCMS’s Option 1), whereas only 17 per cent (less than a fifth) of sessions feature an average stake size

<sup>2</sup> See Gambling Commission (2017).

<sup>3</sup> As explained in DCMS (2017) para 2.13, “B2 machines offer a variety of games to players which we describe here as slots or non-slots. By slots, we are referring to a game which is mechanical or virtual in nature and which uses spinning reels, discs or other representations of moving or changing symbols. By non-slots we are referring to virtual games of the type played in casinos, primarily roulette, and other virtual sporting events such as horse and dog tracks.”

of maximum £30 (DCMS Option 2). If the maximum average stake size is set at £20 (DCMS's Option 3), only 6 percent (around 1 in 17) sessions losing more than £500 have this average stake size. Meanwhile, *no* sessions with an average stake size of £2 end in losses greater than £500.

Focusing just on losses greater than £500 (as DCMS does), the results look fairly clear; a £50 maximum stake would only lead to a small reduction in the number of sessions leading to large-scale losses, whereas a maximum stake of £30, £20 or £2 would all cut out most, or all, of the large-scale losses currently occurring. However, if the definition of “large-scale losses” is set at the lower levels of £200 or £100, then the £30 and £20 maximum stake options do not look so effective. For sessions resulting in losses of more than £100, a £30 maximum stake limit (Option 2) would only affect around half of such sessions. Even a £20 maximum stake limit (Option 3) would only affect seven in ten of these sessions, leaving the other thirty per cent unaffected. Only in the case of a £2 maximum stake limit (Option 4) would *all* sessions leading to large-scale losses, under all three definitions, be affected.

## **2 What level of loss from a session should be considered “large-scale”?**

This report has used three different cut-off points for “large-scale losses” resulting from gaming sessions – greater than £500, £200 and £100. But at what point should losses be treated as “large scale” rather than “small scale”? There is no one correct answer to this question, but one way of approaching the issue is to examine the proportion of overall losses from B2 sessions accounted for by session losses of different sizes. Table 2 presents this information: starting with the largest session losses in the top row (losses of more than £5000), the table shows the size of loss from each group of sessions, the proportion of overall B2 session losses made up of losses of this amount, and the cumulative proportion of overall B2 session losses made up of losses of this amount *or more*. So for example, sessions with losses in the £200 to £500 band make up 26.5 per cent (just over a quarter) of total losses. Cumulatively, sessions with losses of £200 or more make up 59.7 percent (almost three-fifths) of total losses.

**Table 2. Proportion of losses from B2 non-slots sessions by average stake band**

<b>Loss level (by size)</b>	<b>Proportion of overall losses made up of losses at this level</b>	<b>Cumulative proportion of losses</b>
More than £5000	0.1%	0.1%
£1000 to £5000	18.0%	18.1%
£500 to £1000	15.1%	33.2%
£200 to £500	26.5%	59.7%
£100 to £200	15.6%	75.3%
£50 to £100	11.9%	87.2%
£30 to £50	5.5%	92.7%
£20 to £30	2.9%	95.5%
£10 to £20	2.8%	98.4%
£5 to 10	1.2%	99.5%
Less than £5	0.5%	100.0%

Source: author's analysis of B2 machine session data published by Gambling Commission (2017)

Table 2 shows that sessions with losses of £500 or greater account for around one-third (33.2 per cent) of all losses from B2 non-slots sessions. Thus, DCMS's preferred measure of large-scale losses misses out two-thirds of all losses incurred from B2 gaming. Using a lower cut-off point for the definition of large-scale losses, a much greater proportion of overall losses is captured in the definition. Lowering the cut-off point to £200 captures almost three-fifths (59.7 per cent) of all losses, while lowering it further (to £100) captures over three-quarters (75.3 per cent) of all losses.

This analysis suggests that, if DCMS wants to include a large proportion of overall losses on B2 gaming machines in the definition of "large-scale losses", it would be better to define large-scale losses as losses of £100 or more in a session rather than £500 or more in a session.

### **3 Assumptions and limitations of the analysis**

The analysis in this report is subject to limitations imposed by the nature of the data supplied by gaming machine manufacturers to the Gambling Commission as well as assumptions about player behaviour in the event of the maximum stake on B2 machines being lowered. In particular:

## Assumptions on behavioural change in response to the maximum stake on B2 machines being lowered

The analysis here assumes that B2 machine players would not change their playing behaviour in response to the maximum stake being lowered. This assumption is questionable; a recent academic study (Forrest and McHale, 2017) assessing the impact of the restrictions on B2 machine stakes above £50 introduced in 2015 found that there was a large reduction in the number of stakes above £50, but a corresponding increase in the value of stakes just below the £50 limit, leaving the total amount staked broadly unchanged relative to underlying trends. At the same time, average session lengths increased, suggesting that some players were choosing to bet similar amounts over a longer period (i.e. a larger number of plays in each session). It is possible that similar behavioural reactions by players would occur in response to a lowering of the maximum stake level to £30, £20 or £2. However, at a £2 maximum stake, session lengths would need to be extremely long to produce losses of £500 or greater, or even £100 or greater. This suggests that reducing the maximum stake to £2 would mitigate the potential for players to modify session lengths to produce the same large-scale losses as before.

## Assumptions on stake size in Table 2

The data from machine manufacturers on B2 machine stakes, as published by the Gambling Commission, do not include exact information on total losses by size of average stake. Instead, the data show the number of sessions resulting in losses (or wins) within particular bands (e.g. £200-£500, £500-£1,000, etc.) according to average stake size. This was problematic for the construction of Table 2 because for complete accuracy it would be necessary to have exact average losses within each band of stake size, cross-tabulated by size of losses. Because of the data limitations, this report uses the *mid-point* of each loss band to calculate the figures in Table 2. For example, we assume that all sessions in the loss band “£200 to £500” result in a loss of £350, all sessions in the loss band “£100 to £200” result in a loss of £150, and so on. This means that the figures in Table 2 are only an approximation to the exact breakdown of total losses by size of loss. However, given the form in which the Gambling Commission has chosen to release the data, this is the best we can do. Even with the midpoints assumption, the data are still accurate enough to show a clear pattern where the bulk of losses are concentrated within sessions where the individual session loss is greater than £100.

## Average versus maximum stake levels

There is a slight mismatch between DCMS's options for maximum stake reduction on B2 machines (which refer to the *maximum* stake on any one play in a B2 session) and the stake bands shown in the rows of Table 1 (which refer to the *average* stake across all plays in a B2 session). For example, it would be possible for a session with an average stake in the range £10 to £20 to breach a maximum stake limit of £20 on *some* of the plays in that session, even though the average stake was less than £20. This implies that the results shown in Table 1 are lower bounds for the proportion of sessions which would be affected by various maximum stake sizes. Because the Gambling Commission have presented the data broken down by average stake size per session (rather than maximum stake per session) it was impossible to use maximum stake information in the analysis presented here. However, this does not fundamentally alter the findings emerging from the results.

## 4 Conclusions

This report has shown that there are good grounds for believing that DCMS's definition of "large-scale losses" from B2 machine gaming as losses of more than £500 is too high a threshold. This is for two reasons. Firstly, a large proportion of total losses from B2 gaming sessions are clustered in the range £100 to £500 – defining "large-scale losses" as losses of more than £100 per session, rather than losses of more than £500 per session, increases the proportion of B2 losses defined as large-scale from one-third of total losses to three-quarters of total losses. Secondly, when the threshold for large-scale losses is set at £100 per session, maximum B2 stake limits of £10 or £20 are considerably less effective at preventing large-scale losses than they are when the threshold is set at £500 per session. Furthermore, of the four options which DCMS is considering in its consultation, only a maximum stake limit of £2 for B2 machines (as argued for by the Campaign for Fairer Gambling) completely eliminates large-scale losses, given existing machine staking patterns.

## References

Department for Digital, Culture, Media and Sport (2017), "Consultation on proposals for changes to Gaming Machines and Social Responsibility Measures".

<https://www.gov.uk/government/consultations/consultation-on-proposals-for-changes-to-gaming-machines-and-social-responsibility-measures>

Forrest and McHale (2017), "FOBTs in British betting shops: Further analysis of machine data to examine the impact of the £50 regulations",

<http://infohub.gambleaware.org/document/fob-ts-british-betting-shops-analysis-machine-data-examine-impact-50-regulations/>

Gambling Commission (2017), "LBO machines data". [http://live-](http://live-gamblecom.cloud.contensis.com/Docs/LBO-machines-data-summary.xlsx)

[gamblecom.cloud.contensis.com/Docs/LBO-machines-data-summary.xlsx](http://live-gamblecom.cloud.contensis.com/Docs/LBO-machines-data-summary.xlsx)