

# Optimize Luck

Cathleen M. Rittreiser, Executive Director, Commonfund Institute



*Optimize Luck originated in a group discussion I facilitated for the [Investment Institute](#), a membership organization for institutional investors based in the Southeast, at their May 2019 meeting. During the session, we asked chief investment officers from top foundations, endowments, family offices, and asset managers to brainstorm and share ideas for improving the endowment model of investing. [Steven R. Kim](#), a partner overseeing Investment Strategy and Risk Management for [Verdis Investment Management](#) in West Conshohocken, PA, offered his idea in a form of this question: Instead of just optimizing for skill, why don't we optimize for luck?*

Inspired by this innovative idea, I agreed to lead a collaborative industry-wide project, in conjunction with the Investment Institute and their members, to explore the topic further. We began at the next Investment Institute meeting in October 2019. Steven Kim, [Mark Steed](#), Chief Investment Officer of the [Arizona PSPRS Trust](#), and I each presented an idea – stemming from our research and experience – for how investors can optimize luck. Our presentations fueled another brainstorming session that will inform our research into this topic. In the meantime, in the following pages I summarize each of our presentations, address fiduciary concerns, establish future plans, and offer ways you can contribute and participate.

# “*Instead of just optimizing for skill, why don't we optimize for luck?*”

## Perspectives On Optimize Luck

What does it mean to optimize luck? Each of us brought a different perspective to that question. Our answers fell into three broad categories:

- Probability
- Predictability
- Process

## Embracing A Probabilistic Approach

**STEVEN R. KIM, VERDIS INVESTMENT MANAGEMENT**

Optimizing luck is focusing on optimizing the randomness in the markets. It means taking a probabilistic approach to investing versus a predictive approach.

Most investors today take a predictive approach, deciding to believe that the future will be different in specific ways from what the market consensus implies. They then base their investment strategy on that belief. In a probabilistic approach, you devise your investment strategy under the assumption that the future will be statistically similar to the past, recognizing that this isn't exactly true. In a probabilistic approach, investors look at the probability of what an investment strategy can deliver. It means analyzing return distributions and calculating the probability of achieving them over time.

Taking a probabilistic approach means focusing on robust and clear evidence, understanding investment probabilities and the underlying math. Think about the investment principles of holding for the long-term, expected value, and market randomness. Then, separate those principles from investment views that have a much higher probability of being wrong, are just typical predictions, and are not supported by clear evidence.

A probabilistic approach forces you to account for luck and skill. For example, if you think markets are completely random and you are a long-term investor willing to take on some extra volatility, leverage could allow you to beat market averages. A skilled or lucky active manager with a

concentrated portfolio and low turnover can also be a way to optimize both luck and skill.

## Scoring Your Predictive Capability

**MARK STEED, ARIZONA PSPRS**

In the predictive approach to investing, investment decisions are based on forecasts about what is likely to happen in the future. When it comes to forecasting, because we tend to uncritically accept good outcomes as examples of our skill and blame unfavorable outcomes on luck, we need a mechanism that enforces intellectual integrity and gauges predictive prowess.

Brier scores<sup>1</sup> provide a convenient and fair way to track forecasts and help create an intellectually honest culture. In forecasting, it's okay to be wrong, but it's important to be right for the right reasons. Forecasters that are right for the wrong reasons are eventually exposed because whatever process they followed to arrive at their forecast isn't robust over time. If they're right for the wrong reasons, they're just lucky. Over time, Brier scores will reveal a gap between their confidence that a certain event will occur and the number of times that outcome actually occurs.

Forecasters can use complicated machine learning models or just their intuition. After all, most of us care about getting the right answer, not necessarily the method used to get there. Brier scores are agnostic as to the method used to arrive at a specific forecast, but useful to evaluate the efficacy of the method.

<sup>1</sup> The Brier score is a proper score function that measures the accuracy of probabilistic predictions. It is applicable to tasks in which predictions must assign probabilities to a set of mutually exclusive discrete outcomes. The set of possible outcomes can be either binary or categorical in nature, and the probabilities assigned to this set of outcomes must sum to one (where each individual probability is in the range of 0 to 1). It was proposed by Glenn W. Brier in 1950. [https://en.wikipedia.org/wiki/Brier\\_score](https://en.wikipedia.org/wiki/Brier_score)

“*If you do not try to optimize for luck, then aren't you making your portfolio more vulnerable to it?*”

Arizona PSPRs optimizes luck by using Brier scores to track each member of the team's predictive capability. They then use those results as an input into the investment decision process. Teammates predict a specific investment or market outcome and provide a confidence metric ranging from 50 percent to 100 percent confident. They are then scored against the actual outcome. Scoring zero is perfect (100 percent correct and 100 percent confident) and scoring two is the worst outcome (100 percent confident and 100 percent wrong). This method creates a meritocracy and elicits and measures individual skill. By using objective scoring, their discussions are depolarized and constructive, based in fact, not intuition. Brier scores are a way to hold the team accountable, to neutralize the loudest over-confident voices, and to optimize luck by having an objective measure of their predictive capability.

## Improving Your Processes

**CATHLEEN M. RITTEREISER, COMMONFUND INSTITUTE**

Upon committing to The Optimize Luck Project, I began researching the topic at length. My idea – Optimize your luck by optimizing your processes – leverages the work of Michael Mauboussin, the investment thought leader and author of the book, [The Success Equation](#), and Rick DiMascio, the founder of [Inalytics](#), and co-author of the white paper [“Selling Fast and Buying Slow: Heuristics and Trading Performance of Institutional Investors”](#).

Mauboussin writes that investment skill has improved globally and markedly over time, to the point where almost all professional investors have reached a similar level of skill. While investors often consider themselves experts, expertise comes from deliberate practice. Most investors are more accurately described as just experienced; experience alone is not necessarily enough to go on when it comes to making decisions. Decision makers often make automatic decisions by relying on heuristics. For example: simple rules of thumb like “buy low, sell high”. Automatic decision-making only works, however, when the environment is stable and the individual has the opportunity to spend a great deal of time learning. Relying too heavily on past experience to make automatic decisions can lead to poorer choices.

Most investors and allocators do not have the expertise to rely on heuristics when they make decisions. What about asset managers and advisors? Are they expert enough to make automatic decisions?

In [“Selling Fast and Buying Slow”](#), DiMascio and his co-authors analyzed 783 institutional equity portfolios with an average value of \$573 million and over 2 million buy and sell trades. The paper showed that active managers make good buying decisions. However, reliance on salience heuristics leads to substantial underperformance in selling decisions, even relative to a random sell strategy. Managers tended to sell assets with extreme positive or negative returns. (Remember “buy low, sell high”?) Selling decisions are no different than buying decisions, yet managers used their cognitive resources – their skill – to focus primarily on buying while neglecting to devote the same resources to improve their selling outcomes. They did not optimize their selling skill and tended to make unlucky selling decisions as a result.

How lucky would you feel if you were invested with one of those managers?

Mauboussin says that when luck plays a strong role in the outcome, process matters. Good processes offer the highest probability of a good outcome. One way to optimize your luck is by improving your manager due diligence process. Make sure your managers and advisors are optimizing their skills. Ask them questions about their selling decisions. Find out if they use the same rigor for selling as they do for buying. What is their selling process?

Optimize your luck by optimizing your skill at creating and following optimal processes.

## Optimizing Luck As A Fiduciary

When we presented these ideas for discussion at our October meeting, some participants questioned whether fiduciaries should try to optimize luck, as if it were wrong to benefit from luck. Yet ample evidence exists that luck factors into investment outcomes. In *The Success Equation*, Mauboussin quotes the author Richard Epstein, “It is gratifying to rationalize that we would rather lose intelligently than win ignorantly.” But a win is a win. As a



fiduciary, wouldn't you want to do your utmost to improve your chances of winning, whether it's benefiting from good luck or avoiding bad luck? Wouldn't you want to gain an edge by understanding the probability of receiving an expected return, knowing the quality of your predictive skill, or implementing a superior process?

Optimize Luck does not suggest fiduciaries focus solely on luck. Instead, we are acknowledging that luck and randomness exist in the markets and asking fiduciaries to consider how they can take advantage of it. If you do not try to optimize for luck, then aren't you making your portfolio more vulnerable to it? Considering how to optimize for luck is an additional way to meet your fiduciary responsibility.

## Optimize Luck With Us

In a world where investment skills are finely developed and broadly distributed, Optimize Luck inspires further exploration. We see just from the initial ideas that Steve Kim, Mark Steed, and I proposed that there are numerous ways to explore the topic of Optimizing Luck.

- How can we analyze, harness or optimize luck to leave less to chance and gain an investment advantage?
- How do we approach it?
- What tools and techniques should we use? What behaviors can we change?

In months to come, we will explore the Optimize Luck topic further in research, writing, convenings, and industry collaborations. If you have any questions, comment or ideas, please contact me at [cathleen.ritt@commonfund.org](mailto:cathleen.ritt@commonfund.org).

New York, NY 10017

Tel (646) 348-9201

San Francisco, CA 94111

Tel (415) 433-8800

London, United Kingdom

Tel +44 (0) 20 7872 5504

Beijing, China

Tel +86 10 5968 0198

15 Old Danbury Road  
Wilton, CT 06897

Tel 888-TCF-Main

Tel (203) 563-5000

[www.commonfund.org](http://www.commonfund.org)

## Market Commentary

Information, opinions, or commentary concerning the financial markets, economic conditions, or other topical subject matter are prepared, written, or created prior to posting on this Article and do not reflect current, up-to-date, market or economic conditions. Commonfund disclaims any responsibility to update such information, opinions, or commentary.

To the extent views presented forecast market activity, they may be based on many factors in addition to those explicitly stated in this Article. Forecasts of experts inevitably differ. Views attributed to third parties are presented to demonstrate the existence of points of view, not as a basis for recommendations or as investment advice. Managers who may or may not subscribe to the views expressed in this Article make investment decisions for funds maintained by Commonfund or its affiliates. The views presented in this Article may not be relied upon as an indication of trading intent on behalf of any Commonfund fund, or of any Commonfund managers.

Market and investment views of third parties presented in this Article do not necessarily reflect the views of Commonfund and Commonfund disclaims any responsibility to present its views on the subjects covered in statements by third parties.

Statements concerning Commonfund's views of possible future outcomes in any investment asset class or market, or of possible future economic developments, are not intended, and should not be construed, as forecasts or predictions of the future investment performance of any Commonfund fund. Such statements are also not intended as recommendations by any Commonfund entity or employee to the recipient of the presentation. It is Commonfund's policy that investment recommendations to investors must be based on the investment objectives and risk tolerances of each individual investor. All market outlook and similar statements are based upon information reasonably available as of the date of this presentation (unless an earlier date is stated with regard to particular information), and reasonably believed to be accurate by Commonfund. Commonfund disclaims any responsibility to provide the recipient of this presentation with updated or corrected information.

Published February 2020