

## SUBMISSION TO THE JOINT SELECT COMMITTEE ON GAMBLING REFORM

### Inquiry into the Poker Machine Harm Reduction (\$1 Bets and Other Measures) Bill 2012

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This submission is in response to the Parliamentary Joint Select Committee on Gambling Reform's Inquiry into the Poker Machine Harm Reduction (\$1 Bets and Other Measures) Bill 2012. The intent is to offer comment on the potential effectiveness of reducing the maximum bet size of electronic gaming machines to one dollar (AUD\$1) and the lowering of prize levels as responsible gambling strategies designed to minimise gambling-related harm.

#### *Reduction of maximum bet to \$1*

In 2001, Blaszczynski, Sharpe and Walker published a Report on the impact of the reconfiguration of electronic gaming machines as a harm minimization strategy. This study, funded by a consortium of gaming industry operators was initiated in response to proposed determinations made in 2000 by the then NSW Liquor Administration Board for the modification of structural features of gaming machines (*Gambling Harm Minimisation and Responsible Conduct of Gambling Activities Review of the Board's Technical Standards for Gaming Machines and Subsidiary Equipment in New South Wales*). In addition to recommended changes to reel spin speed and the removal of high denomination bill acceptors among other features, the Liquor Administration Board included limiting maximum bet sizes on stand-alone machines to \$1.

The subsequent trial evaluating the reconfiguration of gaming machines including the \$1 maximum bet restriction was conducted over a period of three months with the findings described in detail in the above Report (Blaszczynski, Sharpe, & Walker (2001).

The Executive Summary of that Report concluded that:

*"The present study found evidence to support the view that the reduction of maximum bet size from \$10 to \$1 on electronic gaming machines would be a potentially effective harm minimisation strategy for a small proportion of players. In the present study, it is important to note that relatively few participants bet in amounts greater than \$1. Overall, therefore, only a small percentage of players would be affected by this proposed modification. However, if the data accurately reflect the number of players who do make bets greater than one dollar, then the impact on revenue is likely to be small. On the other hand, if the proportion of players who bet in excess of one dollar is underestimated due to recruitment biases, then the effect on revenue would be greater, and so would the effectiveness of the modification as a harm minimisation strategy."*

*(P.10)*

It is important to emphasise the limitations of the study are clearly described in that Report, namely the fact that:

- a. The trial was conducted using a number of modified one cent 'Pirates' machines, a poker-machine manufactured by Aristocrat Industries that was a clone of the popular 'King Ra' and modelled on the 'Queen of the Nile' machines
- b. Carried out in a limited number of participating venues in metropolitan Sydney, and
- c. An unknown proportion of problem gamblers may not have elected to participate in the study.

Accordingly, these limitations mean that the findings cannot be validly generalised to apply to other types of machines, denomination machines other than one-cent machines, or to other venues in rural and other urban/suburban socio-economic regions.

Unfortunately, no funding or interest from either industry or government sources was available to the researchers of the 2001 Report to continue undertaking a systematic series of studies to evaluate the effectiveness of the \$1 max bet and other machine modification as responsible gaming initiatives. As a consequence, this represents a missed opportunity to obtain empirical evidence that would be extremely useful currently to inform policy makers and the current Joint Select Committee of the effectiveness of the recommendations made by the Productivity Commission's (1999); in essence, over a decade of policy research opportunity has been lost. This represents an example of the failure of both the government and industry to support a cohesive program of studies through independent national and/or state research centers.

To date, there are no peer-reviewed publications or reports that we are aware of that have systematically compared the maximum bet sizes and the prevalence and incidence of problem gambling or gambling related harms across international jurisdictions, that has taken into account or controlled for the diversity of competing forms of gambling. The same applies for a systematic study of the effects of varying prize levels on the attraction of, and motivation to participate in, various forms of gambling.

From a methodological perspective, simply comparing the maximum bet size and the prevalence of problem gambling will not lead to valid conclusions to be drawn regarding the causal relationship between the two variables. For example, it is possible that a jurisdiction may have a low maximum bet size but high prize level with limited other forms of gambling available to the general population resulting in comparable levels of problem gambling to another jurisdiction characterized by low maximum bets and prizes but multiple other forms of readily available gambling.

It is argued that taking there is a need to take into account the impact of the interactive, synergistic or cumulative effects of simultaneously modifying two or more gaming machine features and determining its effect on problem gambling. For example, reducing the maximum bet size on its own may not have a significant effect as compared to reducing both maximum bet size concurrently with a reduction in prize levels.

In respect to these two variables, it is important to take into consideration the capacity for losses, and the psychology of gambling, motivational factors and behavioural attributes that contribute to problem gambling.

It is reasonable to anticipate that a 10-fold reduction in the magnitude of bet size, i.e., from \$10 to \$1, will lead to lower levels of expenditure and therefore potential losses incurred per player over an hour's session of play. Consequently, an overall substantial reduction in revenue per machine would be anticipated. However, a reduction in overall losses would be experienced only for that proportion of gamblers who gamble in excess of one dollar,

irrespective of their gambling status (recreational, at-risk or problem). Problem and recreational gamblers gambling one dollar or less per trial would not be affected by a one dollar maximum bet limit.

Further, the positive effect of a one dollar maximum bet on expenditure for those gambling more than one dollar is predicated on the assumptions that (a) such players would continue playing machines at the one dollar level or cease gambling, (b) not transition to other forms of gambling where no bet limits are applicable, for example, wagering (sports, horses), casino or Internet gambling, and/or (c) extend sessions of play such that the same level of losses are incurred but over longer timeframes of play.

The harm minimization of a maximum bet reduction to one dollar is predicated on the proportion of problem gamblers who gamble in excess of one dollar. The government and industry have access to the relevant data that would allow the mapping of the proportion of bets in excess of one dollar played by individual machines of different denominations. Absent is the data on the proportion of individuals playing in excess of one dollar across different types and denominations of machines who meet criteria for problem gambling or suffer gambling-related harm as a consequence of their gaming machine play. It remains unclear beyond potential conflicts of interest (governments as regulators, legislators and beneficiary of gaming taxation revenue) as to why relevant government agencies have not conducted research to obtain data of this nature to inform policy.

#### *Prize level and motivation to gamble:*

It is a truism that the desire to win is a central defining feature of gambling behaviour with other factors also implicated in the development and maintenance of problem gambling behaviours; for example, avoidance of aversive emotional states (Blaszczynski & Nower, 2002; Wood & Griffiths, 2007), excitement and arousal (Coventry & Norman, 1997), impulsivity (Steel & Blaszczynski, 1998), boredom, having fun and obtaining social acceptance (Raylu & Oei, 2002). Irrespective of which explanatory model of gambling is adopted, winning can be construed as representing the primary motivational drive. In this context, it can be argued that repeated winnings stimulate arousal, resulting in excitement and pleasure which act as powerful reinforcers, and that coupled with erroneous cognitions overestimating probabilities of winning, act to establish robust behavioural patterns and motivations to gamble (Blanchard, Wulfert, Freidenberg, & Malta, 2000; Blaszczynski & Nower, 2002; Petry, 2005).

Winning also represents a central component of the defining features of the definitional criteria and explanatory models of problem gambling; that is, chasing losses. The behavioural attribute of chasing losses is considered to be one of the cardinal features typifying problem gambling patterns of behaviour.

A number of studies have shown that gamblers are indeed driven by the desire to win money or to chase-losses (Neighbors, Lostutter, Crounce, & Larimer, 2002) and that monetary prizes influence arousal and subjective excitement (Wulfert, Franco, Williams, Roland, & Maxson, 2008), as well as the anticipation and reinforcing experiences of winning (Gu, Lei, Broster, Wu, Jiang, & Luo, 2011). However, minimal reference is made to the specific contribution that differential prize levels exert on recreational and problem gamblers.

Wulfert et al. (2008) investigated whether excitement is generated by the expectancy of winning money in a sample of 243 male college students, who were required to watch an exciting, 'neck-to-neck' videotaped horse race. Participants in the experimental condition wagered \$1 for an opportunity to win \$2, \$7 or \$15 if they selected the winning horse. Half

the participants won and half lost their wagers, thus receiving monetary (and accuracy) feedback regarding their choice. Alternatively, participants in the control condition predicted the winning horse without placing monetary bets, thus only receiving accuracy feedback. Wagering resulted in elevated heart-rate and subjective excitement in accordance to expected prize, with this effect being more pronounced for those in the winning condition. These results indicate that the prospect of winning money is an essential factor influencing the excitement/arousal associated with gambling supporting previous research findings (Roby & Lumley, 1995; Wulfert, Roland, Hartley, Wang, & Franco, 2005) that monetary, rather than accuracy feedback plays a significant role in generating gambling-related arousal.

Dickerson et al. (1991) highlighted the importance of prize levels on gambling behaviour in a study of 64 poker machine players during a gambling session in their local social club. Results suggested that age and number of 'big wins' accounted for 70% of the variance in session length, with post-session interviews confirming that the monetary incentive offered by big wins was perceived as a chance to prolong play. However, these findings are inconsistent with those reported by Weatherly, Sauter, and King (2004). These authors observed that during consecutive gambling trials, players subjected to a 'big win' on their first trial ceased play before players experiencing a 'big win' on their fifth trial. However, findings must be evaluated with caution as the 'big win' constituted \$1.60, which may have been too inadequate to produce irrational thinking.

Blaszczynski and Nower (2010) provided some preliminary data on attitudes to money and its relationship to intra-psychic needs, these authors did not specifically investigate the relationship between bet sizes, levels of debt and prize level on motivations to gamble and propensity to gamble.

Despite recurrent findings linking arousal and gambling, and findings that money is a primary motivator for gambling, no published studies to date have explored the relationship between the magnitude of prize levels and gambling behaviour. Similarly, there are no empirical investigations on how accrued debt size effects gambling behaviour despite considerable evidence that chasing losses is accepted to be largely responsible for the impaired control associated with problem gambling.

At face value it can be reasonably argued that a reduction in prize levels to relatively low levels could be highly effective in reducing the attractiveness of gambling in the first instance, and the motivation to chase losses in the second. The gaming industry consistently states that electronic gaming machine play is a form of recreational leisure pursuits on which one spends money, and should not be considered a source of income revenue. Accepting this position, a reduction in prize levels would be consistent with the notion of gaming machines as a recreational pursuit, and serve to reduce the motivation to play excessively. Individuals would be motivated to play for fun for low prizes but not to persist in continued play to recoup or chase losses.

Coupled with a one dollar maximum bet size, a low prize level would act to minimise the proportion of people experiencing large wins and hence producing erroneous beliefs associated with the notion that gambling is an easy source of income, and the motivation to increase bets or persist in gambling to chase losses. The likelihood of an individual spending large amounts to win a small prize would be low thereby having a positive impact on the defining behavioural features of problem gambling.

### *Preliminary findings on bet size and prize levels*

In response to a lack of research and the impending introduction of The Poker Machine Harm Reduction (\$1 bets and other measures) Bill 2012, Courtney Crewe-Brown, a University of Sydney Honours student under the supervision of Professor Alex Blaszczyński carried out a pilot study in 2012 to investigate the influence of prize levels, debt size, gender and impulsivity on the reported gambling behaviour on an EGM. This study involved the administration of a series of vignettes to a sample of 171 first year undergraduate psychology university students asking them to indicate how much money and time they were prepared to risk for varying levels of prizes and in the context of varying levels of debt.

The first set of vignettes elicited data on reported gambling behavior in the presence of varying prize levels. Participants were presented with information regarding the nature of electronic gaming machines and the probability of winning before being presented with the following predicament:

*Imagine you are at the casino and have the chance to win the specified prize while playing on an electronic gaming machine. Please estimate the maximum amount of money (in dollars) you would spend on a bet for the chance to win this prize. Please answer in a way which best reflects how you would act in the given situation.*

*Note: if you would be unwilling to place a bet, put down \$0.*

Participants were then asked to indicate how much money and time they were prepared to risk for varying prize levels, namely: \$100, \$250, \$500, \$1 000, \$5 000, \$10 000, \$25 000, \$50 000, \$100 000, \$150 000, and \$200 000.

A second set of vignettes including a similar scenario to the first was then administered. However, in addition to the varying prize levels (specified above), the vignettes included an additional debt variable.

*Imagine that you are at the casino playing an electronic gaming machine. You have been consistently losing and have now accrued a relatively substantial gambling debt. Please estimate the maximum amount of money you would spend on a bet for the chance to win the specified prize, taking into consideration your gambling debt (the amount of money you have lost playing the electronic gaming machines, over and above the amount you have won). Please answer in a way which best reflects how you would act in the given situation.*

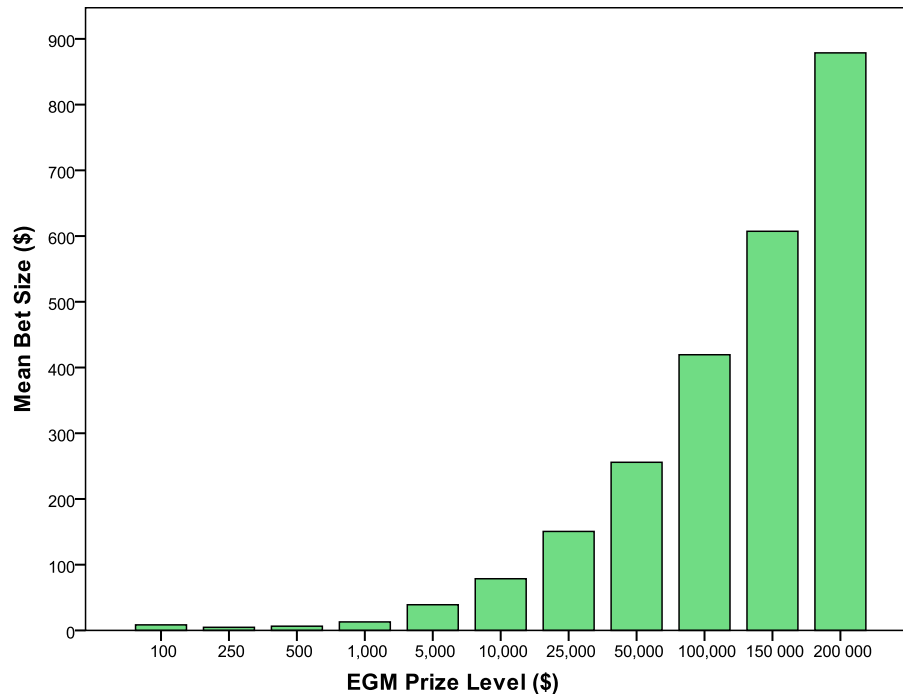
For each prize level, a prior gambling debt of \$500, \$5 000, \$10 000 and \$50 000 was included. Participants were then asked to indicate how much money and time they were prepared to risk for each condition.

All questions within each set of gambling vignettes were presented to participants in a randomised order so that they were unable to directly compare their previous response when answering each question. Furthermore, while the study did not involve participation in real life gambling scenario's involving monetary incentives, participants were encouraged to respond to the vignettes in a way which best reflected how they would act in the given scenario.

As seen in Figure 1, there is a clear increase in bet size in relation to prize levels. Statistical analyses revealed that there was a moderate positive correlation between prize level and the anticipated attractiveness to place a bet suggesting that the higher the prize, the more

likely an individual was to wager. A logistic regression suggested that for each increase in prize level, participants were 33% more likely to place a bet.

**Figure1: Mean Reported Bet Size on an EGM According to Prize Level**

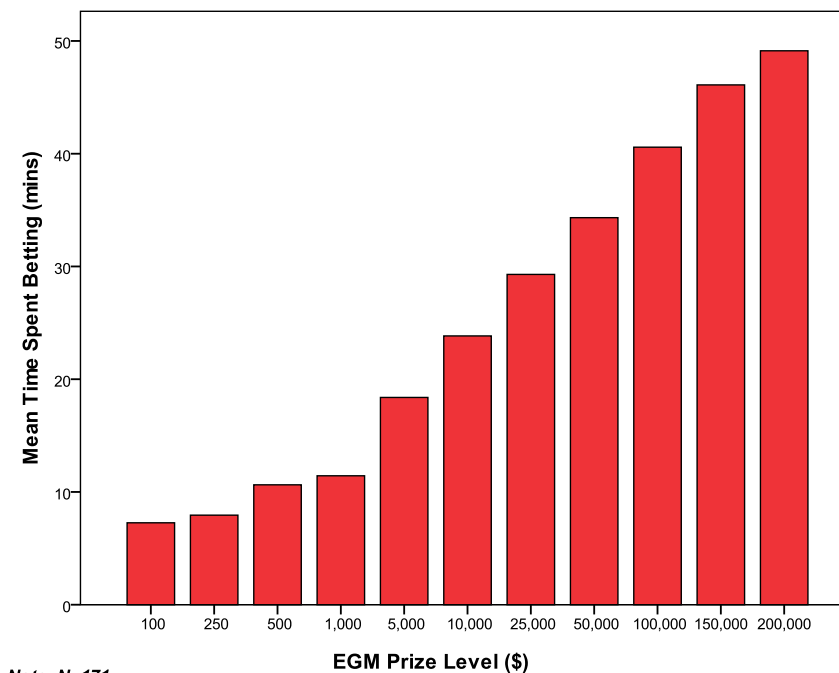


*Note. N=171*

These findings suggest that individuals are prepared to bet larger amounts of money as the magnitude of the prize becomes substantial. This trend is consistent with anecdotal reports in the media where large lottery prizes offered result in substantially greater number of individuals purchasing tickets. Although the phenomenology is not fully understood, individuals become habituated to relatively high lottery prizes of \$1 million but are prepared to purchase tickets when prizes become highly attractive at levels of around \$30 million.

Similar trends to amount of time individuals were prepared to spend gambling in relations to bet size as seen in Figure 2. Individuals reported that they were more likely to persist in gambling behaviour if the prize was of a magnitude that they perceived as highly attractive.

**Figure 2: Mean Reported Time Spent Betting on an EGM According to Prize Level.**



In contrast, there was a moderate negative relationship between the anticipated attractiveness of placing a bet and level of debt suggesting that as debt size increases, individuals are less likely to place large bets.

The study did not examine the relationship between bet and prize sizes across different levels of recreational and problem gambling status. It is speculative but possible that the relationship between bet size, prize levels and amount of debt shows a different pattern between recreational and problem gamblers. It could be hypothesised that recreational gamblers tend to reduce the amount of money they are prepared to bet as their level of debt increases. In contrast, problem gamblers may show a tendency to increase bet size as debt and prizes increase in an attempt to chase losses. This is a question that requires further empirical testing of this effect based on the notion that problem gamblers display a tendency to chase losses and therefore would be predicted to increase bet sizes as both debt and prize levels increase.

However, a word of caution is required. It must be noted that the environment in which participants completed the study was not ecologically valid. Theoretically, the inability for participants to wager with real money and in the absence of external factors assumed to influence gambling behaviour would have affected respondent's reported gambling behaviour. Despite this, a recent study by Gainsbury and Blaszczynski (2011) which investigated the appropriateness of using laboratories and student participants in gambling research found that main results and effects in both laboratory and real settings were generally in the same direction, however there were less significant results in the real venue. Thus, the findings of the present study represent an important first step in assessing the anticipated attractiveness of prize levels and their influence on reported gambling behaviour but caution must be taken in interpreting results. Further research in an ecologically valid setting is required to validate whether findings generalize to a real gambling context to wider populations.

## Conclusion

The introduction of the \$1 max bet on gaming machines has good face validity as a responsible gambling measure. However, there is very limited published empirical data indicating precisely what proportion of gamblers gamble one dollar or less, and less data on the proportion of problem gamblers who gamble in excess of one dollar across variable denomination electronic gaming machines. To qualify for an effective responsible gambling measure, it should be demonstrated that the majority of problem gamblers exceed the bet threshold and that of those who do, the majority will not migrate to other forms such as wagering on horses or sports, or shift to Internet gambling.

Reducing maximum prize levels represent a potentially effective measure that would reduce the motivation to gamble in the first place, and to chase losses among problem gamblers. However, no empirical data exists to support this proposition.

It is argued that policy makers should commission an independent expert research team to conduct a thorough literature and environmental review to map out the max bet and prize sizes and rates of problem gambling across international jurisdictions taking into account competing forms of gambling to electronic gaming machines. It is suggested that the gaming industry has a wealth of data describing average bets sizes across variable denominations of machines. However, until such time as we understand the typical betting profile of problem and recreational gambling, policies related to the proposed Bill will remain in the domain of opinion-based decisions.

*Prof Alex Blaszczynski*



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