Hedonic Adaptation and the Role of Decision and Experience Utility in Public Policy

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Paper prepared for Conference on Happiness, and Public Economics
London, September 22 and 23, 2006
I cannot now say whether the man of that time, who I am trying to conjure up here, thought himself as happy as those others did, for now that this experience of mine has made me expect a much fuller and more fulfilled significance in every emotion, I find it almost impossible to assess his happiness in retrospect. But I can say with certainty that I felt myself by no means unhappy at the time, for my wishes almost never went unsatisfied and nothing I required of life was withheld.
Stefan Zweig, Fantastic Night

I. Introduction: A Welfare Criterion for Public Policy

Economists are becoming increasingly interventionist, stimulated in part by advances in behavioral economics, which has identified a variety of situations in which people do not appear to do what's best for themselves. In many cases, these interventions involve encouraging people to do things that they wouldn't do on their own accord. For example, the large number of new interventions intended to encourage people to save more money – e.g., through the use of different default put-asides -- assume that people don't naturally save as much money as they should. Likewise, attempts by economists and other social scientists to provide people with incentives to take their medications (Volpp et al., 2005), lose weight (Jeffrey, Thompson & Wing, 1978; Jeffrey et al., 1983), stop taking addictive drugs such as heroin, cocaine and cigarettes (e.g., Higgins et al., 2000; Heil et al., 2004), and get better grades (Angrist, Lang & Oreopoulos, 2006) all assume these behavioral changes are desirable for people who wouldn't spontaneously enact them if left to their own devices.

Clearly, there is a new openness to paternalism, among at least a growing segment of economists. However, wary of abridgments to individual liberties, several proponents of what could be called the "new interventionism" have advanced approaches to paternalism that are designed to obtain the benefits of paternalism while doing as little damage as possible to individual initiative and self-determination.

Although economists are increasingly embracing paternalistic policies, and attempting to use insights from psychology to implement them most effectively, economics currently lacks a useful criterion by which to judge such efforts. More generally, economics currently lacks a welfare criterion that can be used to guide government taxation and spending policies. How much should be spent on heart transplants versus dental caps? How much should people owning
houses near to a proposed new airport runway be compensated? What is the appropriate balance between inflation and unemployment? In the absence of any agreed upon welfare criterion, these types of questions are left purely to the exigencies of a political process that is rife with biases and inefficiencies.

In this paper, we provide a perspective on the pros of cons of the two most commonly advocated welfare criteria, the conventional one used by economists that is based on ordinal utility and choice, and another, based on Kahneman's notion of "experience utility”–a revival of the original, hedonic, conception of utility as it was first proposed by Bentham.

As we discuss in section II, we share Kahneman’s misgivings about notions of welfare that uncritically accept what people choose (or would choose) as the normative standard for public policy. Standard notions of welfare, based on individual choice, are clearly inadequate because they assume by definition that any effort to prevent giving people what they would naturally obtain for themselves (or to encourage people to take what they wouldn't naturally obtain for themselves) would detract from welfare. Contrary to this assumption, people’s decisions frequently fail to maximize their welfare, because their decisions are based on mispredictions of the consequences of behavior or on impulsive, short-sighted, choices. Clearly, the notion of welfare guiding public policy should not be based on such flawed “preferences.”

Although basing public policy on experience utility avoids this and other problems, experience utility has its own problems as a welfare criterion for public policy. Chief among these, as we discuss in detail in Section III, is its failure to sufficiently value negative or positive outcomes that people emotionally adapt to. It is well documented that people adapt to, and exhibit near-normal levels of happiness following, outcomes such as paraplegia that most people would agree are highly undesirable. A welfare criterion based on experience utility would run the risk of failing to treat an increase in such outcomes as a decline in welfare–e.g., of treating an increase in cases of paraplegia as an event that had little impact on welfare.

It could, of course, be argued that the problem is not with the notion of Benthamite utility itself, but with our means of measuring it–e.g., that, if measured appropriately, paraplegia would be revealed, in fact, to decrease happiness substantially. Indeed, as we discuss in section IV, there are serious problems associated with existing measures of happiness. However, we do not believe that an improved version of Benthamite utility could avoid the pitfalls highlighted by the problem of adaptation. Measurement problems are not the fundamental barrier to using
experience utility as a welfare criterion. Rather, as we argue in section V, the main problem with experience utility is its failure to incorporate non-hedonic aspects of experience, such as meaning and capabilities (even if such capabilities aren't used) that are important to people but have little impact on their happiness.

Given the limitations of both approaches, is there any hope for coming up with a normatively compelling welfare criterion? The proper role of decision utility and experience utility in public policy is not only an academic issue, but is fundamental to many important policies. For example, many countries place a large priority on assessing how their policies influence national income accounting measures such as GDP. The implicit (and explicit when it is discussed) rationale for using such measures is that increasing financial resources gives people greater opportunities to satisfy their preferences, whatever they may be. If one assumes that enabling people to satisfy their own preferences is the appropriate goal of public policy (and if one eschews making judgments about distributional issues), then maximizing income or wealth makes perfect sense.

However, many prominent psychologists and economists (e.g., Easterlin, 1974; Layard, 2005; Diener & Biswas-Diener, 2002) have pointed out that the correlation between wealth and happiness is quite small. Based on these findings, and on research that identifies many factors, such as unemployment, that do have a major impact on happiness, several prominent economists have argued persuasively for a larger role of well-being measures in policy-making. Layard (2005), for example, argues that maximizing happiness rather than income should be the goal of government policy. Kahneman and Krueger (2006) likewise advocated the creation of an index of national well-being to complement traditional measures of national income, arguing that the act of quantifying such an index will encourage policy members to pursue the goal of promoting national well-being. Indeed, one country, Bhutan, has developed an index of gross national happiness (GNH, as opposed to GNP) with the goal of putting "the well being of individuals on the top of the national development agenda" (see www.grossinternationalhappiness.org). Others have argued that happiness data--i.e., experience utility--could be used to guide government policy in identifying the appropriate societal preferences for tradeoffs between, for example, inflation and unemployment (Di Tell et al., 2001, 2003) or between money and airport noise (van Praag & Baarsma, 2005).
Perhaps the domain in which there is the most pressing need for a welfare criterion is in health care. The widespread perception that the United States spends too much on health care has led to myriad calls for restricting health care spending. However, there is little consensus about what cuts should be made, and there are many politically influential groups, such as physician associations and insurance companies, with economic interests that are not perfectly in line with those of the general public. If some form of rationing were to be implemented, what form would it take? All attempts to make such decisions in a manner that is protected from the exigencies of the political process involve some form of measurement of the desirability of different medical states. But many different measures are possible, some of which implicitly rely on notions of decision utility and others which rely on notions of experience utility.

For example, in Great Britain, decisions about whether to pay for new pharmaceutical products are based on cost-effectiveness analyses (Walley, Mrazek, & Mossialos, 2005), which are in turn informed by measures of decision utility, in which members of the general public indicate how much money they would give up to rid themselves of the health conditions alleviated by the drugs in question (Ubel, 2000). Such decision utility measures will be flawed, if, as we have argued (Ubel, Loewenstein, & Jepson, 2003), they are influenced by mispredictions about what life would be like with the hypothetical health conditions being evaluated, or by decision heuristics that, for example, place an unwarranted premium on saving lives versus bringing smaller but more widely distributed benefits (Ubel et al., 1996).

An alternative approach would entail allocating scarce health dollars on the basis of hedonic, rather than decision-based, measures—e.g., asking people with different conditions to rate their own happiness. However, as already alluded to, such measures would confront their own set of problems, chief among which are those associated with hedonic adaptation. If health dollars were allocated based on hedonic measures, then policy-makers would have difficulty justifying the cost-effectiveness of even inexpensive medicines or treatments which treat conditions, such as kidney failure and paraplegia, that have very little impact on people’s long-term subjective well-being.

In section VI, we argue that no simple criterion based on either concept can surmount these problems. Instead, evaluations of welfare will inevitably have to be informed by a combination of both approaches, patched together in a fashion that will depend on the specific context.
II. The Rationale for a Benthamite Conception of Welfare

For at least a century after Jeremy Bentham published the *Principles of Morals and Legislation*, many philosophers and economists held the opinion that the goal of public policy should be to maximize people’s utility, which was taken to be commensurate with happiness. Bentham envisioned a day when social scientists could measure people’s moment to moment pleasure and pain, in order to assess the impact, and hence desirability of alternative public policies. However, the Benthamite notion of utility lost popularity in economics in the early 20th century, due in part to the inability to measure happiness and in part to a lack of faith that people actually were maximizing happiness (Lewin, 1996; Loewenstein, 1992; Bruni & Sugden, forthcoming). Replacing it was the concept of ordinal utility--utility as an ordinal index of preferences--that could, Samuelson subsequently argued, be exposed by examining the preferences revealed by an individual's choices.

Its transformation into an index of preference stripped the utility concept of plausibly invalid psychology–most importantly the questionable assumption that human behavior can be understood as an effort to maximize happiness--but it weakened the ability of economists to evaluate the welfare of alternative policies (see, e.g., Little, 1950) in a number of ways.

First, whereas Bentham's cardinal utility offered a way, at least in principle, to judge the strength of preferences–and hence the value of a shift from one regime to another–ordinal utility only allowed for a ranking of different situations at the individual level (although, as von Neumann and Morgenstern pointed out in 1944, this problem can be circumvented, in part, by examining choice under conditions of risk).

Second, when it comes to issues of equity, ordinal utility does not permit, even in principle, an evaluation of the relative desirability of different distributions of resources between persons, an issue of growing importance in an age of increasing income inequality. The prospect of maximizing societal utility, envisioned by Bentham, was replaced with the much weaker Pareto criterion, which judged one situation superior to another if some individual moved to a more highly ranked utility state while others were not negatively affected, a rather uninteresting situation that is unlikely to be confronted by an actual society. Although interpersonal comparisons of Benthamite utility were admittedly difficult, if not impossible (though, see Lerner, 1944), the Benthamite utility concept could at least in principle be applied to judging the
impact of income inequality on total utility. Notions of welfare based on ordinal utility were, in
closest, notably silent on issues of distribution.

Third, preferences often change over time, due to, for example, prior consumption or
maturation, and people often take actions to alter their own preferences. A concept of welfare
based on preference has difficulty evaluating welfare in a situation of changing preferences,
without privileging some preferences over others (although, see Bernheim & Rangel, 2006, for
an attempt to do just that).

With the entry of behavioral economics onto the stage of economics, moreover, new
problems with conceptions of welfare based on ordinal utility and revealed preference became
apparent, and along with them, new advantages of the earlier utility concept. Concepts of
welfare based on ordinal utility assume, at a minimum, that an individual is better off if his or her
preferences are satisfied. However, behavioral economists have identified myriad ways in which
people take actions that are patently contrary to their own interests. For example, in the 'heat of
the moment', people often take actions that they would not have intended to take and ones that
they soon come to regret (Loewenstein, 2006). Other research showed that people systematically
mispredict what makes them happy, raising the question of whether choices might be based on
misinformation and distorted by systematic biases (Gilbert & Wilson, 2000; Loewenstein,
O'Donoghue & Rabin, 2003). Indeed, by identifying phenomena such as framing effects,
preference reversals, loss aversion and non-linear probability weighting, much if not most of the
field of behavioral decision research could be viewed as oriented toward identifying cognitive
and emotional barriers to the pursuit of genuine self-interest. With a concept of ordinal utility
that equates welfare with choice, actions that are taken in the heat of the moment, based on
mispredictions of hedonic consequences, or on any other kind of mistake are interpreted, by
definition, as welfare enhancing.

Based on many of these considerations, Daniel Kahneman, in an influential line of
work (Kahneman, 1999, 2000a, 2000b), has argued for a "Return to Bentham," as he and
his coauthors titled a seminal paper on the topic (Kahneman, Wakker & Sarin, 1997).
Kahneman advocates formulating public policy on the basis of Benthamite utility, which
he refers to as "experience utility" rather than on of the basis of preference-based utility,
which he dubs "decision utility."
Such a move could, at least in principle, solve many of the problems just enumerated. For example, a notion of welfare based on experience utility could avoid the problems caused by situations in which people choose what is worse for themselves by indicating a decline of utility when people, for whatever reason, choose actions that make them worse off. A notion of welfare based on experience utility could also avoid problems caused by changing preferences by providing an index of well-being that permits comparisons across different preference orderings—e.g., that evaluates an addict as being worse off than a non-addict because addicts have preferences that make them less happy than those who are not addicted.

Along with these diverse justifications for the desirability of Benthamite utility came new hope that some of the limitations of the concept that had led to its abandonment a century earlier, might be addressed. In addition to advocating a return to Bentham, Kahneman also began wide-ranging research on hedonics in an attempt to develop a concept of utility that could provide a hedonic alternative to choice-based utility—an alternative which he saw as playing a central role in public policy. Stimulated, in part, by Kahneman's forays into the topic, a new legion of economists began conducting research on happiness; other economists, who were already studying happiness, gained new prominence; and increasing numbers of survey researchers began to include measures of happiness in the surveys they were collecting. This research has yielded a number of interesting findings dealing with the impact (and in some cases lack of impact) of various factors on happiness (see, e.g., Layard, 2005; Oswald, Clark, Frijters & Shields, 2006; Diener, 1984; Diener & Diener, 2002; Frey & Stutzer, 2002a; Smith, Langa, Kabeto & Ubel, 2006).

**III. Flaws of experience utility revealed by emotional adaptation**

Despite these manifest advantages of a concept of welfare based on experience, instead of decision, utility, there are countervailing reasons for caution when it comes to a revival of Benthamite utility. Some of the most serious problems associated with a welfare criterion based on experience utility are highlighted by a consideration of issues raised by the phenomenon of hedonic adaptation.

One of the most ubiquitous findings in research on happiness is that seemingly major life events often have a small or even indiscernible impact on measured happiness (e.g., Frederick & Loewenstein, 1999), and much smaller impact than most people anticipate that they would have.
Adaptation Policy 8_28_06

(Loewenstein & Schkade, 1999; Gilbert, Gill & Wilson, 2002; Gilbert et al., 1998). For example, numerous studies have found that people with chronic health conditions as severe as kidney failure or even quadriplegia report moods, and quality of life, that are very close to those reported by healthy persons, and that are much better than healthy people believe their moods and quality of life would be if they had those conditions (Brickman, Coates & Janoff-Bulman, 1978; Riis et al., 2005; Ubel et al., 2005). Although adaptation to circumstances is neither universal nor complete (Lucas, 2005), it is a strong enough phenomenon that most circumstances have a much smaller influence on well-being than do factors such as genetic inheritance (Tellegen et al., 1988).

These findings raise serious questions about basing policy solely on experience utility, as it is currently measured. Most people agree that kidney failure and quadriplegia are highly undesirable outcomes, and that life with the use of one's kidneys or limbs is superior to life without their use, yet measures of welfare based on experience utility might give very little negative value to these patently undesirable conditions. If we based public policy on these findings, then we might avoid spending scarce public resources on measures to prevent adversities like leg amputations, spinal cord injuries, and kidney failure which most people would be very averse to experiencing but which lead, for most people, to significant emotional adaptation.

Not only do such policy implications conflict with common intuitions and values, but people experiencing these conditions, despite reporting levels of mood and well-being that are similar to healthy persons, also report a willingness to pay large sums of money, or to make costly tradeoffs, to restore their lost function. In our own research examining different measures of utility for different medical conditions, we have repeatedly found striking divergences between measures based on experience utility and those based on decision utility. For example, replicating the common finding that dates back to the seminal work of Brickman and Janoff-Bulman (1978), we have found that healthy people predict they would be less happy if they had various chronic health conditions than people who actually have these conditions report being. However, we have also uncovered a pattern that should cast some doubt on this finding: Although people with chronic conditions report similar levels of happiness to those in good health, when asked to estimate what their happiness would be if they did not have their health condition, patients tend to predict that they would be much happier than they are.
Consider, for example, a study in which we elicited current levels of happiness from people with colostomies (pouches protruding from the abdomen to collect bodily waste) and those whose colostomies had been reversed—i.e., who used to have colostomies but were able to have their bowels reconnected. The self-reported happiness of the two groups was nearly identical. However, we also asked each group to tell us how happy they had been in the past. Those with colostomies, thinking back to a time when they did not have a colostomy, “remembered” being significantly happier than they were currently, whereas those with reversed colostomies, thinking back to a time when they did have a colostomy, “remembered” being significantly less happy. Thus, even though the happiness of people with colostomies is similar to that of people whose colostomies have been reversed, neither group believes this to be true (Smith et al., in press). We have found similar patterns with dialysis patients (Riis et al., 2005), and with happiness across age groups (Lacey, Smith, & Ubel, 2006). Indeed, quite strikingly, the utility difference that healthy people anticipate experiencing if they become sick is often similar to the utility difference that sick people anticipate experiencing if they become healthy!

One interpretation of this finding is that both groups—healthy people and sick people—rely on intuitive theories to predict their happiness in the other state (Ross, 1989), and that such theories assume that chronic illness makes one unhappy. But another plausible interpretation is that both groups are attempting to express the same thing: chronic illness is undesirable. And, if one treats the anticipated experience utility difference between current health and one's health in the other state as an index of preference to not have the condition, healthy persons and those with chronic health conditions are providing very similar index numbers.

Other research we have conducted points to a similar conclusion. For example, we also elicited preferences for reversal of colostomy from colostomy patients using a decision-based method called the ‘time tradeoff’. We asked the colostomy patients to imagine they had 10 years (i.e. 120 months) to live, and then asked them how much of that time they would give up to live the remainder of their lives with normal bowel function (i.e. no colostomy). The median response was 18 months. Despite experiencing moods similar to people without colostomies, they were willing to give up 15% of their life span to rid themselves of a colostomy (Smith et al., in press). Studies of dialysis patients have demonstrated that many are willing to give up over half their remaining years to have normal kidney function again (Torrance, 1976). All of these
patients report being perfectly happy, but are willing to make enormous sacrifices to return to normal health.

Such preferences could, of course, be misinformed. Perhaps they are based on an erroneous belief on the part of patients that they would be much happier than they would actually be, were they to return to normal health. For example, below-the-knee leg amputations—a condition we have studied—has only limited effects on people’s moment-to-moment moods. But even people who have had such amputations may not recognize this fact. If people’s decision utility for such an amputation merely reflects their misperception of what their moods would be like if they underwent such an amputation, then it could be argued that their decision utility should not play a role in policy making. Instead, policies should be based on how such amputations affect people’s experience.

But imagine for a moment that you are about to receive a below the knee amputation. Imagine also, for the purposes of argument, that you are convinced that such an amputation will have only negligible effects on your moment-to-moment mood. How much money would you pay to avoid the amputation? If you are like us, you will pay a large amount. Even though emotions adapt, and people can get used to bad circumstances like amputations, that doesn’t mean that lower legs have little intrinsic value. When making decisions, it seems, people care about aspects of their life that are not captured by current measures of experience utility.

IV. What about better measures of experience utility?

One possible defense for the use of experience utility, at least in principle, if not based on current practice, is that current measures of experience utility are flawed. Perhaps, for example, people with paraplegia really are miserable, but this misery is not manifested in measures of experience utility, due to problems of measurement. If so, whereas existing measures may not provide a suitable basis of public policy, improved versions that are not subject to these flaws might well do so.

One problem with current measures might be that people with disabilities are motivated to provide exaggerated reports of their own well-being. When asked how their illness influences their happiness, they may want to put up a good front, downplaying any negative impact of their illness. However, we tested for such a problem and were unable to find it. We conducted a telephone survey in which we called people with Parkinson’s disease and asked
them to report on their overall life satisfaction. We randomized participants so that half of them were told that they were receiving a call from the Movement Disorders Clinic where they received care. The other half were told that they were simply receiving a call from researchers at a local University, who were calling people in the area to find out about their life satisfaction (Smith et al., 2006). We wondered whether patients, when surveyed in the context of a health-related study, would exaggerate their overall well-being. But we found no difference in the overall life satisfaction of these two groups. Even when patients are unaware that they are being surveyed to find out about the effects of their illness on their well-being, they report high levels of life satisfaction. viii

A second potential problem with some measures of well-being is that they are unduly susceptible to fluctuations of moment-to-moment mood. Although many measures of well-being are intended to elicit global assessments of happiness using questions such as “In general, how satisfied would you say you are with your life?” such measures are notoriously susceptible to momentary mood effects. People report greater global happiness on sunny days versus rainy days, or when finding a dime on a copy machine before filling out a questionnaire (Schwarz & Strack, 1991). The inaccuracy of such global measures raises questions about whether the research which uses such measures to document adaptation can be trusted. However, we have documented the same patterns of adaptation and underprediction of adaptation found in other research in a study which elicited momentary rather than global measures of well-being (Riis et al., 2005). We measured the moment-to-moment mood of healthy people and dialysis patients over the course of one week using PDAs programmed to beep at random intervals throughout the day. We found only small differences in the level of positive and negative mood recorded by the two groups over the course of the week. Our study provided new evidence that dialysis patients truly experience a significant amount of emotional adaptation to their illness. Undergoing kidney dialysis had only small long-term effects on people’s moment-to-moment experience utility. ix

Yet a third, and perhaps the most serious, problem with subjective reports of experience utility has to do with people's tendency to automatically normalize their responses to questions they are asked based on implicit standards of comparison (Kahneman & Miller, 1986). In the domain of disability, for example, people who have experienced a decline in functioning might either norm their responses relative to others with the same disability or relative to the worst
moments they have experienced—e.g., in the interval right after onset or first awareness of the disability. More generally, changes in an individual's circumstances might well lead to systematic changes in the way people interpret subjective assessments of their well-being.

We have conducted a series of studies exploring the topic of scale recalibration, using several novel methods. And we have found evidence that scale recalibration does, in fact, lead to bias of the type just postulated. For example, older people interpret perfect health differently than young people, and thereby seem to experience less decline in health than they would if they were not prone to such scale recalibration (Ubel et al., 2005).

Nevertheless, we conducted a study in which we controlled for such scale recalibration, and still found strong evidence that people’s predictions are often at odds with their eventual experience (Lacey, et al., Working Paper). To account for scale recalibration, we asked patients and non-patients to rate the quality of life of one of two health conditions: diabetes requiring insulin and emphysema causing shortness of breath. We found, as expected, that people with diabetes and emphysema rated the quality of life of these conditions as being greater than did healthy people. The question now is whether their higher ratings merely reflect scale recalibration.

To answer this question, we asked participants to rate 26 other circumstances prior to rating the illness in question. The 26 circumstances included a mixture of health problems and non-health problems, such as dandruff, a long commute, an unpleasant boss, and quadriplegia. By rating the quality of life of these 26 items (on a 0-100 scale), we could test whether patients and non-patients were using the scale differently from each other. For example, we could test whether patients with diabetes not only gave a higher score to diabetes than did healthy people, but whether they also gave a higher score to other adverse circumstances. Such a result would indicate that patients had shifted their way of using the 0-100 scale. However, we did not find that patients used the scale differently than non-patients. Thus, we concluded that both groups—patients and non-patients—had significantly different ratings of diabetes and emphysema, despite using the quality of life scale in the same way.

The data we have collected, in these and other studies, leads us to conclude that the surprising emotional stability people show across a wide range of circumstances in substantial part reflects true adaptation to those circumstances, and is not a mere result of response bias or
scale recalibration. Hence, the problems that adaptation raises for those who want to base policies on experience utility remain.

V. Does Experience Utility Measure the Right Kind of Experience?

So far, in agreement with Kahneman and others, we have argued that decision utility measures are seriously flawed. However, we have also raised questions about whether experience utility measures are up to the task of guiding policy decisions. Current measures of experience utility assess people’s moment to moment affect. The dialysis study we described above is one example of such an approach. In addition, Kahneman and colleagues have developed a day reconstruction method (DRM) that collects reports on people’s affect across portions of their days. All these kinds of methods have been shown to provide valid measures of moment-to-moment fluctuations of mood. As such, these measures represent major advances in our ability to assess people’s true utility. Indeed, such measures have strengthened our confidence that people have great ability to adapt to a wide range of positive and negative circumstances.

But do current measures of experience utility capture everything that we ought to capture about experience, if we are seeking a measure of utility as an input into public policy? We believe not. Policies based on such measures would ignore aspects of life that people care about which do not lead to either increases in positive affect or decreases in negative affect.

Non-affective components of well-being: Debates about what kind of emotional experiences belong in measurements of utility have existed since the time of John Stuart Mill, who followed up on Bentham’s theory of utility by espousing a theory of higher and lower pleasures. Mill famously stated that it is better to be a dissatisfied human than a happy pig. He argued that there are higher and lower pleasures, and therefore that maximizing people’s happiness should not be the sole goal of policy. Instead, policies should be directed towards helping people achieve higher pleasures. Mill’s view is echoed in more contemporary philosophical views of well-being. Raz (1994), for example, defines well-being as “the whole-hearted and successful pursuit of valuable activities,” and goes on to argue that not all activities are equally valuable.

What constitutes high and low pleasures is, of course, a matter of debate, but it is difficult to dismiss the possibility that there may be valued dimensions of experience that are not captured
by measures of moment-to-moment mood. For example, a wine connoisseur may find that she experiences less pleasure at the typical glass of wine than does someone else and only greater pleasure from very fine bottles of wine. Given how many good and bad wines there are in the world, it’s not clear that the wine connoisseur has maximized her pleasure by developing such refined taste in wine. However, the connoisseur has broadened her wine-related experiences and added dimensions to that experience that are simply unavailable to the wine amateur. The same phenomenon can surely be applied to music aficionados and movie critics. Each of these groups is less impressed by the typical concert or the typical movie than the average person. However, they would clearly not choose to reprogram themselves back to their original state, in which they were happy with less intelligent fare, because the cost of such happiness would be to abandon their ability to appreciate life’s finer things. Indeed, when racked with pain from illness, Freud refused to take any medicine stronger than aspirin, saying: “I prefer to think in torment than not to be able to think clearly” (quoted in Griffin 1986, p.8). If ignorance truly were bliss, how many of us would choose a life of ignorance? Measures of experience utility should find ways to incorporate such experiences.

Meaning: In addition to cognitive dimensions of well-being that are not captured by happiness measures, people may also care about the meaning that they derive from activities (for an economic analysis of meaning, see Karlsson, Loewenstein and McCafferty, 2004). For example, examined superficially, childrearing appears to bolster the arguments in favor of experience utility. People frequently say that spending time with their children brings them the greatest pleasure in their lives. Yet studies of experience utility show that raising young children is not a recipe for moment to moment happiness. Marital satisfaction typically declines when there are toddlers in the house. And people report being happier grocery shopping than spending time with their children, even though they would have predicted the opposite pattern of emotions. But having children influences many types of experience, in ways that are not captured by current experience utility measures. Raising children gives people a sense of meaning and purpose in their life that might not otherwise be as strong. While diminishing one's average happiness, raising children might also increase the intensity, and possibly variance, of emotions, making one feel more alive. Stefan Zweig, in a passage shortly following that reproduced at the opening of the paper, pays tribute to the importance of intense feelings, by describing the pathetic internal state of his protagonist who, at the beginning of the book, lacks
such feelings: "I noticed that I wanted fewer things and did not want them so much, that a kind of paralysis had come over my feelings, so that – perhaps this is the best way to express it – so that I was suffering from emotional impotence, an inability to take passionate possession of life" (2004/1922:17).

**Stories:** Consider two movies. Both are two hours long. The first movie is awesome for one hour and fifty minutes, but in the final ten minutes the director panders to the audience, violating the integrity of the entire film, in your opinion. The other movie is of mixed quality for most of the film, with some really bad and unrealistic moments in the middle that almost cause you to walk out of the movie. But the final third of the movie is surprisingly strong, as strong as the strongest parts of the first film, and the ending is sensational. During the two hours of watching these two films, your experience utility is higher with the first movie than with the second, since it was an hour and fifty minutes of intense pleasure followed by only ten minutes of disappointment. Your evaluations, however, favor the second movie. Which ought to rule the day–your experience or your evaluation?

In part, this might depend on what your ensuing experience would be. Perhaps the movie that really crashed and burned at the end will linger in your mind as a disappointment. Maybe the movie with the great ending will cause you hours of enjoyment afterwards that you would not have experienced. But for the sake of argument, let’s suppose that you have no strong long-term reaction to either film. Even if movie number one still brings you a greater total amount of pleasure, taking account of both the time when you were watching it and the ensuing days, we would conjecture, movie two would be the movie that you would be most likely to recommend to friends or to watch again. There is salience to the ending of a movie that goes beyond its influence on experience utility.

Could the same be true of life? Is it possible that a life that follows a coherent script, or that ends on a high-note could be justified as more desirable than one which includes more happiness along the way? Extrapolating from a movie to a life is, of course, problematic. Perhaps it's only a self-indulgent sentimental conceit to think that a less happy life that constituted a good story might be one more worth living than a happier, but less eventful alternative. But, who is in a position to argue that maximizing the integral of happiness is a more suitable goal than any other one might choose (Frederickson, 2000)?
In fact, in prior research Loewenstein and his colleagues (Bryce et al., 2004) have found that people care a lot about dying a 'good death'. They measured concern about quality of death by presenting subjects with scenarios that described the final month of life of two patients. One of the two patients, 'patient A' experienced adverse outcomes in 4 domains: pain; empowerment to control daily surroundings; participation in treatment decisions; and support for family members. The others, patients B through E, experienced improvements in each individual domain, and patient F experienced improvements for all domains. In all scenarios, patient A lived to age 70, and both patients died after 30 days in the ICU. The task presented to subjects, by computer, was to downwardly adjust the length of life of each of the 5 comparison patients until they deemed that their overall quality of life (taking account of both quality and length) was equivalent for both patients. Supporting the researchers' expectation that quality of EOL care would be highly valued, three-fourths of respondents were prepared to shorten healthy life for better EOL care in at least 1 scenario. The ICU stay in all scenarios lasted 1 month, but the amount of time people were willing to trade for improved quality was substantially greater. The median time traded was 7.2-7.7 months for improvements in specific domains, and 8.3 months for improvements in all domains. In the subset willing to trade, the median was 9.6-11.4 months for individual domains and 24.0 months for all domains (see Table). That most respondents were willing to trade substantial durations of healthy life for a better end of life challenge the assumption that overall quality of life can be measured as the integral of momentary quality of life over time. People may, in fact, care about 'gestalt' characteristics of life not captured by momentary utility ratings (Ariely & Carmon, 2000). Dying surrounded by friends and family could be extremely important to people, even though it occurs over a short period of time and will not be remembered.

**Capabilities:** Returning to the dialysis study described above: let us imagine for the purpose of argument that kidney failure really does not affect people’s overall moods. There are still many reasons people would give up a lot in order to avoid experiencing kidney failure. Illness and disability reduce people’s ability to pursue many activities. The rate of employment among people with kidney failure is significantly lower than the general public, even after adjusting for age (Groothoff et al., 2005; Blake et al., 2000). People’s moods might recover, but most people would probably desire to have their health back so they can function more normally in society. We are reminded of a colleague of ours who has muscular dystrophy, and who can no longer hike in the woods with her adolescent daughters. She reports that her moment to moment well-being is as high as it has ever been in her life, but says she would still give up quite a bit in
order to be able to pursue such activities again. Such activities have meaning to her beyond their influence on her moment to moment well-being.

People care about the opportunity range available to them in their lives, even if they are able to emotionally adapt to a narrow range of opportunities. It is plausible to think that one goal of public policy ought to be to maximize people’s opportunity range (Daniels, 1985). Indeed Amartya Sen and Martha Nussbaum have argued for exactly such a welfare criterion based on Sen's concept of "capabilities," which are desiderata that are perceived as universal and virtually incontrovertible.

Brief episodes: Consider another situation, the loss of a loved one who dies at a young age. Such a loss clearly has long-term emotional effects on survivors. Yet for many survivors, the emotional effects of such a loss will be intense for a relatively short period of time, and then have very little influence on their average mood. The main long-term manifestation is likely to be momentary--spikes of grief that may strike on any given day--which existing measures of experience utility, including experience sampling methods, are unlikely to pick up on. But that does not mean that these people’s lives have not been permanently reduced by the loss of a loved one. In capturing their own experience, there seems to be more at stake here than moment to moment moods. How do we credit brief episodes of grief that persist in these people’s lives? How do we give adequate weight to the strong salience of those brief emotions that occur over the years?

Altruistic and moral considerations: Another category of considerations that are often important to people but are unlikely to be fully captured by measures of happiness, are actions based on principle or on consideration for the welfare of others. Motivated by a sense of responsibility or love for others, people often take actions that produce states of ongoing stress and misery, such as caring for sick loved ones or remaining in a loveless marriage for the benefit of children.. It could be argued, of course, that such actions must be making the individuals who take them happy; otherwise they would not be taken. But such an argument renders the equality between experience utility and altruistic actions a matter of definition, rather than a testable (and, in fact we suspect, easily refutable, hypothesis). Alternatively, and more difficult to dismiss, it could be conjectured that, while taking these actions may not make those taking them happy, the failure to do so would render them miserable. Although we are skeptical of such an argument, we are not aware of any empirical evidence that challenges it.
Self-identity: Sometimes people desire one circumstance over another because of how the circumstance influences their self-identity (Bodner & Prelec, ; Benabou & Tirole, forthcoming; Koscegi, forthcoming). Returning to the leg amputation scenario we posed above: a below-the-knee amputation has very little influence on people’s functional abilities, once people learn to use their prosthetic device. And such an amputation has almost no long-term effect on moment to moment mood. But few people are indifferent about the thought of an amputation. We expect that issues of self-identity play some role in these attitudes.

Automobile purchases also center, for some people, on issues of self-identity. People who drive expensive cars are generally no happier during driving time than are those in budget cars. (Xu and Schwarz, submitted) So why pay more for a car than one needs to, to get a safe and reliable vehicle? In part, people mispredict now happy they’ll be driving a BMW versus a Hyundai. But people care about how their cars mesh with their self-identity (Belk, 1988), even apart from how much happiness they expect to derive.

Summary: We have pointed out several potential flaws with basing public policy on experience utility as it is currently measured. We could, undoubtedly, have listed others, such as the kind of Flow experiences that Csikszentmihalyi (1990) has described. To some extent, we may be able to overcome these flaws by expanding and improving the measures we include as part of experience utility. It is theoretically possible to capture people’s experience of meaning and purpose in their lives, independent from their moment to moment affect. But we expect that this will not address all the problems we have raised with experience utility. Instead, we believe that there are circumstances that matter to people independent of their influence on people’s moment to moment experiences. Despite other patent flaws, decision utility has the advantage of capturing these values in a way that experience utility does not. Experience utility, it seems, does not capture everything that people care about.

V. Decision Utility, Experience Utility and Public Policy

The goal of policies ought to be to maximize people’s well-being, whether that entails maximizing moment-to-moment experience utility or satisfying other goals that people might have. However, as we discussed in Section II, this goal will not be achieved merely by crafting public policy to maximize freedom of choice, or by creating public finance mechanisms (taxation, government spending and regulation) that give people the maximum amount of what
they would naturally want for themselves. People are susceptible to a wide range of decision biases that make it difficult for them to integrate information relevant to their choices. To the extent that doing so is avoidable, embodying such mistakes in public policy is clearly a mistake.

However, the strongly paternalistic alternative of giving people what researchers find makes them happy is also clearly a mistake. Such a policy ignores the problems raised by the phenomenon of hedonic adaptation, and fails to incorporate important human values that are not perfectly related to happiness. Given these serious problems with welfare criteria based on either decision or experience utility, is there any hope for producing a metric for guiding public policy? A failure to do so inevitably means that public policy choices will be made by the political process which, as we have discussed, has its own probably even more serious, problems. Given that neither decision utility nor experience utility are adequate welfare criteria, what criterion or criteria should policy makers rely on when making policy decisions?

To this one question, we propose two answers; two because there are two major situations in which having a welfare criterion would be helpful for public policy. One is when government regulations affect the behavior of individuals. For example, different government policies affect how much individuals save for retirement. The desirability of such policies will depend on how much we think people should be saving for retirement—a judgment that is difficult to make in the absence of any kind of welfare criterion. The other has to do with the myriad tradeoffs that governments make between competing objectives, and often (when it comes to decisions about taxation and spending) between those objectives and the personal income of the citizenry. These tradeoffs operate at a level higher than any individual. For example, governments must decide how much money to spend on health care versus education versus other social programs. While their decisions ultimately influence individual behavior, their primary influence is on a larger scale. Although the distinction between these two situations may not be entirely crisp (for example, many efforts to induce people to save have ramifications for aggregate taxation and spending), we believe it is a useful one for distinguishing between two different approaches to reconciling the discrepancy between welfare criteria based on decision utility and experience utility.

**Government regulation of individual behavior; soft paternalism**
When it comes to government interventions that influence individual behavior, we believe that a useful approach has already been proposed. Going variously by labels such as "libertarian paternalism" (Sunstein & Thaler, 2005), "asymmetric paternalism" (Camerer et al., 2005) and "paternalism for conservatives" (Laibson et al.), all of these approaches involve a hybrid of decision and experience utility. All of these approaches attempt to retain the ultimate autonomy of the individual (thus respecting decision utility) while at the same time attempting to steer individuals toward courses of action that are seen as advantageous (with such judgments implicitly reflecting evaluations of experience utility). Within health care settings, Ubel proposed a similar approach, showing that physicians’ recommendations to their patients can improve patient decisions without constraining patient choice (Ubel, 2002).

For example, when governments setup default options for things like health insurance, retirement plans and the like, people are susceptible to status quo biases, opting for the default options to a higher degree than could be explained by theory of revealed preferences. When default options differ across states or companies, people make widely different “choices” about what kind of insurance they want, how much to put aside for retirement, and how to invest it. The strong preference people show for the default option suggests that more than rational self interest is at work. In response to the influence of such status quo biases, proponents of soft paternalism contend governments should decide what default options, on average, are best for their citizens, and allow people to choose whatever insurance they want, recognizing that many will choose the default option by default. This policy approach is based on determining what is best for the majority of people, and then establishing policies that allow people, while making free choices, to nevertheless to be more likely to make good choices. But what criterion should policy makers use in such circumstances?

**Pruned decision utility:** One approach, advocated by Bernheim and Rangel (2006), is to base judgments of welfare on choice, but only those choices that satisfy some kind of criterion for rationality—e.g., are consistent over time and/or not made under the influence of powerful emotions. For example, suppose that, immediately after satisfying his craving for alcohol, an alcoholic expresses a desire to be deprived of the future opportunity to drink, but as craving returns, expresses a strong desire for a drink. Based on the idea that the alcoholic's judgment is distorted by craving, one might argue that we should honor the satiated alcoholics' stated preference for denying them access to alcohol. Based on decision utility, such an approach
seems to have the advantage of avoiding the kind of strong paternalism associated with approaches based on experience utility.

But this advantage may be somewhat illusory. In practice, it seems unavoidable that such an approach will involve a heavy dose of subjective judgment—about which decisions should or should not be honored—and such judgments will inevitably be informed by experience utility. For example, in the case of the alcoholic, isn't the tendency to place greater weight on the satiated entity's desire to quit than on the craving entity's desire for a drink really based on an implicit assumption about experience utility—i.e., that the alcoholic will be happier over the long-term if deprived of the opportunity to drink?

**Informed decision utility:** An alternative approach would be to debias and inform decision makers so as to strip out biases and mistakes to the maximum extent possible. To succeed, this approach needs to go beyond typical measures that have been taken to enable people to make informed decisions. For example, in the United States, the FDA requires food manufacturers to provide detailed, informative, labels on the foods they sell. On the one hand, this FDA regulation may appear paternalistic, with the heavy hand of government creating undue expense for the food industry and controlling the kind of information consumers receive about food products. Nevertheless, this regulation can also be seen as enhancing the free market, by giving people more ability to make informed decisions about their food products.

Whether viewed as paternalistic or libertarian, this FDA regulation is clearly based on the theory that people make better food choices when those choices are informed. And to the extent that this is true, this policy may improve people’s well-being. But such policies should go further, to incorporate more insights from behavioral economics. We expect food labeling would be improved even more if regulators took into account the way people interpret and use such information when making food purchases. Do people make wiser decisions when they are told that 70 out of 110 calories (in a serving) come from fat or when they are told the percent of calories coming from fat? Are people appropriately conscious of what a serving size is, when interpreting food labels and deciding what to feed themselves or their kids? A broader approach to understanding people’s decision making and their well-being would explore these issues.

Within the healthcare community, there have also been policies and practices put into place that have been designed to improve individual decision making. Several decades ago, in healthcare, physician paternalism ruled the day. Patients with cancer diagnoses were frequently
not even told of their diagnoses and were simply prescribed arduous treatments by physicians who felt that the patients might not emotionally be capable of coping with their diagnoses (Oken, 1961). Such practices are largely things of the past (Novack et al., 1979). Instead, the momentum of the field has pushed toward a shared decision making model, in which patients play an important role, in conjunction with their physicians, in deciding what treatments are appropriate to the illness at hand (Charles, Gafni, & Whelan, 1997). Consistent with this new emphasis, health care providers and financers have been developing prepackaged decision aids—carefully constructed educational materials that help patients understand their treatment choices. The theory underlying the development of decision aids has been that if patients receive comprehensible information about their healthcare alternatives, they will be more capable of choosing treatments that best fit their preferences. Choice of treatment for prostate cancer, for example, may hinge on a man’s relative attitudes towards long-term survival with impotence versus living a shorter time but with normal sexual function (Singer et al., 1991). As with the FDA food labels described earlier, the theory behind patient decision aids hinges on the idea that people make good use of such information, and therefore when given such information will make decisions that maximize their self interest.

Informing and debiasing decision makers makes perfect sense in principle, but is much more difficult in practice. For example, no one has yet devised a method of making someone who does not have a colostomy appreciate what it would be like to have one, and especially to the situation of having adapted to that colostomy after an extended period. Indeed, patients interpreting decisions aids are susceptible to many or most of the cognitive biases that have been documented in other decision domains (Ubel, 2002). For example, people who learn first about the risks of a treatment then followed by its benefits make different choices than people who first learn about its benefits and then its risks. Decision aid developers have no choice but to present information in one order or another, but unfortunately the order they choose will almost always have some impact on people’s ultimate decisions. Similarly, in order to engage patients in their decision tasks, many decision aid developers have included testimonials from other patients to help them understand the decision at hand. But studies have shown that people are unduly susceptible to the influence of such testimonials (Ubel, Jepson, & Baron, 2001). In some circumstances, they ignore the probability information related to health outcomes, and instead
choose outcomes that are favored by the scattering of testimonials they receive in their decision aid.

Indeed, even debiasing the overweighting of small probabilities has proven extraordinarily difficult. For example, Ubel and colleagues presented people with a hypothetical choice of two surgical treatments for colon cancer (Amsterlaw et al., 2006). The first surgery provides an 80% chance of cure of the cancer without complication, and a 20% chance of death from the cancer. The second surgery also cures people without complications 80% of the time, but leads to only a 16% death rate. The remaining 4% of patients receiving this surgery do not die of their cancer but instead survive some kind of temporary or permanent surgical complication – a chronic colostomy, a wound infection that takes a year to heal, chronic diarrhea, or intermittent abdominal pain. The trade-off between these two surgeries depends on people’s preferences for death versus these four surgical complications. As it turns out, more than 90% of people prefer each of the four surgical complications to death. Based on these choices, the second surgery should be the best treatment for these people. And yet the majority of people choose the first surgery, probably because they overweight the small (1%) chance of experiencing any one of these four unpleasant complications. We have conducted a series of studies to try to debias this choice. In one study, we tried to change the affective salience of the relevant outcomes. In another study we tried to make sure people understood the trade-off between death and the surgical complications. But across a wide range of techniques designed to reduce the number of people making biased choices, people were relatively resistant. They simply felt that the chance of death was worth accepting in order to not to have to think about the surgical complications. Given the difficulty of debiasing people, even when it comes to this seemingly simple decision, the prospects for such interventions remain uncertain, at best. However, there is room for an informed decision utility. People developing decision aids can design decision aids in ways that are known to reduce cognitive biases. For example, Ubel’s research team has found ways of using graphical representations of risk that get rid of order effects (Zikmund-Fisher et al., 2005), denominator effects, and the undue influence of patient testimonials (Fagerlin, Wang, & Ubel, 2005).

However, once again, the notion of informed decision utility is unlikely to fully avoid being influenced by considerations of experience utility. Attempts to debias people and to inform their decisions inevitably involve value judgments. Who is to say, for example, that
when people choose a 20% chance of death over a 16% chance in addition to a 4% chance of complications that they aren't making a choice that is right for them? If we weren't so convinced that it isn't the best choice, we wouldn't have gone to so much trouble to debias them. Hence, we propose that for policies designed to influence individual choice, policymakers should strive to enable people to know how their decision alternatives will influence their experience utility, and should, all else equal, establish default options and other techniques that increase the chance that people will maximize their experience utility. Despite its flaws, we believe that experience utility is a useful criterion for informing policies that influence individual behavior as long as individuals retain ultimate authority over their own decisions. Returning to health care decision aids, for example: a well designed aid should thoroughly and convincingly inform people about the way various health outcomes would influence their moment-to-moment moods, so that patients’ decisions will not be influenced by errors in affective forecasting. But a decision aid should not compel people to base their choices on experience utility. People should be free to make decisions based whatever criteria they choose.

**Criteria for guiding policies that operate on a level higher than the individual**

When it comes to taxation, spending, and regulation, governments make decisions that powerfully affect the lives of citizens—effects that are not ultimately mediated by individual choices and in fact, in many instances, constrain individual choices. For example, urban planners often decide how tall to allow buildings to be in a downtown area, how much park land to make available to the public, how many lanes to put in the commuter highway into town, and myriad other decisions. People making urban plans clearly respond in part to public pressure. People may express strong desires to have large lots for their houses. They may vote with their feet and move out to the exurbs, and thereby increase pressure for urban planners to increase the number of lanes on the highway to reduce commuter congestion. And political considerations come into play as people with economic interests, such as real estate developers and highway contractors, attempt to influence the political process. But urban planners do not need to respond passively to consumer demand, but would do well to take account of people’s well-being, whether it be their moment-to-moment moods as captured in current measures of experience utility, or some of the other measures of well-being we have described above that are currently not captured in experience utility measures. There is good evidence, for example, that long
commutes reduce people’s well-being (Kahneman, Schkade, Krueger). This is relevant information for urban planners in trying to decide whether to encourage people to live closer to the city or further away. Urban design can increase or decrease people’s likelihood of socializing with their neighbors, or of walking in their neighborhood as a form of exercise or as a way to get to the local market. Because social interaction and exercise are valuable social activities, independent of how they affect people’s moment-to-moment mood, urban planners may want to take these into account.

Given the problems associated with both experience utility and decision utility, how should urban planners make these types of decisions? We believe that the best approach may involve decision utility measures among people who are thoroughly and convincingly informed about the relevant research on experience utility. This approach could be achieved through "deliberative democracy" methods, which have been tried with some success (Dorfman et al., 2006; Bohman, 1998). Deliberative democracy involves assembling a random sample of a relevant population together to be informed by experts about a particular domain, to deliberate in a leisurely fashion, and to generate policy proposals.

To bring elements of experience utility into deliberative democracy, one dimension of the process would involve informing participants of the relevant research on experience utility—i.e., providing them with accurate information about what people’s experiences are really like under different circumstances. This information should, ideally, be collected using ecological momentary assessment methods. And overtime, such measures should be expanded to include some of the aspects of experience we describe above. But the deliberation will undoubtedly move beyond measures of such experience, to consider other things people care about that are not captured by such experiences. Deliberators will think about the importance of maintaining social functioning, and expanding people’s opportunity range, independent of how people will experience their circumstances.

Deliberative methods do not necessarily need to follow formal techniques of deliberative democracy. All honestly motivated policy makers try to deliberate about the competing goals their policies influence. Such deliberations need to be open to the idea that some things, like freedom and knowledge, are inherently valuable independent of the extent to which they affect experience utility (as it is currently measured). One way to guide public policy, then, is to
develop methods for informing people about their experience utility should they face specific outcomes, and finding ways for them to make decisions that reflect such information.

Informing decision utility in such a fashion is not going to be simple. It’s not clear that people will readily accept the information that we give them about the emotional consequences of chronic illness, or of life in small versus large homes, given how counterintuitive people’s emotional reactions to such circumstances can be. But policy making has never been a simple thing to do. Even in traditional economic models, for example, policy planners need to take care of externalities that are not accounted for by the decisions people make and the preferences these decisions reveal. Policy planners should not only pay attention to traditional economic measures in making their decisions, but supplement these measures with current measures of experience utility and their emphasis on moment-to-moment mood. In addition, they need to consider expanded measures of experience utility--to capture things like meaning and self-identity--that are not currently captured by experience utility measures. Finally, they need to factor in the value people place on circumstances independent of how those circumstances influence their experience utility.

In summary, whether it comes to government policies that influence individual decisions or policies that directly affect people's situations, the ideal welfare criterion will involve a hybrid consideration of both decision and experience utility. Ultimately, people need to be given as much decision making autonomy as is possible. But the decisions they make should be informed, as much as is possible, by a deep understanding of their consequences for experience utility.
References


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Notes

i Attempts to encourage people to "move to opportunity" by providing them with housing vouchers that can only be used in affluent neighborhoods, similarly assume that people won't use such vouchers, if no conditions were attached, to live in neighborhoods that were most advantageous to them.

ii Note about psychological underpinnings of save more tomorrow.

iii These include the power of special interests, the susceptibility of the electorate to symbolic 'hot-button issues' combined with a common indifference to issues of substantive importance, the short-sighted perspective induced by short terms of office, problems caused by district gerrymandering, and a long list of other problems.

iv An even more problematic measure based on predicted experience utility would be to ask healthy persons to predict their happiness contingent upon having various health conditions. Such a method would combine many of the problems of both approaches.

v Kahneman is cautious in his endorsement of such a criterion, acknowledging that such an application of experience utility is contingent upon a value judgment: "Our analysis applies to situations in which a separate value judgment designates experienced utility a criterion for evaluating outcomes" (p. 377).

vi As discussed by Read (2004), the application of experience utility to public policy requires several assumptions: "Firstly, at every moment we are experiencing utility, meaning pleasure and/or pain (this is termed instant utility). Second, this utility has quantity and valence, with a neutral point on the boundary between desirable and undesirable, pleasure and pain. Third, keeping in mind Kahneman’s own reservations, this utility is all that makes an experience good or bad. Fourth, by integrating instant utility over a period we obtain the total utility for that period. Fifth, an optimal decision is one that maximises total utility (or expected total utility). Finally, to make this a workable theory, instant utility must be measurable, up to at least an ordinal and ultimately a ratio scale."

vii One could, however, equally easily imagine reasons why people might be motivated to exaggerate the misery of an affliction.

viii Of note, we verified that our survey introduction did influence patients’ responses. After asking patients about their overall life satisfaction, we asked them about their overall health satisfaction. We found a significantly higher correlation among those receiving a call from the Movement Disorders Clinic, suggesting that those respondents were, indeed, thinking more about their Parkinson’s Disease when reporting on their overall life satisfaction. It just turns out that thinking about their illness did not influence their mean level of life satisfaction.

ix One problem we have not yet addressed: night-time misery...

x Providing information, even if totally accurate, can, however, sometimes have unintended hedonic consequences. Thus, for example, by reminding people of the poisons they are ingesting, food labels can decrease pleasure from eating even when they fail to change behavior (Loewenstein & O'Donoghue, 2006).

xi The remaining 10% of the people stated that they would prefer to be dead than to live with a colostomy or a wound infection that took a year to heal. Based on these preferences, the surgery that yields none of these complications would seem to be the best choice. But do we trust these people when they say that they are confident that life with a colostomy would be a life not worth living? Research shows that most people with colostomies have moment-to-moment well-being that approaches that of the healthy public. As just noted, we know of know debiasing method that is likely to change these people's minds.