The Origin of Gains Matters: A Comparative Analysis of the House Money and Windfall Effects in Investment Decisions

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Abstract. Thaler's "mental accounting theory" posits that people tend to favor high-risk investments when they receive unexpected money (such as gambling winnings), a phenomenon known as the "house money effect.". However, gambling gains are risky and are essentially risk-return, while gains without any risk should be called "windfalls". Most current studies tend to refer to the two types of benefits as "windfall", which will lead to confusion between the concepts of "house money effect" and "windfall effect", which is obviously not accurate enough. This article reviews recent literature on the "house money effect" and "windfall effect" to distinguish the impact of different risk-return strategies on investors' risk preferences. The result show that the investors are more inclined to invest in high-risk investments After analysis they receive risk-free returns, while the effects of risk-return strategies on investor risk preferences are insignificant. This suggests that the "windfall effect" exists, but the "house money effect" is negligible.

Keywords: Mental account, house money effect, windfall effect.

1. Introduction

Investors' differing attitudes toward the origins of assets have long been a focus of behavioral economics. According to traditional economics, assets are considered fungible, meaning investors should be indifferent to the source of their funds. However, in reality, people often categorize money based on its origin and allocate it to different uses accordingly. This behavior is part of the behavioral economics concept of "mental accounting. " The prospect theory proposed by Kahneman and Tversky reveals that human decision-making exhibits 'loss aversion' behavior [1]. As an extension of prospect theory, the concept of mental accounting was first proposed by Thaler, who noted that people prefer to divide money into different "mental accounts" and make investment or spending decisions based on their attributes [2]. Subsequent research by Thaler and Johnson further categorized these types of funds. Their research showed that investors tend to deposit casino winnings (such as gambling winnings) into "casino fund accounts." With money in these accounts, investors are more willing to take risks. In contrast, investors are more cautious with their own earned income [3]. Furthermore, the controlled experiments by Arkes et al. show that unexpected gains (such as found money or tax refunds) are more likely to be spent and used for high-risk investments [4].

Based on the research above, the presence of mental accounting appears to make investors more cautious when handling unexpected or risk-derived returns, and more inclined to take risky investments when handling unexpected returns. However, it is worth noting that casino funds and unexpected returns should be categorized as distinct types of mental accounting, depending on the level of risk involved. However, current research rarely distinguishes between risk-derived and unexpected returns, often lumping them together under the single term "unexpected returns," which lacks precision. Furthermore, research in this area is characterized by accelerated growth, fragmented knowledge, and a lack of recent comprehensive and critical reviews to systematically synthesize and integrate research findings. Some research methods still have limitations. For example, Rashwan and Shaqfa's study on the impact of mental accounting on investor behavior, while concluding that mental accounting increases irrational investment, was limited to a sample drawn from the Gaza Strip, meaning that the results may not be universally applicable globally [5]. This article aims to review research literature from around the world, identify limitations in the existing literature, and suggest future research directions. Finally, updating the literature review is crucial, as research findings may become outdated over time, potentially rendering the conclusions less applicable. This article will also address this issue.

To more clearly examine the differential impact of different fund sources on investor behavior, this article categorizes funds into two distinct categories: risk-derived returns and unexpected returns. This addresses the existing literature's failure to distinguish between different types of "unexpected returns." This article reviews research findings from the past five years, summarizes research methods, addresses limitations, and suggests future research directions. The goal is to validate and expand mental accounting theory while deepening our understanding of irrational decision-making.

2. Windfall Gains Effect

In most experiments, windfalls are considered unearned income. However, research by Arkes et al. demonstrates that the degree of effort (representing the degree of "earning") does not influence consumption intentions [4]. Instead, individuals are more likely to consume unexpected money or use it for risky behaviors than expected cash of the same amount. They termed this the "windfall effect." Therefore, the core characteristic of windfalls is their "unexpectedness," not their "unearnedness."

Jelschen and Schmidt's research suggests the existence of the "windfall effect," namely, that unearned initial rewards significantly increase risk appetite, while earned income inhibits risk taking. The researchers divided subjects into three groups based on when they received the windfall and when they were briefed on the task. A labor group was also included for comparison [6]. The number of lottery tickets purchased measured risk appetite. Between-group differences were compared using the Mann-Whitney U test, while within-group decision-making was analyzed using the Wilcoxon test. Variables such as gender, age, and gambling habits were controlled for. The results showed that those who received windfalls had the highest average number of lottery tickets purchased, while those who used earned income purchased the fewest (4.1). Furthermore, when comparing the probability that the difference between the two groups was due to random chance, the earned income group significantly increased risk aversion compared to the windfall group, confirming the existence of the windfall effect.

Similarly, Cheng et al. studied the impact of windfalls on stock market participation and portfolio diversification, concluding that windfalls effectively encourage new investors to enter the stock market, which supports the notion that wealth thresholds (particularly fixed participation costs) are important [7]. The experimental data is based on administrative data of over one million lottery winners in Taiwan, with a follow-up period of over ten years. They used the staggered difference method to calculate the impact of lottery winnings per million New Taiwan Dollars on the outcome variables, controlling for fixed effects such as individual age, year, and pre winning characteristics. The data shows that the lottery prize of every 1 million New Taiwan Dollars significantly increased the probability of stock market participation by 1.09 percentage points, providing direct evidence for unexpected wealth to promote overall investment. In addition, for those who did not participate in the stock market before winning the award, every NT $1 million bonus will significantly increase their participation probability by 1.42 percentage points. This directly indicates that unexpected wealth mainly encourages new investors to enter the market, thus confirming the view that unexpected wealth increases investors' investment tendency.

Briggs et al. studied the impact of unexpected wealth on household stock market participation. Within each lottery, the researchers constructed groups based on known randomization rules (e.g., number of tickets purchased, drawing batches), compared the stock market participation behavior of different lottery winners within the groups, controlled for group fixed effects, and finally used an estimating equation to calculate whether household i held stocks in the sth year after winning the prize [8]. The results showed that for the entire sample, an overall increase in wealth immediately increased the probability of stock market participation by approximately 3.9 percentage points, and the effect was stable over time (remaining significant even after 10 years). For non-participants, each $150,000 prize immediately increased the probability of participation by 12 percentage points.

However, for those already participating, unexpected wealth had no significant impact on their investment behavior, possibly due to their pessimistic expectations about the stock market. Furthermore, larger, more liquid, and lump-sum prizes significantly increased investors' investment intentions, providing important evidence that unexpected wealth can influence investment behavior.

3. House Money Effect

Thaler first defined "house money" as gains previously earned through risky behavior (e.g., casino winnings). When investors bet with these winnings, subsequent losses are perceived as diminished returns, weakening loss aversion, and making decision makers more likely to seek risk. This effect is known as the "house money effect." Unlike windfalls, which are unexpected assets acquired completely risk-free, casino money is earned by investors after engaging in risky behavior and can be used as principal.

Flepp and Rüdisser disproved the existence of the "house money effect" and revealed insignificant or even negative evidence [9]. The experiment used individual-level gaming records from 5,169 slot machine players in Swiss casinos. They treated jackpot hits as exogenous shocks to "casino bankroll." By controlling for unobservable individual characteristics, the risk-return characteristics of different slot machines, temporal trends, and fatigue or learning effects, they constructed a regression model to measure the relationship between betting finance and risk-taking. The results showed that subsequent betting decreased by 45% to 54% after a jackpot hit, demonstrating that regardless of whether the jackpot was large or a net profit, risk aversion was not altered, thus disproving the existence of the "house money effect."

Jelschen and Schmidt also investigated the house money effect, specifically whether prior risk-reward relationships lead to increased risk tolerance in subsequent investments [6]. The researchers divided participants into three groups based on when they received their gambling funds and when they were informed of the task. A working group was assigned to wager their gambling funds using their earnings. The study used the number of tickets purchased as a proxy for risk attitude, comparing differences in ticket purchases within and between groups using nonparametric tests. While controlling for variables such as gender, age, and gambling habits, a regression model was used to analyze the impact of payoff size on ticket purchases. If the house money effect exists, winners are more likely to increase their ticket purchases. However, the data showed that in the baseline group (immediately receiving gambling funds and undertaking the task), 42.9% of losers increased their ticket purchases in the second round, compared to only 27.3% of winners. In contrast, in the Time 1 group (receiving gambling funds and undertaking the task a week later), winners showed a slightly higher proportion of ticket purchases, while losers showed a higher proportion of ticket reductions. These contradictory results suggest that winning and losing outcomes do not drive predictable behavioral changes. At the same time, the placebo experiment compared the decisions of the winners of the first round with those of people who did not know the results of the first round, but found no significant difference between the two, which supports the view that the house money effect is not significant.

Dan systematically evaluated the robustness and boundary conditions of the "house money effect" through a literature review and meta-analysis, aiming to explain the inconsistency in effect strength in previous literature and identify moderating variables influencing the effect [10]. The study included 36 empirical studies that adhered to the PICO framework by searching the Web of Science and Scopus databases. Effect sizes were pooled using a random-effects model, and moderating variables were identified through subgroup analysis and meta-regression. Publication bias in the literature was corrected using funnel plots, Egger's test, and trim-and-fill methods. The results showed that after trim-and-fill correction, the effect size decreased from the initial 0.37 to 0.07, and the confidence interval included zero, indicating that the house money effect was not significant. Furthermore, the data showed that the effect size in the field experiment (which most closely resembles reality) was close to zero, and the confidence interval crossed the zero line. Furthermore, the effect size changes in the continuous outcome showed that the effect was most significantly attenuated in the general population, concluding that the house money effect was not significant.

4. Limitations and Future Research Directions

However, the selected experiments have certain limitations. First, most of the samples rely on specific groups (e.g., risk-takers who actively go to casinos, German economics students, and Swedish individuals with high welfare benefits), lacking multicultural coverage and subject to selection bias (e.g., analyzing only large lottery winners), which limits the generalization of the conclusions. Furthermore, insufficient validity of the experimental design is another key issue. This includes too few decision-making rounds (e.g., only two), delayed profit and loss settlement, discrepancies between the amount of "windfall" and mental accounting (e.g., questionnaire earnings vs. actual labor), and the lack of a continuous income trigger mechanism, all of which weaken the authenticity of the behavioral observations. Finally, the short follow-up period for the wealth effect (≤5 years) makes it impossible to assess the long-term welfare consequences of behavioral changes, making the results less long-term. Incomplete asset data (e.g., counting only publicly traded stock holdings) also weakens the generalization of the results.

To address these limitations, future research could explore constructing intertemporal tracking experimental frameworks. For example, designing multi-round, long-term decision-making experiments and incorporating real-time profit and loss settlement mechanisms to simulate a real casino environment. Furthermore, improving the ecological validity of the sample could include expanding the diversity of the subject population to include diverse cultural backgrounds (e.g., Asian/North American), socioeconomic classes, and risk preferences (non-voluntary participants). Furthermore, using real sources of wealth shocks (e.g., simulated inheritances, year-end bonuses) instead of questionnaire-generated funds could enhance the psychological authenticity of the "windfall." Finally, researchers could explore developing short-term and long-term dual-track observation models to quantify the decay effect of time intervals on mental accounting, thereby increasing the generalization of experimental findings.

5. Conclusion

This article reviews recent research on the "house money effect," categorizing the studies into two types based on the risk of initial capital acquisition (risk-free return versus risk-return), based on experimental design. The article focuses on the impact of capital acquisition risk on investors' risk appetite from a mental accounting perspective. The review's findings indicate that unexpected returns do increase investors' preference for high-risk investments, suggesting the existence of a "windfall effect." However, for funds acquired through risk-return scenarios (e.g., gambling winnings and stock returns), the impact of such funds on investor risk appetite appears less pronounced, suggesting a non-significant "house money effect." This article distinguishes between windfall and casino bankroll, effectively discussing the impact of the degree of risk associated with the acquisition of returns on investor risk appetite and avoiding conceptual confusion. However, the experimental designs used in the reviewed studies still suffer from limitations in sample selection and study duration, which may affect the generalization of the conclusions. Furthermore, the experiments themselves rely on context, which compromises the authenticity of behavioral observations and potentially distorts the results. Future optimization efforts are possible, including, but not limited to, increasing the number of inter-temporal decision-making rounds, simulating realistic risk scenarios, and constructing a diverse sample base to effectively compare behavioral differences across groups and enhance the generalization of the findings.

References

[1] Kahneman D, Tversky A. Prospect theory: an analysis of decision under risk. Econometrica, 1979, 47 (2): 263-291.

[2] Thaler R. Mental accounting and consumer choice. Marketing Science, 1985, 4 (3): 199-214.

[3] Thaler R H, Johnson E J. Gambling with the house money and trying to break even: the effects of prior outcomes on risky choice. Management Science, 1990, 36 (6): 643-660.

[4] Arkes H R, et al. The psychology of windfall gains. Organizational Behavior & Human Decision Processes, 1994, 59 (3): 331-347.

[5] Rashwan A E R, Shaqfa K. Measuring the impact of mental accounting on financial and investment decisions among investors. Arab Journal of Administration, 2024, 44 (1): 277-294.

[6] Jelschen H, Schmidt U. Windfall gains and house money: the effects of endowment history and prior outcomes on risky decision-making. Journal Of Risk and Uncertainty, 2023, 66 (3): 215-232.

[7] Cheng T C F, et al. Windfall gains and stock market participation: evidence from shopping receipt lottery. Journal Of Banking and Finance, 2025, 30 (1): 158-160.

[8] Briggs J, et al. Windfall gains and stock market participation. Journal Of Financial Economics, 2021, 139 (1): 57-83.

[9] Flepp R, Rüdisser M. Revisiting the house money effect in the field: evidence from casino jackpots. Economics Letters, 2022, 18 (1): 146-148.

[10] Kasumi D. The role of mental accounting in risk-taking and spending: a meta-analysis of the house-money effect. Frontiers In Psychology, 2025, 16 (4): 798-805.