

DO AMERICANS REALLY SAVE TOO LITTLE AND SHOULD WE NUDGE THEM TO SAVE MORE? THE ETHICS OF NUDGING RETIREMENT SAVINGS

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Abstract

The contention that consumers systematically “undersave” for retirement is a frequent example provided by adherents to behavioral economics and behavioral law and economics to purportedly illustrate their theories. Although frequently asserted, however, the claim that people systematically undersave is rarely assessed empirically.

This article, written for a Georgetown Institute for the Study of Markets and Ethics Symposium on “The Ethics of Nudging,” examines available data on how many people fail to save and the reasons why they do not. According to available evidence, the overwhelming number of households saves enough or more than they need for retirement; only a small minority does not seem to save enough. Those who do not save for retirement do so because they lack the money to do so or allocating available resources to paying down consumer and student loan debt. Behavioral economics theories explain little of the observed patterns of saving or non-saving behavior. Moreover, behavioral economics itself suggests that many people probably oversave for retirement and makes no effort to reconcile these offsetting biases.

More fundamental, once it is recognized that there is an opportunity cost to saving more—one must consume less today, borrow more, or work more—the theoretical validity of the claim that people undersave because of behavioral biases is suspect. Given the inherently subjective nature of opportunity cost, a central planner can no more be confident that he can make people better off by influencing their consumption expenditures across time than he could by shifting consumption expenditures across different goods and services today. It is concluded that there is little reason to believe that people would be made better off by nudging them to save more for retirement.

Keywords: Behavioral economics, consumer credit, savings, retirement

JEL Codes: D14, D91, K00

Do Americans Really Save Too Little and Should We Nudge Them To Save More? The Ethics of Nudging Retirement Savings¹

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I. Introduction

It is a recurring mantra of public policy, media, and conventional wisdom: Americans spend (and borrow) too much and save too little, and this imbalance of chronic overspending and undersaving imperils family financial stability and even the overall stability of the American economy.

And, in fact, if you ask people, they'll even tell you that it's true: According to a survey cited on the United States Social Security Administration's Office of Retirement and Disability Policy, "In 2001, 82 percent of respondents to a survey ... reported that they would like to save money and 'build personal wealth,' yet 60 percent felt that the statement 'I don't think I'm saving enough for the future' described them well or very well."³ When older Americans look back, about 75 percent state that they felt like they had not saved enough for retirement and that they would save more money if they started over again (although, in fact, there is little reason to believe that they actually would).⁴

And although we *say* we want to save more, the American savings rate continues to hover

¹ George Mason University Foundation Professor of Law; Executive Director, Law & Economics Center. I would like to thank Edward Palmore for excellent research assistance with this article. I would like to thank Andrew Biggs, James Cooper, and Steve Eagle for detailed comments on an earlier draft of this article and the participants at a George Mason University Law School workshop for comments on an earlier draft of this article.

² George Mason University Foundation Professor of Law; Executive Director, Law & Economics Center. I would like to thank Edward Palmore for excellent research assistance with this article.

³ Melissa A.Z. Knoll, *The Role of Behavioral Economics and Behavioral Decision Making in American's Retirement Savings Decisions*, 70(4) SOCIAL SECURITY BULLETIN (2010) (citing Consumer Federation of America/Bank of America, *Most Americans Have Built Little Wealth* (2001), available at <http://www.americasaves.org/downloads/www.americasaves.org/PressReleases/02.20.01.pdf>), available in <http://www.ssa.gov/policy/docs/ssb/v70n4/v70n4p1.html>.

⁴ National Institute on Aging National Institutes of Health U.S. Department of Health and Human Services, *Growing Old In America* at 60, available in https://d2cauhfh6h4x0p.cloudfront.net/s3fs-public/health_and_retirement_study_0.pdf.

at or below 5% of our disposable income, a figure that has declined dramatically from even recent eras, as the savings rate typically hovered between 10-15% for most of the 1960s and 1970s.⁵

What to do about this supposed “crisis” of low retirement savings?⁶ To the rescue come the behavioral economists, full of diagnoses of what ails the American public and a tonic to cure it. Through the magic of “nudging,” government central planners can improve people’s lives by enabling them to save more for their retirement. Unlike the social planners of the past, however, who justified mandatory retirement savings programs such as Social Security on paternalistic grounds, the new generation asserts that they are not imposing their preferences on you, they are simply helping *you* to discipline *yourself* to do what you actually want to do, but lack the foresight, willpower, or some other cognitive or behavioral characteristic to follow-through on your own best intentions. Like the gym teacher who gives you the encouragement you want to run one more lap before you hit the showers—but notably unlike the paternalistic parent who forces you to eat your broccoli before you leave the dinner table—behavioralist central planners will construct a set of social institutions designed to “nudge” you to do what you want to do yourself but are unable to do on your own. For example, by changing the default rule so that you are automatically enrolled in a retirement plan at a defined percentage of your salary, more people will save for retirement. And because your *true* preferences really are to save more, you will appreciate the nudge.

⁵ See *Personal Savings Rate*, ST. LOUIS FED. RES. <https://research.stlouisfed.org/fred2/series/PSAVERT>.

⁶ See Shlomo Bernartzi and Richard Thaler, *Behavioral Economics and the Retirement Savings Crisis*, 339 SCIENCE 1152 (2013); Nari Rhee, *The Retirement Savings Crisis: Is It Worse Than We Think?* (National Institute on Retirement Security, June 2013), http://www.nirsonline.org/storage/nirs/documents/Retirement%20Savings%20Crisis/retirementsavingscrisis_final.pdf.

Economists have long recognized that people make mistakes: information is costly, the future is uncertain, and errors are inevitable.⁷ But behavioral economics (BE) asserts more than that people make errors: it predicts that consumers will *systematically* err in terms of saving less than they desire (“undersaving”) and borrowing more than they want to (“overborrowing”). Thus, in the parlance of economics, errors will be systematically biased in a predictable direction, i.e., errors around the mean will typically be one-tailed in their distribution instead of a normally distributed two-tail error distribution.⁸

But what if this assumption is not true? What if Americans really do not save too little and borrow too much? What if some people save “too little”—but others save “too much” and others save just the right amount? What if errors are not systematically biased? What if these classifications vary from time to time and person to person, such that behavior that is optimal in one situation and under one set of circumstances is suboptimal in another? We all say we want to save more. But we all also want more time with our families, a functioning refrigerator, and less debt—what if those goals are in tension? Given the complexities, how can we even tell for sure whether people in general—much less any person in particular—is saving too much, too little, or more or less the right amount? Or, in the end, is the external social planner who claims that people should be nudged to save more simply imposing his own preferences on the subject?

⁷ See Todd J. Zywicki, *The Behavioral Law and Economics of Fixed-Rate Mortgages (and Other Just-So Stories)*, 21 S. CT. ECON. REV. 157 (2014).

⁸ See Daniel Shaviro, *Multiple Myopias, Multiple Selves, and the Under-Saving Problem*, 47 CONN. L. REV. ____ (Forthcoming 2015) (“[B]ehavioral economics has won a seat at the table, making systematic error claims potentially possible... If anything, there are too many, rather than too few plausible explanations at hand of why people may be prone to over-save.”); see also Zywicki, *Just-So*, *supra* note 7.

The BE case for “nudging” people to save more by rests on the assumption that left to their own devices, individuals will save less than they wish. I thus clarify at the outset that I adopt the terms “undersaving” and “oversaving” in the sense that I understand those concepts to be used by BE commenters: “undersaving” refers to the idea that individuals save less for the future than they really “want to,” as measured by their own stated preferences. Thus the BE case for intervention should be distinguished from traditional arguments for government policies designed to encourage higher levels of retirements savings, such as those based on traditional paternalism (substituting the preferences of a more knowledgeable central planner for those of the individual), communitarian values (requiring increased saving above one’s preferred private savings rate for the benefit of dependents or society at large), macroeconomic goals (raising the stock of capital savings available to invest in businesses), or political goals (creating a pool of wealth that could be taxed or confiscated in the event of a future government fiscal crisis or reducing political pressures by voters for higher government-provided retirement benefits). Each of those arguments might provide independent support for policies designed to increase individual savings. My focus here is purely on what I understand to be the BE “libertarian paternalist” argument that people themselves wish to increase their savings but because of problems of willpower, hyperbolic discounting, or other purported behavioral biases, they are unable to do so. I do not address those other argument here.

Beyond the narrow question, the assertion that people systematically undersave has implications for the validity of BE-inspired interventions as a general matter. The claim that people systematically undersave is in many ways the Holy Grail of behavioral

economics—the go-to example to which BE scholars turn to support their claims that individuals’ revealed preferences systematically deviate from their “true” preferences and that government central planners can “nudge” consumers toward achievement of their supposed “true” preferences. Given the centrality of the undersaving hypothesis to the BE policy agenda, BE nudge engineers have a great deal riding on the accuracy of the claim that consumers systematically undersave—if this hypothesis fails to be confirmed, then virtually every major BE contention would seem to be open to challenge. The importance of the undersaving hypothesis is especially important in light of the demonstrable inaccuracy of the other pillar of BE nudge conventional wisdom, that consumers systematically overborrow.⁹

It is important to identify at the outset of this paper the nature of the claim I am making and the claims that are not being made. I assume for the sake of argument in this paper that it is possible to adopt policies that can make people save more. For example, it is well-understood that in a world where information and transaction costs are non-zero, the default legal rule will matter. Thus, for example, changing the default rule for savings plans from opt-in to opt-out can be predicted to change the percentage of people who participate in a retirement plan. In other words, I assume that it is possible to make people save more by changing the default rule using standard transaction costs economics.

The BE claim analyzed in this paper, however, is not that policy makers can make people save *more* through changing the default rule. It is that people currently are not saving *enough* (by their own stated preferences) and that changing the default rule can help them save the *right* amount (by increasing their savings). Moreover, as with other BE hypotheses, it implies that people’s *revealed* preferences (as illustrated by how much

⁹ See Zywicki, *Just-So Stories*, *supra* note 7.

they actually save) is a less-reliable guide than their *stated* preferences (as measured by how much they *say* they want to save).

One final caveat is important at the outset—I am *not* arguing that skepticism about behavioral economics implies that the only economically efficient default rule is a default rule of pure opt-in (i.e., default rule of zero saving), thereby putting the onus on the consumer to act to save at all. Instead, it is quite plausible, for example, that employees may actually prefer that an employer offer a default savings rate of greater than zero; and indeed, one would expect that as in any other market, the labor market would provide a variety of different savings plans (including both defined benefit and defined contribution plans) and a variety of different default rules. Indeed, markets are full of private “nudges” by sellers or employers that reflect the fact that in some cases through the discovery process of the market, a seller or employer may actually have greater knowledge about individual preferences than individuals themselves.¹⁰

Recognizing that different employers will offer different retirement plans and allowing employees to choose among those options is consistent with a theory of revealed demand—potential employers offer employees a variety of retirement plan options and employees choose among them. It is unlikely that every employer and employee will prefer the same rule. But default rules that emerge spontaneously from the voluntary interactions of employers and employees to best meet the employee’s preferences differ from so-called libertarian paternalist rules in that they reflect the individual’s revealed preferences, not the supposed preferences of the nudging central planner. In this sense, there is no reason to treat individual choices about retirement plans and the default rules

¹⁰ See Adam C. Smith and Todd Zywicki, *Market Based Nudges: How Financial Markets Improve Their Own Choice Architecture*, in *NUDGE THEORY IN ACTION: BEHAVIORAL DESIGN IN POLICY AND MARKETS* (Forthcoming 2016).

that emerge over time as fundamentally different from other choices that individuals make in the market over salary, hours, and other terms of employment. In fact, workers do pay attention to retirement benefits in choosing their jobs: according to a survey by Transamerica, 77% of employees said that the retirement benefits offered by a potential employer would be a major factor in their job choice,¹¹ 60% would switch jobs for a better retirement plan,¹² and workers were evenly divided on choosing between a job with a higher salary and lower retirement benefits versus a lower salary with better retirement benefits¹³. Workers pay attention to competing retirement plans and act accordingly.

This article will explore the ethical implications of BE proposals to nudge consumers to save more premised on BE claims that consumers systematically undersave for retirement. The foundation for intervention premised on BE concepts rests on several assumptions: (1) that it is possible to determine consumers “true” preferences with respect to saving and borrowing, (2) that is possible to determine that consumers actual outcomes systematically differ from their desired outcomes in the manner predicted by BE, i.e., that it is possible to demonstrate that they systematically undersave for retirement and do not save more than they need or as much as they want to, and (3) that it is possible to identify a particular rule or set of default rules that will make Americans “better off” by their own measures by inducing them to save more.

As will be seen, the BE case for claiming that Americans save too little and that we can identify interventions that will make them better off falls short on all three of

¹¹ TRANSAMERICA CENTER FOR RETIREMENT SAVINGS, 16TH ANNUAL TRANSAMERICA RETIREMENT SURVEY: A COMPENDIUM OF FINDINGS ABOUT AMERICAN WORKERS 26 (Aug. 2015), *available in* https://www.transamericacenter.org/docs/default-source/resources/center-research/16th-annual/tcrs2015_sr_16th_compendium_of_workers.pdf.

¹² *Id.* at 28,

¹³ *Id.* at 27.

these key levels of analysis. Indeed, BE policy recommendations appear to rest on little more than appeals to untested or even incorrect conventional wisdom. As I have suggested elsewhere, although BE has cooked up some interesting theories in the laboratory, they simply are not ready for public policy experiments on human subjects.¹⁴

II. Summarizing the BE Claim that People Save To Little

Although behavioral economists frequently assert that people systematically undersave for retirement, they rarely provide detail on how they establish this to be the case. Typically, it seems that they simply refer to conventional wisdom or surveys of expressed preferences, as described in the Introduction. In this Part, however, I will try to describe the argument.

The arguments advanced by Richard H. Thaler and Cass R. Sunstein in their well-known book *Nudge* are representative, both in their general substance but also in the lack of detail and hand-waving nature of the argument:

Of course, a key question is whether people are saving enough. Are they? This turns out to be a complex and controversial question....

We do not take a strong position on this debate, but consider a few points. It seems clear that the costs of saving too little are greater than the costs of saving too much. There are many ways to cope with having saved too much—from retiring earlier than expected, to taking up golf, to traveling to Europe, to spoiling the grandchildren. Coping in the opposite direction is less pleasant. Second, we can say for sure that *some* people in our society are definitely saving too little—namely, those employees who are not participating at all in their retirement plan, or are saving a low percentage of their income after having reached their forties (or older). These folks could clearly use a nudge.

For what it is worth, many employees say that they “should” be saving more. In one study, 68 percent of 401(k) participants said that their savings rate is “too low,” 31 percent said that their savings rate is “about

¹⁴ See Zywicki, *Just-So Stories*, *supra* note 7.

right,” and only 1 percent said that their savings rate is “too high.” Economists tend to belittle such statements, and partly for good reason. It is easy to say that you “should” be doing many good things—dieting, exercising, spending more time with your children—and peoples’ actions may tell us more than their words. After all, few of the participants who say they should be saving more make any changes in their behavior. But such statements are not meaningless or random. Many people announce an intention to eat less and exercise more next year, but few say they hope to smoke more next year or watch more sitcom reruns. *We interpret the statement “I should be saving (or dieting, or exercising) more” to imply that people would be open to strategies that would help them to achieve those goals.* In other words, they are open to a nudge. They might even be grateful for one.¹⁵

Thaler and Sunstein thus suggest two basic normative justifications for their belief that people would be made better off by nudging them to save more money: First, that “[i]t seems clear that the costs of saving too little are greater than the costs of saving too much.” Indeed, that is the case *at the time of retirement*, which is the only time period that they examine. But as discussed below, this assertion that saving too much is harmless is not obvious once the opportunity cost of saving is considered *at the time the decision to save* is made. Second, they assert that many consumers say that they wished that they saved more, while also acknowledging that there are many other things about which they also express aspirational goals, such as exercising more. But, as will be seen, they fail to appreciate that this observation is a concession not a confirmation of their theory once it is realized that many of those goals are not aspirational but are mutually contradictory to the goal of saving more for retirement.

Other behavioral economists have also provided theories to explain why people purportedly save too little, but without actually demonstrating that people actually are now saving too little in the first place. As articulated by economist David Laibson, the

¹⁵ RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS* 106-07 (2008) (emphasis added).

standard behavioral economics explanation for this purported tendency to undersave rests in the notion of hyperbolic discounting, namely that people have time-inconsistent preferences and discount future events in a non-linear fashion.¹⁶ Notably, however, Laibson provides no independent justification for the threshold claim that people are systematically saving too little; instead, he bases his theory on findings by economist Douglas Bernheim. But Bernheim, like Thaler and Sunstein, based his conclusion that people undersave by observing a gap between their actual behavior and their expressed preferences that they “should” save more.¹⁷ Thus, although BE theories (such as hyperbolic discounting) provides a theory of *why* people might systematically undersave, the theories do not establish that it does not independently demonstrate that people actually do undersave nor do they establish that what people say they want to do is a better expression of their true preferences than what they actually do in light of their actual opportunity cost and budget constraints.

Bubb and Pildes similarly reduce their claim that people save too little to a one sentence assertion, “As evidence of bounded willpower, many people report that they would like to save more than they do.”¹⁸ Thus, they too claim that the fact that people say they want to save more than they actually do proves that people irrationally undersave.

They attribute this supposed tendency to undersave to various behavioral biases, notably

¹⁶ See David I. Laibson, *Hyperbolic Discount Functions, Undersaving, and Savings Policy*, NBER Working Paper 5635 (June 1996).

¹⁷ B. Douglas Bernheim, *Do Households Appreciate Their Financial Vulnerabilities? An Analysis of Actions, Perceptions, and Public Policy*, in TAX POLICY AND ECONOMIC GROWTH 1-30 (1995). Bernheim based his findings on two questions asked to respondents in a survey: (1) What percentage of your annual household income do you think you should save for retirement? (“Target saving”), and (2) What percentage of your annual household income are you now saving for retirement? (“Actual saving”). Notably, Bernheim does not appear to have asked any questions that would have enabled him to discern the opportunity to people of higher savings levels.

¹⁸ Ryan Bubb and Richard H. Pildes, *How Behavioral Economics Trims its Sails and Why*, 127 HARV. L. REV. 1593, 1613 (2014).

the phenomenon of hyperbolic discounting. “One explanation for this is that workers apply a higher discount rate over shorter time horizons than they do over the long run. Such ‘hyperbolic discounting’ produces time-inconsistent behavior — people want to save more, but not until next year, and when next year arrives they again want to save more, but not until next year, and so on.”¹⁹ Based on these assumptions that individuals undersave and that they do so because of hyperbolic discounting they go on to offer an entire theory of nudges, shoves, and various mandates designed to induce people to save more than they currently do.²⁰ Again, they provide no consideration as to whether the expressed preference to save more is more sincere than people’s actual revealed demand in light of their opportunity cost and budget constraints.

On occasion it seems that some behavioral economists and behavioral law and economics scholars actually reverse the reasoning and seemingly assume that because people seem to engage in hyperbolic discounting that it must follow as a matter of deductive logic that they must in fact undersave. This was the case in a recent *Wall Street Journal* column by celebrity behavioral economist Dan Ariely:

The underlying issue is why we are so much more likely to brush than to floss. If we thought about our long-term well-being, we would floss regularly, but in dental care as in many other human endeavors, we often don’t act in ways that serve our enlightened self-interest. (We eat too much, save too little and so on.)²¹

This approach implicitly ignores the need to establish first that people actually do undersave in the first place, instead essentially assuming it as the logical result of the mundane observation that people do not always act in their long-term self-interest. This is the problem that I have elsewhere referred to as the “Just-So Stories” tendency of

¹⁹ *Id.*

²⁰ *Id.* at 135-37.

²¹ Dan Ariely, *Ask Ariely: Why We Prefer to Brush*, WALL ST. J. p. C12 (Jan. 9-10, 2016).

behavioral economics and behavioral law and economics, to selectively observe facts about the world and then reverse engineer an ad hoc list of selected biases that supposedly explain the observed phenomenon, rather than establishing the empirical robustness of the theory to be explained.²²

As all of this suggests, behavioral economists have provided plenty of theories purportedly to explain *why* consumers supposedly undersave. On the other hand, they have not actually demonstrated that consumers actually do, in fact, undersave or that people would be made better off by being nudged, shoved, or forced to save more. They have only observed that people say they want to save more (and exercise more and eat less) than they actually do. To establish that people would be made better off by paternalistically tinkering with their choice architecture, however, it is necessary to actually determine not only why people don't save more but that they are actually saving "too little" in light of their true opportunity cost, and that the reason they don't save more is because of BE-style explanations (such as hyperbolic discounting).

The remainder of this article takes up the task that has been largely ignored by behavioral economists, namely to examine whether it can be concluded that people do in fact systematically undersave for retirement in light of the real opportunity cost of increased saving and whether those who actually do fail to save are actually doing so for the reasons asserted by BE theorists (such as hyperbolic discounting and the like) or for some other reason. At that point it can be examined as an ethical matter whether consumers would actually be made better off if they were nudged to increase their savings rate.

²² See Zywicki, *Just-So Stories*, *supra* note 7.

III. Are Americans Really Saving Too Little?

Behavioral economics asserts that because of certain predictable biases, people *systematically* tend to save less than they reasonably need for retirement. This theory thus contains two predictions: (1) that people, on average, should save less than they reasonably need for retirement and (2) that errors should be disproportionately “one-tailed” in their distribution, in that deviations from the ideal level of savings should be toward saving too little for retirement instead of more than they reasonably need. Available evidence rejects both hypotheses.

A. How Many People Undersave—And Oversave—for Retirement?

Examining the available evidence, there is little reason to conclude that people systematically undersave for retirement, especially once government retirement security programs such as Social Security and Medicare are taken into account. Indeed, there is reason to believe that systematic oversaving—i.e., saving more than one could reasonably expect to spend in one’s retirement—is at least as prevalent, if not more prevalent, than saving too little for retirement.

According to a 2006 study by Scholz, et al., most people save enough or more than they need for retirement, and undersaving for retirement was a problem for only about 15 percent of American households.²³ Moreover, those who saved less than their optimal amount only deviated by a small amount from their desired level (only saving \$5,620 less than desired on average on average). As they summarize their findings, “Although some households are approaching retirement with significant wealth deficits,

²³ Jhn Karl Scholz, Ananth Seshadri, and Surachai Khittrakun, *Are Americans Saving Optimally for Retirement?*, 114 J. POL. ECON. 607 (2006).

the data ... suggest that ... households overwhelmingly are well prepared for retirement.”²⁴ Indeed, Scholz, et al., found that the “most striking aspect ... is the degree to which people are saving too much,” i.e., are saving *more* than they reasonably need for retirement. They provide three possible explanations for this high incidence of exceeding one’s private wealth accumulation goals: a higher than expected rate of return on investments (financial assets and home equity), a desire to leave a bequest for their children, and a belief that they will live longer than average (and thus have more time to enjoy their wealth and thus need more money to keep from running out). Regardless of the explanation, the tendency of many households to save more than is reasonably required to fund their retirement is striking. Over 80% of households were saving as much as or more than they needed for retirement; as noted, only about 15% could be said to have saved too little. High-income households are especially likely to save more than they will need.

In fact, evidence indicates that household wealth actually *increases* at the median during retirement.²⁵ That households actually grow wealthier in retirement results from several reasons. First, there is a strong precautionary motive to save, especially to guard against unexpected medical costs and to leave a bequest to family members or charitable organizations, leading to a general tendency to save more than needed. In particular, early in retirement households build up assets as a “precautionary buffer” against unexpected health costs and later in retirement they save in order to leave a bequest. Second, consumption expenditures tend to be lower than expected in retirement. And third, the

²⁴ *Id.* at 627.

²⁵ David A. Love, Michael G. Palumbo & Paul A. Smith, *The Trajectory of Wealth in Retirement*, 93 J. OF PUB. ECON. 1-2, 191 (Feb. 2009), *available at* <http://www.sciencedirect.com/science/article/pii/S004727270800131X>.

combination of private savings along with Social Security income exceeds the amount necessary to live on for most households. Indeed, the growth in household wealth is significant for most households:

Our analysis of the HRS panel documents strongly rising patterns of annualized wealth in retirement. We find that the median value of annualized comprehensive wealth for the cohort of households aged 70 to 75 years in 1998 rises significantly in retirement, from about \$32,800 per person per year in 1998 to about \$42,200 per person per year in 2006—a net increase of nearly 30% in just eight years. That is, comprehensive wealth balances in the HRS tend to decrease much more slowly than life expectancy shortens in old age. Our regression-based estimates of the age profile through the full span of retirement indicate that the median surviving household tends to see its annualized comprehensive wealth climb from \$25,600 per person per expected year of life at age 65 to more than \$50,000 by age 90.²⁶

They estimate that about half of households experienced wealth gains of 25% or more over the period studied, while only about one in eight experienced declines in wealth of 25% or more over the period. Moreover, wealth gains in retirement were widespread and largely consistent across income, race, education, marital status, and health groups.

A 2014 study by Morningstar Investment Management found that people plan to spend 70-80 percent of their inflation-adjusted pre-retirement income each year of retirement, but actually spend between 54-87 percent.²⁷ Overall, it was estimated that on average many people oversave for retirement by 20%, money that could otherwise be used for recreation or to avoid other debt, such as by paying for a child's college tuition.

A tendency toward oversaving for retirement occurs for another reason: Many households make mistakes as to how much they will need to live comfortably in retirement. But contrary to the BE hypothesis, it appears that many households

²⁶ *Id.* at 192.

²⁷ Gene Chatzky, *You may be saving too much for retirement*, FORTUNE (Jan. 6, 2014 10:00 AM), <http://fortune.com/2014/01/06/you-may-be-saving-too-much-for-retirement/>.

overestimate how money they will need for retirement. It is difficult for working-age people to anticipate how much they can cut their financial expenditures when they retire. Many costs that people have earlier in their lives disappear or are gradually reduced when people age: the mortgage is paid off and the costs associated with working (such as commuting and other costs associated with earning a living), raising and educating children, and maintaining a larger home to raise a family disappear. Yuppies who once lined up to dine at the hippest restaurant in town may (surprisingly) find themselves sidling up to the “Early Bird” buffet special at the local Ponderosa one they are in their 70s. Tastes change. And with the change in tastes comes a change in expenditures.

Data collected from the U.S. Bureau of Labor’s Consumer Expenditure Survey also shows evidence that spending decreases throughout retirement.²⁸ Specifically, it shows a 27 percent decrease in spending from the 55-64 age group to the 65-75 group and another decrease of 26 percent after turning 75.²⁹ The study which included this data shows that people tend to overestimate their financial needs for retirement and, in many instances, actually over-save for retirement.³⁰ The author concludes, “Traditional retirement planning assumes that a household’s expenditures will increase a certain amount each year throughout retirement. Yet data from the U.S. Bureau of Labor’s Consumer Expenditure Survey show that household expenditures actually decline as retirees age. Consequently, under traditional retirement planning, consumers tend to oversave for retirement, underspend in their early years of retirement, or postpone

²⁸ Ty Bernicke, *Reality Retirement Planning: A New Paradigm for an Old Science*, J. OF FIN. PLANNING, 56 (June 1, 2005), available at <http://web.b.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=08afa52b-8a28-420d-90e1-8c2067076338%40sessionmgr110&vid=1&hid=110>.

²⁹ *Id.*

³⁰ *Id.*

retirement.”³¹ Moreover, the author also concludes that these reductions in spending are voluntary, not involuntary.

Other studies also show dramatic declines in expenditures during retirement. For example, using age 65 spending as a benchmark, household expenditure falls by 19 percent by age 75, 34 percent by age 85, and 52 percent by age 95.³² Overall, median household expenditures experience an almost constant linear decline from age 50 to age 95, falling steadily from approximately \$50,000 per year to under \$20,000 per year.³³ Expenditures fall in every measured category (home maintenance, food, transport, clothing, entertainment, and other) except health (which increased slightly).³⁴ Moreover, many retirees pay off their mortgage when they retire and thus have no housing payments (other than maintenance and the like).³⁵ Households also increase their retirement savings when their children leave home.³⁶

A major reason why expenditures decline in retirement is that retirement increases the amount of time available for household activities (non-market production) that used to require market purchases. Thus, while consumers may reduce their consumption *expenditures* in retirement that does not mean that they reduce their total level of consumption. Instead, retirement shifts the household budget constraint between market consumption (such as eating out at restaurants or hiring a lawn maintenance business or housekeeper) and time-intensive non-market consumption (such as preparing food at

³¹ *Id.*

³² Sudipto Banerjee, *Expenditure Patterns of Older Americans, 2001-2009*, EBRI.ORG ISSUE BRIEF No. 368 at 5 (Feb. 2012).

³³ *Id.* at 6, Fig. 1.

³⁴ *Id.* at 7, Fig. 2.

³⁵ Sudipto Banerjee, *Change in Household Spending After Retirement: Results from a Longitudinal Sample*, EBRI ISSUE BRIEF No. 420 at 9 (Nov. 2015); Dushi, et al., *supra* note 36.

³⁶ Irena Dushi, Alicia H. Munnell, Geoffrey T. Sanzenbacher, and Anthony Webb, *Do Households Increase Their Savings When the Kids Leave Home?*, Center for Retirement Research at Boston College CRR WP 2015-26 (Sept. 2015).

home or taking care of one's own yard or housekeeping). In fact, as predicted, retirees spend much more time on household tasks such as house cleaning, yard work, shopping, meal preparation, and home improvements than when they were working.³⁷ This substitution to home production of these services rather than market purchases can amount to savings of several thousands of dollars per year.³⁸ Expenditures also fall because as people age unfortunately they also become less mobile and so spend less on recreational activities, travel, and the like.

Some BE theorists argue that this reduction in consumption is involuntary, that “many people either *must* sharply reduce annual consumption upon retirement, or else are on a path to have to do so.”³⁹ But this is inconsistent with available data, which finds a dramatic drop at the time of retirement, as would be predicted if people were surprised or unprepared by a lack of money when they retire. Instead, household expenditures gradually decline in the period leading up to retirement, indicating a smooth transition into lower retirement expenditures. As one study found, “Our main result is that spending declines at retirement by 15% to 20%, but at ages approaching a typical retirement age the anticipated decline in spending is almost the same as the average decline in spending. *On average people are not surprised at retirement by the decline in spending.*”⁴⁰ In fact, people actually expect that they will have to reduce their spending more when they retire than they actually have to, which suggests that “people on average seem to be pleasantly

³⁷ See Michael Hurd and Susann Rohwedder, *The Retirement-Consumption Puzzle: Anticipated and Actual Declines in Spending at Retirement*, RAND WORKING PAPER WR-242 (Feb. 2005).

³⁸ *Id.*

³⁹ Shaviro, *supra* note 8.

⁴⁰ Hurd & Rohwedder, *supra* note 37, at 5 (emphasis added); see also *supra* note 33 and accompanying text (noting linear decline in spending over retirement).

surprised by their level of retirement resources, relative to pre-retirement worries about the adequacy of retirement income.”⁴¹

Moreover, there is little evidence that retirees systematically are living in poverty or eating cat food to cope with a lack of sufficient retirement savings as would be expected if households systematically undersave for retirement. A study conducted by the PEW Research Center comparing net worth in 1984 and 2011 showed that households headed by individuals age 65 and older had an adjusted net worth of \$120,457 in 1984, roughly ten times that of households headed by individuals 35 and below (\$11,521).⁴² By 2011, it found that this gap had widened to the point that the older households, at \$170,494, were worth 47 times that of the younger.⁴³ In 2013, the median adjusted family net-worth of Americans 75 or older was \$194,800.⁴⁴

In addition, fewer elderly Americans live in poverty than the working age population in general. Only 9.5 percent of Americans over the age of 65 were in poverty, the lowest of all age groups.⁴⁵ Similarly, according to a 2014 Census Bureau estimate, only 10 percent of individuals over the age of 65 were below the poverty line, compared with 13.5 percent from ages 18-64.⁴⁶ Overall, when Social Security benefits are combined with private retirement savings and continued work in retirement, it is estimated that the total income of Americans age 65 or older is equal to 92 percent of the

⁴¹ NATIONAL INSTITUTE OF AGING, *supra* note 4, at 53.

⁴² Annalyn Censky, *The New American Dream: Older Americans are 47 Times Richer than Young*, CNN MONEY (Nov. 28, 2011), http://money.cnn.com/2011/11/07/news/economy/wealth_gap_age/.

⁴³ *Id.*

⁴⁴ Victoria Stilwell, *Silent Generation Wins Life Lottery as Richest Group: Economy*, BLOOMBERG BUSINESS (Nov. 12, 2014), <http://www.bloomberg.com/news/articles/2014-11-12/silent-generation-wins-life-lottery-as-richest-u-s-age-group>.

⁴⁵ *Id.*

⁴⁶ U.S. CENSUS BUREAU, *Poverty: 2014 Highlights* (2014), <https://www.census.gov/hhes/www/poverty/about/overview/>.

national average income on average.⁴⁷ In fact, research by the Employee Benefit Research Institute found that so generous is Social Security that those in the bottom half of income distribution experienced no drop in income after they reached 65 and those in the bottom-income quartile “actually experience[] an increase in average household income after 65.”⁴⁸

Others who feel that they lack sufficient income to retire comfortably may simply postpone retirement and work longer. For most people, the decision to when to retire is voluntary and is based on their available assets. For example, once Social Security was created, labor force participation declined for those eligible for retirement, even though many of those who retired could have worked longer if they chose.⁴⁹ Similarly, it is estimated that the decline in home values associated with the financial crisis and Great Recession reduced the probability of retirement by 15-19 percent.⁵⁰ In fact, even those who express concern that Americans are not saving enough for retirement acknowledge that merely pushing back retirement to age 70 from 65 eliminates concerns about retirement security for virtually everyone.⁵¹ Countries with less-generous social safety nets also tend to exhibit higher savings rates where the populace can actually afford it: In

⁴⁷ See Andrew G. Biggs, *The “Retirement Crisis” That Isn’t*, WASH. POST (Dec. 29, 2015), https://www.washingtonpost.com/opinions/the-retirement-crisis-that-isnt/2015/12/29/b5d76dac-aa8a-11e5-9b92-dea7cd4b1a4d_story.html.

⁴⁸ Sudipto Banerjee, *How Does Household Income Change in the Ten Years Around Age 65*, 34 EBRI NOTES No. 9, at 9, 13 (Sept. 2013).

⁴⁹ See Alicia H. Munnell, *The Average Retirement Age—An Update*, Center for Retirement Research at Boston College (Mar. 2015), Number 15-4. This despite the fact that average life expectancy and the ability to work longer were both increasing.

⁵⁰ Jan Ondrich and Alexander Falevich, *The Great Recession and the Retirement Decisions of Older Workers*, Center for Retirement Research at Boston College CRR WP 2013-24 (Dec. 2013).

⁵¹ CHARLES D. ELLIS, ALICIA H. MUNNELL, AND ANDREW D. ESCHTRUTH, *FALLING SHORT: THE COMING RETIREMENT CRISIS AND WHAT TO DO ABOUT IT* 99 and Fig. 5.1 (2014).

China, where social pension benefits are generally low, individual households save over 30 percent of their disposable income.⁵²

Moreover, in the United States there has been a recent trend toward people retiring later and working during retirement—not because they have to work longer, but because they enjoy their work and want to work longer, and because changes to Social Security eligibility rules that eliminated prior disincentives for further work.⁵³

Households, especially high-income households, increasingly factor post-retirement work as part of their retirement plans, which leads them to reduce their retirement saving earlier in their working careers and to transfer savings to other purposes such as saving for their children's college expenses.⁵⁴ The general replacement of traditional pension plans by 401(k) plans has also provided natural incentives to work longer; workers covered by 401(k) plans typically retire a year or two later than those in traditional pension plans.⁵⁵ Other factors have also contributed to working longer, such as higher levels of education (more educated workers tend to work longer), a trend toward jobs becoming less physically demanding overall because of technology, and joint decision-making when both spouses work and the older spouse defers retirement until the younger spouse can retire as well. None of these factors imply that workers are working longer because they have to in order to stave off pauperization caused by inadequate savings. In fact, of the workers who state that they plan to work in retirement, 35% state that they plan to work because they enjoy their work or want to stay involved and only 30% say

⁵² David Moo, *Retirement and Savings Plans in China*, HEWETT ASSOCIATES (July 2009), available at http://www.actuaries.org/PBSS/Colloquia/Tokyo/MOO_DavidP.pdf.

⁵³ See Munnell, *Average Retirement Age*, *supra* note 49.

⁵⁴ TRANSAMERICA, *supra* note 11, at 58 (finding that 51% of respondents expect to continue working full-time or part-time in retirement).

⁵⁵ *Id.*

they plan to work because they need the income.⁵⁶ As such, the optimal savings level for a person who hopes to retire at 60 years of age is different from those who plan to retire at 67 or 70. In the latter scenario, it is perfectly reasonable that a person who plans to work longer could plan to save less in their youth than someone who plans to retire early. The optimal intertemporal allocation of work, leisure, and consumption will vary among different people depending on their subjective preferences for when to retire and their preferences for consumption earlier in life versus later in life.

In addition, people now spend more time in higher education earlier in their lives investing in their human capital. This has several implications for predicting that workers will save less when they are younger and work longer when they are older. First, many people incur debt for education, which postpones the age at which they start to accumulate savings. Second, workers simply start working—and saving—later. Third, human capital investments tend to be more durable over the lifecycle, leading to a more gradual decline in income-earning potential at the end of one’s career, thereby providing incentives to work longer. Thus, the trend toward longer working careers, especially for more highly-educated workers, is not surprising.

B. Has the Transition from Defined Benefit Plans to Defined Contribution Plans and IRAs Led to Undersaving?

BE theorists also suggest that the shift from defined benefit to defined contribution plans has also contributed to the purported undersaving problem because defined contribution plans implicate BE biases in a manner that defined benefit plans do not. As Thaler and Sunstein argue, defined-benefit plans are more “forgiving to even the

⁵⁶ TRANSAMERICA, *supra* note 11, at 59.

mindless of Humans,” as compared to 401(k) plans.⁵⁷ Because defined-benefit plans automatically enroll the employee in a plan after a certain number of years, automatically invest their money, and automatically adjust the benefits based on seniority and other factors, they are thought to be well-designed according to behavioral theorists. Defined-contribution plans, such as 401(k) plans, however, are thought by behavioral economists to be poorly designed because they require employees to act affirmatively to save and to choose to delay gratification. As a result of this deductive-style logic, behavioral economists assert that the economy-wide shift from defined-benefit to defined-contribution plans has exacerbated the purported undersaving problem.

The assertions of Bubb and Pildes again are illustrative:

Neither Social Security nor private [defined benefit] pensions require individuals to choose whether (or at what level) to participate or to make significant decisions in managing their retirement assets as they accumulate benefits during their working years. Moreover, these retirement schemes take the form of a life annuity during retirement, which both provides insurance against longevity risk and simplifies financial decisions in retirement, as retirees do not have to worry about spending their savings too rapidly or slowly. In other words, these are largely choice denying or choice-limiting policies.⁵⁸

Again, however, they provide no evidence that the transition from defined benefit plans to defined contribution plans has led to lower savings rates; it is simply asserted as a just-so story derived from behavioral economics assumptions. Does the evidence bear it out?

It is true that recent decades have seen a rapid shift from defined-benefit to defined-contribution plans. But contrary to the predictions of behavioral economists, this

⁵⁷ THALER & SUNSTEIN, *supra* note 15, at 105.

⁵⁸ See Bubb & Pildes, *supra* note 18, at 1607); *see also id.* (“This shift to DC plans has imposed dramatically greater burdens of sound decisionmaking on individuals with respect to three dimensions of the retirement savings problem: the appropriate rate of savings, the appropriate investment choices, and the appropriate rate of postretirement dissavings. In response, improving individual decisionmaking with respect to DC plans has been one of the primary focal points of BLE.”).

has *not* led to fewer people saving for retirement or saving less overall. First, the number of employees eligible for employer-provided retirement plans and the percentage participating in retirement plans appears to have increased slightly since the late-1970s, notwithstanding the major shift from defined benefit to defined contribution plans over that period.⁵⁹ The transitional from defined benefit to defined contribution plans has tended to increase access to employer-provided retirement plans for several reasons. First, although estimates vary, except for very large employers, defined contribution plans generally are less expensive to administer and thus more affordable for employers to offer, especially smaller businesses.⁶⁰ Moreover, in recent years the administrative costs associated with defined benefit plans have risen rapidly, whereas the costs of defined contribution plans have risen little or in some instances even declined as a result of innovations in the provision of simplified defined contribution plans.⁶¹ Employers also bear the risk of ensuring that their plans have sufficient resources to fund open-ended and unpredictable defined benefit liabilities and of paying insurance premiums to the Pension Benefit Guarantee Corporation to insure against short falls. These costs have tended to

⁵⁹ See Craig Copeland, *Retirement Plan Participation: Survey of Income and Program Participation (SIPP) Data, 2012*, 34 EBRI NOTES NO. 8, at 3 (Aug. 2013). There is some dispute over whether the shift to defined contribution plans has actually increased access to employer-provided plans or left the level more or less constant. It is not essential for the argument above that access to defined benefit plans has actually increased access to employer-provided retirement plans; that seems to be the best reading of the data to me.

⁶⁰ Although managing a pool of investments creates economies of scale in management and administrative expenses when compared to many individual retirement plans, defined benefit plans bring with them the additional complexities and risk of complying with regulations regarding prudent investment strategies and the complicated annuity structure of defined benefit plans, which require expensive professional advice. See Robert Kleine and Mitch Bean, Great Lakes Economic Consulting, LLC, *A Cost Benefit Comparison of Defined Benefit and Defined Contribution Retirement Plans* at 24 (June 2014 (“These [administrative and regulatory compliance] costs depend considerably on the size of the fund. That explains why most of the conversions from DB to DC plans have been among small businesses. Large-scale enterprises, including public pension funds, show very little difference in cost between DB and DC plans.”)).

⁶¹ See UNITED STATES DEPT. OF LABOR, WORKING GROUP ON THE MERITS OF DEFINED CONTRIBUTION VS DEFINED BENEFIT PLANS WITH AN EMPHASIS ON SMALL BUSINESS CONCERNS (Nov. 13, 1997), available in <http://www.dol.gov/ebsa/publications/dbvsdc.htm>.

promote the cost-effectiveness of defined contribution plans and boosted access to employer-provided retirement plans, holding everything else constant.

Beyond access to employer-provided plans and plan participation rates, however, the percentage of employees now who are actually *vested* in their employer-provided retirement plans has almost doubled (from 24% in 1979 to 43% in 2012) as a result of the transition to defined contribution plans, primarily because the vesting period for defined contribution plans is significantly shorter in duration than for defined benefit plans.⁶² According to research by Vanguard, 60% of defined contribution plans provide for immediate vesting and 85% provide for one year or less, compared to the traditional vesting period for a defined benefit plan of five years.⁶³ The long vesting period for defined benefit plans meant that even though many workers were employed by companies that offered defined benefit plans many of them left before their benefits vested. Moreover, the shorter (in most cases immediate) vesting period for defined contribution plans is more suitable for today's highly-mobile workforce, thus the move to defined contribution plans offers benefits above and beyond their mere replacement for defined benefit plans. According to the United States Department of Labor, median job tenure was 4.6 years in 2012, and is even lower for women, minorities, working mothers, workers with less education, and service workers, who change jobs more frequently or move in and out of the full-time workforce.⁶⁴ Thus, traditional defined benefit plans that typically had a five-year vesting period and graduated benefits linked to seniority are outmoded in the modern economy and are considered unattractive by many workers.

⁶² Copeland, *Retirement Plan Participation*, *supra* note 59, at 3.

⁶³ See VANGUARD, *supra* note 157, at 7, Figure 1.

⁶⁴ Steven F. Hipple and Emy Sok, *Tenure of American Workers* (United States Department of Labor, (Sept. 2013), <http://www.bls.gov/spotlight/2013/tenure/pdf/tenure.pdf>. The median tenure of 4.6 years actually represented an increase over the past decade or so, as by 2000 median tenure was under 4 years. *Id.*

Overall, an analysis by Boston College's Center for Retirement Research concludes of the impact of shift from defined benefit to defined contribution plans has resulted in no net increase in the number of people saving inadequately for retirement:

The conclusion is that after various adjustments, the percentage of salary going towards retirement saving has declined slightly. On the other hand if returns on accumulations are included, the annual change in pension wealth appears to have remained relatively steady. *In short, the ... data suggest that people are not accumulating less as the result of the shift from defined benefit to defined contribution plans.*⁶⁵

In fact, the authors themselves admit that prior to analyzing the data they had assumed “that people are saving less for retirement as a result of the shift from defined benefit to defined contribution plans.”⁶⁶ After analyzing the data, however, they observe, “Our reading of the data, after our adjustments, is that the accumulation of retirement assets has not declined as a result of the shift from defined benefit to defined contribution plans. We are going to have to change our story!”⁶⁷

In addition, those who analyze defined contribution plans often ignore the *employer* side of the defined contribution plan in the form of matching and even non-matching contributions. In 2012, 95.3 of employers with defined contribution plans made matching contributions, which was a 10 percentage point increase from 2009.⁶⁸ In addition, employers increased the average size of their matching contribution to 4.5% of pay, an increase from 3.7% in 2010.⁶⁹ In addition, many employers also give *non-matching* contributions to employee retirement plans in addition to matching

⁶⁵ Alicia H. Munnell, Hean-Pierre Aubry, and Caroline V. Crawford, *How Has Shift to Defined Contribution Plans Affected Saving?*, Center for Retirement Research at Boston College Number 15-16 at 1 (Sept. 2015) (emphasis added).

⁶⁶ *Id.*

⁶⁷ *Id.* at 5. As noted, workers with defined contribution plans tend to retire later than those with defined benefit plans, as defined contribution plans provide incentives to work longer to build assets and delay the draw-down of savings, which further builds assets available for retirement.

⁶⁸ Bob Benish, *401(k) Plans ARE Working*, <http://www.pasca.org/401-k-plans-are-working> (Oct. 17, 2013).

⁶⁹ *Id.* The size of the employer's matching contribution generally increases with worker tenure.

contributions: according to one survey, the average contribution was 5.4% of salary and the median value was 3.9%.⁷⁰ Nineteen percent of workers get 8% or more in employer non-matching contributions. Overall, therefore, the total sum of employee contributions, employer matching contributions, and employer non-matching contributions, frequently exceeds 10% of wages and can approach 15% of wages.

Moreover, although defined contribution plans put the risk on the worker to choose whether, how much, and how to invest. Defined benefit plans, however, put the risk on the employee of the plan's insolvency, termination, or conversion to a cash balance (with resulting capital loss).⁷¹ Beginning in the 1980s thousands of defined benefit plans were terminated or converted, which shifted the risk from employers to employees of a plan termination and made it more difficult to make credible offers of defined benefit plans to new workers.⁷² Nor has the situation improved since then. According to a recent report by the Center for Retirement Research, over ¼ of multi-employer defined benefit plans are critically underfunded (less than 65% underfunded and facing potential insolvency within 7 years) and another 14% are endangered (less than 80% funded and facing a funding deficiency within 7 years).⁷³ Overall, it was estimated in 2015 that corporate pension plan obligations were only approximately 77 percent funded.⁷⁴ As a result, although the calculations and risk involved in investing in a

⁷⁰ See Ashlea Ebeling, *Employers To Chip In More 401(k) Dollars*, FORBES.COM (Apr. 30, 2015), <http://www.forbes.com/sites/ashleaebeling/2015/04/30/employers-to-chip-in-more-401k-dollars/#2715e4857a0b4b923c5133ff>.

⁷¹ Richard A. Ippolito, *Tenuous Property Rights: The Unraveling of Defined Benefit Pension Contracts in the United States*, George Mason University School of Law, Law and Economics Working Paper Series 03-06 (Feb. 2003).

⁷² *Id.*

⁷³ Alicia H. Munnell and Jean-Pierre Aubry, *The Financial Status of Private Sector Multiemployer Pension Plans*, Center for Retirement Research at Boston College Number 14-14 (Sept. 2014).

⁷⁴ See Lawrence Delevigne, *Pension Funding Up, But Still Way Short*, CNBC.COM, <http://www.cnbc.com/2015/03/05/pension-funding-up-but-still-way-short.html> (Mar. 5, 2015). Moreover,

defined contribution plan for employees may not be easy, neither is estimating the risk of a defined-benefit plan termination or the huge capital losses imposed on workers if the plan is indeed terminated. Behavioral economists seemingly ignore this risk completely.

But this focus on employer-provided retirement plans ignores an even larger chunk of retirement savings—IRAs, especially for self-employed or mobile and transient workers.⁷⁵ Indeed, by far the largest single set of retirement assets in the American economy is not in employer provided defined-benefit or defined-contribution plans but in IRAs. According to Ellis, et al., in 2013, IRAs hold \$6.2 trillion in assets, compared to \$4.7 trillion in defined contribution 401(k) plans, and \$3.1 trillion in defined benefit plans.⁷⁶ From 1996 to 2013, total IRA assets increased from \$1.48 trillion to \$6.52 trillion according to the Survey of Consumer Finances, a much more rapid growth than either defined benefit or defined contribution plans.⁷⁷ Moreover, both the median and average balances for those with IRA accounts increased dramatically between 1992-2013, at a rate far exceeding the inflation rate.⁷⁸ Overall, 58% of workers in the Transamerica survey said that they were saving for retirement outside of their current employer-provided plan, a figure that has remained constant for decades.⁷⁹

The most credible argument that many people are undersaving for retirement (i.e., that there is a retirement “crisis”) is advanced by researchers at the Boston College

many defined benefit plans became healthier as a result of high investment returns in recent years. If those returns slow, many plans may return to weaker straits.

⁷⁵ See Craig Copeland, *Individual Retirement Plans: An Analysis of the 2013 Survey of Consumer Finances*, EBRI ISSUE BRIEF No. 406 at 6 (Nov. 2014) (28% of Americans have IRA accounts).

⁷⁶ ELLIS, ET AL., *supra* note 51, at 57, Fig. 3.6; see also Copeland, *Individual*, *supra* note 75, at 4, Fig. 1 (reporting that according to the 2013 Survey of Consumer Finances, IRAs held \$6.52 trillion dollars, defined contribution plans \$5.04 trillion, and defined benefit plans \$3.09 trillion).

⁷⁷ Copeland, *Individual*, *supra* note 75, at 4, Fig. 1. During the same period, assets in defined benefit plans increased from \$1.43 trillion to \$3.09 trillion and assets in defined contribution plans increased from \$1.63 trillion to \$5.04 trillion, substantially smaller increases than entirely voluntary IRA contributions.

⁷⁸ *Id.* at 9-12.

⁷⁹ Transamerica, *supra* note 11, at 39.

Center for Retirement Studies, led by economist Alicia Munnell.⁸⁰ In their book, *Falling Short*, they argue that a number of factors have aligned to produce an emerging retirement saving crisis: the transition from defined benefit to defined contribution plans, a lower rate investment returns resulting from lower interest rates, longer life spans that have strained savings, and a combination of longer life spans and a falling birthrate that has strained Social Security. They argue that the confluence of these factors indicates that people are not saving enough for retirement. Yet their concerns seem to be overstated dramatically.⁸¹ For example, they argue that in 2013, the “National Retirement Risk Index” would reach an estimated 52% of working-age households. Yet according to their calculations, their Retirement Risk Index exceeded 30% of households through the 1980s and 40% during the 1990s and 2000s. Yet, those estimates are drastically higher than the actual percentage of households who lacked sufficient resources to retire comfortably during those periods, as evidenced by the discussion above. Thus, it is difficult to know how much weigh to give to the predictions of their model, which seem wildly exaggerated.

Moreover, with respect to one element of their analysis—the role of the transition from defined benefit to defined contribution plans—as noted above, they appear to have repudiated their analysis completely.⁸² Finally, an important omitted variable from their analysis is the substantially increased expectation among many households that they will continue to work longer, thereby simultaneously increasing their earned income, the return on their accumulated investments, and reducing the number of years over which they will draw down their savings. In fact, as noted above, they acknowledge that if

⁸⁰ See MUNNELL, ET AL., *supra* note 51.

⁸¹ See discussion *supra* at notes 65-67 and accompanying text.

⁸² See discussion *supra* at notes 65-67 and accompanying text.

households defer their retirement age from 65 to 70, this would eliminate the problem of retirement insecurity almost completely.⁸³ Finally, their calculation of retirement security appears to be based on the assumption that expenditure rates will remain constant through retirement as a percentage of pre-retirement income; as discussed, this assumption generally tends to overstate the amount of money needed for retirement and as a result overstates the degree of retirement insecurity.⁸⁴ Once their estimates are adjusted for these factors—the apparent historical overstatement of retirement insecurity, the reality that the transition to defined contribution plans has not increased retirement insecurity, adjusting for longer expected working careers, and finally, assuming a more realistic estimate of expenditure patterns in retirement, it seems likely that the authors have substantially overstated their projections of retirement insecurity.

In short, contrary to the suggestions of BE theorists, there is no evidence that the transition from defined benefit to defined contribution and IRA retirement plans has led to lower savings rates.

C. Who Are the Non-Savers and Why Don't They Save More?

Although most people appear to be saving at least as much or even substantially more than they need for retirement, there are unquestionably *some* people who seem to be saving too little by the standards of what the *average* person would need to retire, perhaps 15% according to the estimates by Scholz, et al. But are these people actually saving too little according to their own expected needs? And more important, if they are saving too little, does behavioral economics provide an explanation for why—i.e., because of

⁸³ See discussion *supra* at n. 51 and accompanying text.

⁸⁴ See discussion at *supra* notes 28-48 and accompanying text.

psychological biases such as hyperbolic discounting, inertia, or myopia? Do they simply need a behaviorally-informed “nudge” to overcome these biases? And if such nudges (or shoves) were effective, would that really make these people better off? Would they really be “grateful” if they were nudged to save more, as Thaler and Sunstein speculate?

Well, according to available research, the reasons why people do not save more have little to do with the factors posited by behavioral economics. The main reasons why people do not save is that they simply lack the money to save more, they prioritize their money for some other more highly-valued purpose (such as paying down high-interest consumer or student loan debt or saving for a home or their children’s college), or they do not need to save in an employer-provided retirement plan because they are saving in other ways (such as through a spouses retirement plan). Almost none say that they *could* save or that it would make sense to save more but just need a nudge to do so.

First, start with the obvious point: Most people do actually save for retirement if given the opportunity. For example, 80% of respondents in the Transamerica survey reported that they already participate in their company’s retirement savings plan and they saved a median of 8% of their pay in 2015.⁸⁵ In deciding how much to save, almost half based their decision it on how much they could afford, one-third based it on the size of the company’s matching contribution, about one-fifth “chose the maximum amount allowed by the plan,” and about one-tenth relied on the advice of their financial advisor or a web-based financial planning calculator. In other words, it hardly seems that consumers generally are acting irrationally or otherwise ignoring the value of saving for

⁸⁵ *Id.* at 31. Other surveys find similar participation rates of about 80% among eligible workers. See Craig Copeland, *Individual Retirement Plans: An Analysis of the 2013 Survey of Consumer Finances*, EBRI ISSUE BRIEF No. 406 at 6 (Nov. 2014) (reporting 78% participation rate in defined contribution plans by eligible employees according to the 2013 Survey of Consumer Finances). As noted above, many employers also offer matching or non-matching contributions as well.

retirement. Instead, they seem to be rationally focusing on how much they can realistically afford or responding to incentives to save a certain amount, such as the size of the company's matching contribution.

Of the 20% or so workers who do not participate in an employer retirement plan in Transamerica's survey, they provided various reasons for their failure to participate in their employer's retirement plan. Approximately 1/3 said that the reason they did not was because they were "Financially stretched with other financial priorities" and 10% said that they "save for retirement in other ways" and 5% said that their spouse or partner already saves in their plan.⁸⁶ Almost one-third said that they didn't save because they were not eligible to participate, had just started working with their employer, or did not plan to stay with their employer for much longer. Overall, therefore, over 80% said that they weren't participating in their employer's plan because they couldn't afford to do so, had other higher financial priorities, were saving for retirement in some other way, or were not yet eligible to participate. By contrast, only 6% of those who weren't participating provided an answer that is consistent with the BE hypothesis of irrationality—that they just had been intending to sign up but just hadn't "taken the time to do it." It is not obvious that this group of non-savers would be made better off by being nudged into saving more if they are already stretched so thin that increased savings would be financed by increased use of high-interest consumer debt (or to forego higher value investments or consumption instead).

Another common reason expressed for not saving more is the need to use the money for higher financial priorities. According to the Transamerica survey, for example, only 27% of respondents identified saving for retirement as their highest financial

⁸⁶ *Id.*

priority, compared to 21% who said that they were “just getting by” and “covering their basic expenses,” 20% who said that paying off consumer debt was their highest priority, 12% who reported that paying off their mortgage was the highest priority, 6% who were spending their money supporting their children and/or parents, and 4% that said that paying student loan debt was their highest priority.⁸⁷ In the 2011-2013 surveys taken in the wake of the Great Recession, a higher percentage of respondents said that their top priority was “just getting by” or paying consumer debt than saving for retirement. Given that one-fifth literally said that they couldn’t afford to save more because they were just trying to make ends meet, another quarter of respondents that were carrying high-interest consumer or student loan debt, and still others were saving money for a home or to take care of family members, it seems doubtful that all these people need is a little nudge from a paternalistic central planner to save more or that they would be better off if those nudges succeeded in increasing their savings.

IV. Would Low Savers Be Better Off If We Nudged Them To Save More?

Available evidence thus strongly suggests that most people do save adequately for retirement and those who don’t save do so for reasons unrelated to BE theories. Low savings rates overwhelmingly derive from workers’ budget constraint and the opportunity cost of saving, not a biased or hyperbolic demand curve.

⁸⁷ Transamerica, *supra* note 11, at 22. It has also been suggested that in some low-income communities, savings rates are reduced by an expectation that providing financial assistance to friends and family is considered more important than saving for oneself. See Kimberly Palmer, *The Real Reason People Don’t Save: Why Low-Income People Can’t Save—And It’s Not Just Because They’re Poor*, U.S. NEWS & WORLD REPORT (Feb. 4, 2009), available in <http://money.usnews.com/money/blogs/alpha-consumer/2009/02/04/the-real-reason-people-dont-save> (“The other thing overlaid on that is that people, especially low-income people, live in complicated resource sharing networks of extended family and friends. If you have resources, people are asking you for help.... Some respondent fall into the stereotype of very hardworking, thrifty people with tremendous demands on their resources. Because they’re identified as relatively well off, a lot of people ask them for stuff.”)

Still, BE theorists might fall back on Thaler and Sunstein's argument that there appears to be little harm from encouraging people to save more—the costs of saving too little are larger than the costs of saving too much, so why not encourage everyone to save more? Moreover, the number of people who state that they “should” be saving more is large, and why not help them to attain their stated goals? But this argument misunderstands the nature of the economic problem that households are confronting.

The BE argument that people systematically save too little rests on what can be called the “two selves” problem, namely that when someone retires (or wants to retire) he looks back and wishes that he had saved more when he was younger. Yet the younger self cannot accurately anticipate the needs of the older self, or, alternatively, the younger self can accurately anticipate future needs but because of weakness of will or some other reason fails to adequately follow through on his or her plans to save. As a result, so goes the theory, because of the failure of one's current self to fully appreciate the financial desires of one's older self, chronic undersaving supposedly results.

But this framing of the issue ignores a crucial question at the outset: which of a person's “selves” is his authentic self? The “two selves” problem is reciprocal—just as the younger self has difficulty foreseeing his needs and preferences when he gets older, the older person also has difficulty recalling accurately the needs and preferences he had when younger. While it is true that we often regret spending money on a fancy dinner or new bedroom set after the fact, we often forget that we might also wish that we had been willing to spend money to enjoy opportunities when we were younger, such as splurging on special family vacations, flying to a college roommate's wedding, finishing your college degree, or buying a home instead of renting.

Regret runs both ways and is conditioned by time. Because of a purported bias labeled “affective forecasting,” individuals may overestimate the pleasure that they will receive from future life events and stages, such as winning the lottery, having children, going on vacation, or retiring from work.⁸⁸ People may construct dreams of their life after retirement—exotic travel, golf, family time, and sleeping late. But retirement might instead be filled with chronic arthritis and widowhood, elements that rarely form part of one’s dreams about the future. Thus, when trying to anticipate the prospective pleasure they expect to receive from future consumption expenditures, people may overestimate how much joy they will receive. But retrospective assessment of our youthful expenditures made when older is no more reliable—our memories are distorted and our recollection of the pleasure we received from various life experiences may be inaccurate. In short, both our future and past consumption is subjective and distorted, raising unresolved questions about how to compare the utility derived from various consumption over time.

Thus, neither your current nor your future “self” can be thought to be an unfailable guide to which self is one’s “true” self—your current self is biased about the future and your future self is biased about its past self. If both “selves” are biased about the other, then there is no reason to believe that one is a more reliable guide to one’s “true” self than the other. This is not a mere academic question—an effort to determine a person’s “correct” savings rate inherently requires an assessment the relative value of consumption expenditures across time, making it inescapable to determine not only the

⁸⁸ See Timothy D. Wilson & Daniel T. Gilbert, *Affective Forecasting*, 35 *ADVANCES IN EXPERIMENTAL SOC. PSYCHOL.* 345 (Mark Zanna ed., 2003).

actual value of various expenditures at different points in life but also one's subjective enjoyment of those experiences, including perceptions.

This difficulty becomes especially acute once it is recognized that “saving” is not free or does not come from some sort of exogenous pile of money, but is actually a question of allocating consumption expenditures across time, requiring tradeoffs between current and future expenditure levels.

A. *Forced Saving in a World of Scarcity*

The problem of determining which self is one's “true” self and comparing the preferences of one's older and younger selves across time is exacerbated by the reality that increasing savings is not free—saving more today means that a worker must either consume less today, work more to earn more income to meet current expenditure needs (i.e., consume less leisure), or borrow in order to meet current expenditures.⁸⁹ While people may express a preference for saving more—just as they also express a preference for a nicer car, bigger house, or more-frequent tropical vacations—actual consumption patterns emerge from the interaction of one's demand curve (preferences) with one's budget constraint. Saving money is no different, as it merely reflects an intertemporal substitution of future consumption expenditures for expenditures today. Just as a household must allocate their current budget across competing consumption expenditures today, they must also allocate their budget across time via saving and borrowing. Thaler and Sunstein's confident assertion that “[i]t is clear that the costs of saving too little are

⁸⁹ Simply because saving is subsidized, such as by tax benefits or employer match plans, does not mean it is free. It simply changes the marginal rate of substitution between consumption today and consumption in the future at the margin. As discussed below, both taxes and employer matching contributions that provide incentives to increase savings appear to be effective in doing so.

greater than the costs of saving too much,”⁹⁰ simply ignores the reality that savings has an opportunity cost associated with it.

Other BE theorists appear to be more explicit about their belief that the reason that household do not save more for retirement is for frivolous or “irrational” reasons. Bubb and Pildes, for example, criticize the practice of workers making early withdrawals from their 401(k) plans, which leads them to incur a tax penalty. They justify their criticism by simply asserting that workers must be drawing against their retirement savings for “irrational reasons.” They write, “If these opt-outs through early withdrawals often reflect irrational decisions, driven by bounded rationality and bounded willpower, then limiting choice by prohibiting these withdrawals could well be welfare improving.”⁹¹ They provide no basis for the assertion that the withdrawals “often reflect irrational decision.” According to a survey of American workers by Transamerica in 2015, however, the reasons for which people take hardship withdrawals reflect anything but “irrational decisions”: In 2015, for example, 28% of those who took early withdrawals did so to pay for medical expenses, 17% to avoid eviction or foreclosure on their home, 14% to pay for medical expenses, 12% to repair damage to their home, 7% to pay for burial expenses for a member of the family, and 7% to purchase a home.⁹²

Borrowing for these purposes hardly seems like “irrational” decisions “driven by

⁹⁰ Thaler & Sunstein, *supra* note 15, at 106.

⁹¹ Bubb & Pildes, *supra* note 18, at 1626-27. They provide no reference or support for the claim that the reasons for these withdrawals are “often irrational decisions.”

⁹² TRANSAMERICA, *supra* note, at 38. According to Transamerica, about 6% of American workers took an early withdrawal from their 401(k) plan in 2015. In a similar vein, according to TIAA-CREF, the top five reasons why people borrow against their 401(k), an act that is analogous to an early withdrawal, is for the following reasons: 46% said they borrowed to pay off debt, 35% to pay for an emergency expenditure, 26% for a home purchase or renovation, 24% to pay bills due to a job loss, and 20% for education costs for themselves or their children. TIAA-CREF, *Should You Borrow Against Your Retirement Plan?*, <https://www.tiaa-cref.org/public/advice-guidance/saving-for-retirement/borrow-from-retirement-plan> (no date provided).

bounded rationality and bounded willpower,” nor can it simply be assumed that the decision not to save in general is “often” because of irrational reasons.

Thus, to assess whether nudging a higher level of saving today will increase overall happiness, it is necessary to actually examine the opportunity cost of nudging households to increase their savings rates. Higher levels of savings today can only be supported by three different sources: lower levels of consumption today (i.e., spending less today in order to be able to spend more in the future), increased borrowing today (in order to maintain the same level of expenditures today), or increased income today (such as by working more hours and thus reducing leisure). To determine whether people would be better off from being nudged (or shoved or forced) to save more, it is necessary to know the opportunity cost of increased savings. And, ironically, to the extent that nudge-style programs succeed in persuading people to save more, in many instances they may actually make the intended beneficiaries worse off. Once the opportunity cost of increased savings is taken into account there is simply no reason to believe that people will be made better off by being nudged to increase their retirement savings.

More fundamental, opportunity cost is inherently subjective.⁹³ Thus, even if someone *could* save more by working more or consuming less today, it is difficult for a third-party nudge engineer to be confident that increased future consumption at the expense of more work or reduced consumption today can be assumed to make people better off. Indeed, it is precisely because of the subjective nature of costs and preferences that economists rely on revealed preferences as the most reliable guide to understanding

⁹³ See JAMES M. BUCHANAN, *COST AND CHOICE* (1969); Ronald H. Coase, *Business Organization and the Accountant*, in L.S.E. *ESSAYS ON COST* (James M. Buchanan and James F. Thirlby, eds., 1981). Indeed, one’s perception of time and the opportunity cost of allocating consumption expenditures across time is subjective as well. See G.L.S. SHACKLE, *TIME IN ECONOMICS* (1967).

consumers' actual preferences. As Thomas Sowell explains, "The real problem is that the knowledge needed is a knowledge of *subjective patterns of trade-off that are nowhere articulated*, not even to the individual himself. I might *think* that, if faced with the stark prospect of bankruptcy, I would rather sell my automobile than my furniture, or sacrifice the refrigerator than the stove, but unless and until such a moment comes, I will never *know* even my own trade-offs, much less anybody else's."⁹⁴ Similarly, it is easy to express the desire to save more for the future or to regret having not saved more in the past, but stripped of the context of the precise choice and its opportunity cost, such statements are meaningless.⁹⁵

Yet once BE theorists abandon the axiom of revealed preferences in favor of non-contextual abstract expressions of preferences, they must somehow provide a basis for their confidence that households will be made better off by diverting income from the present to the future, even though few of them would be willing to assert that they know that they could make people better off by directing them to buy new sneakers instead of a new lawn mower today.⁹⁶ Yet the two problems are identical once it is recognized that they both relate to the allocation of a constrained budget across different consumption expenditures, either today or across time. There is no reason to believe that when it comes to allocating time and money intertemporally between one's working and retirement years, that this standard assumption of revealed demand does not apply or at least that an external central planner can systematically identify that consumers are making suboptimal choices by their own subjective lights. Especially given, as noted, that

⁹⁴ THOMAS SOWELL, KNOWLEDGE AND DECISIONS 217-18 (1980) (emphasis in original).

⁹⁵ Similarly, casual observation suggests that many adults claim that they would never spend large sums of money to care for an ailing family pet until they actually get a pet and to their surprise find such expenditures to be quite worthwhile.

⁹⁶ Zywicki, *Just-So Stories*, *supra* note 7.

people express preferences for all sorts of mutually-inconsistent goals, such as higher income, more leisure, higher savings, and less debt.

1. Should People Be Nudged to Substitute Future Consumption for Current Consumption?

First, increased saving could be financed by decreasing one's consumption expenditures today, shifting expenditures from today to the future. This trade-off will make people better off if the nudge central-planner is confident that the marginal value of future consumption expenditures is higher than using that same money for consumption expenditures today, above and beyond what a household currently saves for the future. Is there good reason to believe with confidence that most households will be made better off by nudging them to fund increased future consumption expenditures in the future by reduced consumption expenditures today?

There are very good reasons to believe that nudging households to further reduce consumption expenditures today in order to increase consumption expenditures in the future would be highly unlikely to make them better off. This conclusion flows from several factors: first, consumption expenditures early in one's lifecycle typically has a very high marginal value; second, households tend to face tighter budget constraints earlier in one's lifecycle than later; and third, retirement brings about a dramatic increase in available time, which reduces the marginal value of consumption expenditures in one's overall consumption. For the average household, therefore, nudging them to save more will frequently have the effect of causing households to shift resources available for consumption expenditures from a higher-valued to a lower-valued period of their lives.

First, consumption expenditures tend to be much higher early in one's lifecycle than later. This fact arises from the reality that expenditures early in one's life cycle are extremely valuable. Average household spending hits a peak at age 45 and steadily declines in every category except for healthcare after that.⁹⁷ This is not surprising: consumption expenditures tend to be very high when one is younger, as you graduate from college, move to a new city, start a job, buy a new wardrobe, marry, buy a house, furnish your house, start a family, buy diapers, braces, soccer cleats, and trombones for your children, and otherwise commence the start-up costs of life. Yet at the same time that households have an unusually high demand for consumption and that consumption is of unusually high value, their income during this period is lower than in the future. Thus household consumption demands are higher (relative to other times in their life) at precisely the same time that one's income and wealth are lower than in the future. Thus, in a proper accounting of the opportunity cost of foregone consumption expenditures today, there is no reason to believe that encouraging people to shift consumption from early in their lifecycle to later periods will actually result in limited resources being allocated to periods with higher marginal value.

Moreover, it is often overlooked that much of what appears to be "consumption" is actually a form of implicit saving or investment in capital goods that generate a flow of benefits over time.⁹⁸ For example, consider something as simple as a humble washing machine. The up-front costs of a washing machine may be significant, especially early in

⁹⁷ S. Katherine Roy, *Sparking Better Retirement Conversations and Outcomes*, JPMORGAN FUNDS (Jan. 2014), https://www.jpmorganfunds.com/blobcontent/911/519/1323374581715_RI_Lifecycle_of_Spending_final.pdf.

⁹⁸ See THOMAS A. DURKIN, GREGORY ELLIEHAUSEN, MICHAEL E. STATEN, & TODD ZYWICKI, CONSUMER CREDIT AND THE AMERICAN ECONOMY (2014).

one's earnings career. Yet purchasing a washing machine is not merely consumption—once purchased, it is a capital investment that generates a flow of services over time, enabling the owner to avoid the ongoing cost of schlepping to the Laundromat every Saturday night with a pocket full of quarters. Thus, to the extent that a household is investing in consumer durables that are capital goods, that is actually a form of household savings itself. In this respect, purchasing washing machine is little different from a business that invests in a new backhoe, delivery van, or computer system. Other consumer durables such as a refrigerator, stove, car, or lawn mower are all similar in that while they require a substantial up-front investment, they generate a flow of services (including convenience) and implicit income that is amortized over the useful life of the product, often for years or even decades. Indeed, investing in consumer durables are such a high-value investment that it is often the case that it is even rational to borrow to purchase them, taking on debt to finance their acquisition.⁹⁹

Purchasing household durables (such as appliances or a car) usually provides a very high return in investment over many years. Moreover, these expenditures usually come during the period of life when one faces the most severe household budget constraints. Thus, while many people may say that they *wish* that they would save more for retirement, given the high marginal value of investments in household durable goods and the tight budget constraints frequently faced by younger households, it is questionable whether forcing them to divert their scarce resources that could otherwise be used to buy a car, stove, or refrigerator when they are young and the value of alternative investments is high to provide for higher levels of consumption in their 70s (if they live that long) would be economically rational or make them better off. BE theorists,

⁹⁹ *Id.*

however, seem to rarely (if ever) inquire as to the opportunity cost of what elements of current consumption would be reduced in order to fund higher levels of consumption in future decades. In many cases it is likely that the foregone consumption would actually generate a much higher implicit rate of return in terms of improving overall welfare than the present value of saving that money for future consumption expenditures. A proper accounting of “savings,” therefore, should include the capital value of all these consumer durables, many of which are first purchased early in one’s lifecycle, and the measure of the rate of return on one’s 401(k) portfolio should be compared to the implied rate of return for household capital goods. In addition, many expenditures made when young are also for purposes of investment in one’s children—savings for college, school activities, adequate child care, etc. Again, these investment generally have a very high rate of return for one’s children and it seems unlikely that diverting resources from these investments to future consumption invariably would increase overall welfare. None of this is to say, of course, that one knows definitively that households would be made better off by saving more, but simply that there is a cost to doing so that BE theorists routinely ignore.

2. Should We Nudge People to Save More if They Borrow More?

Alternatively, a budget-constrained household could simultaneously consume and save more today by increasing their borrowing in order to maintain consumption. To be clear, I am not aware of any BE theorists who believe that it would be wise to fund retirement savings by taking on consumer debt. Yet, for a budget-constrained household, one plausible response to being nudged to increase savings would be to also increase debt or to defer paying down high-cost consumer debt. In fact, use of consumer credit also

exhibits a lifecycle pattern: households tend to be borrowers early in life and lenders later in life.¹⁰⁰ This lifecycle pattern emerges because the demand for consumption is highest at the same time that supply of credit is lowest, because the consumer has lower income, fewer assets, and less-established credit early in their lifecycle. As a result, consumer debt is used to finance the valuable capital investments described earlier, such as education and household durables, such as appliances and cars, which have a very high implicit rate of return. Given that many younger households already make use of consumer debt (including student loan debt), one effect of nudging increased savings might be to prompt them to borrow still more. Again, because BE theorists appear to largely ignore the reality of budget constraints and opportunity cost, they overlook the possibility that nudging people to save more might actually cause them to borrow more as well.

In fact, it is realistic that encouraging people to save more might actually make them worse off financially by leading them to borrow more. For example, one study found that when consumers identify funds to save for a particular purpose, they are slow to reallocate those funds to meet other unanticipated expenses—in other words, when confronted by an unexpected expense or emergency, they maintain savings in low-interest savings accounts while simultaneously carrying higher interest-rate debt.¹⁰¹ One possible explanation is that because of social conditioning many consumers come to think of savings as “sacred” and associate their savings with their “own sense of self and

¹⁰⁰ DURKIN, ET AL., *supra* note 98. It is often overlooked that “saving,” such as in a bank account, is actually a form of indirect lending, as the bank lends the funds out for productive business activities and through interest payments provides the consumer with a return.

¹⁰¹ See Abigail B. Sussman & Rourke L. O’Brien, *Knowing When to Spend: Unintended Financial consequences of Earmarking to Encourage Savings*, __ J. OF MARKETING RESEARCH __ (Forthcoming 2015).

personal responsibility.”¹⁰² Therefore, they suffer psychic cost from reallocating funds from savings to meet some other unexpected expense. Thus, although the purpose of promoting increased savings is “to reduce reliance on costly consumer credit,” in fact the propensity to protect “sacred savings” may cause consumers to actually increase their reliance on costly consumer credit.¹⁰³ Sometimes a household might also incur high costs from reallocating savings to current use. For example, although tax law permits early withdrawal from a 401(k) plan, it is only for limited reasons and with a substantial tax penalty. Thus, contrary to Thaler and Sunstein’s assertion that the costs of saving too much are somewhat trivial, the short-term costs can be quite high if it becomes desirable to redirect savings to current consumption.

Thus, nudging people to increase their savings might result in higher levels of debt for budget-constrained consumers seeking to maintain their preferred level of consumption, especially early in their lives. Given the choice, many budget-constrained households sensibly choose to pay down their high-income consumer debt rather than increasing their retirement savings. It is hard to see how it is irrational for consumers to pay down high-interest consumer debt rather than saving at a lower relative rate of return for the future.

3. Should People Be Nudged To Work More in order to Save More?

Finally, instead of reducing current consumption or borrowing more, one could increase one’s income today by working more—i.e., increasing labor and reducing leisure. Will people feel like their lives are better, indeed will they feel “grateful,” if

¹⁰² *Id.* at *37.

¹⁰³ *Id.* at *37-38.

federal nudge officials indirectly prompt them to spend more hours at work? It seems unlikely.

Perhaps the only wish that is expressed almost as frequently as the wish to save more is to have more time to spend with their family and to do things that they enjoy. More to the point, how many retirees look back late in life and wish that they had spent more time at the office and less time at home with their families? How many retirees express regret about the Saturday afternoon they spent fishing with their daughter when they could have been at the office billing hours and making (and saving) more money? How many people look back and regret the family vacations that they took as opposed to the vacations that they missed because they “had to work”? Rarely heard (if ever) is the death-bed lament, “I wish I had spent less time with my family and more time at the office.”¹⁰⁴ Time, like money, is scarce, and the opportunity cost of greater consumption inevitably must come at the expense of reduced leisure. Moreover, if assume that people are currently working at the employment that gives them the highest earning, additional work (such as a second job) would be likely to have a lower rate of financial return, while time for other life activities would become even more scarce and have an even higher marginal rate of return.

Polls suggest reason to be skeptical that most Americans would be grateful or would feel that their “true” preferences would be actualized if they were nudged to save more if that were financed by working more. According to one source, 78% of American workers already wish that they had more time to stop “and smell the roses.”¹⁰⁵ Seventy-

¹⁰⁴ See James Timothy Nichols and Craig Michael Wiseman, *Live Like You Are Dying* (as performed by Tim McGraw), available in <http://www.azlyrics.com/lyrics/timmcgraw/livelikeyouweredyin.html>.

¹⁰⁵ Donald E. Wetmore, *Time Management Facts and Figures*, http://www.balancetime.com/articles/tm_facts_and_figures.htm (1999).

five percent of Americans “don’t get enough sleep” relative to recommended levels.¹⁰⁶ Thirty percent of workers average less than 6 hours of sleep per night.¹⁰⁷ 7.6 million workers (approximately 5% of the working population) already work two jobs.¹⁰⁸ Half Americans and men aged 25-54 wish that they had more time in the day to “think” and 65% of women say the same.¹⁰⁹ 76% of women say that they wish they had more time in the day to get things done.¹¹⁰ 95% of workers wish that they could spend more time with their families.¹¹¹ 75% of single parents who work full time wish that they had more time available to spend with their children.¹¹² Many people also would like to engage in volunteer activities more often but blame a lack of time for their inability to do so.¹¹³ The most frequently expressed reason for why people do not exercise more is lack of time; almost half said it was because of a lack of time or because they were too tired, which is ironic because BE scholars often assert that the failure of people to exercise as much as they say they would like to is also frequently provided as evidence of lack of willpower or other BE biases (as opposed to lack of time).¹¹⁴ This does not sound like a population of workers who simply lack the willpower to work more or don’t appreciate the value of

¹⁰⁶ <http://www.businesswire.com/news/home/20150501005855/en/National-Survey-Shows-75-Percent-Americans-Don%E2%80%99t>.

¹⁰⁷ Sara E. Luckhaupt, *Short Sleep Duration Among Workers—United States, 2010*, 61(16) MORBIDITY AND MORTALITY WEEKLY REPORT (Apr. 27, 2012),

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6116a2.htm?s_cid=mm6116a2_w.

¹⁰⁸ United States Census Bureau, Profile America: Facts for Features,

https://www.census.gov/newsroom/releases/archives/facts_for_features_special_editions/cb10-ff15.html (July 7, 2010).

¹⁰⁹ Kelley Murray Skoloda, *Too Busy To Shop: Marketing to “Multi-Minding” Women* 134 (2009).

¹¹⁰ *Id.*

¹¹¹ See KERBY ANDERSON, MAKING THE MOST OF YOUR MONEY IN TOUGH TIMES 25 (2009).

¹¹² See Allison Sidle Fuligni & Jeanne Brooks-Gunn, *Meeting the Challenges of New Parenthood: Responsibilities, Advice, and Perceptions*, in CHILD REARING IN AMERICA: CHALLENGES FACING PARENTS WITH YOUNG CHILDREN 83, 96 (Neal Halfon and Kathryn Taaffe McLearn & Mark A. Schuster, eds. 2002).

¹¹³ See Marc A. Musick & John Wilson, VOLUNTEERS: A SOCIAL PROFILE 148-49 (2008).

¹¹⁴ Chrisanna Northrup, “Not Enough Time To Exercise” Is Just an Excuse, HUFFINGTON POST (Oct. 15, 2011), http://www.huffingtonpost.com/chrisanna-northrup/exercise-excuse-internet_b_927097.html.

savings and so deep down inside are just seeking a nudge to work still more hours. Thus, the goal of wanting to save more on one hand, but also to have more time to exercise, sleep, or spend time with one's family on the other, contradict each other.

The more general point, however, points out the flaws in BE methodology of simply asking people about their expressed preferences in the abstract, removed from a particular choice context under conditions of opportunity cost and a budget constraint. Thus, asking people whether they wished that they had more time to enjoy life and could work less (without considering any reduction in current or future income) is just as meaningless as asking people whether they wished that they should save more without savings without identifying the opportunity cost of doing so (such as reducing free time, borrowing more, or reducing consumption today). When asked, people will always want more of everything good—more savings, consumption, and leisure time to exercise and spend time with their families—which is precisely why economists look to revealed demand as the best evidence of actual preference ordering in light of actual opportunity costs, not what people say in response to hypothetical questions. BE theorists who focus on one expressed preference in isolation—the desire to save more for retirement—cannot simply ignore the simultaneous expression of contradictory preferences for more money and time for other activities.

Moreover, the marginal utility of both leisure and income diminishes over time. When people are younger and working, time is scarce and each hour of leisure has a high marginal value. Once retired, by contrast, time is plentiful and each additional unit of leisure has a much lower marginal value. To the extent that nudging greater retirement savings leads to reduced consumption of leisure when young relative to increased

consumption expenditures when retired, it is far from obvious that this will increase overall welfare.

Contrary to Thaler and Sunstein's assertion, therefore, it is by no means "clear" that the cost of oversaving is less than undersaving, once the opportunity cost of saving more is taken into account. Foregone consumption in the past (including consumption of leisure), by contrast, once gone is lost forever—once you miss your daughter's birthday party or cancel the family vacation to spend more time at the office there is no opportunity to make that up at the end of your working career. It is by no means clear that the marginal value of increased consumption expenditures in one's old age is higher than the marginal value of increased leisure or income in one's youth.

B. Behavioral Economics vs. Behavioral Economics

Ironically, another factor that casts doubt on the BE assertion that people systematically undersave for retirement and would be made better off by being nudged to save more is behavioral economics itself—and particularly, the presence of certain alleged biases that suggest that many people *oversave* for retirement in light of their actual circumstances. The presence of these offsetting biases implies that the question of whether people systematically undersave for retirement is an empirical one, not one that can be resolved *a priori*. But, in fact, these alleged offsetting biases may be sufficiently strong to imply that people systematically oversave for retirement. Again, the idea that oversaving can be detrimental arises from the reality that there is an opportunity cost to saving, namely foregone current consumption expenditures or leisure. Yet behavioral economists claim to have identified several biases that suggest, if consistently applied,

that people will overestimate the value that they will receive from deferred consumption—or to put the matter less politely, that they will even live long enough to enjoy it.¹¹⁵

Behavioral economists claim that people are often overly optimistic about whether they will experience adverse life events, such as dying at an unexpectedly early age from accident or disease.¹¹⁶ To state the obvious point, those who die earlier than anticipated will not have the opportunity to enjoy their accumulated savings—as a result, they will have foregone consumption (or leisure) earlier in their lives in exchange for an anticipated benefit that they will never achieve and will have incurred a cost for no offsetting benefit. Indeed, as noted above, one cause of the tendency for many people to oversave may be the presence of overly-optimistic assumptions about one’s expected lifespan, in that most people believe that they are likely to live longer than the average person.¹¹⁷ Had many of those individuals had a more realistic estimation of their likelihood that they would not live to enjoy their savings, then presumably a well-intentioned nudge engineer would have tried to persuade them to consume more and work less while alive. A proper accounting of the purported “crisis” of undersaving, therefore, must also include the many people who *oversave*, believing that they are going

¹¹⁵ Note that even this statement of the assumption oversimplifies the social engineer’s challenge: the observed undersaving could be the result of two different proximate mechanisms: the individual might underestimate their need for savings or he might calculate accurately but lack self-control to implement the optimal strategy. Although it is possible that both types of problems—cognitive and self-control—might be amenable to remedy by the same means, that would likely be little more than coincidence if it is so.

¹¹⁶ See Cass R. Sunstein, *The Storrs Lectures: Behavioral Economics and Paternalism*, 122 YALE L.J. 1826, 1849 (2013) (noting that individuals generally underestimate their likelihood of getting into an automobile accident or adverse health outcomes).

¹¹⁷ See discussion *supra* at note 23-24, and accompanying text; see also Justin Kruger and Jeremy Burrus, *Egocentrism and Focalism in Unrealistic Optimism (And Pessimism)*, 40 J. OF EXPERIMENTAL AND SOCIAL PSYCHOLOGY 332-40 (2004). To be more precise, Kruger and Burrus claim that people tend to overestimate their likelihood of experiencing relatively common life events (such as living beyond 70 years of age) and underestimate their likelihood of experiencing uncommon events (such as living beyond 100). The fact that the levels of over and under optimism are not consistent further illustrates the challenges of converting BE theories into coherent public policy recommendations.

to live until retirement but fail to do so or those who die unexpectedly early into their retirement and thus do not deplete their savings.¹¹⁸ If behavioral economists were serious about nudging people to make more “rational” choices that avoid biases and errors, then presumably they would nudge some people (such as smokers, fast drivers, and unmarried men) to save less, not more. Which “self” reflects one’s true self—the retired one who wishes he had saved more of the prematurely-deceased chain-smoking, fast-driving one who foolishly saved for a retirement he will never enjoy? To date, behavioral economists have developed no mechanism for surveying those who died early to determine whether they regret their decision to save instead of consuming more when they were younger.¹¹⁹ Yet for purposes of determining whether people systematically are saving too little, prematurely-deceased people obviously are just as relevant as those who outlive their savings.

It turns out that odds of dying before retirement are not trivial. The probability of a 30 year-old dying before the age of 65 is approximately 16%¹²⁰; the overall probability of a male living to 65 is approximately 18%¹²¹. That probability of a 30 year-old dying

¹¹⁸ Similarly, although some 50 percent of marriages end in divorce, virtually all newlyweds believe that their marriage is less likely than average to be divorced. See THALER & SUNSTEIN, *supra* note 15, at 32. For a primary wage earner, divorce effectively imposes the equivalent of a 50 percent tax rate on accumulated wealth and savings. But prior to divorce the same person enjoys 100 percent of his consumption, including leisure. Had the prospective divorced person held a more accurate estimate of the probability that he later might be divorced, he rationally would have consumed more (including leisure) and saved less. In other words, as one divorced friend remarked, “Had I know I would end up divorced, I would’ve smoked better cigars, drunk better scotch, and spent more time playing with the kids, instead of working and saving so much while I was married.”

¹¹⁹ To the extent that they are saving for a bequest motive instead of their own retirement, that would have been more effectively done through purchase of life insurance, not through savings for oneself.

¹²⁰ See *Odds of Living to Retirement at Age 65*, <http://archive.constantcontact.com/fs152/1102707121899/archive/1111293164663.html>.

¹²¹ Elizabeth Arias, Centers for Disease Control, 53 National Vital Statistics Report No. 6, at 3, Table A (Nov. 10, 2004), http://www.cdc.gov/nchs/data/nvsr/nvsr53/nvsr53_06.pdf

before the age of 70 is 15% for women and 20% for men.¹²² That roughly 15-20% die before retiring age is striking in that as noted above, Scholz, et al., estimate that the number of households that are saving less than an adequate amount for retirement is approximately 15%.¹²³ (This figure excludes those who die early in retirement without depleting their savings). Thus, it is an interesting coincidence that the percentage of those undersaving for retirement is similar the percentage who are predicted to die before they reach retirement age.

But perhaps the association is not merely a coincidence. In fact, research indicates that those who tend to save less for retirement also are those who are more prone to premature death. In other words, the propensity to save less than average is correlated with a propensity to engage in riskier and unhealthier behaviors that tend to result in a shorter-than-average lifespan.

For example, researchers have found a correlation between a propensity to engage in unhealthy activities (such as smoking and a lack of exercise) and a propensity toward low savings behavior.¹²⁴ Smoking is also correlated with poor personal finance decisions in general, including a lower credit score on average, as well as heightened probabilities of credit denial, late bill payments, maxing out a credit card, and filing bankruptcy.¹²⁵

Smoking is also correlated with a greater willingness to take risk jobs¹²⁶, which suggests

¹²² Any Kiersz, *This is When You're Going to Die*, <http://www.businessinsider.com/social-security-life-table-charts-2014-3> (March 21, 2014).

¹²³ See *supra* note 23, and accompanying text.

¹²⁴ See Richard A. Ippolito, *Education Versus Savings as Explanations for Better Health: Evidence from the Health and Retirement Survey*, George Mason University School of Law, Law and Economics Working Paper Series 03-04 (Fall 2002); Richard A. Ippolito, *Health Human Capital and the Cost of Smoking*, George Mason University School of Law, Law and Economics Working Paper Series 03-04 (August 2003).

¹²⁵ See Scott Adams, Niloy Bose, & Aldo Rustichini, *How Different are Smokers? An Analysis Based on Personal Finances*, 107 J. ECON. BEHAVIOR & ORG. 40 (2014).

¹²⁶ See W. Kip Viscusi & Joni Hersch, *Cigarette Smokers as Job Risk Takers*, 83 REV. OF ECON. & STATISTICS 269 (2001).

that one's willingness to engage in risky employment (and hence a heightened probability of premature death) is likely correlated with a tendency toward saving less than average. Obesity is also correlated with a greater propensity toward being delinquent on debt.¹²⁷ In addition, higher earners also tend to save more for retirement than lower-income individuals and higher-income individuals also tend to live longer than lower-income individuals on average.¹²⁸

Thus, those who save less than average also appear to have substantial overlap with those who are also more likely to pre-decease retirement or to die early in retirement. In other words—to put the matter less than delicately—those who appear to be undersaving may actually be saving appropriately in light of their actual expected lifespan. In other words, they act as if they are “rational undersavers,” given their particular circumstances and behaviors. The most likely explanation for this observed behavior is that people often have consistent discount rates that apply consistently across many different behaviors, that those who are less likely to save are also less likely to exercise and eat healthy and more likely to smoke and work in a dangerous job.¹²⁹

C. Does Behavioral Economics Explain Patterns of Savings?

A premise of behavioral economics is that the biases that they identify—such as the optimism or myopia biases—are universal and inherent in human psychology and not incentives. If that is so, then it implies that the purported bias toward undersaving is universal. Similarly, if savings rates are a function of human psychology, then low

¹²⁷ Katherine Guthrie & Jan Sololowsky, *Obesity and Household Financial Distress*, Working Paper (Oct. 14, 2014), available in http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1786536.

¹²⁸ See ELLIS, ET AL., *supra* note 51, at 107, Table 5.4.

¹²⁹ In BE terms, this implies that those who are hyperbolic discounters are likely consistent hyperbolic discounters.

savings rates should be constant in the United States. Yet savings rates vary greatly among residents of various countries and across the history of the United States. Instead, it seems that observed savings rates are driven by a number of different factors, most of which have little to do with behavioral economics.

Savings rates vary widely across countries¹³⁰ and vary over time within those countries.¹³¹ For example, savings rates in East Asia are substantially higher than in OECD countries (or the United States) but even within East Asia and the OECD there is wide variation in savings rates.¹³² It is difficult to see how BE concepts provide an explanation for these wide variations in savings rates across countries or to support a conclusion that the supposed tendency toward undersaving is universal.

The savings rate in the United States also varies across time in the United States. During the Great Depression, for example, the savings rate was negative for several years (bottoming out at negative 7.3% of income) before soaring to over 15% of household income a few years later.¹³³ The savings rate remained above 10% of income for most of the 1960s before beginning a downward trend during that time, although even then there is variation in the savings rate over time (including turning negative again during the

¹³⁰ See The World Bank, *Gross Savings (% of GDP)*, available in <http://data.worldbank.org/indicator/NY.GNS.ICTR.ZS/countries/1W?display=default>; see also Central Intelligence Agency, *The World Factbook: Country Comparison, Gross National Saving*, available in <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2260rank.html>.

¹³¹ See Susan M. Collins, *Saving Behavior in Ten Developing Countries*, in NATIONAL SAVING AND ECONOMIC PERFORMANCE 349-376 (B. Douglas Bernheim and John B. Shoven eds., 1991).

¹³² See Juann H. Hung & Rong Qian, *Why Is China's Saving Rate So High? A Comparative Study of Cross-Country Panel Data*, Congressional Budget Office Working Paper Series, Working Paper 2010-07 (Nov. 2010), available in <http://cbo.gov/sites/default/files/cbofiles/ftpdocs/119xx/doc11958/2010-07-chinasavingrate.pdf>.

¹³³ See Peter G. Peterson Foundation, *The U.S. National Savings Rate Has Declined Significantly Since the mid-1960s* (Nov. 20, 2014), available in http://www.pgpf.org/chart-archive/0078_Savings-Rate; see also Minnesota Private College Council, *United States Personal Savings and Debt Trends* (Feb. 2015), available in https://www.mnprivatecolleges.org/sites/default/files/downloads/savings_debt.pdf; Federal Reserve Bank of St. Louis, *Personal Saving Rate*, available in <https://research.stlouisfed.org/fred2/series/PSAVERT>.

most recent recession). Were Americans undersaving during this entire period? If not, was there some date that babies started to be born with a higher prevalence of hyperbolic discounting?

Savings patterns have differed by generations as well. Members of the Generation X and Millennial generations have shown higher levels of financial responsibility—including savings rates—than the Baby Boom. One analysis characterizes Millennials as “an emerging generation of retirement super savers.”¹³⁴ Moreover, their impetus for saving more has little to do with any BE hypothesis—instead, Millennials report that they are saving more themselves because of distrust that governmental programs (such as Social Security) will still be available to them when they retire—81% report that they are concerned that Social Security won’t “be there” when they retire.¹³⁵ Moreover, while the median age at which Baby Boomers started saving for retirement was 35, the median for Generation X was 27, and Millennials reported that they started saving for retirement at age 22.¹³⁶ Moreover, those Millennials saving in an employer-provided plan are investing a median of 8% of their income, comparable to Generation X (7%) and Baby Boomers (10%), both of which are closer to retirement.¹³⁷ Behavioral economics seems hard-pressed to explain much of this change over time.

¹³⁴ TRANSAMERICA CENTER FOR RETIREMENT STUDIES, MILLENNIAL WORKERS: AN EMERGING GENERATION OF SUPER SAVERS 9 (July 2014); *available in* http://www.transamericacenter.org/docs/default-source/resources/center-research/tcrs2014_sr_millennials.pdf.

¹³⁵ *Id.* According to another survey, 60% of Millennials believe that Social Security will “go bankrupt before [they] retire.” T. ROWE PRICE, MILLENNIAL 401(K) SAVERS HAVE BETTER FINANCIAL HABITS THAN BABY BOOMERS (June 22, 2015), *available in* <http://corporate.troweprice.com/ccw/home/pressReleases/pressRelease.do?pressRelease=/html/content/home/pressReleases/pressReleaseContent/06222015.html>.

¹³⁶ TRANSAMERICA, MILLENNIAL WORKERS, *supra* note 134.

¹³⁷ It may be that many of those who simply assert that Americans (or all human beings) have a tendency to undersave are simply members of the Baby Boom generation who have tended to generalize from the unusually high level of financial irresponsibility exhibited by the Baby Boomers.

In addition, those Millennials who are not saving for retirement are doing so for reasons similar to all Americans—either because they can't afford it or are using their available resources to pay-down debt, including student loans. Those Millennials who are not saving for retirement have lower incomes (median income of \$28,000 for non-savers and \$57,000 for savers), a higher likelihood of carrying student debt (66% of non-savers have student loan balances compared to 51% of savers), and higher student loan balances (median amount of \$22,000 for non-savers and \$16,000 for savers), than those that are saving for retirement.¹³⁸ Thirty-nine percent of Millennial non-savers report that they have trouble meeting their monthly expenses.¹³⁹ Of those participating in employer-provided plans but who are contributing less than the IRS-permitted maximum, 23% state that the reason that they are contributing less than the maximum is because they are repaying student loans (more than twice the percentage than any other generation), 27% state that they are paying back other, non-student loan debt, and 19% say that they are saving for their children's education (higher than any other generation).¹⁴⁰ Thus, even though most Millennials are saving for retirement, and saving more than earlier generations, the explanation for those who do not save appears to have more to do with the standard economic considerations described earlier (limited income and the desire to pay down higher-cost personal debt) than BE theories such as hyperbolic discounting.

In addition, people do respond to incentives regarding how much to save. As noted above, for example, the widespread belief among members of the Millennial generation that Social Security will not be available for them when they retire has led

¹³⁸ See T. ROWE PRICE, *supra* note 135.

¹³⁹ *Id.*

¹⁴⁰ T. ROWE PRICE, GENERATIONAL RETIREMENT TRENDS STUDY-2015 at 12, *available in* http://www.slideshare.net/TRowePrice/generational-retirement-trends-study-2015/12-1212By_Worker_GenerationMajor_Reasons_for.

them to increase their own level of retirement savings. Moreover, welfare programs that include asset-based means testing to qualify for benefits provide disincentives for individuals to save.¹⁴¹ A 1997 study showed that 49 percent of individuals who received public assistance benefits indicated they would increase their savings (and, therefore, net worth) if not for the fact that the government would cease to provide those benefits.¹⁴² Another study showed that every dollar increase in the asset limit for assistance benefits related to a 30-50 cent increase in savings.¹⁴³ Low wealth accumulation and savings rates by low-income households, therefore, may be explained in part by disincentives to save as a result of means-tested social benefit programs.¹⁴⁴

Studies have also shown that the tax rates in certain countries could contribute to savings.¹⁴⁵ In 2011, of the ten countries where individuals saved the most, seven had tax burdens below 28 percent.¹⁴⁶ This number included payments into government social security plans.¹⁴⁷ Studies attribute this high savings rate to multiple factors, including lack of perceived financial security in the future.¹⁴⁸ Further evidence of the importance of incentives in inducing consumers to save more is provided by the importance of employer matching of 401(k) contributions, which increases both the likelihood of

¹⁴¹ Min Zhan, Michael Sherraden & Mark Schreiner, *Welfare Reciprocity and Savings Outcomes in Individual Development Accounts*, (Center for Social Development, Washington University in St. Louis Working Paper 02-8, Feb. 2002), available at <http://csd.wustl.edu/Publications/Documents/wp02-8.pdf>.

¹⁴² *Id.*

¹⁴³ Elizabeth T. Powers, *Does means-testing welfare discourage saving? Evidence from a change in AFDC policy in the United States*, 68 J. OF PUB. ECON. 1, 33 (April 1998).

¹⁴⁴ R. Glenn Hubbard, Jonathan Skinner, and Stephen P. Zeldes, *Precautionary Saving and Social Insurance*, 103 J. POL. ECON. 360 (1996).

¹⁴⁵ See Michael A. Sauter, Charles B. Stockdale & Douglas A. McIntyre, *The 10 Countries Where People Save the Most Money*, FOX BUSINESS (Aug. 15, 2011), <http://www.foxbusiness.com/markets/2011/08/15/10-countries-where-people-save-most-money/>.

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

participating in an employer-provided defined contribution plan and the average amount contributed.¹⁴⁹ Tax incentives also can lead to increased savings.¹⁵⁰

Finally, it is necessary to properly measure household savings to determine whether consumers are saving too little, too much, or just the right amount (on average). In the United States, for example, the conventional popular measure of the “savings” rate is calculated by a crude mathematical formula comprised of current income and then subtracts private household spending on goods and services and taxes—the remainder left over after subtracting those factors is classified as “savings.” As such, it excludes numerous variables that are important in determining the true household financial condition, such as unrealized capital gains appreciation in one’s residence or retirement accounts. Thus, for example, when the stock market rises or housing prices increase, people misleadingly appear to be saving less, as they typically save less out of current income when capital gains rise and save more when capital gains fall.¹⁵¹ For many consumers this substitution is rational—unrealized capital gains (such as home appreciation) implicitly increases one’s future budget resources relative to the current ones. As such, consumers would be expected to engage in intertemporal substitution of consumption to increase consumption today. Moreover, as noted above, consumers “save” huge amounts of wealth in consumer durables such as household goods, automobiles, and the like. Similarly, an increase in one’s tax obligations (holding income and consumption constant) will lead to a reduction in the savings rate. Because taxes

¹⁴⁹ See TRANSAMERICA, MILLENNIAL, *supra* note 134, at 32.

¹⁵⁰ See Matthew S. Rutledge, April Yanyuan Wu, & Francis M. Vitagliano, *Do Tax Incentives Increase 401(k) Retirement Saving? Evidence From the Adoption of Catch-Up Contributions*, Center for Retirement Research at Boston College CRR WP 2014-17 (Nov. 2014).

¹⁵¹ For discussion, see Todd J. Zywicki, *An Economic Analysis of the Consumer Bankruptcy Crisis*, 99 NW. L. REV. 1463 (2005).

have risen much faster than income in recent decades, this increase in tax expenditures by households explains a significant amount of the reduction in the measured savings rate.¹⁵² In addition, to the extent that analysts only look at savings in employer-sponsored retirement plans and ignore accumulated home equity, this excludes a large amount of the wealth accumulation of households in recent decades.

Examining evidence across countries and across time in the United States fails to support the implied contention of behavioral economics that there is an inherent tendency in human psychology toward undersaving for retirement. Instead, much of the difference among countries and across time in the United States seemingly can be explained by conventional economic variables, such as the incentives to save or taxation of savings, or peculiar features of particular country's economic systems, norms, and culture. Citizens of many countries save much more than those in the United States, which suggests that even if people in the United States do save less than they intend for retirement, it seems highly unlikely that behavioral economics provides the most likely explanation for this observed behavior.

D. Unintended Consequences of Adopting Nudge Policies on Savings

In addition, efforts to “nudge” higher savings through one-size-fits-all centrally-planned default rules may also have other unintended consequences that might actually lead to reduced savings for some people. For example, Choi, et al., examined the effects on employee behavior when employers switched from an opt-in to an opt-out system for participation in their 401(k) retirement plans by automatically setting their employees (1)

¹⁵² See Todd J. Zywicki, *The Two-Income Tax Trap*, WALL ST. J. (Aug. 14, 2007), available in <http://www.wsj.com/articles/SB118705537958296783>. In addition, state and local taxes (especially property taxes) increased dramatically during that period as well.

default contribution to 2% or 3% of income and (2) defaulting to a conservative investment default vehicle, and the requiring employees to take affirmative steps to increase or decrease that amount.¹⁵³ They found that about 80% of participants accepted both the default savings rate and the default investment fund and that those decisions persisted even after 2-3 years. In short, they found a tradeoff—while changing the default option increased participation in the plan, the low default savings rate and conservative default investment fund “undercut [wealth] accumulation.” Thus, while the default rule prompted those who otherwise wouldn’t have participated at all to save more it also prompted *less* saving by those who otherwise would have saved more of their income and would have invested in higher-return investments—in other words, while some saved more, others saved less. The authors conclude that the two effects were roughly offsetting on average. Other similar experiments have had similar results, and in one case adopting an opt-out plan with a 3% default rate had a negative overall effect on total savings.¹⁵⁴

Other studies have found similarly perverse effects from automatic enrollment in defined contribution plans. A study by Barbara A. Butrica and Nadia S. Karamcheva found that although automatic enrollment is associated with a higher proportion of workers included in defined contribution plans, automatic enrollees are less likely to actually contribute to those plans than voluntarily enrolled workers.¹⁵⁵ Auto enrollment was also found to be associated with lower employee contribution rates. Overall, they found that “the combined effect is that the retirement accounts of automatically enrolled

¹⁵³ See James J. Choi, David Laibson, Brigitte Madrian, and Andrew Metrick, *For Better or For Worse: Default Effects and 401(k) Savings Behavior*, NBER Working Paper 8651 (Dec. 2001).

¹⁵⁴ See Brigitte C. Madrian & Dennis F. Shea, *The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior*, 116 Q. J. ECON. 1149, 1184 (2001)

¹⁵⁵ Barbara A. Butrica & Nadia S. Karamcheva, *The Relationship Between Automatic Enrollment and DC Plan Contributions: Evidence from a National Survey of Older Workers*, Boston College Center for Retirement Research CRR WP 2015-14 (July 2015).

older workers receive, on average, \$900 less in combined annual contributions and have contribution rates that are 1.6 percentage points lower than those of voluntarily enrolled workers.”¹⁵⁶ Nor are these results anomalous: according to research by Vanguard, the average deferral rates for employer-provided defined contribution plans has fallen from 7.3% in 2007 to 6.9% in 2015 because of the introduction of automatic enrollment at low levels, such as 3% or lower.¹⁵⁷

Some behavioral economists respond to these perverse findings by arguing that central planners should increase the default rate of saving or make it more difficult to opt-out (such as by prohibiting early withdrawals from one’s 401(k) plan).¹⁵⁸ But the proposal to replace a default rule with a mandatory rule simply raises anew the questions of determining the opportunity cost to a particular individual of diverting resources away from consumption today to consumption in the future, the relative value of consumption expenditures in those two periods, and decision-making in the face of binding budget constraints.

Given the subjective nature of consumer preferences regarding consumption, leisure, and debt, it is doubtful whether BE theorists can assert that consumers revealed demand and actual behavior regarding intertemporal consumption substitution and substitution between leisure, work, and debt, systematically deviates from their “true” preferences. Still further, it is doubtful that any third-party central planner can be confident that he is making others else better off by manipulating the other person’s

¹⁵⁶ *Id.* at Abstract.

¹⁵⁷ VANGUARD, HOW AMERICA SAVES 2015: A REPORT ON VANGUARD 2014 DEFINED CONTRIBUTION PLAN DATA 4 (June 2015), <https://institutional.vanguard.com/iam/pdf/HAS15.pdf>.

¹⁵⁸ See Bubb & Pildes, *supra* note 18.

“choice architecture.”¹⁵⁹ Unless the central planner knows the opportunity cost that each individual confronts from diverting resources from today to fund consumption years or decades from today (assuming he even lives that long), then the social planning “nudger” has no idea whether he will be making people better off.

V. Conclusion: The Ethics of Nudging Retirement Savings

Behavioral economics analysis of consumer financial behavior rests on two basic pillars: that Americans systematically borrow too much and save too little. Available empirical evidence soundly refutes the first assertion, finding no support for any BE hypothesis. This article has argued that the second assertion—that consumers systematically save too little—is likely incorrect as well.

Data reveals that most people save enough or more than they need for retirement. Only a relatively small minority save less than it might seem that they need for retirement and those who are not saving appear to be doing so for reasons having little to do with behavioral economics, but rather because they simply lack sufficient resources to save more, are allocating their resources to higher-valued uses such as paying down consumer or student debt, or are saving in other ways. Thus, it is doubtful that those who are not saving will be made better off by being nudged to save more.

More generally, it seems doubtful that central planners will make people better off generally by nudging them to save more, i.e., to shift consumption into the future.

Consumption expenditures have high marginal value when households are younger and are starting their lives. It is far from obvious that most budget-constrained households

¹⁵⁹ See Steven J. Eagle, *The Really New Property: A Skeptical Appraisal*, 43 IND. L. REV. 1229, 1244-48 (2010).

would be better off by shifting consumption from today into the future. Alternatively, households could borrow more or work more in order to save more, yet it is doubtful that either of those would make people better off either.

To reiterate, this article has addressed only one argument for normative reasons why we might want to encourage or require people to save more, the behavioral economics argument that people's true preferences are their expressed preferences and not their revealed preferences—that they actually *want* to save more but are unable to execute on that plan because of problems of willpower or hyperbolic discounting (leaving aside that people also have expressed preferences squarely at odds with these expressed preferences, such as to work less or borrow less). As has been demonstrated, before social planners decide to nudge people to save more, they must know the opportunity cost of increased savings (deferred consumption). Without that knowledge there is no basis for central planners to believe that they will make people better off by imposing nudges on them.

This realization does *not*, however, rule out the possibility of various firms offering a variety of different default rules to their employees in the market. Some employees may prefer opt-out plans with high default contribution rates in certain types of funds; others may prefer traditional opt-in plans. But that approach of market experimentation, competition, and consumer choice is entirely compatible with a traditional theory of revealed demand and individual rationality. It does not try to “nudge” workers to do anything, it simply permits workers to choose among different employers with different sets of rules.

Thus, it is also that case that there may be reasons *other* than behavioral economics for forcing or encouraging people to save more: traditional paternalism, protection against externalities, to promote capital accumulation in the economy, political reasons, or others. This article has simply demonstrated that the BE argument for nudging higher savings rates has not been established to be sound and as a result the evidence is insufficient to demonstrate that people would be made better off by nudging them to save more.

The recurrent failure of behavioral economics to provide an accurate or persuasive explanation for consumer behavior is especially ironic in that behavioral economics (and its sister discipline behavioral law and economics) purport to provide a more realistic and empirically-grounded model of human behavior. Yet with respect to both consumer saving and borrowing behavior, available empirical evidence fails to support BE claims. Perhaps careful empirical analysis, once finally undertaken, will provide some support for applying behavioral economics to public policy. As of today, however, that evidence is absent. I have written elsewhere that although behavioral economics is an interesting theoretical construct, it is still too underdeveloped to be tested on human subjects in the belief that manipulating their “choice architecture” to save more will make them better off.¹⁶⁰ Given the unproven nature of the claim that Americans systematically save too little and the doubt that we can make their lives better by nudging them to save more, BE recommendations for nudging greater savings should be rejected.

¹⁶⁰ See Zywicki, *Just-So Stories*, *supra* note 7, at 51.