

GAMBLING WITH THE HOUSE MONEY AND TRYING TO BREAK EVEN: THE EFFECTS OF PRIOR OUTCOMES ON RISKY CHOICE*

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How is risk-taking affected by prior gains and losses? While normative theory implores decision makers to only consider incremental outcomes, real decision makers are influenced by prior outcomes. We first consider how prior outcomes are combined with the potential payoffs offered by current choices. We propose an editing rule to describe how decision makers frame such problems. We also present data from real money experiments supporting a "house money effect" (increased risk seeking in the presence of a prior gain) and "break-even effects" (in the presence of prior losses, outcomes which offer a chance to break even are especially attractive).

(DECISION MAKING; PROSPECT THEORY; SUNK COSTS; MENTAL ACCOUNTING)

1. Introduction

Imagine that you are attending a convention in Las Vegas, and you walk into a casino. While passing the slot machines, you put a quarter into one machine and, surprisingly, you win \$100. Now what? Will your gambling behavior for the rest of the evening be altered? Might you make a few more serious wagers, even if you usually abstain? Suppose instead that you had \$100 in cash stolen from your wallet while taking a swim at the pool. How will that alter your behavior? Are either of these events equivalent to discovering, just before entering the casino, that a stock in which you own 100 shares has gone up (or down) one point that day?

Or, consider the case of a manager whose division has lost \$10 million under her administration, and who must choose between two projects. Project A will earn a sure \$5 million. Project B will earn \$20 million with probability 0.5 and lose \$5 million with probability 0.5. Does this past history influence the decision? Suppose instead that these projects were described using their final asset positions: *A* produces a sure loss of \$5 million and *B* yields a 50% chance to lose \$15 million and a 50% chance to earn \$10 million. Does this change in description make a difference?

These examples illustrate the basic question investigated in this paper: How is risk-taking behavior affected by prior gains and losses? The question is quite general since decisions are rarely made in temporal isolation. Current choices are often evaluated with the knowledge of the outcomes which have preceded them. Such knowledge can often be a handicap. While students of economics and decision theory are implored to concentrate only on incremental costs, it is well established that real decision makers are often influenced by historical or sunk costs (Arkes and Blumer 1985; Staw 1981; Thaler 1980). Laughhunn and Payne (1984) have investigated the effect of both sunk costs and what they call sunk gains on decisions under uncertainty. We continue here in the same spirit. We begin by recognizing that most decision makers are influenced by prior outcomes. Our goal then is to investigate how prior gains and losses affect choices. We will offer empirical evidence to support the intuitions evoked in the above scenarios. Specifically, prior gains and losses can dramatically influence subsequent choices in systematic ways. For example, we find that under some circumstances a prior gain can increase

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