Prescriptive Implications of Behavioral Economics:

The Promises and Pitfalls of Libertarian Paternalism

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Abstract

Behavioral economics lies at the intersection of economics and psychology, drawing from scholarship in social, cognitive, and developmental psychology to understand, predict, and assist human judgment and decision making. Behavioral economists have proposed a "libertarian paternalism" framework for improving social welfare. Interventions that preserve free choice (the libertarian component) while "nudging" people in helpful ways (the paternalism component) are tailored to circumvent particular shortcomings of judgment and choice. Nudges can involve providing information, reframing information, changing default options, enabling self-restrictions, fostering commitments, instituting cooling-off periods, and establishing sin taxes. These kinds of interventions might prove helpful for psychologists seeking to address a wide range of therapeutic goals and behavioral changes, whether at the individual or community level through service provision or by crafting and supporting effective policy proposals. Though we are enthusiastic about the promise of libertarian paternalism, we believe that a number of potential pitfalls should be carefully considered on a nudge-by-nudge basis to prevent the paternalistic component of the approach from undermining its equally important libertarian foundation, and ultimately its utility.

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Behavioral economics lies at the intersection of economics and psychology, drawing heavily from scholarship in social, cognitive, and developmental psychology to understand and predict human decision making (Ariely, 2008; Belsky & Gilovich, 2009; Kahneman, 2011; Thaler & Sunstein, 2009). In addition to advancing basic science goals, many behavioral economists seek to improve social welfare by influencing policy (Amir et al., 2005). The conventional economic theory used to inform policy-makers typically assumes that people make rational choices in order to maximize their expected utility. Because economic modeling involves systemic effects rather than individual behaviors, rationality assumptions need not be descriptively accurate at the level of individual decision-making. If deviations from the predictions of rational choice models are symmetrically distributed, rather than systematically biased, the theory may still be useful because aggregate behavior can conform sufficiently closely to predictions when individual deviations cancel out (Becker, 1962; Friedman, 1953). Decades of psychological research, however, suggest that people's judgments and decisions systematically depart from rational choice in many ways (Dawes, 1988; Kahneman, 2011). Ariely (2008) summed up the literature on behavioral economics succinctly by describing human reasoning as *predictably irrational*.

The prescriptive implications of behavioral economic insights are not obvious. Proposals range from paternalist measures designed to protect people from the consequences of irrational choices (Camerer, Issacharoff, Loewenstein, O'Donoghue, & Rabin, 2003) to decision-making advice designed to enable individuals to make more rational choices (Belsky & Gilovich, 2009). One particularly intriguing prescriptive approach is known as *libertarian paternalism* (LP), which seeks to preserve free choice (the libertarian component) while "nudging" people in helpful ways (the paternalism component). The idea of nudges that help people make choices consistent with their own true preferences was popularized by Thaler and Sunstein (2009) in their book *Nudge: Improving Decisions about Health, Wealth, and Happiness*. They define the key concept on p. 6:

A nudge, as we will use the term, is 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. To count as a mere nudge, the intervention must be easy and cheap to avoid.

From the opening paragraph of their first presentation of this approach, Thaler and Sunstein (2003) attempted to defend against an obvious criticism that became the title of their elaborated introduction of LP (Sunstein & Thaler, 2003): "Libertarian Paternalism is Not an Oxymoron." They argued that framing choices in one way or another is inevitable and, citing the more explicitly paternalist approach of Camerer et al. (2003), that they shared a "common goal of devising policies that help some agents who are making some mistake, while minimizing the costs imposed on others" (p. 176). The LP approach is an ostensibly value-neutral effort to improve the quality of decisions according to individuals' true preferences. Mitchell (2005), in a direct response entitled "Libertarian Paternalism is an Oxymoron," argued that choice-framing paternalism is not inevitable, that using paternalism to maximize welfare rather than liberty is itself a value-laden decision, and that LP can have other value-laden redistributive consequences. Mitchell has been joined by several other scholars (e.g., Glaeser, 2006; Rizzo & Whitman, 2009a, 2009b; Schlag, 2010) who elaborated their own critiques, each developing the theme that the paternalism of LP is more evident, and objectionable, than the libertarian component.

Whereas both proponents and critics tend to reach fairly broad conclusions about LP, we believe that there is considerable merit to both sides of this lively debate. We would neither embrace nor dismiss all nudges emerging from the LP approach. Instead, we argue that LP holds great promise but that there are several causes for concern that should be considered on a case-by-case, or nudge-by-nudge, basis. In what follows, we provide a brief overview of behavioral economic insights and associated types of nudges, discuss a number of concerns with the development and implementation of nudges, and conclude by underscoring the importance of respecting the libertarian as well as the paternalism in LP. The overarching goal is to introduce readers to these behavioral economic insights to spark ideas for applications or interventions. We believe that familiarity with LP and nudges will enable psychologists to more effectively address a wide range of therapeutic goals and promote healthy behavioral changes.

Insights can be applied in many venues, such as through service provision, community involvement, consultation in the workplace, or by crafting and supporting policy proposals that take advantage of the promise and avoid the pitfalls of LP.

Behavioral Economic Insights

Not all findings in the large and growing literature on behavioral economics fit neatly into categories, yet there are some common themes. We organize our brief review using four insights about potentially detrimental influences on judgment and choice: information problems, framing effects, status quo bias, and self-control problems. In this section, we describe and illustrate each behavioral economic insight and the kinds of nudges it has prompted (see Table 1 for a summary).

Information Problems

One can hardly be expected to make a rational choice in the absence of important information—which is why economic theory often assumes complete information—or when two parties to a transaction have asymmetric information. The solution to such a problem often involves providing information. For example, in what Akerlof (1970) called the "market for lemons," sellers have more knowledge of their own used cars' defects than do potential buyers. Because buyers worry about the possibility of purchasing a "lemon," a car with one or more serious defects, they may only be willing to pay prices lower than sellers are willing to accept. If this occurred frequently enough, it could lead the used car market to collapse. Fortunately, there are a number of ways to prevent this from happening.

When the seller is a business rather than an individual, offering a warranty on the used car can bridge the gap between buyer and seller. The buyer knows that the warranty would prove very costly to a seller who knows the car is a lemon. Therefore, offering the warranty serves as a credible signal of quality assurance. When the seller is another individual, however, offering a warranty may not be a feasible option. Instead, the buyer can obtain a detailed report of the car's history, such as that offered through the commercial CARFAX service, or have a professional mechanic inspect the vehicle. Like a warranty, a CARFAX report or an inspection can provide information that supports a mutually satisfactory exchange.

Behavioral economists are fond of information provision as a way to nudge people toward making more rational choices. For example, nudges of this kind include mandatory disclosure of the terms of credit card agreements, listing calorie counts on restaurant menus, and labeling tires for fuel efficiency, safety, and durability (Sunstein, 2011).

Framing Effects

Often, superficial differences in the presentation of information can affect judgments or choices even when the different frames are logically equivalent. For example, Tversky and Kahneman (1981) found that, faced with the outbreak of a disease affecting 600 people, most participants preferred sure-thing policy A (saving 200 lives) to risky policy B (a 1/3 chance of saving all 600 lives but a 2/3 chance of saving 0 lives). As shown in Figure 1, relative to the sure-thing policy of saving 200 lives, the risky policy involves a chance between what feels like an only slightly superior outcome (saving 600 lives) and a vastly inferior outcome (saving 0 lives); hence, the sure-thing policy is preferred, and this is risk aversion in the domain of gains. At the same time, most participants also preferred risky policy D (a 1/3 chance of losing 0 lives but a 2/3 chance of losing all 600 lives) to sure-thing policy C (losing 400 lives). As shown in Figure 1, relative to the sure-thing policy of losing 400 lives, the risky policy involves a chance between what feels like a vastly superior outcome (losing 0 lives) and an only slightly inferior outcome (losing 600 lives); hence, the risky policy is preferred, and this is risk seeking in the domain of losses. Even when these policy pairs are presented in a within-subjects research design, merely reframing them in terms of gains (A vs. B) rather than losses (C vs. D) leads many subjects to exhibit *preference reversals*. Because policies A and C are formally equivalent, as are policies B and D, the fact that most subjects prefer A over B and D over C represents a preference reversal, a form of irrational choice (Dawes, 1988). Kahneman and Tversky's (1979) *prospect theory* helps to understand and predict when such reversals will occur. Tversky and Kahneman (1992) further extended this model, which lies at the heart of behavioral economic theory and application.

Kahneman (2011) notes that when people are confronted with their inconsistent preferences for policies A and D, they remain conflicted about which choice they truly prefer. Sometimes, however, one

way of framing information leads to decisions that are demonstrably superior to those made with another frame. In such cases, reframing information can provide a helpful nudge. As an example, consider a slightly modified version of a choice between two vehicle upgrades posed by Larrick and Soll (2008).

Ann and Bob drive the same amount each year. Ann can trade in her car that gets 30 miles per gallon (MPG) for a newer model that gets 40 MPG, or Bob can trade in his truck that gets 10 MPG for one that gets 12 MPG. Which of these upgrades will conserve more gasoline, and therefore also emit less CO_2? Because Ann's prospects look better than Bob's in both absolute terms (improving by 10 rather than 2 MPG) and percentage terms (improving MPG by 33% rather than 20%), most people recommend that Ann make the upgrade. However, this is a costly mistake. It results from what Larrick and Soll called the *MPG illusion*. Simple arithmetic shows that Bob's upgrade would save twice as much gasoline (and CO_2 emissions) as Ann's. Ann's old car requires 100 / 30 = 3.33 gallons per hundred miles (GPHM); her new car would reduce this to 100 / 40 = 2.50 GPHM, for a savings of 0.83 GPHM. Bob's truck requires 100 / 10 = 10.00 GPHM; his new truck would reduce this to 100 / 12 = 8.33 GPHM, for a savings of 1.67 GPHM. Thinking about fuel inefficiency in terms of MPG involves a misleading frame, and GPHM provides a more appropriate frame. The U.S. Environmental Protection Agency began mandating that GPHM be included on the labels for 2013 model year vehicles (EPA, 2011).

Status Quo Bias

When a decision context involves a default option, many people will select this (Kahneman, Knetsch, & Thaler, 1991). The choice may be active, perhaps influenced by an assumption that the default has been wisely selected and can be recommended, or more passive, based on inertia. In either case, the tendency to stick with a default option is one manifestation of the status quo bias in decision making. Because default options can have significant impacts on the ultimate choices that are made, this may provide opportunities to improve welfare by changing defaults that have not been selected as carefully as possible. Enlarging the pool of organ donors offers a compelling example.

In many countries, as well as most U.S. states, the long-standing norm for enrolling organ donors has been to use an opt-in system (i.e., the default is not to be a donor). Through a motor vehicle bureau,

individuals who wish to declare their willingness to serve as organ donors must take action to indicate this preference. They might need to complete, sign, and return a special form. This typically results in low rates of enrollment as organ donors, much lower than the preferences expressed in surveys of pertinent populations (Johnson & Goldstein, 2003). An alternative is to use an opt-out system in which the default is to be a donor and one must take action to remove this designation. Though the official enrollment rate is much higher under an opt-out than an opt-in system, the effective rate of organ donations may not differ much between them. One problem with the opt-out system is that doctors or family members may not honor the implicit, rather than explicit, organ donor status of an individual from whom organs might be harvested. A third system may be the best of all: forced choice. Under this system, when individuals obtain or renew their drivers' licenses they must indicate whether or not they wish to be designated as organ donors. This is arguably the simplest, most direct procedure, as no extra steps are required to opt in or out. With no tacit suggestion of an acceptable choice, the forced-choice system does nothing more or less than making it easier for people to reach decisions consistent with their true preferences. The rate of organ donors is high and individuals' wishes are likely to be honored because they made an affirmative choice. Changing this default can save lives.

Self-Control Problems

People are not always capable of delaying gratification (Mischel, Shoda, & Rodriguez, 1989) and tend to be present-biased with respect to preferences over varying time horizons (Frederick, Loewenstein, & O'Donoghue, 2002). For example, one might prefer one apple today to two apples tomorrow, which implies an unwillingness to wait one day for an extra apple, yet also prefer two apples in 51 days to one apple in 50 days, which implies a willingness to wait one day for an extra apple (Thaler & Shefrin, 1981). This represents a difference in the rate at which the present value of future goods is discounted. In a more systematic study of this effect, Thaler (1981) found that the median amounts participants required in one month, one year, and one decade to be indifferent to receiving $15 today were $20, $50, and $100, respectively. These correspond to average annual discount rates of 345%, 120%, and 19%. The finding of a very high discount rate in the short term that decreases substantially for longer terms is typical

(Loewenstein & Prelec, 1992). The implication of this finding is that people sometimes make choices today that their past selves would have preferred not to make and that their future selves will regret.

A related type of self-control problem involves emotional states. People fluctuate between "hot" and "cool" modes of thought and are much more likely to make rash decisions in a hot, emotionally charged state (Metcalfe, & Mischel, 1999). For example, Ariely and Loewenstein (2006) found that subjects in a state of sexual arousal were more willing to engage in morally questionable behaviors to receive sexual gratification than were subjects in a non-aroused state. To address self-control problems stemming from present bias or a hot emotional state, four kinds of nudges have been developed: self-restriction, commitment contracts, cooling-off periods, and sin taxes.

Thaler and Sunstein (2009) point out that many U.S. states allow people with gambling problems to place themselves on self-exclusion lists that effectively ban them from any gambling facilities within the state. User-defined spending limits on credit cards are another instance of self-restriction. Establishing one's own predefined limits can encourage more responsible spending decisions; a mildly inconvenient override process enables larger purchases.

A more versatile self-control technique, also described by Thaler and Sunstein (2009), is provided by the web site stickK.com in the form of commitment contracts. To create a contract, one sets a goal, specifies the stakes, and names a referee and supporters. Common goals are weight loss, exercise, or smoking cessation, and a specific goal must be operationalized (e.g., losing 10 pounds within two months and keeping it off for a full year). The stakes should be sufficiently motivating (e.g., failure triggers a $500 donation to a charity or, perhaps even better, an "anti-charity" consisting of an organization whose mission one dislikes). The referee will verify goal attainment or failure, and supporters will automatically be notified as well. This approach might serve as a useful adjunct to the work of clinicians or counselors to help motivate and reinforce the hard work required for effective behavior change. Karlan and Appel (2012) discuss the behavioral economic principles at work and relate stories of successful contracts.

A cooling-off period is a self-control technique designed to avoid the problems resulting from making decisions in comparatively hot, irrational states. This can be implemented in either of two ways.

First, a cooling-off period might entail reversibility, such as permitting the cancellation of a door-to-door sales contract for a short period after signing (Sher, 1967). Consumers who make purchases in a hot state would have an opportunity to rethink the decision later, in a cool state. Second, a cooling-off period might entail a waiting period so that individuals cannot complete consequential acts while still in a hot state. For example, a waiting period is often required between the application for a marriage license and the actual marriage, a period of trial separation is often required before a divorce can be finalized, and a waiting period is often required between the purchase and receipt of a gun. In the case of gun purchases, the waiting period not only prevents some people from obtaining guns while in an emotional state (e.g., homicidal or suicidal) that may be short-lived, but also allows dealers to perform background checks to verify customers' eligibility to purchase guns. This is depicted perfectly in an episode from the 9th season of *The Simpsons* titled "The Cartridge Family." Homer Simpson buys a gun to protect his family, but the cashier informs him that he cannot take it home immediately. "Sorry, the law requires a five-day waiting period. We've got to run a background check." Homer replies, "Five days? But I'm mad now!"

A final technique that attempts to deal with self-control problems is a *sin tax* designed to discourage, but not prohibit, an activity. Just as a tax on pollution is intended to incorporate the full costs of an activity that harms others, to *internalize* the polluters' so-called *externalities*, a sin tax on a behavior that carries future health costs (e.g., using alcohol or tobacco products) is intended to bring those costs forward to reduce present consumption. Considerable controversy surrounds the efficacy, efficiency, and fairness of sin taxes (see, e.g., Hoffer, Shughart, & Thomas, 2013; Williams & Christ, 2009), and it is debatable whether they truly qualify as LP because if they achieve their goals they do so in a rather coercive manner. Nonetheless, the expanded use of sin taxes is advocated by some behavioral economists (e.g., O'Donoghue & Rabin, 2006), and potential applications include new or expanded taxes on foods or drinks that are high in calories, fat, or sugar.

Concerns with Libertarian Paternalism and Nudges

We are enthusiastic about many nudges and we expect the LP framework to spur new ideas that will prove worthwhile. At the same time, we are concerned that some nudges may be problematic. In

this section, we describe a dozen potential pitfalls to consider when evaluating nudges.

1. Ubiquitous Irrationality

Policy-makers and others in positions of authority are subject to the same limitations and biases as anyone else. Though one might argue that *experts* can be more rational than laypersons (Blumenthal, 2012), policy is seldom enacted in the form recommended by experts. Passing legislation is an intensely political process that inevitably involves compromises and trade-offs that can alter the original ideas in subtle or profound ways, and the same is true for the implementation of enacted legislation by bureaucrats (Butler, 2012). There are parallels in the private sector that can also undermine the original intentions of those who propose nudges. Will the nudge in practice, rather than in theory, actually improve outcomes?

For example, one much-lamented behavioral tendency is that because of self-control problems, individuals often prefer present consumption to saving for the future. Though it may be possible to promote savings through nudges such as the "Save More Tomorrow" program (Thaler & Bernartzi, 2004) in which employees commit in advance to greater retirement savings when they receive future salary increases, there are at least two challenges. First, there is an optimal level of savings consistent with people's own goals and preferences. Setting aside for the moment the questions of how anyone would ascertain this optimal level if they distrust the revealed preferences tradition (see concern #3, Elusive Preferences, below) and how they would take into account individual differences (see concern #4, Individual Differences, below), it is possible that a nudge would result in too high a level of savings rather than too low a level. To delay gratification is not to postpone it indefinitely or forego it completely. Some people might later regret saving so much, in light of the sacrifices it required making along the way. This would be especially likely for individuals who do not live long enough to retire and would have preferred living a better life rather than passing along a larger inheritance. Second, and more worrying, legislators appear to even more sharply favor present benefits and discount future costs than do individuals. Enduring support among legislators for unsustainable entitlement or benefit programs (e.g., Social Security in the U.S., underfunded public pension systems), for example, should raise at least some doubt about the wisdom of granting them even more influence over individuals' saving behavior.

2. Popular Misconceptions

Sometimes the conventional wisdom is mistaken. What if the goal driving a nudge is based on a widespread misconception and ultimately does more harm than good? It seems almost certain that some of what we think we know today will later turn out to be mistaken, and nudging people based on today's shared myths could prove quite costly. For example, in a provocative *New York Times* article titled "What if it's all been a big fat lie?", Taubes (2002) challenged the contemporary vilification of dietary fat and the recommendation that people obtain a majority of their calories from carbohydrates. Indeed, what if it turns out that such heavy consumption of carbohydrates, especially refined carbohydrates, is linked more strongly than dietary fat to obesity, diabetes, heart disease, and associated health problems? In that case, nudges that steer people away from fats and toward carbohydrates could prove more harmful than beneficial. A less hypothetical example involves a scientific advisory panel's recommendation that the Dietary Guidelines for Americans be updated to remove limits on cholesterol consumption (Skerrett, 2015). Decades of nudging based on misconceptions about the effects of dietary cholesterol on serum cholesterol, and ultimately on heart disease, may have distorted people's dietary choices in ways that reduce the pleasure of eating with no compensating health gains.

The stakes are also high when it comes to what Myers (2011) calls "eco-fads," or trendy ideas that actually do more environmental damage than good. Examples abound, and rather than challenging any of today's sacred cows we will cite as an illustration the push to supplement or replace gasoline with biofuels (e.g., ethanol). Even many of the original proponents, including former Vice President Al Gore, have come to recognize that ethanol production imposes an unfavorable cost-benefit ratio and has counterproductive environmental effects (Porter, 2015; Zeller, 2010).

3. Elusive Preferences

One of the bedrock principles of LP is that individuals designing nudges should strive to help people make choices more consistent with their own *true preferences*. If behavioral economists do not trust the revealed preferences tradition by which actual decisions are thought to reflect one's preferences, how are their more elusive true preferences to be determined? Will nudgers be tempted to substitute their

own preferences when it is unclear what other people truly prefer?

A classic paper by Hayek (1945) highlights the importance of local knowledge, the particular circumstances of time and place that may not be of interest to the abstract theorist but that are crucial for making the practical decisions that drive an economy, promoting prosperity and well-being. Local knowledge is widely dispersed throughout society and it cannot be aggregated effectively by experts or other authorities. The same kind of *knowledge problem* confronts those crafting nudges (Rizzo & Whitman, 2009a). Determining people's true preferences from the outside is remarkably difficult, if in fact it is possible at all, and this poses very challenging problems for the policy-maker interested in applying behavioral economic principles (Hill, 2007).

For example, recall that people sometimes exhibit inconsistent preferences over different time horizons. It is not obvious which of these represents an individual's true preference, or indeed that any such true preference exists. Chronic indulgence clearly can lead to adverse effects, so a uniform preference for short time horizons carries clear costs. However, never indulging can perpetuate a deprived longing and lead to regret about not having lived life to the fullest. Moreover, the distant future is subject to abstract goals that may seem less appealing when informed by more local information that becomes clearer, and more compelling, as the time horizon shrinks and actual opportunities present themselves. Thus, a uniform preference for long time horizons also carries costs.

Behavioral economists tend to assume that the discount rate expressed over the longest time horizon that is measured corresponds to the true preference. One could just as easily select a discount rate expressed over an even longer time horizon (which might require additional measurement) or over a shorter time horizon. Without an objective criterion to establish the most appropriate time frame and discount rate, it becomes impossible, for example, to determine whether people indulge too often or too seldom, whether people save too little or too much for their future, and so forth. Devising nudges that influence saving, eating, or other decisions thought to be subject to self-control problems, for example, requires implicitly or explicitly privileging one discount rate over another. This could lead to worse outcomes than if people's own decisions were respected rather than nudged. The next concern further

magnifies this problem.

4. Individual Differences

Distinct from the problem of whether true preferences exist—and if so, how they can be ascertained—is the fact that individuals have different values and preferences. How can anyone know best what nudges will maximize individuals' utility? This is an even more challenging aspect of the knowledge problem (Rizzo & Whitman, 2009a). A nudge implicitly or explicitly involves a directional goal (e.g., a more healthful diet), but the appropriate direction can differ across individuals with different values and preferences. For example, consider attitudes toward eating. One person might savor each morsel of a mouthwatering dish, implicitly valuing the daily pleasure of enjoying every meal above any associated risk of long-term, adverse health effects. Another person might treat feeding as an obligatory act of biological sustenance riddled with guilt, shame, and fear, implicitly valuing the potentially suboptimal health consequences of each dietary choice above all other considerations. Privileging one set of values over another clearly crosses the line from LP into strict paternalism. It is difficult to conceive of nudges that could help people holding one attitude toward eating without harming people holding the other attitude because their values and preferences conflict so sharply.

Perhaps health outcomes seem more important than pleasure, in which case one might cite the rates of obesity (about 35% of American adults have a body mass index [BMI] above 30; Ogden, Carroll, Kit, & Flegal, 2014) and overweight (nearly another 35% of American adults have a BMI between 25 and 30; Ogden et al., 2014) as support for nudges designed to encourage people to consume fewer calories. Setting aside the question of whether this already crosses the line into strict paternalism, the high rates of obesity and overweight actually provide very weak support for calorie-reducing nudges. It is not clear that the individuals classified as overweight experience worse health outcomes than those in the "normal" range of BMIs (between 18 and 25). A recent meta-analysis found that overweight individuals had lower all-cause mortality rates than normal-weight individuals (Flegal, Kit, Orpana, & Graubard, 2013). It is also not clear that losing weight confers substantial health benefits. Cross-sectional evidence on health outcomes across BMI levels does not speak directly to the possible longitudinal effects of reducing one's

BMI. The rarity with which substantial weight loss is achieved and sustained makes it extremely difficult either to draw firm conclusions about the benefits for those few who accomplish this feat or to recommend this as a realistic health goal for those yet to try. Setting many people up for years of guilt, frustration, and disappointment must be counted as a substantial cost of such a recommendation (see concern #10, Disutility vs. Welfare, below). Perhaps most important, even if it were true that obese and overweight people could improve their health by losing weight, that still leaves about 30% of American adults for whom there is no plausible benefit to reducing caloric intake. Something would be sacrificed for no likely reward. Indeed, for a nontrivial minority of people with a very low body weight or a negative body image based on distorted perceptions of healthy weight, the explicit or implicit message that consuming fewer calories to lose weight is always a good idea can cause serious harm.

This problem is not unique to the realm of eating interventions. There are countless instances in which the inherent directionality of a nudge would preclude the possibility of nudging different people in different directions. For example, the optimal level of safety varies with individual differences in risk-seeking preferences (e.g., some people pay to bungee jump whereas others could not be paid enough to do so) as well as preferences for competing uses of scarce resources (e.g., automobile safety features vs. home security devices), and the optimal amount of delayed gratification varies by age (e.g., it makes much more sense for a 40-year-old to save for the distant future than for an 80-year-old to do so). The "one size fits all" nature of many nudges clashes with the reality, and often the rationality, of substantial individual differences in preferences. Nudging can impose risks of real harm on those whose utility would suffer if such nudges had their intended effect.

5. Sacrificing the Rational

Some people are well-informed and thoughtful, and they make smart choices. Will a nudge sacrifice the interests of rational individuals to those who are less rational? This is more than an idle worry. As noted earlier, Thaler and Sunstein (2003) stated that they share with the more openly paternalist agenda of Camerer et al. (2003) a "common goal of devising policies that help some agents who are making some mistake, while minimizing the costs imposed on others" (p. 176). Our concern is

that "minimizing the costs imposed on others" can reasonably be understood to mean "accepting some harm done to those who do not make this mistake." As Rizzo and Whitman (2009b, pp. 712-713) show, the formulation in Camerer et al. is quite explicit about the acceptability of sacrificing the welfare of the rational to improve the welfare of the irrational. Thaler and Sunstein imply a willingness to make such sacrifices by virtue of the "common goal" noted above.

As an example, Sunstein and Thaler (2003) support the Model Employment Termination Act that replaces "at will" with "for cause" termination. This restricts employers' freedom to terminate employees when they believe this is in the best interest of the business. Like any putative protection of workers, this one comes at a cost: Employers will be more reluctant to hire people if they cannot be laid off during difficult times. Moreover, those who are hired may be offered less attractive compensation packages to offset the added risk that the employer assumes through the more restrictive termination clause. Though this provision can be waived, making it the default enlists the status quo bias in the service of minimizing such waivers. Moreover, according to the Model Act the "for cause" provision can only be waived if the employer agrees to provide a severance payment of one month's salary for every year of employment in the event of termination—an additional provision that makes hiring even less attractive to employers. The Model Act therefore drives a wedge between some employers and employees by prohibiting certain contractual agreements. Surely there are job applicants who would rationally prefer an "at will" termination clause yet not demand a large severance clause in exchange. Allowing such terms of employment could increase these individuals' chances of being hired and afford a more satisfactory compensation package. Likewise, many employers might prefer these terms for rational reasons of their own. Thus, the interests of some rational parties would be sacrificed in the attempt to protect others who might not be capable of evaluating their contractual options rationally or negotiating them effectively.

6. Blunt Instruments

Many nudges are rather blunt instruments with which to combat some individuals' poor choices. Even a well-intentioned nudge might exert a negative net effect on well-being. Perhaps the clearest example of nudges becoming a blunt instrument involves sin taxes, which face several serious challenges.

For starters, they are very difficult to calibrate properly. The fact that some individuals derive utility from the behavior in question reveals that the optimal level of the behavior is nonzero. Setting the sin tax too low will not reduce the target behavior all the way to the optimal level, and setting it too high will reduce it below the optimal level. In addition, the burden of a sin tax tends to fall disproportionately on low-income people irrespective of whether they constitute the individuals whose behavior the policy-makers seek to influence the most (Hoffer et al., 2013). Perhaps most important of all, Marlow and Abdukadirov (2012, p. 14) explain an important unintended consequence of sin taxes:

> The burdens of government policies are not only borne by those citizens—among them those who are obese and those who smoke—who lack sufficient information or self-control. Research demonstrates that tax hikes on alcohol and tobacco serve primarily to decrease consumption by light, not heavy, users. In other words, raising taxes causes those without problems to reduce consumption, leaving those with problems simply to pay higher taxes. There is little reason to suspect anything different when taxes are imposed on individuals believed to eat too much and exercise too little. Taxes steer elastic, not inelastic, consumers away from taxed products, exerting little to no effect on those citizens regulations actually target.

Sin taxes may be the most blunt instruments in the LP toolkit, but the "one size fits all" nature of many other nudges leads to the concerns described earlier involving individual differences in values and preferences as well as sacrificing the interests of the rational to help the less rational.

7. Nudge vs. Shove

Influencing individuals' decisions can be done gently or more coercively. Recall that part of Thaler and Sunstein's (2009) definition of a nudge is that "the intervention must be easy and cheap to avoid." This provides only a fuzzy boundary between mere nudges and a more forceful shove. What prevents someone from disguising a paternalistic shove as a LP nudge?

There are many examples of proposed nudges that arguably cross the line into shoving. If sin taxes actually achieve their desired effects, they do so in coercive ways. Sin taxes cannot be avoided and they may not be cheap (e.g., as of February, 2015, the state of New York charges a tax of $4.35 per pack

of cigarettes, and New York City adds an additional $1.60 tax). To take a very different example from Thaler and Sunstein (2009), a trayless cafeteria can reduce food waste, and many people might prefer to dine without a tray either to help reduce waste or to limit their own portion or meal sizes. Those who prefer to use trays for any number of reasons (e.g., convenience, visual reminder of appropriate variety or portions) are out of luck. Whereas posting a sign discouraging the use of trays seems like a nudge, the outright removal of trays does not. Thaler and Sunstein also support the use of "make-believe speed bumps," which are painted onto a road to look like substantial 3-D obstacles. Here, too, if they are effective—by tricking drivers into believing they must slow down—they cannot be avoided, and this does not preserve free choice. As discussed earlier, it is hard to view the Model Employment Termination Act as a genuine nudge because there is no easy and cheap way to avoid the wedge that the Model Act would drive between many potential employees and employers. Employers are either forced to include a "for cause" termination clause or to offer a large severance payment in exchange for an "at will" clause.

8. Slippery Slope

What begins as a nudge might gain momentum and lead to a coercive shove. Does LP breed tolerance for more strictly paternalistic policies? Rizzo and Whitman (2009b) make a compelling argument that accepting the LP framework encourages policy to slide down this slippery slope. The existence of a gradient of policy options makes it highly likely that an initially modest intervention will be followed by more restrictive, coercive measures. One policy-maker might have no intention of pushing further, but another one at a future time might. Initial justifications can be blurred, simplified, or replaced by later rationales that support more paternalistic interventions, and instituting one policy sets a precedent for further intervention. If the initial intervention is successful, it can be argued that this is but a step in the right direction. If the initial intervention is unsuccessful, it can be argued that more drastic measures are necessary. It is considerably less likely that an intervention will be abandoned, even in the face of objective failure, because doing so requires an admission of failure.

Policy usually only moves in one direction, ratcheting up restrictions in the name of protecting consumers, safeguarding workers, or promoting the public interest in some other way. This has already

happened in countless instances. For example, the anti-smoking campaign began with the provision of information about health risks, arguably a reasonable nudge. Later, social pressure was marshaled to discourage smoking, and this pressure was not always easy or cheap to avoid (see concern #10, Disutility vs. Welfare, below). Smoking was then banned in public spaces, unambiguously completing the transformation from a nudge to a shove. Whether smoking bans are wise policy is not the issue at hand. We cite this simply as a well-known example of how a nudge slid down the slippery slope to a shove. Similar slides from nutritional information and advice, through social pressures on dietary choices, to bans on certain foods and drinks are well underway.

9. Disciplinary Forces

Individuals' poor choices have personal consequences, and the profit-and-loss system of a competitive market helps to eliminate bad ideas. Are nudges enacted by public institutions subject to effective disciplinary forces? Thaler and Sunstein (2009) do not treat the distinction between private and public decision-making as very important. We believe this is a serious mistake. Public choice theory (Buchanan & Tullock, 1962; Butler, 2012; Simmons, 2011) is founded on the notion that everyone responds to incentives and explores the incentive structures facing voters, legislators, bureaucrats, and others with a stake in government actions. Clearly, becoming a public servant does not transform someone into an angel, and there are any number of phenomena that illustrate the conflicts of interest that plague both legislators and bureaucrats. Regulatory agencies often serve the interests of the institutions they are designed to regulate (Stigler, 1971), and even if this is not the case initially the *revolving door* between public service and private industry promotes such *regulatory capture*. All-too-cozy relationships between policy-makers and private industry can lead to bailouts, corporate welfare, crony capitalism, public-private partnerships, and other euphemisms for favorable treatment according to the politically potent, but socially destructive, formula of concentrated benefits and dispersed costs. That members of both the Occupy Wall Street and Tea Party movements were both outraged by these forms of political favoritism underscores how gravely disappointed citizens of all ideological stripes can be with the loyalties of public servants.

Just as there are situations in which markets can fail, there are situations in which government policy can fail, too. Because markets require voluntary exchanges, participants can opt out. The more competitive a market, the fewer people will be affected by bad ideas because they have other choices. The disciplinary forces of a profit-and-loss environment tend to eliminate bad ideas rather quickly. In contrast, public policy creates regulatory regimes that affect larger numbers of people who cannot opt out. Moreover, ineffective or wasteful public policies can continue indefinitely because the disciplinary forces are weak, at best. Citizens cast votes for candidates who espouse bundles of positions, making it impossible to discern how many voters prefer which positions, or how strongly. Whereas democratic voting is an indirect and rather ineffectual way to influence policy, consumer voting (i.e., with dollars) more clearly expresses preferences regarding well-defined options and influences the behavior of private firms. Similarly, whereas underfunded benefit programs in the private sphere are cause for legal action, unsustainable entitlement and benefit programs in the public sphere continue to thrive and expand.

In 2010, the United Kingdom established a Behavioural Insights Team, known unofficially as the "Nudge Unit," within the Cabinet. In 2013, this was modified to become Behavioural Insights Limited, a form of public-private partnership that offers little reassurance that the nudges they develop will be subject to the same disciplinary forces as those of truly private enterprises (i.e., for-profit businesses or not-for-profit charitable organizations). U.S. President Barack Obama has expressed interest in using behavioral insights to improve policy throughout the federal government, and his appointment of Cass Sunstein—co-author, with Richard Thaler, of the paper that introduced their LP framework and, later, the book that popularized nudges—as the Administrator of the White House Office of Information and Regulatory Affairs suggests that this interest is genuine. Though we, too, wish that social and behavioral science research would be consulted when it has pertinent policy implications, we believe that nudges proposed by government entities should be scrutinized especially carefully lest they merely provide new tools for the benefit of legislators and bureaucrats that will be used at the expense of citizens.

10. Disutility vs. Welfare

Many nudges are designed to change social norms, and thereby to enlist negative emotions such

as guilt or shame in shaping people's behavior. These experiences can be more difficult to quantify than welfare gains. How is the disutility of negative emotions weighed against gains in welfare? Might a nudge levy an *emotional tax* on behavior that yields little or no revenue? Perhaps the clearest illustration of this concern involves social pressure to consume or avoid various kinds of foods and drinks that are allegedly "good" or "bad" for one's health and well-being. For example, posting calorie counts on menus (Thaler & Sunstein, 2009) is a nudge that appears to have little or no effect with respect to the stated goal of encouraging people to consume fewer calories (e.g., Cohn, Larson, Araujo, Sawyer, & Williams, 2012; Elbel, Gyamfi, & Kersh, 2011; Elbel, Kersh, Brescoll, & Dixon, 2009; Finkelstein, Strombot, Chan, & Krieger, 2011). However, confronting every patron of a restaurant chain with this information can elicit or accentuate negative emotions. Though it is difficult to quantify the utility costs of an emotional tax, these should be weighed against the potential welfare benefits.

11. Liberty vs. Welfare

Liberty is valuable both as a means and as an end. Despite the stated LP goal of preserving free choice, many nudges involve some loss of liberty. Like negative emotions, losses of liberty can be harder to quantify than welfare gains. How is a loss of liberty weighed against gains in welfare? Many examples of nudges that entail some loss of liberty have already been described, including trayless cafeterias, make-believe speed bumps, the Model Employment Termination Act, and cooling-off periods that require waiting. Mitchell (2005) argues that it is not self-evident why promoting welfare, rather than liberty, should be the primary goal within the LP framework. Wherever one stands on that issue, the evaluation of a proposed nudge should take some account of any liberty to be traded for welfare.

12. Critical Thinking as a Moral Hazard Problem

By trying to prevent bad decisions or mitigate their consequences, might nudging reduce our opportunities and incentives to develop cognitive skills, think carefully, and learn from mistakes? Just as clinical work requires considerable effort on the part of clients to adopt more constructive habits of thought and behavior, making smart choices requires critical thinking skills. In a world of widespread nudges, will these skills atrophy?

Economists speak of a problem known as *moral hazard*: People take fewer precautions, and assume greater risks, when they are shielded from the costs associated with their risky behavior. For example, subsidized flood insurance enables people to build (or rebuild) homes in areas prone to flooding that would be difficult to insure at full cost, which increases the subsequent loss of life and property damage when floods later occur. Similarly, the notion that some large financial institutions are *too big to fail* enables them to make especially risky investments, secure in the knowledge that they have implicit guarantees of government bailouts if things go wrong—yet able to profit handsomely when such risks pay off. In these and countless other instances, insulating people or institutions from harm resulting from their own decisions can worsen outcomes.

The literature on psychological resilience and posttraumatic growth highlights the beneficial role that negative experiences, even traumatic ones, can play in personal development. Tedeschi and Calhoun (2004, p. 1) suggest that grappling with crises can lead to "an increased appreciation for life in general, more meaningful interpersonal relationships, an increased sense of personal strength, changed priorities, and a richer existential and spiritual life." Klick and Mitchell (2006) make a compelling case that something similar applies in the realm of judgment and decision making because people learn by doing. Efforts to shield people from the costs of poor choices might lead to the underdevelopment of cognitive skills, reduced cognitive effort, and diminished learning from mistakes. Experiences of failure or loss are painful, yet arguably necessary to train an autonomous adult capable of rational thought. We reserve this concern with LP and nudges for last because it does not necessarily apply with much greater force to some proposed nudges than others. Rather, it is a broader concern with the paternalistic aspect of attempts to protect people from the consequences of irrational choices. Even otherwise beneficial nudges might discourage the development or use of judgment and decision making skills.

Conclusion

Despite the many concerns we have expressed with LP and nudges, we want to reiterate our belief that this approach to policy has considerable merit and that many nudges are likely to improve welfare while imposing minimal, if any, costs. For example, we see little or no reason to take issue with

listing GPHM in addition to—or perhaps even better, instead of—MPG for new cars, changing the organ donation system from opt-in to forced-choice, or allowing employees to enroll in a Save More Tomorrow program, to name just a few nudges that we can support. One entertaining and welcome nudge is the aptly named *urinal fly*. Placing a sticker resembling an insect in a urinal gives men something to aim at, and this can greatly reduce spillage in men's rooms. We are especially excited by the relatively untapped potential of commitment contracts to facilitate behavior change, and we encourage psychologists to explore ways that this tool might be of personal or professional use.

While we are enthusiastic about the role that behavioral economics can play in devising useful nudges, and one goal of this paper is to bring the LP approach to the attention of a wider audience, another goal is to inject a bit more humility into the application of behavioral economic insights. Hayek (1988, p. 76) believed that "the curious task of economics is to demonstrate to men how little they really know about what they imagine they can design," and we hope that those seeking to apply behavioral economic principles to improve social welfare will take this message to heart. LP holds great promise in the development of useful nudges, but this might be undermined or derailed if the *libertarian* component is downplayed and the *paternalism* component is pursued too aggressively. Thaler and Sunstein (2009), the creators of LP, sought to establish a sturdy foundation of respect for liberty:

> To borrow a phrase from the late Milton Friedman, libertarian paternalists urge that people should be "free to choose." … When we use the term *libertarian* to modify the word *paternalism*, we simply mean liberty-preserving. And when we say liberty-preserving, we really mean it. Libertarian paternalists want to make it easy for people to go their own way; they do not want to burden those who want to exercise their freedom. (p. 5)

As detailed above, however, Thaler and Sunstein (2009) proceed to endorse many nudges that betray their stated commitment to liberty in favor of paternalism. Whether this may be a cause or an effect of his time directing a federal agency, Sunstein has written in strong support not only of LP, but also of paternalism more broadly. Sunstein (2014) considers many of the concerns that we reviewed and makes important distinctions between paternalism concerned with means vs. ends (the former assists

people in achieving their own goals, the latter imposes its own goals) as well as soft vs. hard forms of paternalism (the former respects individual liberty, the latter does not). Nudging is characterized as soft, means-oriented paternalism, which Sunstein recommends over other kinds. Sunstein's support for paternalism is hardly limited to nudges, however. For example, he repeatedly cites mandated improvements in fuel or energy efficiency as desirable policy without once mentioning the trade-offs that these hard forms of ends-oriented paternalism impose on consumers. Requiring greater fuel efficiency has led to smaller, lighter vehicles than consumers would otherwise prefer, resulting in approximately 2,000 added traffic fatalities in the U.S. each year (Evans, 2004; National Research Council, 2001). This is only one cost that goes unmentioned as Sunstein elevates fuel and energy efficiency above all other considerations that consumers might prefer to balance in their own ways. Though Sunstein's (2014) explicit message endorses soft, means-oriented paternalism such as nudges, his implicit message supports many instances of hard or ends-oriented paternalism as well.

Among scholars dealing with the prescriptive implications of behavioral economic insights, Thaler and Sunstein (2008) may be among the least paternalistically inclined. They attempt to steer individuals toward nudges that fall squarely within the realm of LP. Carefully considering the concerns we expressed—ubiquitous irrationality, popular misconceptions, elusive preferences, individual differences, sacrificing the rational, blunt instruments, nudge vs. shove, slippery slope, disciplinary forces, disutility vs. welfare, liberty vs. welfare, and critical thinking as a moral hazard problem—is intended to provide a check against the risk of a creeping paternalism overshadowing the prudent humility in the libertarian foundation of LP.

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Table 1. *Summary and Illustrations of Behavioral Economic Insights and Associated Nudges*

Behavioral Economic Insight	Nudge
Information problems – incomplete or asymmetric information can affect choice (e.g., "market for lemons" in used cars)	Provide additional information or credible signal (e.g., offer warranties on used cars)
Framing effects – formally identifical ways of presenting information can influence choice (e.g., format for fuel efficiency data)	Reframe information (e.g., list gallons per hundred miles [GPHM] rather than miles per gallon [MPG] for new cars)
Status quo bias – default can influence choice (e.g., opt-in system for organ donation)	Change default option (e.g., forced choice rather than opt-in system for organ donation)
Self-control problems – inability to delay gratification, influence of "hot" state on choice (e.g., compulsive gambling, difficulty losing weight, impulsive spending or other actions)	Self-restriction (e.g., self-ban from casinos, self-imposed credit limit) Commitment contract (e.g., operationalize weight loss goal, method of verification, and consequences for failure to attain goal; share results) Cooling-off period (e.g., reversible contract for door-to-door sales; waiting period for marriage, divorce, or gun purchase) Sin tax (e.g., tax levied on "junk" food)

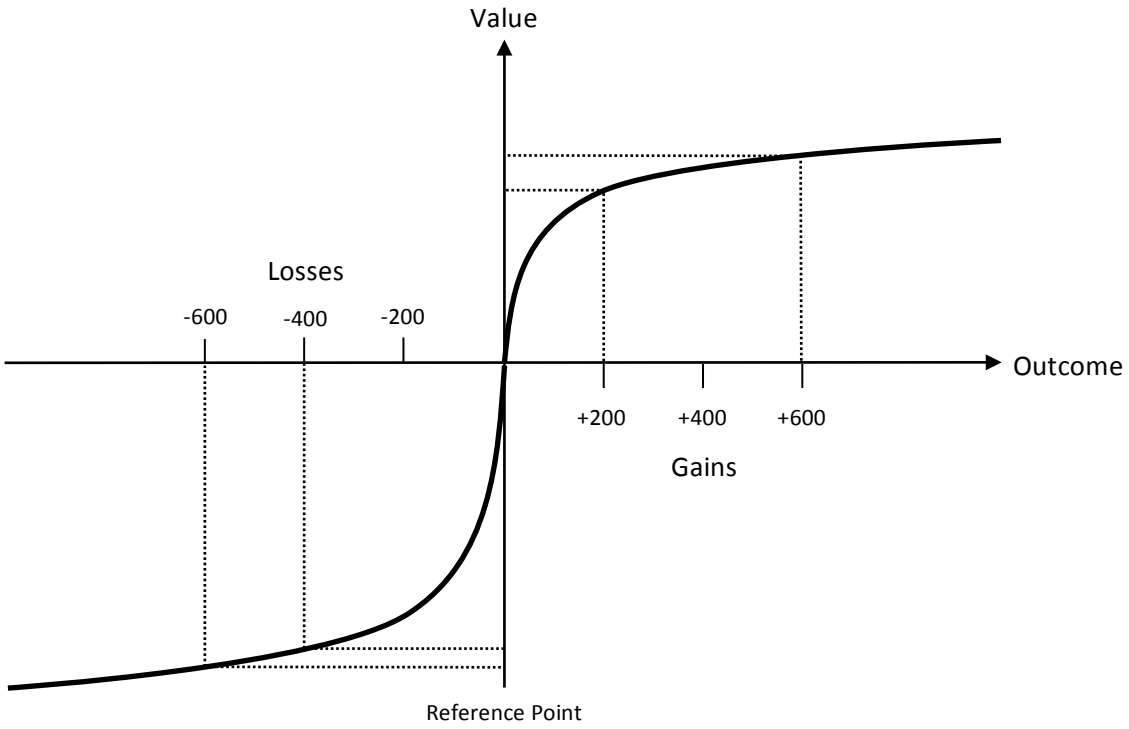

Figure 1. Graphical representation of prospect theory, showing the relationship between objective outcomes (the *x* axis) and subjective values (the *y* axis). Relative to a reference point at the center of the graph, gains appear toward the right and losses toward the left. There is diminishing sensitivity to increasing gains or losses. The negative value of a loss is larger than the positive value of a gain of equivalent magnitude.