NORTHERN TRUST
ASSET MANAGEMENT

PICKING THE BRAIN OF A NOBEL PRIZE WINNER

GAOBO PANG, PH.D., CFA
Senior Vice President and Head of Research
Retirement Solutions

Northern Trust Asset Management
northerntrust.com

Irrational human behavior has the power to overcome sophisticated wealth programs and investment strategies. Yikes, that sounds dismal. There are ways, nonetheless, to repudiate behavioral gravity and nudge better outcomes, as behavioral science tells us.

MISBEHAVING

The 2017 Nobel Prize in economics was awarded to Richard Thaler for his contributions to behavioral economics.[1] More specifically, "Thaler has incorporated psychologically realistic assumptions into analyses of economic decision-making."[2] He acknowledges that investors often have limited rationality, lack self-control, and may not act logically. Asked how he would spend his $1.1 million award, Thaler said he would "try to spend it as irrationally as possible."

In 2013, the Nobel Prize was awarded to Eugene Fama, along with two other prominent economists. Fama suggests that rational investors incorporate new information quickly into asset prices – the "efficient market" hypothesis. Fama and Thaler have been colleagues at the University of Chicago, debating the nature of investors on and off the golf course.[3]

Thus far, the Nobel Economic Sciences Prize Committee seems to have leveled the field, encouraging traditional and behavioral economics to play a full match.

[1] The award is officially called "The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel"; www.nobelprize.org.
[2] Press Release: The Prize in Economic Sciences 2017; https://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2017/press.html, October 9, 2017.
[3] Interested readers are referred to one of their conversations: http://review.chicagobooth.edu/economics/2016/video/are-markets-efficient.

The above academic work not only has a profound impact on subsequent research but also changes market practice. The “efficient market” proposition, to a large degree, sparked the emergence of index funds. Acknowledging human traits (or biases) urges the industry to look at decisions and outcomes differently. The asset management firm advised by Thaler has the slogan of “Investors Make Mistakes. We Look For Them.”[4]

Human traits have a particular grip on individuals’ savings and investing decisions. Behavioral insights are being applied to shape retirement planning and have applicability to wealth management practices.

Human traits have a particular grip on individuals’ savings and investing decisions.

NUDGE

Throughout his 40 years of research, Thaler never thought he had changed anyone’s mind. Instead, he was fond of “the strategy of corrupting the youth, whose minds aren’t already made up.” At the risk of misinterpreting, this statement may well summarize the stubbornness of chronic under-savings and static asset allocations among investors, despite experts’ advice to do otherwise.

The remedy is to nudge people towards better outcomes, a phrase Thaler made famous. For instance, school cafeterias can nudge kids toward healthy food choices by placing fruit at their eye level and pushing ice cream off to the corner. Applying this framework to appropriate saving and investing behavior, employers can gently push workers to save by auto-enrolling them in a defined contribution (DC) retirement plan. By the same token, financial advisors could encourage their clients to set up recurring deductions from their paychecks and automatically deposit the money into individual retirement accounts (IRAs).

MENTAL ACCOUNTING

Asked how he would spend his prize money, Thaler said that was a stupid question, half-jokingly, because money is deemed fungible in standard economics; or rather there is no difference between this dollar and that. In practice, however, people tend to mentally earmark money for different purposes. Money in the jar for beer is not supposed to be tapped for movies, and vice versa. “Money in one mental account is not a perfect substitute for money in another account,” said Thaler.

[4] Fuller & Thaler Asset Management Inc.

Previous prize-winning economists have spent their prize money differently than other resources (e.g.,salary), according to MarketWatch,[5] which are perhaps data points to support Thaler's assertion.

As such, mentally carving out money from immediate consumption makes a lot of sense towards retirement preparation. The threat to retirement security often stems from non-participation in a plan. Conversely, access to a plan (via employer sponsorship or self-directed accounts) would jump start savings. This can be self-fulfilling – investors ratchet up their commitment and confidence along the way as they see a growing pile of wealth. Empirically, investors are significantly less likely to drop out after they have crossed the $10,000 hurdle in their DC plans.[6]

Further tackling the risk of savings leakage, measures are needed to strengthen workers' self-control or address the lack of it. People tend to spend the money if the amount is perceived to be small ("play money"). Actions to accelerate wealth accumulation, so as to make it significant as soon as possible, include employer match and escalation of savings. Among large DC plans serviced by Northern Trust, all employers are matching employee contributions, often with a 100% match rate, up to 6% of pay; some plans also automatically escalate worker contributions, by 1% annually.[7] The gradual nature of escalation makes it a path of least resistance. Thaler experimented with a bold 3% annual increase, and it still worked well – very few opted out and their savings rates were boosted substantially.[8]

A practical application of mental accounting may help make investors less susceptible to short-term market events and more committed to strategic goals.

Among well-to-do families, investment and distribution is perhaps a bigger focus than savings adequacy. It is usually beneficial for families to discuss with advisors how to crystalize the purposes and objectives of their financial pursuits, including their desires for education, retirement, charity, inter-generational transfer, and societal impact. These can be very specific for each family situation, exactly where the goals-driven philosophy and solutions come into play for wealth management. Where institutional investors focus on retirement plans, individuals and wealthy families can focus on identifying specific trusts for unique goals.

---

[5] MarketWatch; http://www.marketwatch.com/story/it-just-fizzled-away-i-bought-lavish-furnishings-and-other-true-tales-of-how-nobel-prize-in-economics-winners-spent-their-prize-money-2017-10-09
[6] Northern Trust Asset Management; *The $10,000 Hurdle*, October 2016.
[7] Northern Trust Asset Management; *Top 25 DC Plan Highlights*; March 2017.
[8] Richard H. Thaler and Shlomo Benartzi, "Save More Tomorrow™: Using Behavioral Economics to Increase Employee Saving," *Journal of Political Economy*, 2004, 112(1): S164-S187.

With funds earmarked for different purposes across various trusts, wealth clients can have a better understanding of and greater confidence in the corresponding investment solutions. This is a practical application of mental accounting, which helps make investors less susceptible to short-term market events and more committed to strategic goals.

LIMITED RATIONALITY

In standard economics, more investment options are better, giving investors ammunition to optimize and diversify. Investors can simply ignore those options they see unfit. No harm.

This, however, appears to be a far cry from reality. Piling up too many choices in front of average investors may have backlash. Choice or information overload taxes investors' cognitive resources and can lead to indecision – a greater likelihood of no participation in the plan or no selection of investment funds. Also, anecdotally, some investors were perplexed by the complicated fund options and misperceived putting money evenly in all options available as appropriate, which is "naïve diversification." More choices are not equivalent to better outcomes.

If you want to get people to do something, make it easy."

RICHARD THALER

A leaner menu of options has been a focus in recent years. Among large DC plans serviced by Northern Trust, investment menus range from 6 to 26 options, with 12 being the median.[9] It is found that streamlined menus helped achieve significant reductions in portfolio turnover, expense rations, risk exposure, and the number of funds held which is beneficial for investors.[10]

This perhaps echoes Thaler's mantra "if you want to get people to do something, make it easy."

Also common among investors, rather than carefully vetting thousands of securities, is their tendency towards the securities of the country where they reside (home bias) or the company they are working for (familiarity bias). Their portfolios have more concentration risk than they have realized.

Others may believe they have the ability to handle their investment strategy on their own. This over-confidence may turn out to be at odds with actual behavior. For instance, a significant number of investors panicked during market downturns and fled to safety – the exit at the

---

[9] Northern Trust Asset Management; *Top 25 DC Plan Highlights*; March 2017.
[10] Donald B. Keim and Olivia S. Mitchell. 2017. "Simplifying choices in defined contribution retirement plan design: a case study." *Journal of Pension Economics and Finance*.

bottom of the market, however, was detrimental to future wealth accumulation.[11]

These instances call for continuous effort by financial advisors to educate and alert their clients about the merits of global portfolio diversification. Further, advisors could make aware and implement quality low volatility (factor-based) strategies to the particular life stages where their clients have low risk tolerance, e.g., those younger workers at the onset of career and those near retirement.[12]

CONCLUDING REMARKS

Behavioral finance emerged as a serious body of knowledge in the late 1970s and 1980s, while the advent of 401(k) plans occurred around the same time in the U.S. This was coincidental, but it is no exaggeration to say that the increasing prevalence of DC plans has helped vitalize the research in behavioral finance and served as a great outlet for its influence. Prior research was mainly through hypothetical questions in a lab and could thus be easily discredited or dismissed – what people say they would do is different from what they actually do. Rich features in DC plans and heterogeneous individual selections forcefully provide real-life observations and impetus for the explosion of behavioral finance. Behavioral research has morphed into many applications in investment and wealth management and continues to do so today.

The behavioral research by the aforementioned Nobel Prize winner reveals that humans need more hand-holding assistance than fully rational agents would.

Is behavioral finance here to supersede traditional economic theory? They'll likely converge and integrate. Guidance about optimal savings levels and investment strategies comes from standard lifecycle and modern portfolio theories. Behavioral finance helps identify and incorporate seemingly irrelevant human factors into the equation and craft pragmatic solutions. The two fields, or branches of the broad economics, contend for greater insights and market relevance, and complement each other for the common cause of lifelong financial wellbeing.

The behavioral research by the aforementioned Nobel Prize winner reveals that humans need more hand-holding assistance than fully rational agents would. To serve their respective clients better, practitioners such as financial advisors, plan sponsors, and investment professionals could consider best-in-class solutions with a "baby steps" approach: nudge the constituents to get started early, build up their mentality, and accomplish goals with carefully crafted strategies.

[11] Northern Trust Asset Management; *How Investors Behave;* 2016.
[12] The younger "next generation" investors were more risk averse than the older workers, according to ASX Australian Investor Study by Deloitte, 2017.

NORTHERN TRUST RETIREMENT SOLUTIONS

As one of the largest managers of DC assets in the United States, our team has deep expertise in developing innovative answers to challenges faced by many of the world's largest DC plan sponsors. Collectively, these sponsors have entrusted us to manage more than $172 billion and to provide custody and administrative services for more than $471 billion in DC assets as of December 31, 2017. We take a consultative approach to addressing the needs of plan sponsors and participants while offering a suite of solutions aimed at improving retirement outcomes.

For more discussion, contact John Abunassar at JA188@ntrs.com or at 312.630.6594.

NORTHERN TRUST ASSET MANAGEMENT

Northern Trust Asset Management is a leading global asset management firm. Our investment expertise, strength and innovation have earned the trust and confidence of the world's most sophisticated institutional and individual investors. With $1.2 trillion in assets under management,[13] and a long-standing history of solving complex investment challenges, we believe our strength and stability drive opportunities for our clients.

Our forward-looking, historically aware investment approach powers a broad range of capabilities and solutions. And our comprehensive asset class offering includes passive, factor-based, fundamental active and multi-manager solutions that are available in a variety of investment vehicles.

At Northern Trust Asset Management, we are committed to delivering unparalleled service and expertise with the highest ethical standards. Learn more at northerntrust.com/strength.

[13] Represents total assets managed by the subsidiaries of the Northern Trust Corporation (as of December 31, 2018)

IMPORTANT INFORMATION.

The information contained herein is intended for use with current or prospective clients of Northern Trust Investments, Inc. The information is not intended for distribution or use by any person in any jurisdiction where such distribution would be contrary to local law or regulation. Northern Trust and its affiliates may have positions in and may effect transactions in the markets, contracts and related investments different than described in this information. This information is obtained from sources believed to be reliable, and its accuracy and completeness are not guaranteed. Information does not constitute a recommendation of any investment strategy, is not intended as investment advice and does not take into account all the circumstances of each investor. Opinions and forecasts discussed are those of the author, do not necessarily reflect the views of Northern Trust and are subject to change without notice.

This report is provided for informational purposes only and is not intended to be, and should not be construed as, an offer, solicitation or recommendation with respect to any transaction and should not be treated as legal advice, investment advice or tax advice. Recipients should not rely upon this information as a substitute for obtaining specific legal or tax advice from their own professional legal or tax advisors.

Indices and trademarks are the property of their respective owners. Information is subject to change based on market or other conditions.

Past performance is no guarantee of future results. Performance returns and the principal value of an investment will fluctuate. Performance returns contained herein are subject to revision by Northern Trust. Comparative indices shown are provided as an indication of the performance of a particular segment of the capital markets and/or alternative strategies in general. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index. Gross performance returns contained herein include reinvestment of dividends and other earnings, transaction costs, and all fees and expenses other than investment management fees, unless indicated otherwise.

Northern Trust Asset Management is composed of Northern Trust Investments, Inc. Northern Trust Global Investments Limited, Northern Trust Global Investments Japan, K.K, NT Global Advisors Inc., 50 South Capital Advisors, LLC and investment personnel of The Northern Trust Company of Hong Kong Limited and The Northern Trust Company.

© 2018 Northern Trust Corporation. Head Office: 50 South La Salle Street, Chicago, Illinois 60603 U.S.A.

northerntrust.com