

## Behavioral Economics and Public Policy 102: Beyond Nudging

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### **VERY PRELIMINARY – PLEASE DO NOT CITE**

The United States, despite its affluence, faces a number of daunting policy challenges. The nation ranks last among 16 wealthy peers in life expectancy, infant mortality, and obesity, despite spending significantly more on health care, imprisons the second highest share of its citizens of any nation in the world, ranks near the bottom of OECD countries in math proficiency, has a severe and growing problem of income inequality, and has made little progress towards substantive climate control (IOM 2013).<sup>1,2</sup> While the causes of this unimpressive record are not fully understood, to the extent that unwanted outcomes are linked to poor behavior, it stands to reason that interventions aimed at improving behavior will play a major role in shaping policy over the next several years.

Social science is poised to play an important role in future policy debates, and among the social sciences, economics has traditionally wielded the greatest influence. The field offers a powerful, elegant, framework to understand individual behaviors and market outcomes, and a set of regulatory and price-based policies to address market failures, redistribute resources, and smooth undesired fluctuations in business cycles. But the traditional approach in economics, with its quixotic belief in fully rational and informed individuals, and perfectly competitive markets, assumes away many potentially troublesome behaviors—such as low savings for retirement, unhealthy eating, or high credit card debt—as simply reflecting individual preferences.

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<sup>1</sup> The report detailing US health rankings is available at the NIH website at (retrieved Dec 2014, <http://obssr.od.nih.gov/pdf/IOM%20Report.pdf>).

<sup>2</sup> The ranking of incarceration rate was taken from a report published by the International Centre for Prison Studies (retrieved Dec 2014, <http://www.prisonstudies.org/>), while math ranking refers to results of the PISA 2012 assessment of OECD nations (<http://www.oecd.org/pisa/keyfindings/PISA-2012-results-US.pdf>). The US ranks 101<sup>st</sup> of 141 examined nations in family income inequality according to CIA Factbook.

In search of a richer account of behavior that acknowledges human weakness, and against the backdrop of profound policy challenges described above, policy-makers in recent years have turned to insights from Behavioral Economics (BE). In departing from the assumptions of standard economics, BE models behavior as emerging from individuals who are subject to cognitive limits, motivations not taken into account by traditional economics such as ego (self-esteem) and social preferences, and whose decisions are privy to emotional influences. Once dismissed as merely documenting a set of “curiosities,” BE has amassed an impressive body of laboratory and field evidence organized by a parsimonious theoretical framework (see DellaVigna 2009 for a review).

In this essay, aimed broadly at students and their instructors, we comment critically on the past, present, and future, role of BE in public policy. We first describe the meteoric rise of BE over the last several years and enumerate some of its successes. Next we suggest that the original rationale for the conservative early applications of BE to policy— as embodied by the concept of a “nudge” – may be less relevant today, and that shifting circumstances now warrant a far more ambitious agenda. Early applications of BE have often been called upon to play the role of “Band-Aids” to mitigate policies that are fundamentally flawed. BE can not only help illuminate why defective policies are put into place, but can and should, we argue, influence the design of superior policies. In what follows, we offer a set of guiding principles, and case-studies, to provoke students of policy to think about how the agenda of BE might result in policies whose scope is more reflective of the magnitude of contemporary challenges.

### **I. The Birth of Nudge and Early Successes**

The formal articulation of behavioral economics as a policy doctrine can be traced to the publication, over a decade ago, of two papers, “Libertarian Paternalism” (Thaler and Sunstein 2003), and “Regulation for Conservatives: Behavioral Economics and the Case for Asymmetric Paternalism” (Camerer, Issacharoff, Loewenstein, O’Donoghue, and Rabin 2003). These papers proposed roughly similar approaches to public policy designed to address the failures of, even highly capable, individuals, to always act in their own self-interest without unduly imposing upon those already acting rationally. These benevolent doctrines, as the titles of the papers

suggest, were intended to appeal to both conservatives and progressives alike by promising to improve behavior while preserving freedom of choice. The specific type of policy espoused by this framework was popularized as a “nudge” by a later best-selling book of that title. Defined as “any aspect of the choice architecture that alters people’s behavior in a predictable way without forbidding any options or significantly changing their economic incentives” (Thaler and Sunstein 2008), nudges entailed interventions, such as the strategic placement of fruits in the school lunch line, which steered individuals towards actions deemed by the “choice architect” to be beneficial. These interventions, according to Nobel Laureate Daniel Kahneman, yield “medium-sized gains by nano-sized investments” (2013).

The intellectual scaffolding of asymmetric/libertarian paternalism helped to support a decade-long rise in policy influence and cultural resonance for BE. This influence was manifested most dramatically in the establishment, growth and global influence of the “Behavioural Insights Team” (BIT) established by David Cameron, the Prime Minister of the United Kingdom.<sup>3</sup> Charged with leveraging evidence-based findings from social psychology and BE to encourage better decision-making, the unit deployed messages, based on reciprocity and loss aversion, to increase sign-ups for the organ donor registry, used social norms to accelerate the payment of delinquent taxes, and devised a strategy to increase the take-up of cost-efficient home insulations by removing a small “hassle” cost—the clearing out of one’s attic—which had appeared to deter many home-owners from insulating. Other nations, such as Australia, Canada, France and Singapore have since introduced similar institutions including the “Social and Behavioral Science Team” (SBST) recently established in the United States.<sup>4</sup>

The early success of BE was not limited to the rise of institutions or the popularization of nudges into the cultural vernacular, but extended to discrete policies that primarily acted to overcome problems associated with limited self-control, attention/ awareness, and understanding. Perhaps the most celebrated policy accomplishment of this period was the use of default options to dramatically increase employee savings. A seminal study documented how the simple transition from an opt-in to an opt-out sharply accelerated employee

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<sup>3</sup> As a point of disclosure, Loewenstein has had numerous interactions with the BIT, and is on its academic advisory board, and Bhargava has had a number of interactions with the SBST.

participation in a large firm's 401k plan (Madrian and Shea 2001). Such defaults have since been adopted by a majority of large US firms and have led to significantly increased employee participation in savings programs. While one might worry that these increases may have been offset by decreases in other forms of savings (or increases in borrowing), as predicted by the standard economic model, a recent paper using several years of data on the financial wealth for all of Denmark found firm defaults resulted in large increases in savings, of which, only 20% was offset (Chetty et al. 2012).<sup>5</sup>

A second success of BE has been the development of a broad set of "marketing interventions" aimed at improving compliance across a variety of settings through simplification, the use of social comparisons, the heightened salience of key informational elements, or the reduction of influential "hassle" costs. Such interventions have been shown to improve medical adherence (Milkman et al. 2011), parental school choice (Hasting and Weinstein 2008), efficiency of home energy use (Alcott 2011), and the take-up of social benefits programs such as the EITC (Bhargava and Manoli 2012). In the latter study, simplifying the visual appearance of a benefit notice, without any change to the overall informational content, significantly increased take-up among an otherwise intractable, and generally very poor, population. Across these studies, small, inexpensive, and scalable modifications to the content or appearance of communications have led to far larger changes in behavior than what small reductions in transaction costs would have predicted given the standard economic model.

## **II. Shifting Rationales and a Bolder Approach**

While endorsing the mission of applying behavioral economics to public policy, and applauding the early successes of the movement, we worry that the initial papers and book that played such an important role in projecting BE into policy significance may have played an unintended role in limiting its scope: Nudges have come to be viewed as synonymous with the application of behavioral economics to public policy.<sup>6</sup> Though the harvesting of the "low

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<sup>5</sup> The authors estimate that each Dkr 1 of retirement subsidies produced less than a 1 cent increase in net savings. The same paper documented that the net increase in overall savings from defaults was much larger than that achieved through more traditional price subsidies.

<sup>6</sup> There are a number of exceptions. O'Donoghue and Rabin's embracing of the "Sin Tax," and Gruber and Koszegi's research on, and advocacy of, steep taxes on cigarettes are important and representative examples.

hanging fruit” incumbent in the nudge agenda should continue to be a priority, we believe that BE should not limit itself to proposing “nano-size” interventions or policies that do not significantly change economic incentives or individual beliefs. In the original paper on asymmetric paternalism, the authors justified a “careful, cautious, and disciplined” approach because of reservations about imposing undue costs on those already acting rationally and a belief that the field of BE was “in an early stage of development.” A decade later, four significant developments may have shifted the rationale in favor of a more aggressive mindset.

First, consumers are being confronted with financial products, and asked to make choices, of increasing complexity and which may demand the exercise of ever-greater degrees of self-control. One study examined the complexity of 55,000 retail financial products offered by banks and insurers in Europe from 2002 to 2010 (e.g., ETFs and fixed income instruments) and found not only that such products became increasingly complicated, but that that this complexity was correlated with higher firm profitability, lower investment returns, and was often concentrated in markets populated with less sophisticated consumers (Celerier and Vallee 2013). Consumers also faced an expanded set of credit instruments, including payday loans (Hastings, and Madrian, Skimmyhorn 2013), and complex sub-prime loans, of which a large share were mortgages featuring attractive teaser rates.<sup>7</sup> Increasing complexity is also reflected in the trend towards expanded choice in health insurance (e.g., the ACA exchanges where enrollees face 47 choices), the tax code (for which the Taxpayer Advocate Service concludes that excessive complexity is the most critical problem facing tax-payers), and even the growing popularity of complicated, incommensurable, mobile phone plans.<sup>8</sup> Paralleling this rise in complexity has been an explosion of lengthy, and for a majority of consumers, incomprehensible, informational disclosures from firms regarding issues such as product liability and privacy. In a rather astonishing analysis, it was estimated that the aggregate opportunity cost for individuals of reading through the privacy disclosures encountered would amount to \$781B annually (McDonald & Cranor 2008).

Second, we now have a far clearer understanding of the inability of individuals to sensibly engage such complexity or deal with increasing tests of self-control. Most Americans

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<sup>7</sup> Sub-prime loans discussed by the Federal Reserve, [www.federalreserve.gov/pubs/feds/2008/200859/200859pap.pdf](http://www.federalreserve.gov/pubs/feds/2008/200859/200859pap.pdf).

<sup>8</sup> An article describing the complexity of cell phone plans was published in the NY Times (Dec 2014).

do not understand financial concepts such as interest, inflation, and diversification, are unaware of the terms that govern their borrowing such as the terms of their mortgages, and fail to plan for known expenses such as retirement and college tuition (Hastings, and Madrian, Skimmyhorn 2013). The absence of basic literacy extends to the majority of insured individuals who have limited understanding of basic insurance concepts like a deductible or copayment (e.g., Loewenstein et al. 2013; Handel and Kolstad 2014). Meanwhile, the self-control problems that may contribute to these planning deficits may be hard-wired in the brain (McClure, Laibson, Loewenstein, Cohen 2004). These low levels of literacy have been linked to inefficient financial decisions from savings and borrowing to choice of health plans (Hastings et al. 2013), and the costs of these decisions appear to be born disproportionately by those least able to afford it. Research suggest that the poor face excessive cognitive burdens due to poverty-related stress (Mani et al. 2013), and evidence from the field suggests that lower income families are more negatively affected by complexity in financial aid applications, tax worksheets, and health insurance choice (e.g., Bettinger et al. 2012, Bhargava and Manoli 2012; Bhargava, Loewenstein and Sydnor 2015).

Third, most of the evidence we have now indicates that deficits in literacy and numeracy, and the poor choices that result, cannot easily be remedied through information disclosure (Loewenstein, Golman, and Sunstein 2014) or interventions aimed at education (Lusardi 2010). The difficulty in improving choice through information disclosure or education has been demonstrated in context of savings decisions (Duflo and Saez 2003), take-up of generous employer matches (Choi, Laibson and Madrian 2010), the choice of health insurance plans (e.g., Kling et al. 2012; Bhargava, Loewenstein and Sydnor 2015), and healthy eating where simply providing caloric labels has had, at best, mixed success (Variyam and Cowley 2006).

A final shift in the policy landscape is the heightened openness to evidence-based policy including randomized evaluations. The Obama administration's strong endorsement of evidence-based policy was evidenced in an executive order which required that regulatory agencies "...must measure, and seek to improve, the actual results of regulatory requirements" as well as the rigorous implementation of cost-benefit analyses recently practiced by the Office

of Information and Regulatory Affairs (Sunstein 2013).<sup>9</sup> Randomized policy evaluations were also a hallmark of the BIT's policy design process.

Collectively, the increasing complexity facing consumers (due, in part, to predatory actions by firms), the consequences of such complexity, particularly for those of low income, and the difficulty of improving decision-quality through mere information disclosure and even education, point to the need for more aggressive consumer protections. While such protections might be achieved through further simplification of choice environments, decision-aides, and nudges, in some cases they may require powerful incentives, regulations, and aggressive campaigns designed to educate and persuade. The opportunity to pre-test interventions prior to deployment lessens the risks of translating academic findings into bold policy solutions and leads, we believe, to an expanded set of policy tools at the disposal of current and future policy-makers.

### **III. Guiding Principles for Expanding the Behavioral Toolkit**

We discuss three principles that we believe should supplement the existing behavioral policy toolkit. First, we believe that the inordinate complexity characterizing important financial decisions, and the demonstrated inability of individuals, and particularly those in greatest economic need, to navigate such complexities point to the need to move beyond simplifying choice environments towards *simplifying the underlying structure and incentives* that characterize the choices themselves. Given the ceiling in the effectiveness of interventions designed to simplify choices, and educate, we believe that policy-makers should consider encouraging, and potentially regulating, the simplification/standardization of certain products.

A second principle we endorse is a willingness to employ *stronger forms of paternalism* including explicit regulation or incentives to supplement more conventional nudges particularly where there exists a strong power and/or informational asymmetry between parties. Such regulations might take the form of explicit limits to choice in settings in which the mere act of choosing, even in simple settings, leaves unknowing consumers exposed to economic harm (e.g., health insurance choice), or may entail moving beyond disclosure requirements to limiting

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<sup>9</sup> <http://www.whitehouse.gov/sites/default/files/omb/memoranda/2013/m-13-17.pdf>

the manner in which firms are able to use consumer information. A third principle is the use of social psychology and behavioral economics to, beyond nudging, more effectively *educate and persuade*. Despite the success of marketing interventions, the extent to which such interventions lead to sustained behavioral change or result in more informed consumers/citizens is unclear given that nudges often operate by unknowingly pushing individuals towards a certain action. Considering the magnitude of looming policy challenges facing the nation, such as economic inequality and climate change, we believe that behavioral economics can help to marshal a critical mass of informed support.

While we believe that these principles have broad applicability across policy settings, we illustrate their application with three intentionally disparate examples. These case examples are intended to briefly hint at how behavioral economics might productively shape policy, beyond a reliance on nudges, and offer potential contexts in which students might debate the merits of possible policy solutions.

#### **IV. Three Case Examples**

##### **Case Example #1: Health Insurance (Principle #1)**

While behavioral economics is already an active and constructive participant in the domain of health (see Volpp et al. 2010), one particular setting in which imperfections in decision-making may require a more aggressive policy approach is in consumer choice of health insurance. In recent years, there has been a strong trend towards expanding the number of health plan choices available to consumers, often through either public or employee-sponsored exchanges. The rationale for providing more choice is to raise consumer utility by improving the likelihood that people can select a plan that makes sense for them, thereby lowering prices, and improving quality, by intensifying productive competition between providers. Neither of these goals is likely to be fulfilled, if consumers make uninformed plan choices.

In our own recent research, we analyzed the insurance choices of over 50,000 employees of a large US firm which offered their employees a large, standardized, health plan menu in which (seemingly unbeknownst to the firm) nearly all of the low-deductible plan options were financially dominated by the otherwise equivalent high deductible plan

(Bhargava, Loewenstein, and Sydnor 2015). A majority of employees choose financially dominated plans, with average overspending equivalent to 42% of the typical annual premium. Moreover, lower income employees, for whom such choices led to spending equivalent to 4 to 5% of income, were more likely to sort into low value plans. A series of experiments suggested that the pervasive lack of basic health plan literacy, and not the complexity of the choice interface, was a likely determinant of these poor choices. We found that plan choices were consistent with a heuristic choice strategy in which consumers sorted themselves into available deductibles based on perceived health rather than a careful financial comparison of plans. In recognition of the difficulties in choosing a health plan, the insurance exchanges of the ACA adopted a standardized online interface and organized plans into metal tiers that were linked to actuarial value. However, our own ongoing research finds that, rather than facilitating more cost-effective choices, the metallic labels slightly worsen choice presumably because they communicate gradations in quality of care, rather than gradations in cost-sharing.

A superior solution to improving choice (and likely, the sensitivity with which individuals respond to cost-sharing incentives) but not fitting the definition of a nudge or marketing intervention, would be to mandate the provision of dramatically simplified and standardized insurance policies. A recent paper indicates that this type of product simplification is feasible. The paper reported results of a comprehensive health survey documenting consumers' lack of understanding of insurance, and also demonstrating their ability to understand a radically simplified insurance product which a large insurance company then actually offered to its customers (Loewenstein et al. 2013). The copay-only insurance plan listed different prices for different services, much like a restaurant menu, but eliminated the usually-not-understood deductibles and coinsurance. Requiring the provision of such a product, or a class of such products to allow for individual sorting, would likely improve consumer choice, as well as the likelihood that providers actually compete on price and quality by eliminating the ability of firms to strategically obfuscate plan features (e.g., Koszegi and Heidhues 2014; Gabaix and Laibson 2006).

## Case Example #2: Privacy and Information Disclosure (Principle #2)

The internet age, while transformative in many advantageous regards, presents an enormous challenge to individual privacy and with that, a set of critical questions for policy-makers. The online activities in which many individuals routinely engage—e.g., emailing, texting, social media, internet searches, driver navigation, and online purchasing— reveals information not only to friends but to firms and the government. Given advances in data technologies individuals sometimes with, but more often without, awareness and consent, leave a digital trace of their activities and beliefs, and leave themselves exposed to potential commercial exploitation, discrimination, and unwanted government monitoring (e.g., Pasquale 2015).

Traditional economics assumes offers guidance as to how to manage the tension between freedom, information access and privacy. While market forces may not, of their own accord, lead to voluntarily provision of relevant product information or disclosures of conflicts of interest, regulations that mandate such disclosures should enable individuals to navigate the increasingly complex privacy landscape. However, due to limited attention, motivated reasoning, and biased assessments of probability, psychological research suggests that most individuals simply ignore such disclosures, and more worryingly, infer that the presence of privacy disclosures implies non-existent protections (Acquisti, Brandimarte & Loewenstein, forthcoming).

To the extent that privacy disclosures are mandated, research in psychology would recommend that such information should be expressed in a simple, highly vivid, and standardized manner (much like labels on cigarette packs) to maximize the likelihood that consumers attend to and understand the relevant information. However, given the torrent of information to which consumers are exposed online, and their overwhelming tendency to ignore or misinterpret fine print, the optimal strategy through which to protect consumers, confronted with a highly complicated environment, and strongly asymmetric interests, may be explicit regulations that extend beyond disclosure. A good starting point would be, as the European Union has done, to limit firms to only using customer data for purposes deemed to be in the customer's interest, and not for the benefit of the firm or for purposes that a reasonable person would view as unrelated to the original transaction.

### Case Example #3: Climate Change [Principle #3]

BE has in recent years played a positive role in addressing climate change—for example, by providing input on how to design energy efficiency labels for automobiles, and leveraging social comparisons to reduce consumer energy usage— yet present circumstances may demand that it play a far greater role. The Intergovernmental Panel on Climate Change, a scientific body charged by world governments to understand climate change (and a recipient of the 2007 Nobel Peace Prize), warns that global warming is an imminent threat, and absent a major, coordinated intervention, will wreak dramatic environmental and economic damage—or potentially worse. Despite such dire calls to action, by many accounts, international and U.S. efforts towards climate policy have failed to make progress.

Standard economic theory offers some insight into this policy paralysis. The notion of a free-rider problem helps to explain why few, even those deeply concerned about climate change, have meaningfully changed their personal behavior, and Mancur Olson’s pioneering work on collective action, shows how concentrated economic interests, such as energy firms, can wield political advantages over atomistic individuals. The political intractability with respect to climate change is not, however, due to an absence of policy solutions for market failures due to externalities or strongly entrenched interests. In the particular case of climate change, both price and quantity-based policies—a carbon tax, and system of cap-and-trade—have been advocated by economists across the political spectrum as a means to minimize emissions and also encouraging clean-energy innovation.

Climate change has, in spite of the scientific evidence, has become one of the most polarized and politicized issues of the day, due to reasons best explained by findings from psychology and BE. Explained in George Marshall’s brilliant book (which should be on BE policy reading lists), “Our Brains are Wired to Ignore Climate Change,” individuals may ignore such a problem due to an array of psychological and BE concepts such as motivated disbelief, the ostrich effect, confirmation bias, present-bias, adaptation, and intangibility. In the face of overwhelming temptation to ignore or disbelieve the immediacy of climate change (both among politicians and individuals), there is a wealth of research across the behavioral sciences which, thankfully, offer strategies as to how to capture the attention of the population, as well as how to inform/ persuade and mobilize individuals to react to scientific findings. A recent

Columbia University on climate change report offers a number of communication strategies drawing on such principles including the use of framing in order to generate attention, plain language and experiential accounts to help promote understanding, discussion based communication to overcome worries over scientific uncertainty, and heightening social identities to increase investment.<sup>10</sup> In conjunction with nudges, such as defaults, to help facilitate concrete actions, BE could additionally be used to build sustained and informed support for large, more traditional, policy initiatives.

## V. Conclusion

In this essay we have discussed a framework for thinking about how BE has and will continue to influence public policy. While not dismissing prior successes, notably in the domain of savings and health, we argue that the increasing complexity facing individuals subject to widespread deficits in literacy and numeracy, the large and regressive economic consequences of poor decisions, and a political openness to evidence-based policy, justify more assertive applications of BE to policy. Stronger policy interventions are not to be taken on lightly, particularly given concerns about overreach and paternalism, but we believe that students of behavioral public policy should recognize and engage a fuller range of policy tools—including taxes, subsidies, regulations, marketing, nudges, and educational campaigns—to more fundamentally address policy problems. We have obviously just skimmed the potential settings in which BE in the “large” might fruitfully complement BE in the “small.” We largely ignored, for example, topics in public finance (see Congdon, Kling and Mullainathan 2011), health (see Volpp et al. 2011), and education (see Lavecchia, Liu, and Oreopoulos 2014).

On a final note, there are examples of what we see as successful mergers between traditional and appropriately ambitious BE approaches. One such example is the set of policies which helped to sharply curtail smoking over the last several decades. Traditional policies such as taxes and bans were supplemented by more psychologically oriented measures – vividly alarming labeling, massive public health campaigns, and, most recently, the development of a less harmful substitute, in e-cigarettes—to overcome deeply entrenched interests and produce

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<sup>10</sup> Full report available here (retrieved December 2015): [http://guide.cred.columbia.edu/pdfs/CREdguide\\_full-res.pdf](http://guide.cred.columbia.edu/pdfs/CREdguide_full-res.pdf)

one of the most successful policy initiatives in US history. The genesis of Social Security, decades ago, is arguably another instance in which policy-makers were enlightened enough to address the requirements of an imperfect citizenry with a suitably bold policy.

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