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Happiness and Punishment

John Bronsteen,[†] Christopher Buccafusco,^{††} & Jonathan Masur[‡]

This Article continues our project of applying new findings in the behavioral psychology of human happiness to some of the most deeply analyzed questions in law. When a state decides how to punish criminal offenders, at least one important consideration is the amount of harm any given punishment is likely to inflict. It would be undesirable, for example, to impose greater harm on those who commit less serious crimes or to impose harm that rises to the level of cruelty. Our penal system fits punishments to crimes primarily by adjusting the size of monetary fines and the length of prison terms, but new findings about human adaptability unsettle the assumptions upon which the system rests. Specifically, people adapt well to negative changes in wealth and even to many features of prison life, whereas they adapt poorly to typical conditions of post-prison life such as unemployment, disease, and loss of social ties. As a result, adjusting the size of a fine or the length of a prison term will not change in a linear fashion the amount of harm imposed. A large difference in the size of two punishments will not necessarily result in a large (or, in the case of some fines, any) difference in the harm felt by the respective offenders. This result is relevant to both retributive and utilitarian punishment theories, as well as to the practice of criminal justice. New approaches to punishment are necessary to achieve proportionality in light of the challenges posed by adaptation.

INTRODUCTION

Now as for the future of reflection about punishment: First, I think we can look forward to continued valuable illumination from the social-science disciplines.

—Herbert Morris¹

When the state punishes a criminal, it inflicts suffering. There are limits on the amount and type of suffering that may legitimately be imposed, so it is necessary to understand how punishment actually harms those who receive it. To what extent do fines and incarceration negatively affect happiness or well-being? The answers might seem ob-

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¹ Herbert Morris, *Concluding Remarks: The Future of Punishment*, 46 *UCLA L Rev* 1927, 1930 (1999).

vious, but as we have indicated in the context of civil settlements,² recent empirical work in behavioral psychology suggests otherwise.

This empirical work suggests that people adapt to monetary fines far better than they expect. Losing money tends to decrease one's level of happiness initially, but that level rebounds quickly toward its initial state. Even large fines are likely to have only minor effects on the well-being of those who receive them, because people adjust quite easily to their new financial circumstances. Adaptation thus heavily reduces the punitive consequence of a fine.

Prison has a more complicated effect on happiness. To a noteworthy degree, people adapt to being in prison. Their happiness drops at the beginning and they expect it to remain at that low ebb, but it ascends as they adjust to their new surroundings. On the other hand, virtually any period of incarceration, no matter how brief, has consequences that negatively affect prisoners' lives in ways that resist adaptation, even after they have been released. Prisoners are often abandoned by their spouses and friends, face difficulty finding and keeping employment, and may suffer from incurable diseases contracted during their incarceration. Thus, living in prison itself becomes less oppressive with time, but the effects of having been in prison tend to linger and to diminish happiness indefinitely.

These results differ from the assumptions that generally underlie penal policy and philosophical scholarship on punishment. All major accounts of punishment place a high value on proportionality: more serious crimes warrant more severe punishment, either to effect greater deterrence, to repay the offender adequately for her misdeeds, to express the appropriate level of societal condemnation, or some combination thereof.³ But owing to the ways in which people do and do not adapt to various hardships, our current methods of punishment may be too blunt to fashion proportional punishments.

Adjusting the size of a fine or the length of a prison sentence does not adjust, to the degree expected or in a linear fashion, the amount of unhappiness that is ultimately experienced by the offender. Offenders adapt to paying more money or to staying in prison for a longer period. As a result, fines of varying sizes may well impose only fleeting harm. On the other hand, virtually any term of imprisonment imposes large

² See John Bronsteen, Christopher Buccafusco, and Jonathan Masur, *Hedonic Adaptation and the Settlement of Civil Lawsuits*, 108 Colum L Rev 1516, 1536–38 (2008) (arguing that hedonic adaptation increases the probability of pretrial settlement by lowering a tort plaintiff's acceptable settlement price).

³ We employ the feminine pronoun here because it is our preferred convention, despite the fact that the vast majority of prisoners are male and the behavioral studies we discuss employed only male subjects.

and lasting harm by causing disease, unemployment, and loss of social connection. But the difference in harm between longer and shorter prison terms is smaller than typically assumed, with heavier harm occurring at the beginning of imprisonment and persistent harm plaguing post-prison life. These facts make it more difficult to tailor a punishment to fit the severity of a crime, given the penal options available.

In addition to undermining efforts to tailor proportional punishments, adaptation has other significant effects. It diminishes the harm imposed by a monetary fine without diminishing the fine's capacity to deter, because would-be offenders will mistakenly expect a large fine to decrease their happiness substantially. Adaptation to the actual time spent in prison works similarly, but that phenomenon works at cross-purposes with the fact that post-prison life is worse than has been assumed by most theorists, legislators, and presumably offenders. In designing a system of punishment, scholars and policymakers need to account for the ramifications of hedonic adaptation to the extent that penal regimes should reflect the actual experience of punishment. This holds for both retributive and utilitarian theorists.

Our aim in this Article is to use recent psychological findings to describe more accurately the effects of punishment. In Part I, we analyze the findings and the studies that give rise to them. In Part II, we apply the findings to the utilitarian theory of punishment, and in Part III we apply them to retributive and mixed theories of punishment. We assess the import of the findings for each theory and the new challenges they pose for criminal justice.

I. THE HEDONIC CONSEQUENCES OF PUNISHMENT

All leading theories of criminal punishment must be concerned with the way punishment is subjectively experienced by the offender.⁴ Until recently, however, little was known about how people responded to the various punishments inflicted on them. Over the past couple of decades, and especially in the last few years, an interdisciplinary group of social scientists has begun to develop techniques for measuring the subjective pain—physical and psychological—that punishment inflicts.

This research on the subjective experience of punishment is part of a larger body of social science research devoted to the measurement and determinants of subjective well-being.⁵ Motivated by the belief that

⁴ See Adam Kolber, *The Subjective Experience of Punishment*, 109 Colum L Rev 182, 196 (2009).

⁵ See Daniel Kahneman, Ed Diener, and Norbert Schwarz, *Preface*, in Daniel Kahneman, Ed Diener, and Norbert Schwarz, eds, *Well-being: The Foundations of Hedonic Psychology* ix (Russell Sage 1999) (presenting a new field within psychology, “the study of what makes experiences and life pleasant or unpleasant,” which the authors christen “hedonic psychology”).

individual self-reports provide the best metrics of well-being, hedonic psychology (or simply “hedonics”) has emerged as one of the most vibrant fields in the behavioral sciences.⁶ Among its most robust and consistent findings are two that are highly relevant to the study of punishment: (1) many life events, whether positive or negative, exert little lasting effect on an individual’s well-being because people adapt rapidly to them; and (2) people do not recognize or remember how quickly they adapt and thus make very poor estimates about the hedonic impact of future events.⁷ Studies have shown that a person’s well-being initially decreases but soon rebounds (at least to some meaningful degree) following negative experiences of all magnitudes, ranging from learning that she scored poorly on a personality test⁸ to becoming paraplegic.⁹

This Part explores evidence of hedonic adaptation to the two principal forms of punishment used in the United States, monetary fines and imprisonment.¹⁰ Recent social scientific studies support the notion that criminals adapt to these punishments, and that increasing their magnitude through larger fines or longer prison terms will have less than the expected effect on the punishments’ overall hedonic impact. Yet while offenders are likely to adapt to paying fines and spending time in prison, other research has shown that incarceration substantially affects former inmates for many years following prison. People who have spent any time in prison are significantly more likely to experience chronic, stress-related health impairments, unemployment, and the breakdown of psychologically vital social ties. These post-prison consequences of

⁶ For a review of the extensive literature on happiness and hedonics, see Sonja Lyubomirsky, Kennon M. Sheldon, and David Schkade, *Pursuing Happiness: The Architecture of Sustainable Change*, 9 *Rev Gen Psych* 111, 112 (2005). Hedonic psychology has also had a substantial impact on American popular culture. See generally, for example, Malcolm Gladwell, *Blink: The Power of Thinking without Thinking* (Little, Brown 2005); Daniel Gilbert, *Stumbling on Happiness* (Knopf 2006); Jonathan Haidt, *The Happiness Hypothesis: Finding Modern Truth in Ancient Wisdom* (Basic Books 2006).

⁷ Timothy D. Wilson, et al, *Focalism: A Source of Durability Bias in Affective Forecasting*, 78 *J Personality & Soc Psych* 821, 833 (2000).

⁸ See Daniel T. Gilbert, et al, *Immune Neglect: A Source of Durability Bias in Affective Forecasting*, 75 *J Personality & Soc Psych* 617, 629 (1998).

⁹ See C. Lundqvist, et al, *Spinal Cord Injuries: Clinical, Functional, and Emotional Status*, 16 *Spine* 78, 81 (1991) (finding that patients with traumatic spinal cord injuries showed improvement in mood that was “obvious after 2 years and continuously better later”).

¹⁰ Although we focus on fines and imprisonment, our arguments are certainly relevant to debates about less traditional forms of punishment, including shaming. See, for example, Dan M. Kahan, *What Do Alternative Sanctions Mean?*, 63 *U Chi L Rev* 591, 594 (1996). For brevity’s sake, we also do not discuss certain punishments that are traditionally viewed as less severe than fines, such as probation and community service. For a discussion of these punishments, see Norval Morris and Michael Tonry, *Between Prison and Probation: Intermediate Punishments in a Rational Sentencing System* 6–7 (Oxford 1990).

incarceration are likely to generate substantial and long-lasting hedonic penalties for ex-inmates regardless of the lengths of their sentences.

One cautionary note is in order. The field of hedonic psychology is still quite young, and many questions remain unanswered. Throughout this Article we endeavor wherever possible to use only the most reliable existing research, and we are at pains to avoid drawing conclusions beyond what the psychological findings can sustain. The arguments we advance here are, of course, subject to revision as new research comes to light.

A. Hedonic Adaptation and Affective Forecasting

In a now-classic study published in 1978, Philip Brickman and his colleagues compared recent lottery winners and recently paralyzed paraplegics and quadriplegics with control groups. The lottery winners were not much happier than the controls, and the accident victims were considerably happier than anticipated, reporting levels of well-being above the scale's midpoint.¹¹ According to Brickman, these results indicated that people experience life as if on a "hedonic treadmill" such that positive and negative life events create only temporary departures from an established well-being set point.¹² This theory has been enormously influential in the social sciences, particularly as it has challenged the traditional economic understanding of utility.¹³ Moreover, it has motivated innumerable studies exploring the hedonic consequences of a large variety of events.¹⁴

These studies, whether examining responses to income gains,¹⁵ tenure denial,¹⁶ or disability,¹⁷ often report similar findings: "Most people

¹¹ Philip Brickman, Dan Coates, and Ronnie Janoff-Bulman, *Lottery Winners and Accident Victims: Is Happiness Relative?*, 36 *J Personality & Soc Psych* 917, 920–21 (1978).

¹² Philip Brickman and Donald T. Campbell, *Hedonic Relativism and Planning the Good Society*, in M.H. Appley, ed., *Adaptation-level Theory: A Symposium* 287, 289 (Academic 1971).

¹³ See Daniel Kahneman, *Objective Happiness*, in Kahneman, Diener, and Schwarz, eds, *Well-being* 15–22 (cited in note 5) (challenging the traditional economic understanding that changes in wealth represent permanent changes in utility because an accurate estimation of utility requires a study of utility's *duration*); Richard A. Easterlin, *Explaining Happiness*, 100 *Proceedings Natl Academy Sci* 11176, 11176 (2003) (questioning, based upon empirical observations from happiness surveys, the common economic assumption that overall well-being moves in tandem with changes in income).

¹⁴ For an early review, see Shane Frederick and George Loewenstein, *Hedonic Adaptation*, in Kahneman, Diener, and Schwarz, eds, *Well-being* at 302, 312 (cited in note 5).

¹⁵ See Easterlin, 100 *Proceedings Natl Acad Sci* at 11176, 11182 (cited in note 13) ("An increase in income . . . does not bring with it a lasting increase in happiness because of the negative effect on utility of hedonic adaptation and social comparison.").

¹⁶ See Gilbert, et al, 75 *J Personality & Soc Psych* at 624 (cited in note 8) (reporting results suggesting that "the outcome of a tenure decision did not have a dramatic and robust influence on the general happiness of experiencers," despite the subjects' predictions that, at least in the short term, it would).

are reasonably happy most of the time, and most events do little to change that for long.”¹⁸ The many studies examining people’s experiences with disability provide the most compelling evidence.¹⁹ For example, people with spinal cord injuries report levels of well-being similar to those of healthy controls,²⁰ as do burn victims,²¹ patients with colostomies,²² and those undergoing dialysis for treatment of kidney disorders.²³ In the most recent longitudinal study of adaptation, economists tracked the subjective well-being ratings of people who subsequently became disabled and remained so. They found that after two years, subjects had become significantly happier than they were immediately after they became injured.²⁴ Although the psychological mechanisms underlying hedonic adaptation remain poorly understood, it seems as though people have a “psychological immune system” that helps them cope with the effects of many kinds of adverse events.²⁵

¹⁷ See Andrew J. Oswald and Nattavudh Powdthavee, *Does Happiness Adapt? A Longitudinal Study of Disability with Implications for Economists and Judges*, 92 J Pub Econ 1061, 1070 (2008) (finding that individuals who become disabled can experience some hedonic adaptation, though it is incomplete for those with severe disability).

¹⁸ Gilbert, et al, 75 J Personality & Soc Psych at 618 (cited in note 8).

¹⁹ For a review of these studies and their implications for legal settlement, see Bronsteen, Buccafusco, and Masur, 108 Colum L Rev at 1527–31, 1541 (cited in note 2).

²⁰ See Lundqvist, et al, 16 Spine at 80 (cited in note 9).

²¹ See David R. Patterson, et al, *Psychological Effects of Severe Burn Injuries*, 113 Psych Bull 362, 370, 375 (1993).

²² See Norman F. Boyd, et al, *Whose Utilities for Decision Analysis?*, 10 Med Dec Making 58, 65–66 (1990) (finding that patients who had colostomies reported higher utility scores for life with a colostomy than either rectal cancer patients without colostomies or healthy volunteers who were asked to imagine life with a colostomy).

²³ See Jason Riis, et al, *Ignorance of Hedonic Adaptation to Hemodialysis: A Study Using Ecological Momentary Assessment*, 134 J Exp Psych: General 3, 6 (2005).

²⁴ See Oswald and Powdthavee, 92 J Pub Econ at 1066, 1070 (cited in note 17). As a group, people who became disabled reported an average well-being score of 4.8 out of 7 for the two years preceding disability, an abrupt fall to 3.7 at the onset of disability, and then a subsequent rebound to 4.1 in the next two years despite the fact that the disabilities themselves had not changed. Separating the moderately and severely disabled groups, the authors found approximately 50 percent adaptation to moderate disability and 30 percent adaptation to severe disability. Thus, there is substantial evidence that hedonic adaptation to disability (even if incomplete) is significant. See *id.*

²⁵ Gilbert, et al, 75 J Personality & Soc Psych at 619 (cited in note 8) (“Ego defense, rationalization, dissonance reduction, motivated reasoning, positive illusions, self-serving attribution, self-deception, self-enhancement, self-affirmation, and self-justification are just some of the terms that psychologists have used to describe the various strategies, mechanisms, tactics, and maneuvers of the psychological immune system.”). Similarly, Daniel Kahneman and Richard Thaler note that a subject’s attention is normally directed toward novelty, including changes in response to disability. Therefore, “as the new state loses its novelty it ceases to be the exclusive focus of attention, and other aspects of life again evoke their varying hedonic responses.” Daniel Kahneman and Richard H. Thaler, *Anomalies: Utility Maximization and Experienced Utility*, 20 J Econ Perspectives 221, 230 (2006). These coping strategies are evolutionarily adaptive, allowing people to recover quickly from considerable misfortune. See *id.*

These studies rely entirely upon self-reporting, which is never perfectly reliable. It is possible that subjects are misdescribing their own well-being in one fashion or another. However, it is worth noting that self-reports of well-being are highly correlated with external measures such as third-party informant reports,²⁶ facial expressions,²⁷ and neurological data.²⁸ The studies on adaptation to prison that we describe below similarly involve both self-reports and objective measures of well-being, which correlate with one another in that context as well.²⁹

Although adaptation is common, further research has demonstrated its limits.³⁰ People seem less likely to adapt to some health-related stimuli like noise,³¹ chronic headaches,³² and certain degenerative diseases such as rheumatoid arthritis,³³ multiple sclerosis,³⁴ HIV/AIDS,³⁵ and hepatitis C infections.³⁶ Additionally, socially relevant stimuli such as divorce,³⁷ the

²⁶ See Heidi Lepper, *Use of Other-reports to Validate Subjective Well-being Measures*, 44 Soc Indicators Res 367, 377 (1998); Ed Sandvik, Ed Diener, and Larry Seidlitz, *Subjective Well-being: The Convergence and Stability of Self-report and Non-self-report Measures*, 61 J Personality 317, 337 (1993).

²⁷ Tiffany A. Ito and John T. Cacioppo, *The Psychophysiology of Utility Appraisals*, in Kahneman, Diener, and Schwarz, eds, *Well-being* at 479–80 (cited in note 5).

²⁸ Id at 476 (presenting research demonstrating that self-reported reactions to stimuli correlate with anterior cortical activity). See generally T.G. Dinan, *Glucocorticoids and the Genesis of Depressive Illness: A Psychobiological Model*, 164 Brit J Psychiatry 365 (1994).

²⁹ In addition, it is difficult to draw strong conclusions regarding the size of any reported gain in subjective well-being. If respondents' self-assessments are not perfectly linear, a person who reports her level of well-being as a "4" on a scale of 0 to 7 may not be twice as well off as a person who reports her well-being as a "2." Matthew Adler and Eric A. Posner, *Happiness Research and Cost-benefit Analysis*, 37 J Leg Stud 253, 280–81 (2008). Still, these gains are not random (or zero); these interpretive difficulties do not obscure the fact that some degree of meaningful adaptation is almost certainly taking place. Indeed, the reported gains to well-being could just as easily be larger than a linear approach would indicate, rather than smaller. Truly idiosyncratic reporting should also wash out across large sample populations. See Rafael di Tella and Robert MacCulloch, *Some Uses of Happiness Data in Economics*, 20 J Econ Persp 25, 29 (2006).

³⁰ See Frederick and Loewenstein, *Hedonic Adaptation* at 319 (cited in note 14) (concluding, after reviewing the literature on hedonic adaptation, that in certain environments adaptation is not the norm).

³¹ See Neil D. Weinstein, *Community Noise Problems: Evidence against Adaptation*, 2 J Envir Psych 87, 94 (1992).

³² See Victoria Guitera, et al, *Quality of Life in Chronic Daily Headache: A Study in a General Population*, 58 Neurology 1062, 1064 (2002).

³³ See Craig A. Smith and Kenneth A. Wallston, *Adaptation in Patients with Chronic Rheumatoid Arthritis: Application of a General Model*, 11 Health Psych 151, 158–59 (1992).

³⁴ See Richard F. Antonak and Hanoch Livneh, *Psychosocial Adaptation to Disability and Its Investigation among Persons with Multiple Sclerosis*, 40 Soc Sci & Med 1099, 1103 (1995).

³⁵ See Ron D. Hays, et al, *Health-related Quality of Life in Patients with Human Immunodeficiency Virus Infection in the United States: Results from the HIV Cost and Services Utilization Study*, 108 Am J Med 714, 718 (2000).

³⁶ See Judith I. Tsui, et al, *The Impact of Chronic Hepatitis C on Health-related Quality of Life in Homeless and Marginally Housed Individuals with HIV*, 11 AIDS & Behav 603, 609 (2007).

death of a spouse,³⁸ and unemployment³⁹ prove difficult to adapt to, with hedonic penalties lasting for a considerable time into the future.

In addition, although adaptation's effects appear substantial, they are hardly ever recognized or remembered. Research on affective forecasting—the ability to predict how future events will make you feel—has repeatedly shown that people suffer from both impact and duration biases, causing them to overestimate the size and the length of future hedonic experiences.⁴⁰ For example, people generally predict that becoming disabled will have an enormous and long-lasting impact on their happiness, despite the fact that most people adapt rapidly to disability.⁴¹ According to Daniel Gilbert and Timothy Wilson, people suffer from focusing illusions caused by paying too much attention to the few changes wrought by new events while ignoring the many things that remain the same.⁴²

These findings apply not just to rare occurrences such as becoming disabled but also to more regularly recurring events like being dumped by a girlfriend, seeing a favorite football team lose, and being passed over for a job.⁴³ Psychologists have hypothesized that learning from past hedonic experiences is rare because the process of doing so is complex.⁴⁴ It requires people to recognize that they have experienced similar events in the past, make an effort to remember how those events made them feel, and accurately recall their reactions.⁴⁵

³⁷ See Richard E. Lucas, *Time Does Not Heal All Wounds: A Longitudinal Study of Reaction and Adaptation to Divorce*, 16 *Psych Sci* 945, 948 (2005).

³⁸ See Richard E. Lucas, et al, *Reexamining Adaptation and the Set Point Model of Happiness: Reactions to Changes in Marital Status*, 84 *J Personality & Soc Psych* 527, 535 (2003) (“[N]ot everyone experiences adaptation; many respondents report stable or even decreasing levels of satisfaction for many years following the loss of a spouse.”).

³⁹ See Richard E. Lucas, et al, *Unemployment Alters the Set Point for Life Satisfaction*, 15 *Psych Sci* 8, 11 (2004) (“People were less satisfied in the years following unemployment, and this decline occurred even though individuals eventually regained employment.”).

⁴⁰ See Timothy D. Wilson and Daniel T. Gilbert, *Affective Forecasting: Knowing What to Want*, 14 *Current Directions Psych Sci* 131, 131–32 (2005) (identifying focalism, “the tendency to overestimate how much we will think about the event in the future,” as one cause for the error).

⁴¹ See Peter A. Ubel, George Loewenstein, and Christopher Jepson, *Disability and Sunshine: Can Hedonic Predictions Be Improved by Drawing Attention to Focusing Illusions or Emotional Adaptation?*, 11 *J Exp Psych: Applied* 111, 111 (2005).

⁴² See Daniel T. Gilbert and Timothy D. Wilson, *Prospection: Experiencing the Future*, *Science* 1351, 1352 (Sept 7, 2007); Wilson, et al, 78 *J Personality & Soc Psych* at 822 (cited in note 7) (“Research on subjective well-being suggests that people’s attention turns quickly to their current concerns, reducing the impact of past events on their happiness.”).

⁴³ See Peter Ayton, Alice Pott, and Najat Elwakili, *Affective Forecasting: Why Can’t People Predict Their Emotions?*, 13 *Thinking & Reasoning* 62, 64–66 (2007).

⁴⁴ See generally id.

⁴⁵ Deborah A. Kermer, et al, *Loss Aversion Is an Affective Forecasting Error*, 17 *Psych Sci* 649, 652 (2006).

The last of these is a particularly steep burden.⁴⁶ Thus, even people with substantial previous experience with a stimulus are unlikely to remember that its hedonic impact was both weaker and shorter than predicted.

B. Adaptation to Economic Loss

Perhaps hedonic psychology's only finding more important—and more counterintuitive—than adaptation to disability is its consistent evidence of the limited hedonic impact of changes in income. Since the economist Richard Easterlin first proposed his “paradox” about the lack of correlation between income and happiness,⁴⁷ numerous studies have supported the idea that, except below the level of subsistence, increased income produces very limited gains in subjective well-being.⁴⁸ A variety of explanations for this phenomenon have emerged, ranging from constantly rising aspiration levels⁴⁹ to altered social comparisons,⁵⁰ but the message is clear: money can't buy happiness.

But can losing money make you less happy? There is less research on the hedonic impact of economic losses, but what does exist suggests that people adapt to losses much as they do gains.⁵¹ Ed Diener

⁴⁶ See Daniel T. Gilbert, Jay Meyers, and Timothy D. Wilson, *Lessons from the Past: Do People Learn from Experience That Emotional Reactions Are Short-lived?*, 27 *Personality & Soc Psych Bull* 1648, 1649 (2001), citing Sven-Åke Christianson and Martin A. Safer, *Emotional Events in Autobiographical Memory*, in David C. Rubin, ed, *Remembering Our Past: Studies in Autobiographical Memory* 235 (Cambridge 1996) (“There are apparently no published studies in which a group of subjects has accurately recalled the intensity and/or frequency of their previously recorded emotions.”).

⁴⁷ See Richard A. Easterlin, *Does Economic Growth Improve the Human Lot? Some Empirical Evidence*, in Paul A. David and Melvin W. Reder, eds, *Nations and Households in Economic Growth* 89, 118 (Academic 1974) (studying nineteen countries and concluding that while there is a correlation between citizens' income and happiness within a single country, no such correlation exists when the national happiness levels of rich and poor countries are compared). The Easterlin paradox has since been called into serious question, but evidence that income has only a very small effect on happiness now appears more robust than ever. See Betsey Stevenson and Justin Wolfers, *Economic Growth and Subjective Well-being: Reassessing the Easterlin Paradox*, 1 *Brookings Papers on Econ Activity* 1 (2008) (finding a link between the average subjective well-being and per capita GDP across countries).

⁴⁸ For a review of the extensive literature, see generally Ed Diener and Robert Biswas-Diener, *Will Money Increase Subjective Well-being? A Literature Review and Guide to Needed Research*, 57 *Soc Indicators Rsrch* 119 (2002).

⁴⁹ See Easterlin, 100 *Proceedings Natl Acad Sci* at 11180 (cited in note 13) (explaining that “material aspirations increase commensurately with income”).

⁵⁰ See Diener and Biswas-Diener, 57 *Soc Indicators Rsrch* at 147 (cited in note 48) (“[S]ocial comparison . . . had a direct effect on satisfaction”).

⁵¹ It is worth pointing out that hedonic adaptation to losses may not be identical to adaptation to gains. Research from the field of behavioral decision theory has repeatedly shown that losses loom larger psychologically than do gains. See Daniel Kahneman and Amos Tversky, *Prospect Theory: An Analysis of Decision under Risk*, 47 *Econometrica* 263, 279 (1979) (indicating that the value function is “steeper for losses than for gains”). Indeed, losses trigger stronger neural activity than do gains. See generally Roy F. Baumeister, et al, *Bad Is Stronger Than Good*,

and his colleagues tracked people who lost at least half a standard deviation of their annual income in a longitudinal study over a period of nine years.⁵² Not only were these people not unhappier than those whose incomes increased or remained the same, they were actually happier (although not statistically significantly so).⁵³ In another study, subjects who lost a \$3 gamble had returned very close to pregamble happiness levels in only ten minutes.⁵⁴ Although these amounts and time periods are very small, the authors extrapolate to more substantial sums.⁵⁵

As we will explore later, studies such as these may have implications for the imposition of monetary penalties on criminal offenders. This is not to say that all losses of money are equivalent; criminals may react differently to fines than workers do to reductions in income. But near-complete adaptation in the latter context likely implies at least meaningful adaptation in the former. Although criminal fines will likely cause immediate decreases in offenders' well-being, their effects will probably be smaller and of shorter duration than predicted. And just as adding \$20,000 to a \$100,000 annual salary produces surprisingly little happiness, losing \$20,000 probably causes a much smaller long-term loss of well-being than one might imagine.

C. Adaptation to Imprisonment

Monetary fines are regularly used as punishment in the United States, but imprisonment serves as the "linchpin" of the nation's response to crime,⁵⁶ and understanding its effects on offenders is essential. Social scientific interest in prisoners' responses to incarceration began in the 1950s following Donald Clemmer's theory of "prisonization," predicting the steady deterioration in prisoners' physical and psychological health over the course of a sentence.⁵⁷ More recently,

5 Rev Gen Psych 323 (2001) ("Bad emotions, bad parents, and bad feedback have more impact than good ones, and bad information is processed more thoroughly than good."); John T. Cacioppo and Gary G. Berntson, *Relationship between Attitudes and Evaluative Space: A Critical Review, with Emphasis on the Separability of Positive and Negative Substrates*, 115 Psych Bull 401 (1994) (proposing that the evaluative processes by which humans discriminate positive from negative environments are not activated reciprocally).

⁵² Ed Diener, et al, *The Relationship between Income and Subjective Well-being: Relative or Absolute?*, 28 Soc Indicators Rsrch 195, 221 (1993).

⁵³ Id at 209.

⁵⁴ See Kermer, et al, 17 Psych Sci at 651 (cited in note 45) (reporting that participants' expectations that losing \$3 would have a greater impact than gaining \$5 were found to be wrong).

⁵⁵ See id at 652.

⁵⁶ Francis T. Cullen, Bonnie S. Fisher, and Brandon K. Applegate, *Public Opinion about Punishment and Corrections*, 27 Crime & Just 1, 2, 8-9 (2000) (explaining the increasing popularity of prisons as a reflection of public sentiment that is at once punitive and progressive).

⁵⁷ See Donald Clemmer, *The Prison Community* 299-300 (Christopher 1940) (introducing prisonization as the adoption of the "folkways, mores, customs, and general culture of the penitentiary" that "breed or deepen criminality and antisociality").

however, these findings have been challenged by evidence that prisoners rapidly adapt to incarceration.⁵⁸ Consistent with evidence of adaptation in other domains, incarceration appears to result in substantial psychological distress upon imprisonment followed by gains in well-being as the prison term progresses.⁵⁹

An early cross-sectional study compared inmates who had served one year of a long-term sentence with those who had served about a decade of such a sentence.⁶⁰ The recently incarcerated offenders exhibited significantly higher levels of self-reported anxiety, depression, and psychosomatic illnesses than the longer-serving inmates.⁶¹ According to the authors,

These results suggest that the early period of incarceration is particularly stressful for long-term offenders as they make the transition from the outside world to institutional life. No evidence supports the notion of psychological deterioration over time. Instead, with more time served, long termers appear to develop strategies for coping with prison.⁶²

⁵⁸ See Frederick and Loewenstein, *Hedonic Adaptation* at 311 (cited in note 14) (“Although incarceration is *designed* to be unpleasant, most of the research on adjustment to prison life points to considerable adaptation following a difficult initial adjustment period.”). For an early review of the literature, see Lee H. Bukstel and Peter R. Kilmann, *Psychological Effects of Imprisonment on Confined Individuals*, 88 *Psych Bull* 469, 487 (1980) (finding no support for “the popular notion that correctional confinement is harmful to most individuals”).

⁵⁹ See Edward Zamble, *Behavior and Adaptation in Long-term Prison Inmates: Descriptive Longitudinal Results*, 19 *Crim Just & Behav* 409, 420–21 (1992) (finding evidence of prisoners’ improved adaptation including considerable decreases over time of stress, stress-related medical problems, and the number of disciplinary incidents); Edward Zamble and Frank Porporino, *Coping, Imprisonment, and Rehabilitation: Some Data and Their Implications*, 17 *Crim Just & Behav* 53, 67 (1990) (finding that treatment programs to help prisoners cope would be most effective at the very beginning or the very end of the prison term); Edward Zamble and Frank J. Porporino, *Coping, Behavior, and Adaptation in Prison Inmates* 116–20 (Springer-Verlag 1988) (conducting a longitudinal study of prisoner adaptation and concluding that prisoners’ initial emotional trauma subsided through the year-long study term); Doris Layton MacKenzie and Lynne Goodstein, *Long-term Incarceration Impacts and Characteristics of Long-term Offenders: An Empirical Analysis*, 12 *Crim Just & Behav* 395, 409 (1985) (presenting evidence that inmates in the first three years of long prison terms experienced more stress than those who had served at least six years in prison); Timothy J. Flanagan, *The Pains of Long-term Imprisonment: A Comparison of British and American Perspectives*, 20 *Brit J Criminol* 148, 155 (1980) (finding that over time, most inmates “do not report that imprisonment has seriously threatened their well-being”). Consider also Mandeep K. Dhami, Peter Ayton, and George Loewenstein, *Adaptation to Imprisonment: Indigenous or Imported?*, 34 *Crim Just & Behav* 1085, 1096 (2007) (finding that prisoners participated in more programs as they spent more time in prison).

⁶⁰ See MacKenzie and Goodstein, 12 *Crim Just & Behav* at 405 (cited in note 59) (“On average, [the early long-term offenders] had served 1.3 years in prison and were serving sentences requiring 12.1 years in prison. The [late long-term offenders] had served an average of 10.3 years in prison and were serving sentences with an average length of 15.7 years.”).

⁶¹ *Id.* at 406–07.

⁶² *Id.* at 409.

Cross-sectional studies can suffer from intergroup comparison problems, but the evidence for adaptation to prison has been bolstered by longitudinal studies tracking inmates across prison terms.⁶³ One such study surveyed a group of prisoners regularly over seven years. As in the cross-sectional studies, the researchers found that prisoners interviewed in their first month of incarceration showed alarmingly high levels of negative affect associated with depression and anxiety.⁶⁴ Within a few months, however, the prisoners' self-reported mental health had improved substantially, with reports of depression and anxiety falling by nearly one-third.⁶⁵ A year later, reports of negative affect fell further but were still higher than in a random sample of released inmates.⁶⁶ Interviews conducted six years later revealed additional decreases in negative affect and improvements of positive affect such that, on at least one scale, prisoners' reports fell within the normal range.⁶⁷

From these studies a pattern of hedonic response to imprisonment emerges. Initial entry into the prison environment triggers significant psychological distress and low levels of well-being. Within weeks, however, inmates develop coping mechanisms that enable them to adjust to their situations and improve their well-being.⁶⁸ After this initial period of substantial adjustment, an offender's well-being appears

⁶³ See, for example, Zamble, 19 *Crim Just & Behav* at 420–21 (cited in note 59); Zamble and Porporino, *Coping, Behavior, and Adaptation in Prison Inmates* at 19, 116–20 (cited in note 59). See also Dhami, Ayton, and Loewenstein, 34 *Crim Just & Behav* at 1097 (cited in note 59) (“Ideally, adaptations should be studied longitudinally, but this can be difficult in practice.”).

⁶⁴ See Zamble and Porporino, 17 *Crim Just & Behav* at 64 (cited in note 59) (finding, for example, that a majority of subjects reported suffering from some form of depression or anxiety).

⁶⁵ See *id.* (finding that although a majority of subjects exhibited emotional distress at the beginning of the prison term, the number of prisoners who were depressed or highly anxious fell by nearly one-third just three months later); Zamble and Porporino, *Coping, Behavior, and Adaptation in Prison Inmates* at 109 (cited in note 59).

⁶⁶ See Zamble and Porporino, 17 *Crim Just & Behav* at 64 (cited in note 59).

⁶⁷ We believe that subjective reports of positive and negative affect provide the best available proxy for measuring well-being. See generally John Bronsteen, Christopher Buccafusco, and Jonathan Masur, *Welfare as Happiness* (University of Chicago Olin Working Paper No 468, May 2009), online at <http://ssrn.com/abstract=1397843> (visited Sept 1, 2009). Nonetheless, broader measures of an inmate's quality of life can be useful, and here we are in accord with the psychological findings on affect. In the longitudinal extension of Zamble and Porporino's earlier study, inmates' reports of their quality of life rose from 32.2 to 42.0 on a 100-point scale. Although these findings are not statistically significant at the 10 percent level, they offer some additional evidence of adaptation to imprisonment. See *id.* In addition, it is worth mentioning that some of these cognitive improvements may have been related to equivalent improvements in the inmates' objective conditions. See *id.*

⁶⁸ As early as the sixteenth century, Thomas More recognized prison's limited impact on his own well-being, writing from his cell to his wife: “[I]s not this house as nigh heaven as mine own?” Anthony Kenny and Charles Kenny, *Life, Liberty, and the Pursuit of Utility: Happiness in Philosophical and Economic Thought* 59–60 (Imprint Academic 2006) (quoting a letter from Thomas More to his wife).

to improve more moderately throughout the remainder of her term.⁶⁹ Thus, the “pains of imprisonment”⁷⁰ are felt immediately, with diminishing hedonic penalties over the remainder of the sentence.

D. The Long-term Effects of Prison on Well-being

Whereas being in prison may be less uniformly harmful than expected because some of its features lend themselves to adaptation, *having been in prison* for any length of time may be more harmful than expected because some highly negative features of post-prison life resist adaptation. Researchers have discovered that any amount of incarceration creates a significantly higher likelihood that ex-inmates will suffer a variety of health-related, economic, and social harms with substantial negative hedonic consequences that will make adaptation extremely difficult.

Until very recently, it was widely believed that incarceration produced no direct, causal effects on ex-inmates' health, employment, and family lives.⁷¹ Any correlation between imprisonment and poor health or job prospects was thought to be the result of selection effects; that is, the people who ended up in prison disproportionately came from groups with poor health and limited employment opportunities to begin with.⁷² In the past few years, however, researchers hit on the idea of applying the same longitudinal surveys used to study well-being to track offenders in the years before and after imprisonment and thus isolate the effects of imprisonment itself.⁷³

⁶⁹ There is, however, some evidence that the final few weeks of the sentence prove stressful and thus decrease well-being. See Bukstel and Kilmann, 88 *Psych Bull* at 488 (cited in note 58) (“The typical pattern among these individuals might involve an initial adjustment reaction to incarceration, followed by a period of successful adjustment with another mild psychological reaction (e.g., ‘short-timer’s syndrome’) occurring just prior to release.”).

⁷⁰ See Gresham M. Sykes, *The Society of Captives: A Study of a Maximum Security Prison* 63–83 (Princeton 1958) (examining the prison system from the prisoner’s perspective with respect to loss of liberty, goods and services, heterosexual relationships, autonomy, and security).

⁷¹ See Jason Schnittker and Andrea John, *Enduring Stigma: The Long-term Effects of Incarceration on Health*, 48 *J Health & Soc Behav* 115, 117 (2007).

⁷² *Id.*

⁷³ See generally Michael Massoglia, *Incarceration, Health, and Racial Disparities in Health*, 42 *L & Socy Rev* 275 (2008); Michael Massoglia, *Incarceration as Exposure: The Prison, Infectious Disease, and Other Stress-related Illnesses*, 49 *J Health & Soc Behav* 56 (2008); Schnittker and John, 48 *J Health & Soc Behav* at 117 (cited in note 71); Bruce Western, *Punishment and Inequality in America* (Russell Sage 2006) (tracking employment prospects and wage growth of ex-inmates); Leonard M. Lopoo and Bruce Western, *Incarceration and the Formation and Stability of Marital Unions*, 67 *J Marriage & Fam* 721 (2005) (finding that “the prevalence of marriage would change little if incarceration dates were reduced”). In the descriptions of these studies, it should be assumed unless otherwise stated that the results control for a variety of variables including age, gender, education level, health, and so forth. For specific control variables, please consult the individual studies.

Using data from the National Longitudinal Survey of Youth, Michael Massoglia has found that an ex-inmate has a much higher likelihood than the average person of reporting health problems associated with stress and communicable diseases.⁷⁴ Former inmates are more than twice as likely to report hepatitis C infections, HIV/AIDS, tuberculosis, and urinary tract infections.⁷⁵ Moreover, they report substantially higher levels of chronic headaches, sleeping problems, dizziness, and heart problems.⁷⁶ Considering the high incidence of prison sexual violence⁷⁷ and the many stressors associated with post-prison life,⁷⁸ these results should not be surprising. What is surprising, however, is evidence from Massoglia and others that the incidence and severity of these health problems are almost entirely unrelated to sentence length.⁷⁹ Incarceration for any length of time greater than twelve months exposes offenders to the full complement of negative postincarceration health outcomes. After twelve months, the marginal health effect of additional time in prison is negligible.⁸⁰

Studies examining ex-inmates' employment prospects report similar findings.⁸¹ Felony imprisonment results in social stigma, the erosion

⁷⁴ Massoglia, 49 J Health & Soc Behav at 57 (cited in note 73).

⁷⁵ Massoglia, 42 L & Socy Rev at 296 (cited in note 73) (positing that increased exposure to infectious disease while in prison and lower social status after release as explanations for the health-incarceration relationship).

⁷⁶ Massoglia, 49 J Health & Soc Behav at 57 (cited in note 73). It is worth noting, however, that imprisonment does not result in higher incidences of all health problems. See *id.*

⁷⁷ See Tonisha R. Jones and Travis C. Pratt, *The Prevalence of Sexual Violence in Prison: The State of the Knowledge Base and Implications for Evidence-based Correctional Policy Making*, 52 Intl J Offender Therapy & Comp Criminol 280, 289 (2008) (“[T]he research indicates that such studies typically report prison sexual victimization rates of around 20%, suggesting that prison sexual victimization is a significant problem to be addressed.”).

⁷⁸ Massoglia, 49 J Health & Soc Behav at 57 (cited in note 73) (“[T]he experience of incarceration likely acts as a primary stressor, while characteristics of life after release—stigma, decreased earnings and employment prospects, and family problems—are a series of secondary stressors.”).

⁷⁹ *Id.* at 61 (“[E]xposure to incarceration, rather than length of incarceration, appears to be more important to the relationship between incarceration and health problems.”). See also Schnittker and John, 48 J Health & Soc Behav at 125 (cited in note 71).

⁸⁰ See Massoglia, 49 J Health & Soc Behav at 60–61 (cited in note 73). The studies we rely upon for this proposition all concerned medium- and maximum-security prisons where no prisoner was incarcerated for less than twelve months. It thus may be that a shorter term in jail or a minimum-security work camp will not result in the same level of post-prison harm, and we make no claims regarding the effects of those types and durations of incarceration.

⁸¹ See Western, *Punishment and Inequality in America* at 116 (cited in note 73) (showing that men who had been incarcerated received lower wages, were employed for fewer weeks, earned less than before they were incarcerated, and earned less than men who were never incarcerated); Bruce Western, Jeffrey R. Kling, and David F. Weiman, *The Labor Market Consequences of Incarceration*, 47 Crime & Delinquency 410, 412 (2001) (reviewing research suggesting negative effects of prison time on earnings and discussing causal mechanisms, such as stigmatization and erosion of human and social capital). See also Devah Pager, *Marked: Race, Crime, and Finding Work in an Era of Mass Incarceration* 32–35 (Chicago 2007) (describing how prison functions as a “negative credential” to prospective employers). But see Jeffrey R. Kling, *Incarceration Length,*

of job skills, and disqualification from stable government and union jobs.⁸² Accordingly, former prisoners experience lower wages, slower wage growth, and, importantly, greater unemployment. According to Bruce Western, the average annual number of weeks ex-inmates worked dropped from thirty-five before imprisonment to twenty-three after,⁸³ and they tended to have much shorter job tenure.⁸⁴ Additionally, imprisonment was related to poor employment continuity for many years after release. After release, offenders are typically shunted into secondary labor markets with little job security, little opportunity for advancement, and miniscule earnings.⁸⁵

Recent research also reveals that ex-inmates are more likely to experience substantial disruptions in their postincarceration family and social lives.⁸⁶ Being in prison makes communication with family and friends difficult and cohabitation with spouses and children challenging.⁸⁷ Moreover, imprisonment likely hinders community integration, trust, and intimacy.⁸⁸ Accordingly, men who have spent time in

Employment, and Earnings, 96 Am Econ Rev 863, 864 (2006) (finding “no substantial evidence of a negative effect of incarceration length on employment or earnings”).

⁸² See Western, Kling, and Weiman, 47 Crime & Delinquency at 412–14 (cited in note 81):

[I]ncarceration can interrupt young men’s transition to stable career employment. The inaccessibility of career jobs to ex-inmates can be explained in several ways. The stigma of incarceration makes ex-inmates unattractive for entry-level or union jobs that may require high levels of trust. In addition, civil disabilities limit ex-felons’ access to career employment in skilled trades or the public sector. Ex-offenders are then relegated to spot markets with little prospect for earnings growth.

(citations omitted).

⁸³ Western, *Punishment and Inequality in America* at 116 (cited in note 73) (noting, however, that for those never incarcerated the average number of weeks worked was forty-three).

⁸⁴ *Id.* at 123 (finding that the effect of incarceration on job tenure was not statistically significant for white men but was statistically significant for black and Hispanic men).

⁸⁵ See *id.* at 121 (differentiating between the primary labor market of well-paid career jobs and the secondary labor market of low-income unsteady jobs, and explaining that “[m]any ex-offenders are . . . restricted to the secondary sector, where employment is precarious and wages are stagnant”). Western compared hypothetical workers differing only regarding past imprisonment and found that a “thirty-year-old black high school dropout, for example, earns on average nearly \$9,000 annually, with incarceration resulting in a reduction of about \$3,300. The parallel white earnings average \$14,400, and the reduction about \$5,200.” *Id.* at 120. He continues, “Without incarceration, 4 percent of young blacks—one-fifth of all poor blacks—would be lifted out of poverty, and the poverty rate would fall to 14.5 percent.” *Id.* at 127.

⁸⁶ See *id.* at 146–47 (finding that among white men, separation was more than twice as likely after incarceration); Lopoo and Western, 67 J Marriage & Fam at 721 (cited in note 73) (finding that “incarceration during marriage significantly increases the risk of divorce or separation”); Beth M. Huebner, *The Effect of Incarceration on Marriage and Work over the Life Course*, 22 Just Q 281, 296 (2005) (concluding based on multiple models that “incarceration reduced the odds of marrying and attaining full-time employment by at least one third”).

⁸⁷ See Schnittker and John, 48 J Health & Soc Behav at 117 (cited in note 71) (noting that the “prison environment may foster psychological orientations that prevent integration and intimacy, including suspicion and aggression”).

⁸⁸ *Id.*

prison are less likely to get married than similar men who have not, and they are more than twice as likely to get divorced than their never-incarcerated peers.⁸⁹

As bad as these health, employment, and social consequences of imprisonment seem, there might be little reason to be concerned about them in light of human beings' uncanny ability to adapt hedonically. But as mentioned above, certain experiences appear to cause severe and long-lasting diminutions in well-being and resist adaptation. The hedonic effects of imprisonment—chronic and deteriorating illness, unemployment, and the loss of family and social ties—are all significant, and all have been found to be particularly resistant to adaptation.

The health problems that imprisonment exposes inmates to, including chronic headaches, hepatitis C infections, HIV/AIDS, and tuberculosis, significantly and consistently diminish self-reported quality of life in sufferers, even with treatment.⁹⁰ Studies have found that people who become unemployed end up with lower baseline levels of happiness, and these decreases last even after they find new jobs.⁹¹ Additionally, longer terms of unemployment result in more intense well-being penalties.⁹² And although economic losses above the poverty line generally do not cause significant changes in well-being, many ex-inmates are likely to find themselves in the lowest part of the income curve where wage differences do matter.⁹³

⁸⁹ See Western, *Punishment and Inequality in America* at 146–48 (cited in note 73) (finding an increased likelihood of divorce for white men, though only a negligible difference for black men).

⁹⁰ See notes 75–76 and accompanying text.

⁹¹ See Andrew E. Clark, et al, *Lags and Leads in Life Satisfaction: A Test of the Baseline Hypothesis*, 118 *Econ J* F222, F231 (2008) (noting that it is “well-known” that unemployment has a “large and significant” correlation with subjective well-being); Richard E. Lucas, *Adaptation and the Set-point Model of Subjective Well-being: Does Happiness Change after Major Life Events?*, 16 *Current Directions Psych Sci* 75, 77 (2007) (reporting that individuals who “experience unemployment . . . [experience] permanent changes in life satisfaction”); Michael Argyle, *Causes and Correlates of Happiness*, in Kahneman, Diener, and Schwarz, eds, *Well-being* at 353, 362–63 (cited in note 5) (describing how unemployment decreases well-being even after controlling for the effects of reduced income). Lucas, et al, write,

The experience of unemployment did, on average, alter people's set-point levels of life satisfaction. People were less satisfied in the years following unemployment than they were before unemployment, and this decline occurred even though individuals eventually regained employment. Furthermore, the changes from baseline were very stable from the reaction period to the adaptation period—individuals who experienced a large drop in satisfaction during unemployment were very likely to be far from baseline many years after becoming reemployed.

Lucas, et al, 15 *Psych Sci* at 11 (cited in note 39). Or as Clark, et al, put it, “[U]nemployment starts off bad and pretty much stays bad.” Clark, et al, 118 *Econ J* at F231.

⁹² See Lucas, et al, 15 *Psych Sci* at 10 (cited in note 39). Psychologists have found that unemployment has a significant negative effect on well-being even after controlling for income. *Id.*

⁹³ See Western, *Punishment and Inequality in America* at 127 (cited in note 73).

The impact of imprisonment on ex-inmates' family and social lives could have especially severe consequences for well-being due to its multiple effects. First, the increased incidence of divorce will have direct effects on well-being, because adaptation to divorce is often slow and incomplete.⁹⁴ Additionally, strong social and family ties have been shown to encourage adaptation,⁹⁵ and the disruptions inflicted by incarceration could be deleterious to a prisoner's ability to adapt to other negative events.⁹⁶ Finally, a variety of learned behaviors that enable inmates to cope with the experience of incarceration—including mistrust, blunted emotions, and lack of planning—are likely to prove maladaptive “on the outside.”⁹⁷

We summarize these effects in schematic form in Figure 1.

⁹⁴ See Richard E. Lucas, *Time Does Not Heal All Wounds: A Longitudinal Study of Reaction and Adaptation to Divorce*, 16 *Psych Sci* 945, 948 (2005); David R. Johnson and Jian Wu, *An Empirical Test of Crisis, Social Selection, and Role Explanations of the Relationship between Marital Disruption and Psychological Distress: A Pooled Time-series Analysis of Four-wave Panel Data*, 64 *J Marriage & Fam* 211, 218, 223 (2002) (finding evidence that the chronic stresses of divorce reduce long-term psychological health, which improves after divorced persons enter into new relationships).

⁹⁵ See, for example, Argyle, *Causes and Correlates of Happiness* at 363 (cited in note 91) (noting that the negative “effects of unemployment are greater if there is little social support”).

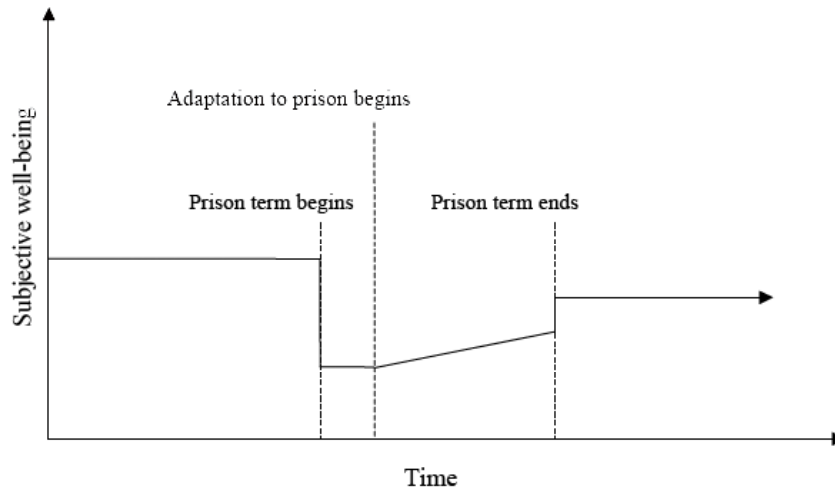
⁹⁶ Consider Frederick and Loewenstein, *Hedonic Adaptation* at 314–15 (cited in note 14) (describing the difficulty of adapting to negative outcomes when social contacts give inadequate or inappropriate support).

⁹⁷ See Schnittker and John, 48 *J Health & Soc Behav* at 126–27 (cited in note 71):

For example, relinquishing initiative and relying on external constraints may be rewarded in a prison setting, but these characteristics can be problematic in a home or workplace. By the same token, vigilance, mistrust, and blunted emotions might help prisoners to cope with an especially violent environment. These dispositions might also, however, elevate risk for cardiovascular disease and other stress-related illnesses.

Stress is strongly correlated with diminished well-being and with increased risk of heart disease. See Ed Diener and Robert Biswas-Diener, *Happiness: Unlocking the Mysteries of Psychological Wealth* 39–41 (Blackwell 2008) (“People who experience stressful situations, especially intense ones, often have a difficult time adapting back to normal: that is, they continue to experience physiological distress even after the stressful or traumatic event has happened.”). Consider also Zamble and Porporino, 17 *Crim Just & Behav* at 68 (cited in note 59) (suggesting the use of treatment programs to change behaviors adopted in prison and to teach coping skills).

FIGURE 1
THE PRISONER'S WELL-BEING OVER TIME



As Figure 1 indicates, incarceration takes an immediate hedonic toll on the prisoner. After a few months, however, these large initial effects on reported happiness may decrease as the prisoner adapts. By the end of the prison term, the prisoner is certainly not as well off as she was before being incarcerated, but her situation has likely improved markedly from those first few months behind bars. The ex-inmate, no longer subject to many of the deprivations associated with being in prison, becomes happier still upon being released. But the lingering negative effects of imprisonment prevent her from reaching the levels of well-being she enjoyed before her incarceration. Alone or in tandem, the ongoing negative health, employment, and social effects of having been imprisoned have severe consequences for lifelong happiness.

Of course, the unadaptable negative features of post-prison life tend also to be negative features of prison life. Our point is that life in prison is characterized not only by those problems but also by other problems that do admit of adaptation, as Figure 1 indicates. We are thus not downplaying how bad it is to be in prison or suggesting that life after prison is no better than life in prison. We are simply pointing out that different time periods during a prison term are associated with different levels of negative experience felt by a criminal, and that the level of negative experience (due to the imprisonment) that is felt after release from prison is nonzero and probably substantial.

If the modern research in hedonic psychology is correct, it has significant implications for the theory and practice of punishment. Our criminal justice system tailors punishments to fit crimes by adjusting the size of fines and the length of prison sentences. If those adjustments do

not affect the magnitude of the negative experience of punishment in a linear fashion, then we would need to adjust our approach to sentencing in order to create the levels of imposed harm we intend. The next two Parts elaborate these points.

II. ADAPTATION, FORECASTING ERRORS, AND ASYMMETRY IN UTILITARIAN CALCULATIONS OF PUNISHMENT

In this Part, we apply the foregoing research on hedonic adaptation to utilitarian theories of punishment. We find that adaptation to imprisonment itself may enable deterrence at a lower utilitarian cost than was previously assumed. At the same time, however, the hedonic effects of incarceration on post-prison life may produce the opposite effect. The social and economic dislocations caused by felony convictions may be imposing hedonically excessive punishments while simultaneously inhibiting efforts to appropriately deter both first-time offenders and recidivists.

A. Utilitarian Theory and the Linkage of Deterrence and Pain

The goal of utilitarianism, in the words of its founder, Jeremy Bentham, is “to augment the total happiness of the community; and therefore, in the first place to exclude, as far as may be, every thing that tends to subtract from that happiness.”⁹⁸ In designing and analyzing systems of criminal punishment, utilitarian theorists are thus primarily concerned with achieving adequate and effective deterrence—of setting punishment at a level sufficiently high to dissuade potential offenders from committing crimes.⁹⁹ Among utilitarians, the temptation to impose

⁹⁸ Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation*, in *The Utilitarians* 5, 162 (Dolphin 1961). See also *id.* at 166 (discussing the costs of punishment).

⁹⁹ See Jeremy Bentham, *Principles of Penal Law*, in John Bowring, ed., 1 *The Works of Jeremy Bentham* 365, 396 (William Tait 1843) (“If the apparent magnitude, or rather value of that pain be greater than the apparent magnitude or value of the pleasure or good he expects to be the consequence of the act, he will be absolutely prevented from performing it.”). See also Letter from O.W. Holmes to Harold J. Laski (Dec 17, 1925), in Mark DeWolfe Howe, ed., 1 *Holmes-Laski Letters: The Correspondence of Mr. Justice Holmes and Harold J. Laski, 1916–1935* 806 (Harvard 1953):

If I were having a philosophical talk with a man I was going to have hanged (or electrocuted) I should say, I don’t doubt that your act was inevitable for you but to make it more avoidable by others we propose to sacrifice you to the common good. You may regard yourself as a soldier dying for your country if you like. But the law must keep its promises.

Utilitarians have focused in addition on two other related objectives: rehabilitation of criminals and incapacitation of dangerous persons in order to render them suitable to reenter society. These goals of punishment have crept out of favor, however, as prisons have proven to be poor vehicles for reforming offenders, see Robert Martinson, *What Works?—Questions and Answers about Prison Reform*, 36 *Pub Interest* 22, 25 (1974) (arguing that rehabilitative efforts have failed to accomplish their goals), and incapacitation has had little noticeable effect on the rates of

increasingly harsher penalties is strong. Criminal punishments generally do not pose a threat of overdeterrence (unlike the civil tort context, where the possibility of overdeterrence is a persistent problem).¹⁰⁰ Because most crimes must be intentional, and because the majority of them deviate so strongly from acceptable norms of conduct—robbery and assault do not resemble socially permitted conduct, while negligent driving at least bears a resemblance to safe driving—there is less fear that some socially productive activity will be chilled through stiff penalties on crime.

Rather, from a utilitarian perspective, a significant check on the degree of punishment is the cost associated with the punishment itself.¹⁰¹ Part of that cost derives from the public expense of detecting, trying, and imprisoning a criminal;¹⁰² and part of it relates to the opportunity cost of removing individuals from the workforce and transferring them to comparatively unproductive confinement.¹⁰³ For present purposes, however, the most important component of these costs is the pain inflicted upon the criminal. For a strict utilitarian, the criminal's welfare

serious crimes, see John J. DiIulio, Jr., *Two Million Prisoners Are Enough*, Wall St J A14 (Mar 12, 1999) (reporting that as crime levels have declined, incarceration rates have still risen); Franklin E. Zimring and Gordon Hawkins, *Incapacitation: Penal Confinement and the Restraint of Crime* 100–27 (Oxford 1995) (finding that increased incarceration rates in California led to a 15 percent decrease in overall crime rates but did not influence the rates of violent crimes such as assaults, robberies, and murders). Rehabilitation and incapacitation also have lost support as working theories of punishment because they could offer no response to the critique that they seemed to compel excessive and indefinite punishment of even minor crimes. See Herbert Morris, *Persons and Punishment*, 52 *The Monist* 475, 485–86 (1968) (presenting the logical abnegation of proportionality in a system for dealing with offenders in which therapy, rather than punishment, is the goal). We focus here upon deterrence, which remains the principal utilitarian goal of punishment. See, for example, Model Penal Code (MPC) § 1.02(2) (ALI 1980) (stating that one of the general purposes of the provisions governing the sentencing and treatment of offenders is “to prevent the commission of offenses”). Nonetheless, we hasten to note that the theory we propound here has little to say about rehabilitation and incapacitation, other than the fact that incapacitation may be possible at lower hedonic cost if criminals adapt to imprisonment. See Part II.B.

¹⁰⁰ See Richard A. Posner, *Economic Analysis of Law* 167–71 (Aspen 7th ed 2007) (describing the theory of optimal tort damages). For an idea of the problems that might be generated through overdeterrence, imagine the economic damage to society if the punishment for causing a car accident were set at \$1 million and people ceased driving.

¹⁰¹ See Richard S. Frase, *Punishment Purposes*, 58 *Stan L Rev* 67, 68 (2005) (explaining that most modern systems set punishment “not only [by reference to] traditional crime-control purposes such as deterrence, incapacitation, and rehabilitation, but also a concept known as parsimony—a preference for the least severe alternative that will achieve the purposes of the sentence”). A second and perhaps more important consideration is the need to achieve marginal deterrence; we address this point in greater detail in Part II.C.

¹⁰² See generally Steven D. Levitt, *The Effect of Prison Population Size on Crime Rates: Evidence from Prison Overcrowding Litigation*, 111 *Q J Econ* 319 (1996) (analyzing the cost to taxpayers of incarceration).

¹⁰³ See Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 *J Polit Econ* 169, 193 (1968) (“[I]n the United States in 1965, about \$1 billion was spent on ‘correction,’ and this estimate excludes, of course, the value of the loss in offenders’ time.”).

is part of the overall calculus: the utilitarian goal is to increase the overall welfare of society, and the criminal, despite her deviance from societal norms, remains a part of that society.¹⁰⁴

Accordingly, deterrence and social cost have typically been thought to move in a type of proportionate lockstep. The greater the deterrent effect desired, the greater the necessary punishment; but as punishment (and consequently deterrence) increases, so too does the social price paid to purchase that deterrence. Utilitarian legislators who draft sentencing codes and utilitarian judges who impose sentences are thus forced to come to some sort of accommodation between the twin goals of achieving deterrence and lessening the social price paid for punishment, and much of the struggle in setting appropriate levels of punishment revolves around this difficult question of balancing.¹⁰⁵

Utilitarian theorists have heretofore assumed that the deterrent “punch” of punishment was equal to the pain that punishment inflicted upon an offender, and that, fundamentally, the deterrent effect could not be uncoupled from its utilitarian cost.¹⁰⁶ If a lawmaker or judge wished to obtain additional deterrence power by increasing the punishment for some crime, she could not avoid the cost of imposing it upon the criminals who broke the law regardless. The utilitarian pain inflicted by punishment was, by this accounting, the necessary purchase price of deterrence. Yet new theories of hedonic adaptation cast doubt upon this principle.

¹⁰⁴ Louis Michael Seidman, *Soldiers, Martyrs, and Criminals: Utilitarian Theory and the Problem of Crime Control*, 94 Yale L J 315, 320 (1984); Margery Fry, *Bentham and English Penal Reform*, in George W. Keeton and Georg Schwarzenberger, eds, *Jeremy Bentham and the Law* 20, 28 (Stevens & Sons 1948) (“[T]he suffering of a punished criminal goes duly down on the debit side, and must be balanced by some greater good in the credit column.”). See also Carl Emig-holz, Note, *Utilitarianism, Retributivism and the White Collar-Drug Crime Sentencing Disparity: Toward a Unified Theory of Enforcement*, 58 Rutgers L Rev 583, 599 (2006) (“In the utilitarian calculus, the criminal justice system implicates a negative social cost: the crime . . . and pain inflicted upon the criminal as a result of the meted punishment.”); Levitt, 111 Q J Econ at 347 (cited in note 102) (acknowledging that typical studies may underestimate the costs of incarceration because of the unacknowledged “pain and suffering of prisoners and their families”); R.B. Brandt, *Conscience (Rule) Utilitarianism and the Criminal Law*, 14 L & Phil 65, 73 (1995).

¹⁰⁵ Compare MPC § 1.02(2)(a) (listing “to prevent the commission of offenses” as the first purpose of the Code section governing punishment), with MPC § 1.02(2)(c) (stating that the third purpose of the same section is “to safeguard offenders against *excessive*, disproportionate or arbitrary punishment”) (emphasis added). See, for example, 18 USC § 3553(a) (“The court shall impose a sentence sufficient, but not greater than necessary.”).

¹⁰⁶ See, for example, Bentham, *Principles of Morals and Legislation* at 178–79 (cited in note 98) (setting forth the properties of apt punishment, including “equability” and “variability,” in which the quantity of pain produced by a punishment can be adjusted to sufficiently outweigh the profit of the offense).

B. Deterrence, Cost, and Adaptation to Punishment

As we discussed in Part I, new evidence regarding hedonic adaptation gives rise to strong inferences that people will adapt over time to criminal punishment, whether that punishment takes the form of a monetary penalty or a prison sentence. That is to say, the convicted criminal's felt experience of punishment will likely diminish in severity over time: both the prisoner and the recipient of a fine will be happier one year after the punishment is imposed than one day after, even if the prisoner remains behind bars and irrespective of whether the fined criminal has recovered any of the lost funds.¹⁰⁷

This adaptation, and the forecasting errors that accompany it, sever the linkage between the deterrent power of punishment and its cost. Regardless of the duration of punishment, criminals will feel it less harshly than they (or anyone else) expected. At the same time, they will fail to anticipate their own adaptation, even if they are repeat offenders who have been punished before.¹⁰⁸ Indeed, criminals and the people who sanction them—juries, judges, and legislators—will make the same *ex ante* errors in failing to forecast adaptation. Deterrence is an *ex ante* phenomenon—putative criminals decide which course of action to pursue based upon their expected outcomes. Consequently, criminals will be deterred to the same extent that they would be in the absence of adaptation. Punishment will serve its primary purpose, but at lower cost than anyone had anticipated.

1. Total pain.

From a utilitarian perspective, the harm inflicted upon the criminal is a cost to be minimized wherever possible.¹⁰⁹ To pursue this goal, a policymaker or judge must have some sense—within reasonable bounds—of at least the relative harm that different sentences are likely to inflict. One natural assumption in this regard is that the severity of a sentence

¹⁰⁷ See Part I.B–C.

¹⁰⁸ See Wilson and Gilbert, 14 *Current Directions Psych Sci* at 132 (cited in note 40) (explaining that people “do not recognize beforehand” the extent to which adaptation will occur); Ubel, Loewenstein, and Jepson, 11 *J Exp Psych: Applied* at 121–22 (cited in note 41) (reporting experimental results supporting the theory that “people often underappreciate their own powers of adaptation”). See also Gilbert and Wilson, 317 *Science* at 1354 (cited in note 42); Ayton, Pott, and Elwakili, 13 *Thinking & Reasoning* at 78 (cited in note 43) (studying people who repeatedly failed a driving test “showed no improvement in their ability to forecast their moderate levels of happiness” following failure).

¹⁰⁹ See, for example, 18 USC § 3553(a) (“The court shall impose a sentence sufficient, but not greater than necessary.”); MPC § 1.02(2) (stating that one of the general purposes of the provisions governing the sentencing and treatment of offenders is “to safeguard offenders against excessive, disproportionate or arbitrary punishment”). See also note 104 and accompanying text.

will scale approximately in proportion to its length or, in the case of a fine, to its amount.¹¹⁰

Adaptation uproots this assumption. As we described above, both policymakers and criminals suffer from biases when predicting the intensity and the duration of the hedonic cost of punishment. They will believe the effect on well-being to be worse than it truly is, even initially, and they will anticipate that it will last longer than it does in fact.¹¹¹ Thus, punitive fines and time spent in prison will impose smaller cumulative hedonic costs upon their recipients than expected because those costs will ameliorate over time; spending two years in prison is not twice as painful as spending one year.

As a consequence, policymakers' forecasting errors (coupled with prisoners' adaptation) introduce a systematic bias into their estimations of the effect of punishment. Punishment—whether by fine or by imprisonment—is simply not as painful as lawmakers, judges, and criminals believe or predict. Any given punishment imposes less pain upon the recipient and exacts a smaller utilitarian cost than previously believed. For a utilitarian, this promises a meaningful improvement over the perceived status quo.

This is not to say that the criminal's hedonic experience is the only true measure of punishment. For instance, criminals may have duties or responsibilities to loved ones that they are unable to fulfill while they are behind bars. Of course, these deprivations will largely be reflected in a prisoner's hedonic self-reports: it will likely make a prisoner unhappy if she is unable to spend time with or support her spouse and children. Nonetheless, we do not ignore the possibility that prison might punish in ways that hedonic measures do not capture. We argue only that the effect of imprisonment on a prisoner's subjective well-being is a substantial component of punishment,¹¹² and thus that distortions in those hedonic effects have an impact on the overall quantity of punishment administered.

2. Deterrence.

The usual corollary to this decreasing punishment would be a concomitant diminishment in its deterrent power—a negative repercussion

¹¹⁰ See Kolber, 109 Colum L Rev at 224–26 (cited in note 4).

¹¹¹ Wilson and Gilbert, 14 Current Directions Psych Sci at 131 (cited in note 40) (explaining the concept of “immune neglect” as a tendency “not to take [natural psychological defenses] into account when predicting [one's] future emotional reactions”).

¹¹² Indeed, even the leading critics of utilitarianism value welfare and thus would count diminutions of welfare as substantial harms. See, for example, Michael S. Moore, *Torture and the Balance of Evils*, 23 Israel L Rev 280, 331–32 (1989) (defending a view that rejects strict consequentialism, but considers it as one moral principle among others).

by nearly any accounting. But there exists an important asymmetry between deterrence and the felt experience of punishment. A proper accounting of punishment's hedonic cost can be made only *ex post*—after the punishment has already been administered. Hedonic adaptation will lessen the impact of that punishment over time, and so this *ex post* accounting will necessarily include the ameliorating effects of that adaptation.

Deterrence, on the other hand, is an *ex ante* phenomenon: the important issue is what harm the prospective criminal *believes* she will suffer if she is caught and punished, not the harm that she eventually experiences.¹¹³ In the *ex ante* position, the criminal will not anticipate her adaptation to punishment. Quite to the contrary; she will likely be subject to a focusing illusion as to that punishment's severity. Her expectation of the punishment will exceed what she will, in fact, experience.¹¹⁴ At the same time, the policymakers charged with meting out punishments—juries, judges, and legislators—will be subject to the same focusing illusions. They will similarly fail to anticipate the criminal's adaptation, and they will imagine a punishment to be harsher than it actually is. Criminals and the people charged with punishing them may differ in their evaluations of punishment on other grounds—criminals may have higher discount rates than policymakers expect,¹¹⁵ or they may have more information as to the conditions of confinement¹¹⁶—but

¹¹³ Our account in this respect differs from that of Paul H. Robinson and John M. Darley, *Does Criminal Law Deter? A Behavioral Science Investigation*, 24 *Oxford J Legal Stud* 173, 188–89 (2004). Robinson and Darley suggest in passing that adaptation to prison will inhibit deterrence, but they do not account for the fact that putative criminals will evaluate whether to commit a crime before they have been incarcerated, and thus before they learn that they will adapt. In addition, even potential recidivists will forget about their own adaptation once they have been released; without this learning, they will be subject to the full deterrence force of threatened punishment each subsequent time they contemplate a crime. See also notes 118–19 and accompanying text.

¹¹⁴ See Gilbert and Wilson, 317 *Science* at 1352–53 (cited in note 42).

¹¹⁵ That is to say, by comparison to the general population, criminals may weigh the present far more heavily than the future when deciding upon a course of action. See generally James Q. Wilson and Richard J. Herrnstein, *Crime and Human Nature* (Simon & Schuster 1985) (presenting a theory of criminal behavior in which time discounting features prominently because the rewards of crime and the costs of crime do not occur simultaneously). See also David S. Lee and Justin McCrary, *Crime, Punishment, and Myopia* *4, 28 (unpublished manuscript, July 2005), online at http://www.fordschool.umich.edu/research/pdf/crime_myopia.pdf (visited Sept 1, 2009) (demonstrating that hyperbolic discounting is more common among criminals than the general population); Christine Jolls, Cass R. Sunstein, and Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 *Stan L Rev* 1471, 1539–40 (1998) (explaining that hyperbolic discounting will result in prisoners feeling more of an impact with respect to a shorter punishment than a longer one); David Laibson, *Golden Eggs and Hyperbolic Discounting*, 112 *Q J Econ* 443, 445–46 (1997) (defining hyperbolic discount functions as those characterized by a high discount rate over short horizons and a low discount rate over long horizons).

¹¹⁶ See Ascanio Piomelli, *Foucault's Approach to Power: Its Allure and Limits for Collaborative Lawyering*, 2004 *Utah L Rev* 395, 470 n 346 (noting prisoners' firsthand information regarding the conditions of confinement); Daniel M. Donovan, Jr, Note, *Constitutionality of Regulations*

along the dimension of hedonic forecasting there is every reason to believe that they will behave similarly.¹¹⁷ Hedonic adaptation thus introduces not an interpersonal asymmetry, but an intertemporal one: criminals may experience punishment differently than they anticipated at an earlier point in time, but different people forecasting the impact of punishment at the same moment will reach similar conclusions.

This felicitous asymmetry is threatened, however, by the prospect that recidivist criminals might learn from their past experiences. Having once experienced punishment (and the attendant adaptation), the criminal might understand that she will learn to accommodate the punishment she receives and that the initial shock of being thrown into prison or fined a large amount will soon dissipate. Such information, in the hands of repeat offenders, would diminish the deterrent power of punishment, perhaps substantially. Yet remarkably this learning does not take place, as we noted above.¹¹⁸ People, as a general rule, do not remember their adaptive responses to negative stimuli.¹¹⁹ They report their experiences to others as having been worse than they really were, and they do not draw upon their experiences to make more accurate predictions on subsequent occasions. Because they do not learn, they cannot disseminate any information about adaptation effects to the broader community, which remains similarly ignorant. The consequence is that affective forecasting errors are remarkably consistent over time: having overestimated the harshness of prison once, people are likely to do so again, and to a similar degree. The intertemporal asymmetry introduced by adaptation is resistant to even a particular individual's life experience.

3. Adaptation effects in combination.

Viewed side-by-side, these two consequences of adaptation—that people adapt but fail to anticipate their adaptation—have significant ramifications for utilitarian theories of punishment. Adaptation severs the linkage between deterrence and the pain inflicted upon a criminal:

Restricting Prisoner Correspondence with the Media, 56 *Fordham L Rev* 1151, 1166 (1988) (describing the informational value concerning prison conditions of prisoners' letters from prison).

¹¹⁷ No study has yet observed any differences in how various groups of people experience adaptation or forecast their future happiness. See, for example, Nick Sevdalis and Nigel Harvey, *Predicting Preferences: A Neglected Aspect of Shared Decision-making*, 9 *Health Expectations* 245, 248 (2006) (finding no evidence that "doctors are better equipped than their patients to judge the latter's future 'best interests'"). This is not to say that such differences cannot exist—and these conclusions are certainly tentative, pending future research—but at the moment there is no reason to believe that they do.

¹¹⁸ See Ayton, Pott, and Elwakili, 13 *Thinking & Reasoning* at 78 (cited in note 43). See also notes 40–46 and accompanying text.

¹¹⁹ Gilbert, Meyers, and Wilson, 27 *Personality & Soc Psych Bull* at 1649 (cited in note 46).

policymakers are able to achieve adequate deterrence at a lower societal cost than was believed possible. By not taking adaptation into account, consequentialist calculations of the costs of punishment are skewed upwards. A proper cost-benefit accounting of various forms and methods of punishment—be they monetary fines or terms of imprisonment—must include the power of adaptation to lessen the burden of punishment as the criminal experiences it, while simultaneously obscuring that anticipated advantage from the criminal both before and after the fact. For the utilitarian punishment theorist, hedonic adaptation appears to represent an essentially unalloyed good.¹²⁰

C. The Post Hoc Effects of Confinement

Part II.A and Part II.B were concerned only with the effects of adaptation upon a criminal's actual reaction to a particular punishment itself—for example, the criminal's experience while in prison or in coping with a punitive fine. With respect to imprisonment, however, the hedonic impact of punishment does not conclude when the prisoner is released. A convicted felon feels the lingering aftereffects of imprisonment in nearly every area of her life, ranging from legal,¹²¹ to social, to economic. In many cases, these ongoing ramifications of imprisonment are not easily adaptable. Consequently, prison holds the capacity to impose hedonic harms beyond what a simple snapshot of life in prison would reveal.

¹²⁰ It is worth noting that the state will also be able to incapacitate criminals at lower hedonic cost. To the extent that incapacitation is a normatively desirable penal objective or one of the objects of the criminal system, adaptation represents a normative good in that respect as well. See John J. DiIulio, Jr., *Zero Prison Growth: Thoughts on the Morality of Effective Crime Policy*, 44 *Am J Juris* 67, 69 (1999) (cataloguing studies showing the benefits of incapacitation); John J. DiIulio, Jr., *Prisons Are a Bargain, by Any Measure*, *NY Times* A17 (Jan 16, 1996) (“[P]risons pay big dividends even if all they deliver is relief from the murder and mayhem that incarcerated felons would be committing if free.”); MPC § 1.02(1) (stating that one of the general purposes of the provisions governing the definition of offenses is “to subject to public control persons whose conduct indicates that they are disposed to commit crimes”).

¹²¹ A lengthy prison term—or, more accurately, the state of being a “convicted felon”—carries with it a number of legal deficiencies that time does not cure. Federal law prohibits anyone who has been convicted of a crime for which punishment can exceed one year from possessing a firearm of any sort. See 18 USC § 922(g)(1). Twelve states currently prohibit some convicted felons from voting even after they are no longer associated with the criminal justice system, while an additional eighteen states prevent felons from voting if they have been released on probation or parole, and five additional states prevent felons from voting if they have been released only on probation. See ProCon.org, *State Felon Voting Laws* (Sept 25, 2008), online at <http://felonvoting.procon.org/viewresource.asp?resourceID=286> (visited Sept 1, 2009). These penalties are undoubtedly significant, but they are unlikely to cause substantial hedonic harm. No study has shown any hedonic impact from the loss of a capacity as circumscribed as the right to carry a gun or to vote, and it seems implausible that the loss of such rights would register hedonically on nearly the same magnitude as far more significant life events, such as births, deaths, illness, or financial shocks.

The social and economic effects of having served time in prison can be extremely serious. As we outlined in Part I, prisoners often witness the breakups of their marriages and relationships while in prison and have greater difficulty forming other relationships (including friendships) upon their release.¹²² They experience greater rates of unemployment.¹²³ Ex-prisoners also suffer from more debilitating health problems and far higher rates of incurable diseases than the general population.¹²⁴ And as we describe above, unlike the loss of money—or even, to some degree, permanent physical injuries¹²⁵—these types of afflictions have severe long-term hedonic effects and are very difficult to adapt to. In particular, unemployment and the dissolution of social ties are two of the most reliable predictors of long-term unhappiness and anxiety.¹²⁶ Measured against an individual's happiness before being caught and convicted, life after prison bears in some respects a greater resemblance to life *in* prison than it does to life *before* prison.

The ramifications of this deterioration of post-prison life are two-fold. First, it raises the possibility that consequentialist calculations of the costs of punishment may again be biased—downward this time. Any cost-benefit analysis of punishment that terminates when the criminal is released from prison would understate the negative effects that begin or endure after the prison term has finished.¹²⁷ It is worth noting that these negative effects do not accrue only to the former prisoner. Individual unemployment and social dislocation impose significant negative externalities upon the rest of society; the former prisoner frequently must be supported by state aid, cannot adequately support her family, and is more likely to commit further crimes.¹²⁸

¹²² See notes 86–89 and accompanying text.

¹²³ See notes 81–85 and accompanying text.

¹²⁴ See Massoglia, 49 *J Health & Soc Behav* at 57 (cited in note 73). See also Massoglia, 42 *L & Socy Rev* at 295–96 (cited in note 73) (hypothesizing that the disparities in health between races is due in part to the disproportionate imprisonment of different races).

¹²⁵ See Bronsteen, Buccafusco, and Masur, 108 *Colum L Rev* at 1527–31 (cited in note 2).

¹²⁶ See notes 91–96 and accompanying text.

¹²⁷ See Levitt, 111 *Q J Econ* at 346–47 (cited in note 102) (cataloguing a variety of prior studies that fail to incorporate the post hoc costs of imprisonment to the prisoner); Becker, 76 *J Polit Econ* at 179–80 (cited in note 103) (limiting discussion of the costs of punishment to those incurred while the punishment is ongoing).

¹²⁸ Consider Anthony C. Thompson, *Navigating the Hidden Obstacles to Ex-offender Reentry*, 45 *BC L Rev* 255, 260 (2004); Western, *Punishment and Inequality in America* at 119, 149–52 (cited in note 73) (finding strong effects of prison on unemployment and future life prospects, including a 30 percent diminution in wages and an 11 percent decline in the probability of getting married for African-American men); Dermot Sullivan, *Employee Violence, Negligent Hiring, and Criminal Records Checks: New York's Need to Reevaluate its Priorities to Promote Public Safety*, 72 *St John's L Rev* 581, 596 (1998) (noting the connection between unemployment and recidivism); John Irwin, *The Felon* viii (California 1987) (“Most ex-convicts live menial or derelict lives and many die early of alcoholism or drug use, or by suicide.”).

Second, the harsh impact of imprisonment on post-prison life has uncertain but possibly damaging consequences for efforts to set deterrence levels accurately. The initial problem, of course, is that prison sentences exact a much greater toll than their term of years. The question, then, is which actors within the criminal justice system account for this fact *ex ante*, when the question of deterrence is relevant. It is hard to be certain about the minds of the legislators who draft sentencing codes, the judges who impose sentences, and especially the potential criminals who contemplate committing illegal acts. Reliable studies of this subject simply do not exist.

Nonetheless, there are indications that this phenomenon is understood but ignored. Federal and state laws have, at various moments, acknowledged the difficulties of reintegrating criminals into society.¹²⁹ However, these efforts have been scattered and limited,¹³⁰ and the public record is otherwise devoid of indications that politicians are concerned about the lingering effects of prison upon convicted criminals.¹³¹ Moreover, no sentencing code directs judges to take account of the post hoc effects of the punishments they are considering.¹³² Even if judges wished to account for the post-prison costs of imprisonment, they might simply be barred from doing so.

For potential offenders, the picture may not be quite so clear. Criminals discount the future so strongly that some scholars believe that even increasing prison terms beyond ten or twenty years provides little additional deterrence.¹³³ On the other hand, at least one study has demonstrated that punitive measures that affect only life *after* prison—in this case, laws that force convicted sex offenders to notify local

¹²⁹ See, for example, Thompson, 45 BC L Rev at 260 (cited in note 128); Second Chance Act of 2007, Pub L No 110-199, 122 Stat 657, codified at 42 USC § 17501 et seq (encouraging “the development and support of . . . comprehensive reentry services” for former prisoners).

¹³⁰ For instance, the Second Chance Act provides only for limited grants to programs that provide technical training and drug treatment for felons while they are still imprisoned. Rates of post-prison unemployment and drug use belie the notion that these grants are having a substantial effect.

¹³¹ The lone counterexample may be the treatment of juvenile offenders, who have the opportunity to expunge convictions from their records in many states. See T. Markus Funk, *A Mere Youthful Indiscretion? Reexamining the Policy of Expunging Juvenile Delinquency Records*, 29 Mich J L Reform 885, 887 n 9 (1996) (collecting state statutes allowing for expungement of juvenile records). Of course, the simple fact that a criminal record has been expunged will by no means ameliorate all of the negative aftereffects of prison, which are due as much to the social separation imposed by prison as to the legal status of being a convicted felon. See notes 86–89 and accompanying text.

¹³² Consider 18 USC § 3553(a) (directing federal judges to consider a host of factors when imposing a sentence, none of which relates to the prisoner’s post-correctional experience).

¹³³ See generally, for example, Wilson and Herrnstein, *Crime and Human Nature* (cited in note 115). See also note 141.

residents when they are released from prison¹³⁴—have demonstrably positive effects on deterrence.¹³⁵ For at least one population of potential criminals, then, the post-prison effects of incarceration play a meaningful role in ex ante decisionmaking.

This finding raises the implication that legislators and judges—through their failure to consider the significant hedonic effects of prison on post-prison life—have been systematically underestimating the deterrent effect of prison sentences. Prospective criminals may be figuring post hoc effects of imprisonment into the deterrent calculus, whereas policymakers almost surely are not. Policymakers thus may be overpunishing, failing to calibrate sentences accurately to achieve necessary deterrence at the lowest possible hedonic cost.

Moreover, the straightforward problems with accuracy aside, the manner in which the effects of punishment are actually felt complicates efforts to calibrate penalties to crimes. The difficulty arises from the fact that much of the hedonic sanction involved in a prison term is effectively front-loaded. The negative post-prison repercussions of having served a prison term accrue to essentially any inmate: the differences in post-prison outcomes between offenders who were incarcerated for shorter terms and those incarcerated for longer terms are minimal.¹³⁶ This implies that much of the pain associated with incarceration is fixed—unchangeable once an offender has served at least a few years behind bars.¹³⁷ Consequently, for example, a two-year prison sentence is much more than 50 percent as punitive as a four-year sentence.¹³⁸ Tack-

¹³⁴ These laws were inspired by a New Jersey statute known as “Megan’s Law” (after the child victim who inspired its passage). NJ Rev Stat § 2C:7-1 et seq (West). There is now a federal mandate requiring every state to pass similar legislation. See 42 USC § 14071(e)(2):

The State . . . shall release relevant information that is necessary to protect the public concerning a specific person required to register under this section The release of information under this paragraph shall include the maintenance of an Internet site containing such information that is available to the public.

¹³⁵ J.J. Prescott and Jonah E. Rockoff, *Do Sex Offender Registration and Notification Laws Affect Criminal Behavior?* *23–26 (University of Michigan John M. Olin Center for Law & Economics Working Paper No 08-006, Feb 2008), online at <http://ssrn.com/abstract=1100663> (visited Sept 1, 2009) (finding that offender notification laws reduced first-time commissions of crimes).

¹³⁶ Massoglia, 49 J Health & Soc Behav at 61 (cited in note 73); Schnittker and John, 48 J Health & Soc Behav at 125 (cited in note 71). For the qualification that there may be aspects of punishment that hedonic measures do not capture, see note 112 and accompanying text. Nonetheless, the hedonic component of punishment is undeniably large, and perhaps dominant.

¹³⁷ This effect is exacerbated by the fact that the first few months of imprisonment (before adaptation begins) appear to be the worst. The initial harshness of life in prison represents a fixed up-front punishment that accrues every time an offender is sentenced to more than a few months behind bars. See note 111 and accompanying text.

¹³⁸ This is true irrespective of criminals’ high discount rates. See note 115. Precipitous discounting will cause criminals to view a four-year sentence as less than half as harsh as a two-year sentence; the post-prison hedonic costs of incarceration will have a similar (and compounding) effect.

ing additional years onto the end of a prison sentence will alter the overall punitive calculation less than intuition would suggest, particularly because the same years that convicted criminals would have spent outside of prison (but, with longer sentences, will now spend inside) would likely have been unhappy ones.

This front-loading severely complicates efforts to achieve marginal deterrence against first-time offenders. A system of punishment should impose heavier penalties for more serious crimes in order to coerce criminals into committing less serious crimes.¹³⁹ For instance, if burglary, armed robbery, and murder were all punishable by life in prison, potential burglars might elect to commit the more serious crime of armed robbery instead, calculating that they have little to lose; similarly, burglars who were in danger of being apprehended might not hesitate to commit murder. If a significant proportion of the hedonic punishment for a crime attaches after a single year in prison, and if potential offenders take the post-prison ramifications of punishment into consideration when deciding whether to commit a crime (a plausible assumption¹⁴⁰), then the variation in deterrence among different punishments begins to erode.¹⁴¹ As punishments begin to appear uniform to the potential criminal, marginal deterrence is frustrated.

The hedonic impact of post-prison punishment will also interfere with the deterrence of recidivists, though not because they possess any capacity to learn from their experiences. Rather, felons who have been convicted and imprisoned at least once already face severely diminished happiness outside of prison due to the social and economic dislocations caused by their prior stints behind bars. When they contemplate whether to commit further crimes, they must weigh the hedonic consequences of prison against their devalued post-conviction lives,

¹³⁹ See, for example, Bentham, *Principles of Morals and Legislation* at 169 (cited in note 98) (outlining reasons to maintain proportionality between punishment and offenses); Eyal Zadir and Barak Medina, *Law, Morality, and Economics: Integrating Moral Constraints with Economic Analysis*, 96 Cal L Rev 323, 379 n 211 (2008) (noting that economic theory requires marginal deterrence—a lesser offense receives a lesser punishment—because otherwise a criminal will have no incentive not to commit the most serious crime possible).

¹⁴⁰ See note 135 and accompanying text.

¹⁴¹ That criminals have extremely high discount rates is now a commonplace. See note 115. Economists, however, remain divided as to the theory behind this criminal behavior, and no fully satisfying explanation has yet emerged. Our argument, if it is correct, suggests the possibility that some behavior previously explained through high discount rates may in fact be attributable to other causes. For example, offenders may be responding rationally to the front-loading of punishment in jail sentences, understanding that much of the hedonic cost of being imprisoned will accrue whether they are forced to serve two years or ten. (This would, however, only apply to first-time criminals; recidivists, having been imprisoned once, already will have been afflicted with most of the negative effects of having served time.) This theory is, of course, highly contingent and highly tentative, but it raises questions about prior assumptions regarding the level of information possessed by first-time offenders.

not their happier pre-prison lives. If potential offenders have less to lose by being sent to prison, then they will be more likely to select crime over law-abiding behavior.

Of course, it is not news that convicted criminals face reduced opportunities—particularly economic—after release from prison and are more likely to opt for criminal activity as a result.¹⁴² To this well-tread territory our analysis contributes three salient components. First, these post-prison deprivations impose some of the most serious hedonic injuries possible; few things are as debilitating to hedonic well-being as unemployment and the breakup of social ties.¹⁴³ Second, these hedonic effects will persist; the conditions of being unemployed or deprived of social ties are extremely difficult to adapt to.¹⁴⁴ And third, these effects are largely independent of the length of the prison sentence.¹⁴⁵ The reduced opportunity costs that give rise to repeat offending are unlikely to dissipate; more likely, they will remain throughout much of the remainder of the criminal's life. Thus, while adaptation to *punishment itself* offers the promise of appropriate deterrence at a reduced price, the *post-prison cost* of imprisonment threatens to reverse that same calculation, heightening pain while inhibiting its ability to deter.

* * *

For utilitarian theorists of punishment, hedonic adaptation offers a mixed set of solutions and new problems. Adaptation loosens the link between deterrence and harm, suggesting that policymakers will be able to achieve adequate deterrence while inflicting less pain upon criminals. At the same time, the devastating hedonic effects of incarceration upon post-prison life may have the opposite result. Punishment may be more severe than policymakers realize, and the ongoing nature of this punishment may skew both marginal deterrence (as applied to first-time offenders) and overall deterrence (as applied to recidivists).

However, these forces will not counterbalance. For most criminals, the post-prison hedonic costs imposed by incarceration will likely

¹⁴² For a small sampling of this extensive literature (here applied to sex offenders), see generally Prescott and Rockoff, *Do Sex Offender Registration and Notification Laws Affect Criminal Behavior?* (cited in note 135) (finding that reduced opportunities after conviction lead to greater rates of recidivism); William Edwards and Christopher Hensley, *Contextualizing Sex Offender Management Legislation and Policy: Evaluating the Problem of Latent Consequences in Community Notification Laws*, 45 *Intl J Offender Therapy & Comp Criminol* 83 (2001); Lois Presser and Elaine Gunnison, *Strange Bedfellows: Is Sex Offender Notification a Form of Community Justice?*, 45 *Crime & Delinquency* 299 (1999); Robert A. Prentky, *Community Notification and Constructive Risk Reduction*, 11 *J Interpersonal Violence* 295 (1996).

¹⁴³ See notes 81–89 and accompanying text.

¹⁴⁴ See notes 91–97 and accompanying text.

¹⁴⁵ See note 79 and accompanying text.

overwhelm the benefits of adaptation to prison simply because they endure for much longer. Difficulties with deterrence introduced by front-loaded punishment will only compound the problem. Lawmakers and judges must therefore find some means of circumventing the distortions introduced by (1) hedonic adaptation to fines and incarceration, and (2) the extent and duration of post-prison harm.

III. RETRIBUTIVE AND MIXED THEORIES

Most scholars today do not deem punishment justified solely by its capacity to increase overall welfare. Instead, they focus at least in part on the idea that a criminal *deserves* to be punished.¹⁴⁶ This retributive principle is for some the entire justification of punishment and for others a supplement to or a limitation on the pursuit of utilitarian objectives.¹⁴⁷

The retributive approach is, we contend, linked inextricably with punishment's nature as a negative experience. If the state responded to crimes by giving money or praise to the perpetrators, that could hardly be called punishment because it would not be imposing something negative. Even if such rewards were labeled "punishment," they would seem incompatible with retributivism: to say that a criminal deserves punishment means that she deserves something negative, not positive or neutral.

A retributivist could try to disconnect punishment from criminals' actual experience of it by focusing only on objective facts such as the amount of liberty deprived.¹⁴⁸ But the reason that liberty deprivation constitutes punishment, and the reason that it is something that could be retributively deserved by a criminal, is that it is a negative experience. If it were not a negative experience, then it would not be retributively appropriate or meaningful and indeed would not be punishment at all.

The retributivist might reply that it matters only that liberty deprivation is generally negative for people, and that it is retributively irrelevant if such deprivation is not negative for a specific criminal or if certain time periods within a deprivation period are experienced less negatively than others. But the reason that the state tailors punishments to crimes by adjusting the length of a prison term or the amount of a fine is that greater fines and periods of incarceration are taken to impose higher levels of negative experience than the levels imposed by smaller fines and shorter imprisonments.

¹⁴⁶ See Leon Pearl, *A Case against the Kantian Retributivist Theory of Punishment: A Response to Professor Pugsley*, 11 Hofstra L Rev 273, 274 (1982).

¹⁴⁷ See Frase, 58 Stan L Rev at 73 (cited in note 101) (discussing the theory of pure retribution and its purposes).

¹⁴⁸ See Kolber, 109 Colum L Rev at 203 (cited in note 4).

Adam Kolber has argued that the actual experience of negativity is central to punishment theory, and we credit his position.¹⁴⁹ According to Kolber, different individuals' experiences of punishment must be taken into account. His arguments to that end support our contentions as well, and we refer readers to those arguments.¹⁵⁰ But even if a retributivist were to reject Kolber's claims by saying that the only relevant consideration is the way that a typical person would experience punishment, hedonic adaptation would still be relevant because it affects that typical experience.

We thus believe that for a retributivist, it is of core importance to understand the actual amount of harm that punishment inflicts. The retributive theory supplanted utilitarianism principally by emphasizing that it is unacceptable to punish the innocent or to punish excessively the guilty, even if doing so would increase utility.¹⁵¹ A cornerstone of retributivism is thus that the state may impose suffering only on those who deserve it (criminal offenders) and only in an amount that they deserve (proportional to the severity of their wrongdoing). For many retributivists, imposing deserved punishment is not only permissible but also required.¹⁵² Imposing too much punishment for a minor crime is retributively unacceptable, as is imposing too little punishment for a major crime. It would be wrong, on the retributivist account, to allow a murderer to go unpunished or to give her an insufficiently severe punishment (such as a small fine). And because punishment is linked inextricably with negative experience, *retribution can be implemented only via a spectrum of punishments that impose varying degrees of negative experience*. The level of negativity must be adjusted to accord with the offender's desert.¹⁵³

If a criminal justice system offers only the blunt choice between a small imposition of harm (a fine) and a large imposition of harm (a prison term), then it denies the state the capacity to tailor punish-

¹⁴⁹ Id at 196.

¹⁵⁰ Id. With respect to retributivism specifically, see id at 199–216.

¹⁵¹ For a discussion of the retributivist movement among criminal law thinkers, see Pearl, 11 Hofstra L Rev at 274 (cited in note 146) (“Within the last twenty-five years a number of philosophers and legal scholars have revived retributivism as a theoretical basis for criminal punishment.”). See also Youngjae Lee, *The Constitutional Right against Excessive Punishment*, 91 Va L Rev 677, 739–41 (2005) (arguing that because utilitarianism focuses on overall societal well-being, it may fail to assign punishments according to comparative desert).

¹⁵² See Michael Moore, *Placing Blame: A General Theory of the Criminal Law* 104 (Clarendon 1997) (explaining that under retributivism, the fact that punishment is deserved gives us not only sufficient right to punish the guilty, but also an obligation to achieve such retributive justice).

¹⁵³ See Kolber, 109 Colum L Rev at 224–25 (cited in note 4); id at 226 (arguing that fines should be a function of the offender's income or ability to pay).

ments to fit crimes.¹⁵⁴ This thwarts the system from fulfilling the demands of retribution. Moreover, if increasing the amount of a fine or the length of a prison term does not increase the harm imposed on an offender to the degree expected, then any quantum of punishment carries less retributive force than has been supposed. Adaptation dulls the punitive effect of fines and incarceration, thereby changing the calculus by which a retributive theory must assign amounts of punishment. If x amount of harm is deserved, will a fine of n dollars be sufficient to impose that harm? The answer must take into account the (large) effect of adaptation and accordingly reduce the level of harm equated with the fine. This Part considers several leading theories from the retributive family and evaluates the extent to which those theories are affected by the behavioral insights about punishment detailed in Part I.

A. Pure Retributivism

Although utilitarianism¹⁵⁵ was preeminent in both political philosophy and punishment theory for most of the twentieth century, it has been displaced in both arenas in the past few decades. In political theory, the change can be traced primarily to the publication of John Rawls's *A Theory of Justice*.¹⁵⁶ In punishment theory, there were several leading contributors.¹⁵⁷ But the individual most closely identified with the rise of retributivism as the leading theory of punishment is Michael Moore,¹⁵⁸ and his pure version of the theory is most representative of the broad trend toward this nonconsequentialist method

¹⁵⁴ We again note the caveat that hedonic reports may not capture every aspect in which prison punishes. See note 112 and accompanying text. The analysis that follows does not apply to nonhedonic punishment that scales linearly with the amount of time in prison, such as perhaps the inability of a prisoner to spend time with her spouse or family. At the same time, we suspect that nearly all of the effects of punishment will be reflected in the hedonic calculus. Accordingly, perturbations in the hedonic impact of imprisonment will have significant consequences for the overall level of punishment imposed.

¹⁵⁵ See Lee, 91 Va L Rev at 737–38 (cited in note 151) (“The purpose of punishment, under [the utilitarian] view, is not to give each criminal what he or she deserves, but to deter future crimes, to incapacitate criminals by keeping them ‘off the streets,’ or to rehabilitate criminals so they [] become better citizens.”); Steven Eisenstat, *Revenge, Justice and Law: Recognizing the Victim’s Desire for Vengeance as a Justification for Punishment*, 50 Wayne L Rev 1115, 1162 (2004) (“Utilitarians are forward looking; they countenance punishment only if a social good will come from it.”); Erik Luna, *Punishment Theory, Holism, and the Procedural Conception of Restorative Justice*, 2003 Utah L Rev 205, 209 (“Whatever goal is espoused, utilitarian-based punishment is always forward-looking, seeking to reduce the intensity and gravity of crime in society. In other words, utilitarianism takes the position that ‘bygones are bygones’ and that future consequences should be the sole guide for sanctioning decisions.”) (citation omitted).

¹⁵⁶ John Rawls, *A Theory of Justice* (Belknap 1971).

¹⁵⁷ For perhaps the most influential early effort, see generally Herbert Morris, 52 *The Monist* 475 (cited in note 99).

¹⁵⁸ See generally, for example, Moore, *Placing Blame* (cited in note 152).

of reasoning. By applying the new psychological findings to this most comprehensive and general form of retribution, we will have gone a long way toward applying it to all forms of retribution.

Moore's retributivism is not a mixed theory of punishment. His definition of the word itself rules out any other value: "By 'retributivist' I refer to one who believes that the justification for punishing a criminal is simply that the criminal deserves to be punished."¹⁵⁹ The project of a retributivist is to illustrate that our intuitions and considered judgments about punishment are captured better by the idea that we punish due to moral desert than by the idea that we punish to achieve aims such as deterrence, incapacitation, or rehabilitation.¹⁶⁰

The amount of punishment imposed must correspond to the offender's desert: "[R]etributivists at some point have to answer the 'how much' and 'what type' questions for punishments of specific offences and they are committed to the principle that punishment should be graded in proportion to desert."¹⁶¹ In short, Moore's pure retributivist theory holds that offenders must be punished, that they must be punished only because they deserve it, and that the amount of punishment must correspond to their level of desert.¹⁶²

Because retributive punishment is inherently the imposition of something negative, a necessary precondition to operationalizing the retributive theory is an understanding of the manner and degree to which fines and imprisonment actually negatively affect those who receive them.¹⁶³ The findings discussed in Part I affect pure retributivism in two ways. First, the workings of our adaptive capacities mute the differences between long and short prison sentences, at least to some degree. And second, adaptation decreases the level of harm that an offender sustains from virtually any fine or period of incarceration (that is, makes that level lower than it would have been without adaptation).

The first point is simply that if "punishment should be graded in proportion to desert," then in order to deliver the deserved punishment, the state needs to be able to adjust the amount of imposed harm to fit the severity of the crime. To do that, it relies on the mechanism of increasing or decreasing the amount of a fine or the length of a stay

¹⁵⁹ Id at 83.

¹⁶⁰ See, for example, Mary Sigler, *Just Deserts, Prison Rape, and the Pleasing Fiction of Guideline Sentencing*, 38 Ariz St L J 561, 563 (2006).

¹⁶¹ Moore, *Placing Blame* at 88 (cited in note 152).

¹⁶² See Jean Hampton, *Correcting Harms versus Righting Wrongs: The Goal of Retribution*, 39 UCLA L Rev 1659, 1663 (1992) ("[R]etributive justice is concerned with wrongful actions from which such harms result. Although a punishment may sometimes involve the wrongdoer compensating her victim in some way, the purpose of punishment is not to compensate the person for the harm suffered, but 'to right the wrong.'").

¹⁶³ See Kolber, 109 Colum L Rev at 199–216 (cited in note 4).

in prison. But as discussed above, such adjustments do not do well in tracking adjustments in the amount of harm felt by the offender. Although an offender will expect a longer incarceration to decrease her happiness far more severely than a shorter one, her expectation will mistakenly ignore her own adaptive skills.

Even more so than utilitarianism and expressive theories of punishment, which place at least some importance on the severity that a given punishment is *perceived* to have, pure retributivism concerns itself with the *actual* severity of punishment. The distinctive feature of pure retributivism is the principle that to punish criminal behavior is inherently right.¹⁶⁴ If it is not possible to punish the right amount, then it is not possible for justice to be done. Pure retributivism thus requires a rethinking of the types of punishment that are currently employed. Those types create the illusion of a fine-grained spectrum of available levels of severity while in fact offering a smaller and more blunt set of options. A monetary fine, however large, may well constitute only a small diminution of an offender's happiness. And an incarceration, however brief, will cause a large diminution of such happiness.

Adaptation to economic losses suggests that even substantial fines may not change much the well-being of those on whom they are imposed.¹⁶⁵ And because people are able to adapt to certain aspects of incarceration, staying in prison longer does not decrease happiness as much as one would expect. This is all the more true because any prison term dramatically decreases happiness after prison. Thus, getting out of prison earlier is less valuable than it would appear, both because prison itself is less bad than expected (due to adaptation) and because the alternative of post-prison life is worse than expected.

Let us assume, purely for purposes of illustration, that a fine of \$100 is the deserved punishment for a certain instance of petty theft, and that a prison term of five years is the deserved punishment for a certain instance of assault with a deadly weapon. By "deserved punishment," we mean that those sentences would impose the amount of harm deemed morally appropriate in each case by the retributive theory.¹⁶⁶ How would the state deal with crimes whose severity falls in

¹⁶⁴ See Moore, *Placing Blame* at 105 (cited in note 152) (noting "the commitment of retributivism . . . to the intrinsic goodness of punishing the guilty"). See also, for example, Sigler, 38 *Ariz St L J* at 563 (cited in note 160) ("[P]unishment of the deserving is intrinsically good; its justification does not depend on any further positive consequences that punishment might be expected to produce.").

¹⁶⁵ See Part I.B.

¹⁶⁶ Again, some retributivists will resist the claim that their theory links punishment with the imposition of harm (negative experience). But as we have argued, retributivism depends upon this link. A standard retributivist position would be that someone who commits a more severe crime typically deserves a longer prison sentence than someone who commits a less severe crime. That

between those two? A larger fine will not impose much more harm than the \$100 fine (at least in cardinal terms), and a shorter prison term will not impose much less harm than the five-year sentence, due both to adaptation to prison and the negative post-prison effects of incarceration.¹⁶⁷ And how would a state respond to a crime far more severe than the assault with a deadly weapon? No matter how long an incarceration it hands down, that sentence might not differ sufficiently from the five-year sentence (in terms of harm imposed) to reflect the difference in deserved punishment.

This also relates to the second way in which adaptation is relevant to retribution. Whatever punishment is currently thought appropriate in response to a given crime will actually inflict less harm on the offender than it would absent adaptation. When a theorist or policymaker seeks to connect a crime with an appropriate punishment, she must incorporate adaptation into her assessment of how much harm the punishment will cause. Just as would-be offenders will wrongly assume that the initial harm of a fine or imprisonment will be sustained for a long time, theorists and policymakers are vulnerable to making the same incorrect assumption.¹⁶⁸ If they do so, then they will set punishments that impose less harm than was deemed deserved—punishments that do not satisfy the requirements of retribution.

This becomes even clearer when considering the way in which Moore distinguishes his theory from the mixed theory of limiting retributivism, as discussed below. The mixed theory treats desert and utility as necessary but not sufficient conditions for punishment. Moore argues that we object to insufficient punishment regardless of utility, pointing to our negative reaction when heinous crimes receive slaps on the wrist.¹⁶⁹

position makes sense only if longer prison sentences are considered worse experiences than shorter ones. When a retributive theory addresses the severity of punishment, that severity is necessarily measured in terms of the harm or negative experience imposed on the offender.

¹⁶⁷ We note that retributivists often deem punishment to be only intentional, not merely knowing, infliction of something negative upon a criminal. But, just as the criminal law almost always holds offenders responsible for the consequences that the offenders knew would follow their acts, the state is similarly responsible. See Kolber, 109 Colum L Rev at 197 (cited in note 4). Moreover, whether or not the known but unintended consequences are characterized as “punishment,” it would seem irrational as a matter of policy, and perhaps indefensible on normative grounds as well, for the state to choose to ignore what it knows will follow from its acts. The post-release effects of imprisonment are at least known to juries, judges, and legislators, even if those parties do not incorporate them into their own calculations.

¹⁶⁸ For an analogous discussion in the medical context, consider Sevdalis and Harvey, 9 Health Expectations at 248 (cited in note 117) (finding no evidence that doctors possess better abilities to forecast patients’ interests than patients themselves).

¹⁶⁹ See Moore, *Placing Blame* at 98–99 (cited in note 152). This argument is the opposite of limiting retributivism’s parsimony principle (the principle that we should punish no more than needed to achieve the desired level of deterrence), because Moore maintains that we fail to achieve the true goal of punishment if we punish too little. As discussed below, though, limiting

Once again, we can translate Moore's retributivism into penal policy only if we understand how much harm a given punishment actually inflicts. The premise is that to punish someone too little—which, as we have argued, means to inflict too light a harm—is a failure. If a fine of \$1,000 is thought to inflict a certain amount of harm, but it actually inflicts only half that harm due to hedonic adaptation, then we have not achieved the retributivist objective.¹⁷⁰ Absent an understanding of the effects of adaptation, there is the risk of systematic errors in the calculus of punishment.

B. Limiting Retributivism

Both retributivism and utilitarianism have a profound influence on actual penal policy in the United States, and a prominent mixed theory of punishment reflects that reality. In this theory known as “limiting retributivism”—which has been “adopted by most state guidelines systems”¹⁷¹—retributive considerations set an upper and lower bound on punishment,¹⁷² but within those bounds the sentence is determined by utilitarian aims.¹⁷³ After the bounds have been set by the offender's desert (measured principally by the severity of the crime), the specific punishment is chosen “not only [by reference to] traditional crime-control purposes such as deterrence, incapacitation, and rehabilitation, but also a concept known as parsimony—a preference for the least severe alternative that will achieve the purposes of the sentence.”¹⁷⁴ Among other things, parsimony reflects the acknowledgment that punishment is expensive.¹⁷⁵ If less punishment can achieve the desired

retributivism uses desert to set a lower bound of punishment and therefore is not entirely insensitive to the demands of the retributive theory.

¹⁷⁰ As explained below, the consequences of adaptation for the parsimony principle are the other side of the same coin: adaptation allows us to achieve the desired level of deterrence without inflicting as much harm.

¹⁷¹ Frase, 58 Stan L Rev at 68 (cited in note 101).

¹⁷² See Norval Morris, *Madness and the Criminal Law* 179 (Chicago 1982):

[A] deserved punishment . . . does not mean the infliction on the criminal offender of a pain precisely equivalent to that which he has inflicted on his victim; it means rather a not undeserved punishment which bears a proportional relationship in a hierarchy of punishments to the harm for which the criminal has been convicted.

¹⁷³ See Frase, 58 Stan L Rev at 68 (cited in note 101) (describing the principles used to fine-tune sentences, including deterrence, incapacitation, rehabilitation, and parsimony); Lawrence Crocker, *The Upper Limit of Just Punishment*, 41 Emory L J 1059, 1062 & n 8 (1992); Norval Morris, *The Future of Imprisonment* 58–84 (Chicago 1974) (describing parsimony, dangerousness, and desert as guiding principles of imprisonment). See also John Bronsteen, *Retribution's Role*, 84 Ind L J 1129 (2009) (arguing that both retributive and utilitarian theories must be employed for punishing past wrongdoing and protecting future victims, respectively).

¹⁷⁴ Frase, 58 Stan L Rev at 68 (cited in note 101).

¹⁷⁵ *Id.*

end, then society gains monetarily by eschewing a more severe alternative (in particular, a longer prison sentence).

At first blush, it might seem that the effects of adaptation are somewhat less problematic for limiting retributivism than for pure retributivism. The mixed theory does not, after all, require that each offender receive the precise amount of punishment that corresponds to her level of moral desert. But adaptation is relevant to both parts of the mixed theory (setting the bounds and fixing a specific punishment within them) for the same reasons that it is relevant, in turn, to both pure retributivism and pure utilitarianism.

When setting the lower and upper bounds of punishment, a limiting retributivist would (for the reasons we have explained) have to look to the amount of harm that an offender deserves to experience. The harm actually felt at each bound will be influenced by the considerations discussed in Part I: because offenders adapt to fines and imprisonment, they will experience less harm than would otherwise be expected. This must be taken into account when deciding which punishments correspond to the deserved bounds of harm. It also must be considered when deciding how best to fulfill utilitarian goals within the prescribed bounds. As explained in Part II, any quantum of punishment may be expected (all else being equal) to deter more than its actual harm would warrant because adaptation will diminish the actual harm without diminishing the expected harm.

If it were true that the available variations in degrees of punishment are overstated and that, to some extent, two primary levels of punishment predominate (any fine or any imprisonment),¹⁷⁶ then those two levels could be seen as a very rough way of setting the lower and upper bounds prescribed by limiting retributivism. But large problems would still be present. First, would those bounds constitute the bounds for every crime? The theory assumes that the lower and upper bounds of acceptable harm will increase with the severity of the crime, but this would not be feasible if only two main degrees of harm were available. Second, it would not be possible to make the adjustments within the bounds that are needed to fulfill utilitarian goals—a linchpin of the theory. If there were only two punishments, small and large, then there would be no way to carry out a theory predicated upon making adjustments between two bounds. Only the bounds themselves are available as options. This largely denudes the theory of its utilitarian element, leaving only the retributivist part remaining.

¹⁷⁶ We acknowledge of course that longer prison sentences will still impose more harm than shorter ones. We question only the degree of difference, not the existence of any difference.

Adaptation does, however, make it easier for limiting retributivism to achieve one of its principal goals: parsimony. Because would-be offenders will overlook their own abilities to adapt, less punishment is needed to achieve the deterrent aim, thereby saving money and avoiding unnecessary (on this account) suffering. Just as adaptation affects the analysis of utilitarian theories of punishment, it affects the analysis of utilitarian elements within mixed theories.

C. Expressive Theories

Throughout this Part, we have equated punishment with the infliction of harm on an offender. If that is what punishment means, then it follows almost by definition that a theory of punishment must be sensitive to the connection between a sentence and the harm it actually inflicts. If the goal of a sentence is to inflict the desired (that is, deserved, or optimal) amount of harm, then the state can craft appropriate sentences only if it understands the amount of harm they will generate.

Our position is that the standard retributivist account, discussed above, makes sense only if punishment means the infliction of negative experience (harm) on an offender. But understanding the connection between punishment and harm might be less important for a theory that can more plausibly deemphasize harm. Expressive theories of punishment aim to do just that. As Dan Kahan wrote in one of the leading early papers challenging the retributive/utilitarian dichotomy, “Punishment is *not* just a way to make offenders suffer; it is a special social convention that signifies moral condemnation.”¹⁷⁷ On this view, the important feature of punishment is its expression of societal disapproval of the criminal act.¹⁷⁸ The harm inflicted on the offender is not the focus, either for purposes of deterring crime or of meting out that which is deserved.

An initial response that might be provoked by the expressive theory is that the theory would presumably rely on harm at least as a means of differentiating between the levels of disapproval expressed in reaction to different crimes. If the purpose of punishment is to express disapproval, then how does the state express more disapproval for murder than for shoplifting? The most natural answer is to punish murder more severely, as defined by inflicting more harm on a murderer. This would suggest that the way in which punishment actually causes

¹⁷⁷ Kahan, 63 U Chi L Rev at 593 (cited in note 10). See also, for example, Dan M. Kahan, *The Secret Ambition of Deterrence*, 113 Harv L Rev 413, 419–35 (1999) (favoring the expressive theory of punishment over deterrence-based rationales).

¹⁷⁸ See Jens David Ohlin, *Applying the Death Penalty to Crimes of Genocide*, 99 Am J Intl L 747, 768 (2005) (arguing that under the expressive theory of punishment, the factors of the penal system all “boil down to elaborate practices of praising and blaming”).

harm would matter to expressive theories, even if its importance were less direct than in the context of retributivism or utilitarianism.

But the story is not so simple. First, when the goal is to use punishment to express condemnation, what matters might be perceived harm rather than actual harm. If policymakers, offenders, and the public alike believe that greater fines and prison sentences will harm criminals more than smaller ones, then the state has at its disposal a wide array of punishments with which to express the appropriate level of condemnation in each case. Even if offenders are actually harmed very differently from the way in which they are believed to be harmed, the level of condemnation is unaffected because it depends upon perception rather than reality. Second, and perhaps more importantly, an expressivist might take the position that harm, perceived or actual, is irrelevant to punishment because expression of disapproval need not be tied to harm. If an individual views incarceration as a badge of honor, she is nonetheless punished by it because it still expresses the majority's condemnation of her criminal act. If society could express disapproval convincingly without imposing harm, that would still constitute punishment.

We acknowledge that the behavioral insights about punishment decline in importance as one focuses less on actual harm to an offender and more on something else—either disapproval that is independent of harm, or disapproval that depends on perceived rather than actual harm. A thoroughgoing expressivist theory holding that punishment involves *only* considerations of such disapproval would be unaffected by the phenomena we have emphasized in this Article.

We believe, however, that few if any scholars endorse that immoderate version of expressivism. Someone who cares nothing about actual harm would see no need to rule out torture, punishment of the innocent, or punishments that inflict heavy suffering in response to petty crimes.¹⁷⁹ One can emphasize the importance or even the centrality of expressivism without denying that actual harm also matters. Indeed, actual harm typically correlates with the degree of expressed disapproval, and perhaps not by coincidence: we express disapproval principally by imposing harm, and more or less disapproval via more or less harm. Even if disapproval and harm can be disentangled in principle, they are closely linked in practice.

¹⁷⁹ It would not be enough for an expressivist to deny the possibility of those outcomes on the ground that they would violate the expressive purpose of punishment—for example, to say that punishing an innocent would not happen in an expressivist system because it would send the wrong message. First, sending the right message would depend solely on the public's belief that the accused was guilty, not on her actual guilt. And second, the wrong of inflicting harm on the innocent or excessive harm on the guilty is not limited to the fact that it would send a bad message.

So it seems likely that many expressivists would allow that harm has relevance to punishment in a way that either links up with condemnation or else overlaps with it. Avoiding the imposition of excessive harm, and generally trying to impose more harm in response to more severe crimes than in response to less severe crimes, would presumably be viewed as a positive feature of a penal system even by those who endorse expressive theories of punishment.

An example that illustrates this compatibility is the clever mixed theory advanced by Paul Robinson and John Darley in their article *The Utility of Desert*.¹⁸⁰ Robinson and Darley argue that punishment can best achieve the aim of encouraging compliance with the law if it embodies the community's desert-based standards of justice. Although this theory in name aims to achieve utility by creating a retributive system, it possesses a central hallmark of the expressive approach in that its goals depend more on the perception of desert-based punishment than on its reality. If people believe that community standards of retribution are being fulfilled, then they will be more likely to comply with the law.¹⁸¹

Robinson and Darley, however, do not emphasize the disconnect between perception and reality but rather focus their attention in the opposite direction. One of the most appealing aspects of their theory is that it envisions the law earning its credibility by actually doing justice. The aim is to make people perceive the law as just by having it actually be just.¹⁸² Among other things, “[t]he criminal law must *earn* a reputation for [] punishing those who deserve it . . . and [] where punishment is deserved, imposing the amount of punishment deserved, no more, no less.”¹⁸³

Imposing the deserved punishment, no more or less, requires an array of punitive options that inflict varying degrees of harm to match the varying degrees of desert. New understandings of adaptation indicate that those options are more restricted than is commonly believed.

¹⁸⁰ See generally Paul H. Robinson and John M. Darley, *The Utility of Desert*, 91 Nw U L Rev 453 (1997).

¹⁸¹ *Id.* at 497.

¹⁸² See *id.* at 477:

[T]he criminal law can only hope to shape moral thinking . . . if it has earned a reputation as an institution whose focus is morally condemnable conduct and is seen as giving reliable statements of what is and is not truly condemnable. A criminal law that is seen as having a different criterion for criminalization—such as criminalization whenever the greater penalties of criminal law can provide useful deterrents—is not likely to gain such a reputation.

¹⁸³ *Id.* (emphasis added).

D. Other Approaches to Retribution

In a recent article, Paul Robinson catalogues several different forms of retributive theory.¹⁸⁴ In particular, he describes approaches to retribution as falling into three categories: vengeful, deontological, and empirical. The vengeful approach has its roots in the *lex talionis*—an eye for an eye—and sets the amount of deserved punishment by reference to the harm suffered by the victim.¹⁸⁵ “The deontological conception . . . focuses not on the harm of the offense but rather on the blameworthiness of the offender.”¹⁸⁶ Empirical retributivism also emphasizes the offender’s blameworthiness but measures it differently:¹⁸⁷ whereas deontological retributivism uses philosophical principles to arrive at the amount of deserved punishment, empirical retributivism uses behavioral studies to learn the community’s standards of desert and blameworthiness.¹⁸⁸

All three forms of retributivism are challenged by the new findings about the effect of punishment on happiness. Vengeful retributivism demands that an offender “should suffer in the same degree as his victim.”¹⁸⁹ To make that happen, the state must assess the level of the victim’s suffering and then choose a punishment that takes a similar toll on the criminal. This requires factoring in the effect of adaptation on the harm that punishment will cause (as well as its effect on the harm the victim suffered).¹⁹⁰

Deontological and empirical retributivism aim to ensure simply “that the offender is given that amount of punishment that puts him in his proper ordinal rank among all cases of differing degrees of blameworthiness.”¹⁹¹ Although they determine blameworthiness (that is, desert) differently, they both require that more punitive harm be imposed on more serious offenders. As in the case of vengeful desert, this can be accomplished only by accounting for the effects of adaptation on the actual harm created by punishment.

¹⁸⁴ See generally Paul H. Robinson, *Competing Conceptions of Modern Desert: Vengeful, Deontological, and Empirical*, 67 *Camb L J* 145 (2008).

¹⁸⁵ *Id.* at 147.

¹⁸⁶ *Id.* at 148. See also Aaron J. Rappaport, *Rationalizing the Commission: The Philosophical Premises of the U.S. Sentencing Guidelines*, 52 *Emory L J* 557, 568 (2003) (“[P]unishment is justified based on some inherent moral quality of the act or actor himself.”).

¹⁸⁷ Robinson, 67 *Camb L J* at 149 (cited in note 184).

¹⁸⁸ *Id.*

¹⁸⁹ *Id.* at 147, quoting Edmund L. Pincoffs, *Classical Retributivism*, in Joel Feinberg and Hyman Gross, eds, *Philosophy of Law* 541 (Belmont 2d ed 1980).

¹⁹⁰ Consider Bronsteen, Buccafusco, and Masur, 108 *Colum L Rev* at 1537–38 (cited in note 2) (explaining that as a result of the long delays in civil litigation, harmed plaintiffs will be willing to settle for lower amounts as they adapt to their injuries).

¹⁹¹ Robinson, 67 *Camb L J* at 151 (cited in note 184).

One last retributive theory that merits mention is “consequentialist retributivism.”¹⁹² This is the idea that a state should “maximiz[e] the total amount of desert-based punishment.”¹⁹³ Police and prosecutors with limited resources would aim to use those resources efficiently, punishing as much as possible where warranted. The police would “focus[] on the per-unit cost of deserved punishment,”¹⁹⁴ pursuing offenders with the highest ratio of desert¹⁹⁵ to resources necessary for apprehension. Prosecutors would plea bargain extensively to conserve time, making it possible to punish as many offenders as much as possible, within the bounds of the punishment they deserve.¹⁹⁶

This approach is an attempt to operationalize retributive theory, and as such it relates particularly well to our project of identifying factors that determine the way in which theory can be put into practice. As with all retributive theories, it limits punishment to that which is deserved. Imposing harm above that limit in response to any particular crime would be out of bounds, and so the theory must be supplemented with an account of the way in which punishment translates into harm. Our contribution is to add one aspect of nuance to that account.

CONCLUSION

More serious crimes should receive greater punishment than less serious crimes, but the human capacity to adapt complicates the pursuit of this core requirement of any criminal justice system. Neither a large nor a small fine will much diminish an offender’s happiness, and the amount of extra suffering inflicted by a long prison sentence rather than a short one will be smaller than commonly believed. The state thus cannot change, as easily as is assumed, the severity of a punishment by adjusting the size of a fine or the length of an incarceration.

By decreasing the prospects for proportional punishment, adaptation restricts the penal system’s potential to achieve either utilitarian or retributive goals. Instead of being able to tailor punishments precisely so as to increase utility or to reflect desert, the state wields a relatively blunt instrument that offers less rosy prospects of avoiding similar punishments for dissimilar crimes.

¹⁹² For a discussion of consequentialist retributivism, see Michael T. Cahill, *Retributive Justice in the Real World*, 85 Wash U L Rev 815, 833–35, 861–69 (2007) (explaining consequentialist retributivism as a belief that emphasizes aggregate levels of overall deserved punishment, rather than focusing on punishing any given deserving individual).

¹⁹³ Id at 833 (emphasis added).

¹⁹⁴ Id at 851.

¹⁹⁵ Here, desert is linked closely with the severity of the crime committed and the amount of punishment deserved.

¹⁹⁶ Cahill, 85 Wash U L Rev at 855 (cited in note 192).

It might well be possible to find acceptable forms of punishment that resist adaptation and enable proportionality in sentencing to be achieved. But the task is not easy, nor the solution readily apparent. For now, all we can offer is the unsettling evidence that current forms of punishment do not impose harm in the ways or to the degrees that they are assumed to do so.

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