Predicting Lotto Numbers: A Natural Experiment on the Gambler’s Fallacy and the Hot Hand Fallacy

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Abstract
We investigate the 'law of small numbers' using a data set on lotto gambling that allows to measure players’ reactions to draws. While most players pick the same set of numbers week after week, we find that those who do change, react on average as predicted by the law of small numbers as formalized in recent behavioral theory. In particular, players tend to bet less on numbers that have been drawn in the preceding week, as suggested by the ‘gambler’s fallacy’, and bet more on a number if it was frequently drawn in the recent past, consistent with the ‘hot-hand fallacy’. (JEL: D03, D81, D84)

Keywords: behavioral economics, decision biases, gambler’s fallacy, hot-hand fallacy, lotto gambling.

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