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Life v. Death: Or Why the Death Penalty Should Marginally Deter

Charles N. W. Keckler*

*George Mason University School of Law, ckeckler@gmu.edu

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Abstract

Econometric measures of the effect of capital punishment have increasingly provided evidence that it deters homicides. However, most researchers on both sides of the death penalty debate continue to rely on rather simple assumptions about criminal behavior. I attempt to provide a more nuanced and predictive rational choice model of the incentives and disincentives to kill, with the aim of assessing to what extent the statistical findings of deterrence are in line with theoretical expectations. In particular, I examine whether it is plausible to suppose there is a marginal increase in deterrence created by increasing the penalty from life imprisonment without parole to capital punishment. The marginal deterrence effect is shown to be a direct negative function of prison conditions as they are anticipated by the potential offender – the more tolerable someone perceives imprisonment to be, the less deterrent effect prison will have, and the greater the amount of marginal deterrence the threat of capital punishment will add. I then examine the empirical basis for believing there to be a subset of killers who are relatively unafraid of the prison environment, and who therefore may be deterred effectively only by the death penalty. Criminals, empirically, appear to fear a capital sentence, and are willing to sacrifice important procedural rights during plea bargaining to avoid this risk. This has the additional effect of increasing the mean expected term of years attached to a murder conviction, and may generate a secondary deterrent effect of capital punishment. At least for some offenders, the death penalty should induce greater caution in their use of lethal violence, and the deterrent effect seen statistically is possibly derived from the change in the behavior of these individuals. This identification of a particular group on whom the death penalty has the greatest marginal effect naturally suggests reforms in sentencing (and plea bargaining) which focus expensive capital prosecutions on those most resistant to alternative criminal sanctions.

LIFE V. DEATH:
OR WHY THE DEATH PENALTY SHOULD MARGINALLY DETER

CHARLES N. W. KECKLER[*]

Econometric measures of the effect of capital punishment have increasingly provided evidence that it deters homicides. However, most researchers on both sides of the death penalty debate continue to rely on rather simple assumptions about criminal behavior. I attempt to provide a more nuanced and predictive rational choice model of the incentives and disincentives to kill, with the aim of assessing to what extent the statistical findings of deterrence are line with theoretical expectations. In particular, I examine whether it is plausible to suppose there is a marginal increase in deterrence created by increasing the penalty from life imprisonment without parole to capital punishment. The marginal deterrence effect is shown to be a direct negative function of prison conditions as they are anticipated by the potential offender – the more tolerable someone perceives imprisonment to be, the less deterrent effect prison will have, and the greater the amount of marginal deterrence the threat of capital punishment will add. I then examine the empirical basis for believing there to be a subset of killers who are relatively unafraid of the prison environment, and who therefore may be deterred effectively only by the death penalty. Criminals, empirically, appear to fear a capital sentence, and are willing to sacrifice important procedural rights during plea bargaining to avoid this risk. This has the additional effect of increasing the mean expected term of years attached to a murder conviction, and may generate a secondary deterrent effect of capital punishment. At least for some offenders, the death penalty should induce greater caution in their use of lethal violence, and the deterrent effect seen statistically is possibly derived from the change in the behavior of these individuals. This identification of a particular group on whom the death penalty has the greatest marginal effect naturally suggests reforms in sentencing (and plea bargaining) which focus expensive capital prosecutions on those most resistant to alternative criminal sanctions.

Driven by a renewed application of econometric tools to homicide statistics, the debate between death penalty "abolitionists" and "retentionists,"[1] has entered a new phase of renewed vigor. As recently as 1996, symposia on the desirability of the death penalty were hard-pressed to find anyone in the legal academy willing to advocate the practice – or even to tolerate it as an exercise of legislative discretion.[2] To the chagrin of abolitionist academicians, recent years have seen the development of a series of studies which can, in comparison with the early work on the death penalty, draw on a much larger sample of executions, and a much longer time span in which to observe their effect, as it is now over thirty years since the restoration of the death penalty, and numerous states have moved in and out of the practice, allowing for comparison and inference of causation.

This work has shown a substantial effect in terms of lives saved by each execution, although the coefficients of how many lives are saved range wildly, from eighteen to approximately four, the latter estimate being outside the margin of error of the

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[1] Use of these terms is one of the few conventions of the death penalty debate used here. Even this terminology, however convenient, is dubious, as it evokes on the one hand William Lloyd Garrison and *The Liberator*, Underground Railroads and suchlike heroics, while sticking death penalty proponents with some unpleasant Freudian connotations at the same time as it underdescribes their program, which includes introducing the death penalty to where it does not exist as well as retaining it where it is already present. Nevertheless, the logical alternatives such as "pro-life" seem to be semantically occupied, or, as to its opposite, "pro-death," giving no great improvement in neutral description.

[2] Daniel D. Polsby, *Recontextualizing the Context of the Death Penalty*, 44 BUFF. L. REV. 527, 527 (1996). Some commentators have even characterized such conferences as performing an essentially ritual rather than rational function, with the death penalty proponent as a stereotyped monster figure to be overcome by the forces of good. *See* Ronald J. Allen and Amy Shavell, *Further Reflections on the Guillotine*, 95 J. CRIM. L. & CRIMINOLOGY 625, 626 ("Conferences on the death penalty in American law schools typically are self-righteous displays of commitment to revealed truth, the truth being that opposition to the death penalty goes without saying and the only issue is how strongly its proponents can be tarnished with either their illogic or moral depravity. Indeed, the opposition (i.e., the proponents of the death penalty) are typically represented, if at all, by someone who is supposed to utter barely comprehensible rantings about victims and deterrence, but the real point of the display is to demonstrate the horrifying moral shortcomings of one who wishes deliberately to take another's life.")

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former.[3] These results have led Cass Sunstein and Adrian Vermeule to conclude that

capital punishment is not only allowable, but in fact "morally required," because "[s]tates

that choose life imprisonment, when they might choose capital punishment, are ensuring

the deaths of a large number of innocent people."[4] Given the assumption of deterrence,

this moral precept is hardly remarkable, yet it is notable that the first of these authors

characterizes himself as "skeptical of capital punishment for moral reasons"[5] while the

second had recently declared that the empirical debate over deterrence would be

unresolved for the "foreseeable future," a conclusion the authors now think "wrong" –

implying the debate has been resolved or may be soon.[6]

 Because of the large number of variables that may affect the homicide rate, and

the relatively small samples of most studies (whose data points are usually states in

different years), it is unsurprising there have been difficulties in statistical inference.[7] In

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[3] Hashem Dezhbakhsh, Paul H. Rubin, & Joanna M. Shepherd, *Does Capital Punishment Have a Deterrent Effect? New Evidence from Postmoratorium Panel Data*, 5 AM. LAW & ECON. REV. 344, 369 (2003) (providing estimate of 18, plus or minus 10); H. Naci Mocan & R. Kaj Gittings, *Getting off Death Row: Commuted Sentences and the Deterrent Effect of Capital Punishment*, 46 J.L. & ECON. 453, 469 (2003) (coefficient of 5); Joannna M. Shepherd, *Murders of Passion, Execution Delays, and the Deterrence of Capital Punishment*, 33 J. LEGAL STUD. 283, 309 (2004) (coefficient of 4.5). *See also* Lawrence Katz, Steven D. Levitt, & Ellen Shustorovich, *Prison Conditions, Capital Punishment, and Deterrence*, 5 AM. L. & ECON. REV. 318, 336, n.9 (2003) (although not considering the estimate to be reliable, calculating a coefficient for the the latest period they study, years 1970-1990, that translates into 10.04 lives saved per execution).

[4] Cass R. Sunstein and Adrian Vermeule, *Is Capital Punishment Morally Required? The Relevance of Life-Life Tradeoffs*, U. Chicago Law & Econ, Olin Working Paper No. 239 (March 2005), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=691447.

[5] *Id*. at 3.

[6] *Id*. at n.16

[7] *See generally*, Samuel Cameron, *A Review of the Econometric Evidence on the Effects of Capital Punishment*, 23 JOURNAL OF SOCIO-ECONOMICS 197 (1994). *See also* Katz, Levitt, and Shustorovich, *supra* note 3, at 319 ("Even if a substantial deterrent effect does exist, the amount of crime rate variation induced by executions may simply be too small to be detected. Assuming a reduction of seven homicides per execution (a number consistent with Ehrlich, 1975), observed levels of capital punishment in Texas since 1976 (a total of 144 executions through 1997) would have reduced the annual number of homicides in Texas by about fifty, or 2% of the overall rate. Given that the standard deviation in the annual number of homicides in Texas over this same time period is over 200, it is clearly a difficult challenge to extract the execution-related signal from the noise in homicide rates.") (*citing* to the classic work by Isaac Ehrlich, *The Deterrent Effect of Capital Punishment: A Question of Life and Death*, 65 AM. ECON. REV. 397 (1975)). I

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order to "know" there is "no deterrence" we need to have empirical evidence that the appropriate coefficient relating an execution to a change in the rate of homicide is centered on zero, plus or minus some relatively small level of error, and this requires a substantial amount of data. Moreover, the coefficient should be valid among that small group of very bad men for whom it is relevant, and it is rare that research is focused on these people. There is a great difference too often elided between concluding one currently lacks the ability to distinguish a coefficient from zero, and concluding that the coefficient *is* zero. One important distinction is that although zero may be within the range of error of an estimate, if the mean of the estimate indicates deterrence (a negative effect on murder rates), then if there is any effect whatsoever, it is more likely to be a deterrent one, and policymakers take a risk by assuming the absence of an effect.

My impression of the literature is that much of it proceeds by assuming that the absence of proof has proved absence, which is mistaken not only as a matter of logic, but also highly problematic as a matter of policy. If there is no effect of the death penalty on deterrence, it could be because there are countervailing forces that prevent it from reducing, on net, the behavior it sanctions. The causal relationship will not, however, resemble the relationship the murder rate has with the position of the planet Mars, bringer of war. With apologies to astrology, we would not be surprised to find Mars has "no effect" on murder; by contrast, it goes against expectations to find that the state's threat of death, directed against specified acts by citizens, has "no effect" on the frequency of such acts. Without more information, we do not know whether this threat would have a

note only that there would be some value in extracting this signal, since if true, twenty years of executions would have saved the lives of a thousand people in Texas alone.

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very small effect, or the perverse effect of increasing rates, yet it is odd to assume it would possess no connection at all.

I am less confident of the empirical data than are Sunstein and Vermeule, because the same preconditions hold for proof of deterrence as hold for proof of nondeterrence, the difference being that the advocate of deterrence would be attempting to confirm a coefficient centered on a number *greater* than zero. The current variability in the empirical estimates of deterrence should, in my view, appropriately make one pause before accepting as more than preliminary those studies on which Sunstein and Vermeule base their "must kill" mandate. But even without full confidence in nonzero deterrence, the empirical work should certainly make us profoundly question any supposed proof we have for zero deterrence effects, an assumption on which too much of the literature depends. The serious possibility of deterrence must be acknowledged, and standing alone, this has important normative consequences implicitly incorporated below.

The econometric work is also inconclusive for another reason: the lack of a behavioral basis for why the effects detected are in fact predictable and understandable from the basis of a theoretical model. Although it is commonsensical to posit fear of death as a behavioral motivator, it is not often made explicit why criminals should be expected to behave as the models infer, and why they should do so at some particular rate. That this is asking a lot of data analysts is an appropriate rejoinder, but in the absence of a behavioral model one is able to test, as opposed to results one is able only to interpret, I think it is likely the intellectual stalemate over death penalty deterrence will likely continue.[8] This is not to say that deterrence *lacks* a theoretical foundation; the

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[8] *See* Dan M. Kahan, *The Secret Ambition of Deterrence*, 113 HARV. L. REV. 413, 436 (1999) ("No issue of criminal justice has been subjected to greater empirical study than whether the death penalty is an effective

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burden of what follows is to put together the pieces of such a foundation long been present in the literature, stating them explicitly and coherently at a time when the legal academy has once again been compelled to take seriously, at minimum, the factual possibility of deterrence.

As a cautionary note, inconclusiveness does not imply a refusal to enforce capital punishment. The executive, the legislators and the citizenry are unable to enjoy the subtle pleasures of intellectual ambivalence. To not execute criminals is to make a choice regarding the effect of the death penalty, just as to execute them reflects such a choice,[9] and there seems to be no way around the fact that the state will do one or the other. It is fair to say that this choice is made today in doubt, but as all must recognize, the standard of proof for making policy is not beyond even reasonable doubt. It is not even "clear and convincing." Aside from the legal meanings, these are the qualitative expressions of standards that are appropriate in scholarship before a phenomenon is asserted to be an established fact. Action, however, must be taken even where these standards are not met, and guided by the best collective guesses regarding the weight of evidence and theory; this means inevitably that one must on occasion proceed even though one is *not* "convinced" and the matter is *not* "clear."

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deterrent, and on none is the evidence more ambiguous and conflicting.") It is interesting to compare this judgment – made prior to the latest round of studies favorable to deterrence – with the far less agnostic views of Professor Lempert: "Supporters of the death penalty, for example, cannot be faulted for resorting to retributive arguments for capital punishment when empirical evidence consistently fails to find a substantial deterrent effect, but they are wrong to suggest that deterrence is an important reason for the death penalty, given the overwhelmingly negative findings of numerous empirical studies." Richard O. Lempert, *Activist Scholarship,* LAW & SOC. REV. (2001) (praising the findings of no deterrence as one of the greatest practical and scholarly achievements of the law and society movement).

[9] Allen & Shavell, *supra* note 2 at 628, arguing that the death penalty debate should be reframed as a problem of social planning ("In a universe with finite resources, allocation decisions with real consequences must constantly be made, and one of the primary consequences invariably is who will live and who will die, if not tomorrow, then sometime in the future.")

Assuming a murky empirical picture is indeed what we have to guide us, my purpose is to proceed from the general premises of rational choice theory, together with some basic demographic methods, to explore what we should *expect* to see from empirical evidence, as well as where we should look for such evidence. It would be absurd to think that a few lines of algebra could convince either way those who are at loggerheads over what is shown by the longitudinal data on homicide; the only hope is the present effort might serve to sharpen this debate by developing assumptions held in common or exposing those hidden differences regarding behavioral expectation that may contribute to the disputes over interpretation.

The stakes of this debate may or may not be high – that depends on which side of the question one takes.[10] The abolitionist position of no effect means that although there is an incremental effect on the punishment meted out to several dozen convicted murderers every year, who are not allowed to live out their span of years within the confines of the penitentiary, the public at large is neither helped nor hurt by the presence of the death penalty. On the other hand, to the retentionist asserting a deterrent effect, these matters should be of considerable importance. The ending of the not-very happy existence of the murderer, according to this hypothesis, redounds on the populace by saving some number of citizens who would otherwise be killed, perhaps, according to the

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[10] The point refers only to the question of deterrence, and what follows takes a "consequentialist" view of the social desirability of the death penalty; I acknowledge the cultural observation that many people seem to be attached or opposed to the death penalty for so-called "moral" reasons, some of them related to what the criminal law literature is pleased to call "desert." To be specific, they claim any coefficient relating number of executions to number of murders would be irrelevant to the desirability of the death penalty as a matter of public policy. The presence of such views is interesting from an anthropological perspective, but accounting for them is beyond the scope of the present study. If it were shown that indeed the proper measure of deterrent effect of capital punishment was near zero (or negative), it would then seem appropriate to introduce secondary considerations of the public weal such as feelings of vindication or anxiety, international opprobrium, and the like. Possibly the death penalty would then not be worth the social expenditures made upon it, although given that the number of innocent lives at stake would be very small (involving only those wrongfully convicted and executed, itself a quantity that studies have failed to distinguish from zero), the interest in the policy decision would necessarily be diminished.

coefficients of the models noted above and multiplied over the number of executions, several hundred citizens. The death penalty is often noted for being a particularly emotional issue, involving strongly held and asserted beliefs, yet it is surprising how mild the reaction actually is to public behavior that, if one held to even the *possibility* of substantial deterrence, *might* amount to lethal activity on a scale far exceeding that which would usually be of concern (with regard to unknown hazards of pollutant release, say).

As an example, the then-governor of Illinois, George Ryan, shortly before leaving office in January 2003, commuted the sentences of all 156 murderers on Illinois to death row. This expanded the moratorium on executions Ryan had put into effect three years earlier in January of 2000. Governor Ryan was sufficiently praised by the abolitionist community so as to be nominated for the Nobel Peace Prize.[11] The community in favor of the death penalty reacted with a certain amount of grumbling, and there were legal challenges to the propriety of this action, but these were largely focused on the process by which the commutation had occurred, rather than any substantive effect of Ryan's magnanimous gesture upon the public welfare.[12] Nonetheless, the result of a statistical inquiry into death penalty practice with regard to commuting sentences and releasing condemned prisoners, using data up to 1997, indicates that "an additional execution generates a reduction in homicide by five, an additional commutation increases

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[11]*See* Kevin McDermott, *He's Nobel Finalist, Sources Say*, THE ST. LOUIS POST-DISPATCH, October 5, 2003 ("'Out of 6 billion people in the world, it's down to (an estimated) five people. (Ryan's) in there with the pope,'" said Francis Boyle, the University of Illinois at Champaign-Urbana law professor who has spearheaded the Ryan-Nobel drive.") This acclaim preceded Ryan's felony indictment by a federal grand jury for being the head of a wide-ranging criminal conspiracy; this might have complicated international travel to pick up his prize. *See* Steve Warmbir & Tim Novak, *'The State of Illinois Was For Sale'; Ryan could face 7 to 9 years in prison if convicted of racketeering, fraud, lying to FBI*, CHICAGO SUN-TIMES, Dec. 18, 2003.

[12] *See People ex. rel. Madigan v. Snyder*, 208 Ill.2d 457, 479 (finding Governor's action "unreviewable" but expressing hope that the governors would use this power in the future in "*individual* cases") (emphasis added).

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homicides by four to five, and an additional removal brings about one additional murder."[13] The same data failed to show any effect of executions or lack thereof on the rates of other violent crime (robberies, burglaries, rapes, or motor vehicle thefts), indicating "capital punishment is a murder-specific deterrent."[14]

It is interesting to apply this model to the natural experiment provided us by Governor Ryan, whose declarations of moratorium and then clemency were responding in part to a widely publicized anti-death penalty campaign led by significant segments of the legal community and the largest Illinois newspaper, the *Chicago Tribune* (rewarded with the Pulitzer Prize for its success). This publicity is relevant to the extent that one requires information about a change in law (this one being made through the exercise of purely executive authority) to be disseminated in order to induce a change in behavior. To study how criminals *might* have responded – in a purely illustrative spirit – I compared the violent crime statistics provided by the FBI for Illinois over the period 1999-2003 (the five years for which they are readily available online). These list both the total numbers and rate of all violent crimes, and the total and rate of homicide.[15]

Table 1. Illinois Crime Rates 1997-2003

	Violent Crimes	Rate per 100,000	Homicides	Rate per 100,000	% Violence that is Lethal
2003	70456	556.8	896	7.1	1.28
2002	78214	620.7	949	7.5	1.21
2001	79504	636.9	986	7.9	1.24
2000	81567	656.8	891	7.2	1.10
1999	88838	732.5	937	7.7	1.05

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[13] For a review of this evidence, *see* Mocan & Gittings, *Getting off Death Row*, *supra* note 3, at 465-466.
[14] *See id*. at 473.
[15] CRIME IN THE UNITED STATES reports, *available at* http://www.fbi.gov/ucr/ucr.htm#cius.

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The most apparent feature from Table 1 is that although violent crime has been declining both in absolute and population terms, the number of murders has remained relatively steady, at least in absolute numbers. Consequently, after year 2000 murder has become a more important component of the overall victimization. Whatever has been driving down the rate of violence in Illinois is having less of an effect (if any) on the rate of homicide. Naturally, there are many possible hypotheses for this; perhaps the murder rate is already so low little can be done about it, or perhaps the factors reducing violent crime are specific to them and not to killing. Nevertheless, it is certainly consistent with the view that some form of *countervailing factor specifically increasing the homicide rate* is present in the most recent observations.

Presuming for the moment the presence of this factor, we can calculate its practical consequences. If homicides had fallen at the same rate as other violent crime in the latest three years, the percent of homicides would have remained at, taking the higher of the first two observations, 1.1% of such crimes. This would have resulted in a predicted number of murders in 2003, 2002, and 2001, respectively, of 775, 860, and 875. This is 121, 89, and 111 less than what is actually observed, or in aggregate, 321 more people turn up dead than we might have thought. This is a very rough estimate, but it is in line with, although possibly more hopeful than, the statistical prediction that 624 (4 X 156) people would be killed by the commutation alone (although, on the other hand, the long-term effects on the homicide rate may not yet have played themselves out).

A simple calculation, applied to a single case, can hardly be thought conclusive, but it ought to at least – as part of a piece with the econometric evidence – be considered more troubling by policymakers than is usually the case. It is admittedly difficult for

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econometrics to pick out an effect on behavior that is undeniably influenced by many social phenomena, but this argument cuts both ways, because if one is unable to specify the right model for a complex dependent variable, one cannot be certain that a particular independent variable of interest *does not* exert some influence.

Whatever ill might be thought of Governor Ryan (or his erstwhile allies among the bar, the press, and the academy), it would be unrealistic and cruel to suppose that he in any way intended 300-600 innocent people to die as a consequence of his policy. Indeed, because the anti-death penalty campaign was frequently couched in terms of a concern to eliminate the *mere possibility* that innocent lives (by wrongful conviction) be lost, and there is no reason to doubt the sincerity of this concern, the people involved must have at a fundamental level assumed that the deterrence argument was not simply *unproven*, but *implausible*, perhaps *impossible*. Otherwise it is very difficult to rationally account for their actions – for if they were *in doubt* about the criminological consequences of commutation, a blanket commutation would have been recognized as extremely *reckless*, rather than being touted as an essentially costless act of mercy.

It is at this point, and on this point, that greater attention could be paid to examining whether it is at least plausible to believe that at least some substantial portion of potential murderers take seriously the difference between life in prison and death. In Part I, as a necessary preliminary, the model of marginal deterrence is made specifically applicable to the special circumstances where the crime and its perceived benefits involve killing another person, and the possible but not certain social response to the crime involves ending the offender's life. As discussed in Part II, there is good reason to believe that when the death penalty is a jurisdiction's maximum penalty for first-degree

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murder, the presence of this sanction *ought* to marginally deter *some* potential murderers from committing at least *some* of the murders they would otherwise be prone to commit in a jurisdiction where the maximum criminal liability is life in prison without parole.

In particular, the most fundamental assumption of the deterrence model, that death is perceived by murderers to be worse than life in prison, appears to hold for the great majority of murderers, although a small but identifiable fraction is either basically indifferent or actually prefers death. In addition, there is inferential but strong evidence that there is wide variation among in the utility cost per unit time incarcerated. Consequently, certain offenders will experience, and can anticipate, a relatively lighter deterrent effect from threat of prison, and these will disproportionately consist of violent felons incarcerated for long periods, and thus contain some murderers. Finally, for all those charged with murder, but especially for those for whom death represents a *substantially* worse outcome than long-term imprisonment, avoiding any risk of a death sentence will cause them to accept longer terms of imprisonment in lieu of trial, raising the expected mean prison term, and incorporating in the effect of the death penalty any marginal effect on crime of longer sentences. Part III briefly considers a few of the implications of the foregoing conclusions for research and policy.

I. The Utility of Victims

Justice Holmes is credited with articulating the "bad man" theory of the law.[16] To put it in its essential form, Holmes proposed the law exists because there are bad people who are selfish, and who will do bad (i.e., socially harmful) things for their personal gain,

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[16] Oliver Wendell Holmes, *The Path of the Law,* 10 HARV. L. REV. 457, 462 (1897) ("If you want to know the law and nothing else, you must look at it as a bad man, who cares only for the material consequences which such knowledge enables him to predict, not as a good one, who finds his reasons for conduct, whether inside the law or outside of it, in the vaguer sanctions of conscience.")

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unless and insofar as society punishes those bad things with imposed costs in excess of their potential for gain. This view has often been quibbled with, because it is an incomplete theory of the various functions and purposes of the law, and also because the populace is sufficiently self-regarding, often unconsciously, that most of us must qualify as "bad men" who at times require guidance and incentive to keep in accord with social norms. Holmes no doubt intended at least this latter inference, for his view of mankind was not a rosy one, and he used the nature of the law as evidence of human incorrigibility.[17] Regardless of this point, one need not accept wholeheartedly the Holmesian vision to acknowledge in a more limited fashion that certain species of law seem to be peculiarly directed at individuals whose preferences are both unusual as a statistical matter, and if these persons were given full opportunity to express these preferences, much of the rest of the population would consider itself worse off.[18] Hence the incentive on the part of the majority to put in place mechanisms that will stymie the expression of those harmful desires of the minority. For want of a better word, I will refer to this frustrated subset of the greater population as "bad."

Due to the grave difficulty many people – even many sophisticated people – have in understanding the apparently extremely complex and mysterious term "bad," I will offer an example. In February 1992, the State of Wisconsin sentenced Mr. Jeffrey Dahmer to fifteen consecutive life sentences (although he only lasted two years in prison before being killed by a fellow convict). It might be objected, probably correctly, that

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[17] *See* J. W. Burrow, *Holmes in His Intellectual Milieu, in* THE LEGACY OF OLIVER WENDELL HOLMES, JR. 17, 25 (Robert W. Gordon ed., 1992) (explaining the origins of Holmes's Darwinian attitudes).

[18] *Cf.* Kenneth G. Dau-Schmidt, *Economic Analysis of the Criminal Law as a Preference-Shaping Policy*, 1990 DUKE LAW JOURNAL 1, 15-16 (1990) (characterizing criminals as those whose preferences impose externalities on others).

Jeffrey Dahmer is not quite what Justice Holmes had in mind by the "bad man." No doubt Dahmer represents an extreme case, chosen specifically to illustrate an extension of Holmes's reasoning applicable to the law of capital murder. For if the law in general is directed at the behavior of the bad man, the law of capital murder is directed is at the *very* bad man,[19] and the very bad man – unlike Holmes's bad man, perhaps – differs from you or I in important ways.

Prior to his detention, Mr. Dahmer had been busy since the late 1970's gratifying needs for a peculiar sort of companionship, resulting in, among other activities, attempts to transform acquaintances into docile helpmates by "drilling holes in his living victims' heads, [and] pouring in chemicals to 'zombify' them."[20] Dahmer's involuntary patients died, however, because he could never perfect his psychosurgery technique. One should observe – as the Wisconsin jury in this matter certainly did – that the social norms of Milwaukee appear to have compelled Mr. Dahmer to pursue his activities surreptitiously, hampering them by, for instance, requiring him to reject potential subjects who had automobiles, as abandonment of these would create problematic inquiries upon the zombification and disappearance of their drivers.[21] He was also forced to expend extra labor in concealment, for instance, pulverizing bones or dissolving them with acid. Dahmer correctly perceived that the authorities would prevent his activities, as indeed they did after 13 years and 17 victims. Obviously, the legal regime and its associated

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[19] Since the population subset of interest is in fact almost exclusively male – itself a highly relevant fact, although it seems to be only uncomfortably accommodated in the criminal law literature – I feel absolutely no compunction about maintaining the nineteenth-century flavor of this phrase. *See* MARTIN DALY AND MARGO WILSON, HOMICIDE 178 (1988) (reporting that for homicides occurring in connection with a crime – which are the ones usually eligible for capital murder – more than 97% of perpetrators were male).

[20] Anne C. Gresham, *The Insanity Plea: A Futile Defense for Serial Killers*, 17 LAW & PSYCHOL. REV. 193, 200 (1993).

[21] *See* Gresham, *id.* at 205 (the calculated manner by victims were selected and evidence concealed was emphasized during trial, in the successful effort to defeat Dahmer's insanity plea).

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threat of incapacitation and punishment failed to *fully* deter Dahmer, because in certain

circumstances over those years (opportunities partly contrived by him) his expected gains

were still larger than his expected costs, yet the law did alter the *rate* of his crimes by

increasing the labor and time investment necessary to reduce the chance of capture,[22] and

thus the expected cost, to a point at which it became rational for him to violate the legal

rules against killing and eating people. On most days, Dahmer could not, for fear of the

authorities, *act as he otherwise would have*, a phenomenon we usually call deterrence.

Dahmer, a very bad man, *was* deterred, and in consequence, lives were saved.

To abstract a bit, Dahmer had certain tastes in his set of preferences that created

negative externalities for his victims and society at large; the satisfaction of these

preferences is banned by the law of murder and is of no account in most versions of

social utility, although by hypothesis, it determines a major component of Dahmer's

personal utility, which he pursued to some extent rationally. Although not as lurid in

their desires, other criminals can likewise be characterized as possessed of socially inutile

preferences, such as wishing for a monopoly on the affections of their inamorata despite

the presence of a sexual rival, or desiring the use of an expensive automobile without the

inconvenience of paying for it.   As such, there is nothing "irrational" or socially harmful

about possessing preferences for love and luxury. The problem with criminals, for the

most part, even murderers with whom we are most concerned, is simply that their desires

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[22] This is a direct implication of Becker's original economic model of crime, the primary progenitor of most subsequent models (including, of course, this one). *See* Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1968). For a blessedly concise treatment of the economic theory of criminal deterrence, *see* Steven Shavell *Criminal Law and the Optimal Use of Nonmonetary Sanctions as a Deterrent*, 85 COLUM. L. REV. 1232, 1234-35 (1985); for a more extended and recent review of Shavell's thinking, *see* STEVEN SHAVELL, FOUNDATIONS OF THE ECONOMIC ANALYSIS OF LAW, 471-568 (2004)

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are not determined by their budget, and they therefore resort to force and fraud in order to obtain them more cheaply.

Only rarely is capital murder is done for its own sake, à là Leopold and Loeb; there is generally an instrumental purpose to violence, and if sufficient resources were at hand, and one was not miserly about spending them, most desires can be achieved. Even as to criminals who desire goods and services for which there exists no legal market, i.e. cocaine or sex with minors, this does not imply violence, for if the criminal is willing and able to invest time and money, such goals can often be achieved without physical force. Most criminals are not millionaires, however, in part because most people are not millionaires, but also because the criminal mindset is not conducive to gaining or retaining large amounts of wealth, and even more so because millionaires have ways of getting what they want through voluntary exchange, even if they want rather a lot.

Consider a potential killer who thinks a female relative has "dishonored" the family, and in order to remove the stain on himself and the rest of the woman's family – gain a perceived benefit – the woman must be killed; this is a short description of the phenomenon of so-called honor killing, a problem in several areas of the world.[23] Of course, the woman's offense could come in several gradations of the violation of the local code of sexual morality; she could shame the family more or less, and thus the "benefit" of removing this shame would be more or less. Therefore an honor killing, although it is bound up with a variety of what we could call unreasonable emotions, is likely to respond to rational incentives; if we increase the sanction for taking a woman's life, a violent male relative will probably find it within himself to tolerate certain low-grade "lapses" in

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[23] *See* Kathryn Christine Arnold, *Are the Perpetrators of Honor Killings Getting Away With Murder? Article 340 of the Jordanian Penal Code Analyzed Under the Convention of the Elimination of All Forms of Discrimination Against Women*, 16 AM. U. INT'L L. REV. 1343, 1358-1359 (2001).

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behavior or at least require stronger proof of "immorality" before acting. And indeed the global effort to rein in honor killings focuses on the excessive tolerance some countries show for such murders, and betrays a deterrence rationale along with its obvious point about upholding a woman's right to life and personal autonomy.[24] It is generally thought the low penalties attached to "honor killings" produce more of them than would otherwise occur, and indeed permit murders not truly motivated by family honor but which can be disguised as such.[25] Most of these murderers – unlike Dahmer —have only one person they are prone to kill, but they too can be deterred, because whether or not they think a woman "ought" (in their system of belief) to be killed, they will not want to bear the cost of doing so.

The usual conception of deterrence in the literature, that our goal is to raise the cost of the forbidden act beyond the value set upon it by the potential actor, can therefore be slightly misleading. The value of the act varies between individuals, and even as to individuals, its net value (taking into account, for instance, the possibility of resistance by the victim) varies between occasions. It is simply not feasible to deter the most extreme individuals, when they are their most desperate, by means of a generally applicable penalty, and it can be inefficient (as well as draconian) to do so.[26] What deterrence can do is to reduce the number of individuals for whom a particular act is ever rational (the

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[24] *See*, *e.g.*, Arnold, *id*. at 1373, complaining that "Jordanian law is particularly discriminatory to women because of the lack of legal deterrent and the wide scope of males who will benefit from the it." *See also* Marie D. Castetter, Note, *Taking Law Into Their Own Hands: Unofficial and Illegal Sanctions By The Pakistani Tribal Councils*, 13 Ind. Int'l & Comp. L. Rev. 543, 552 (2003) (reporting that with regard to rural Pakistan: "The killings are on the rise because the murderers in honor killings are rarely punished.")
[25] *See* Arnold, *supra* note 23, at 1370 (honor killing is a pretext)
[26] *See* Shavell, *supra* note 22 at 1242. Shavell's model of designing penalties is based on judicial uncertainty about what the correct penalty is for a particular person, knowing that those who commit a crime, or who are tempted to commit one, vary in those characteristics relevant to the fixing of an optimal penalty *for them*, and this creates a informational difficulty for society, which is obliged to attach to crimes a generic penalty *for everybody*. In this way it clearly foreshadows the current analysis, wherein an attempt is made to get greater about the level and distribution of the relevant variation.

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not so very bad men) and to reduce the number of times acts are rational for those very bad persons who will have motives for crime that are not fully deterrable. This necessarily presumes a focus on the particular mentality of potential criminals as a distinct class of the economic actors, together with the cost-benefit context in which they make their decisions.

Introducing a certain level of formalism may be appropriate at this point, in order to clarify how my view diverges from previous considerations of deterrence. The basic deterrence model can be phrased as stating that D commits crime Q if and only if, as to crime Q, it is profitable as defined by (1) below, where B is the benefit D derives from successful commission of the crime, C is the intrinsic non-legal cost of the crime, incorporating such risks as victim resistance and expenditures for equipment,[27] A is the probability that a legal sanction will be imposed (melding here for simplicity chances of arrest, prosecution and conviction) and P is the level of that sanction.

(1)   **B-C > A*P**

In a world without law, or as to activities not legally discouraged, A and P are set to 0, and (1) reduces to a simple comparison of cost and benefit. In order to make subsequent discussion more concrete, assume the act under consideration is the murder of another human being, Q, and the law will take some concern with it, meaning $A > 0$, and $P > 0$.

If B is the benefit one derives from killing another person, it clearly must vary not only with the defendant but with the victim. Dudley kills Quigley, to what gain? Even if

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[27] C is a variable that is not always separately considered. *See, e.g.,* Shavell, *supra* note 22 at 1238. This is a mistake, since important policy concerns depend on it, like those involving the desirability of an armed population, and individual differences in this variable help account for why some people (e.g. elderly unarmed ladies) are more likely to be found as victims rather than perpetrators. According to Holmes's speculation, C for some people would also include something called "the conscience" that imposes an increment of subjective cost to the actor, over and above the cost to their material well-being, but Holmes is not very interested in such hypothetical persons.

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Quigley couldn't fight back and C is very low, and even if Dudley could "get away with it" (A is very low), there has to be something Dudley gets out of the transaction.[28] This cannot be emphasized enough. There are six billion people in this world, and they do not kill each other nearly as often as they could, because harming another person can only help a killer in peculiar circumstances. Whether or not the death penalty ought to deter does not depend on how we, or "people," or even other members of the animal kingdom (whose actions, by and large, are governed by a notable aversion to mortality) set a value on our respective lives vis-à-vis any value we might place on the socially unsanctioned elimination of the lives of other people. Rather, it depends entirely on the behavioral niceties of a small, distinct and identifiable group of males who will at one or more times in their lives seriously contemplate murder as either a means to some end or as an end itself.[29] Studies of this group show they have an average of four major felony arrests,

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[28] What we would all do if the cost of murder were to fall to near-zero we need not address. This is emphatically *not* the case in pre-legal societies, since the potential vengeance by surviving relatives, as well as victim resistance, usually keep the effective cost of murder well above zero. *See* MARTIN DALY AND MARGO WILSON, HOMICIDE 224-227 (1988) (discussing among other groups, the Ifugao of the Philippines, who have but "one general law… *a life must be paid with a life*") (internal quotation marks omitted, italics in original). In societies with tradable goods, homicide compensation in the form of a reciprocating transfer of chattels or valuables to the victim's heirs places a enumerated "cost" for the crime. *See, e.g.*, MERVYN MEGGITT, BLOOD IS THEIR ARGUMENT 137-143 (1977) (describing negotiated compensation in pigs paid in 57/76 homicides in Highland New Guinea group). This contrasts with the theoretical costs of which we are speaking here, created by the probabilistic and heterogeneous collection of non-monetary harms inflicted by the state in "advanced" societies. The only time costs for murder fall to near-zero for a potential murderer is when there is not only an *absence of state punishment* for the crime, but also *approval by a state* with monopoly of force, guaranteeing the perpetrator will act without consequences or resistance. Hence, this cost structure is a feature of genocide, mass murder, massacres, death squads, lynching, and related phenomena now all too familiar.

[29] Sir James Stephen, the great nineteenth-century deterrence theorist and legal reformer, was among the many who have no doubt anticipated what *should be* an obvious point: "Some men, probably, abstain from murder because they fear that, if they committed murder, they would be hung. Hundreds of thousands abstain from it because they regard it with horror." JAMES FITZJAMES STEPHEN, A GENERAL VIEW OF THE CRIMINAL LAW OF ENGLAND 99 (1863). Stephen's view is perhaps overly optimistic; the real restraint on murder is lack of the usual police triumvirate of means, motive, and opportunity, and the most important of these is lack of motive. Killing other people is not like killing flies – it is an inherently dangerous and risky activity with which almost nobody has any experience. To murder someone without a very good reason to do so is supremely irrational, and most of us simply lack the necessary very good reasons. Moreover, because lethal violence has probably *always* been costly, including in human ancestral environments, discussed *supra*, note 28, it is extremely unlikely that evolution would have produced a "killer instinct;"

undoubtedly an underestimate since it fails to account for their usually lengthy juvenile records.[30]

Disregarding group enemies, a vanishingly small number of other individuals will be known by most actors to satisfy the equation B-C > 0, given any particular pair of persons d and q. Formally, for the set of people $D_1, D_2, D_3 \ldots D_{six\ billion}$, and potential victims, $Q_1, Q_2, Q_3 \ldots Q_{six\ billion}$, $C_{d,q} > B_{d,q}$ is much more likely than $B_{d,q} > C_{d,q}$. The law of murder is simply not concerned with that subset of D for whom C > B for all Q. Rather, it must focus purely on the complementary subset, call it D*, for whom there exists a pair (d,q) where $B_{d,q} > C_{d,q}$, where, in other words, a murder will occur in the absence of some probability (A) of a meaningful sanction (P).

Although A certainly can be adjusted by legal rules, especially when it includes as here issues of the likelihood of conviction of guilty parties, A is basically an issue of law enforcement, and the main concern here is of course P, the level of the sanction. Probability of arrest and conviction certainly matter, but since we are focusing on murder, they are relatively high,[31] although they vary between occasions, as the case of Dahmer illustrates. The reason Dahmer was deterred from pursuing victims with cars

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instead, there should have been strong selective pressure for a mechanism that could at some level take account of the benefits and risks of such a perilous behavior. *See generally*, Owen D. Jones, *Time-Shifted Rationality and the Law of Law's Leverage: Behavioral Economics Meets Behavioral Biology*, 95 Nw. U. L. REV. 1141, 1173 (2001) (discussing reference to ancestral problems for the development of human decision making apparatus)

[30] Daniel D. Polsby and Don B. Kates, Jr., *American Homicide Exceptionalism*, 69 U. COLO. L. REV. 969, 996 (1998) (noting that that any pretended similarity of murderers to the general population is an "extravagant falsification of reality").

[31] The "clearance rate" for murder, or chance of an arrest, is in excess of 60%. *See* CRIME IN THE UNITED STATES 2003, 256, available from the FBI at http://www.fbi.gov/ucr/cius_03/pdf/03sec3.pdf (2004) (reporting rate of 62.4%). Subsequent prosecution and conviction are lower, but never fall to such an insignificant probability that a potential murderer would ignore the potential of suffering legal repercussions. It does mean that individuals who would derive a benefit from killing that is a significant percentage of their own expected lifetime utility cannot be deterred by the criminal justice system, because as is discussed below, the most that can be achieved by either lifetime imprisonment or capital punishment is the elimination of all future utility. Since this is discounted by A, the maximum expected penalty is lower than this total loss. *See* Shavell, *supra*, note 22 at 1244 & n.45.

was, at the simplest level, because a Q(with car) was associated with a high A, one that resulted in (1) not being satisfied, whereas a Q(without car) sufficiently lowered A so that (1) was satisfied. It would be dangerous to assume, though, that only the probability of arrest and not its multiplier, P, mattered in these cases. If Dahmer had known that upon capture, international law applied, and he would merely have been scolded to cease and desist his killing and eating of others, at the risk of being sent a very stern letter expressing the sincere displeasure of the authorities, the frequency of circumstances where (1) is satisfied would have been higher. From his behavior we know that:

(2) $A_{CAR} * P > B-C > A_{NO\ CAR} * P$

We do not know the level of A precisely, but assume that B, C, and P are the same between the two situations, and that P is life in prison (because Wisconsin is a non-death penalty state). Suppose A_{CAR} is approximately equal to 60% (a normal clearance rate for a murder) and $A_{NO\ CAR}$ is equal to 10% (a rate commensurate with the number of people Dahmer killed). This would mean an incremental difference of .5 P provided deterrence because B-C was somewhere between .6P and .1P.

Reducing the penalty therefore has a mathematically defined equivalency to altering the arrest rate. What we can tell (given these assumptions) is that if we reduced the penalty from life imprisonment to something lower, and the expected sanction fell below a 10% chance of life imprisonment, then people with cars would have been at risk from Dahmer. In this case, the equivalent reduction would be somewhere in between P and P/6, whatever is 1/6th as bad as life in prison. There is no *a priori* function relating this, mainly because individual criminals will vary in how quickly they discount future losses, as well as in how they perceive the fixed cost of any arrest and imprisonment; P/6

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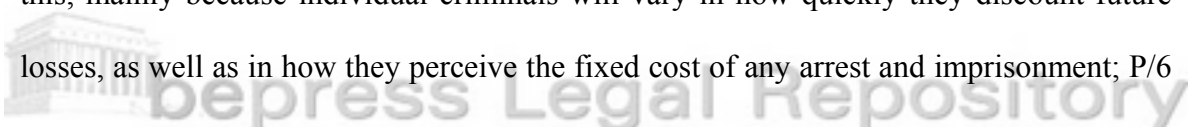
might mean 1 year's imprisonment or 5 years. However, P/6 is almost certainly greater than the perceived sanction of probation or a suspended sentence, because looked at from the other side, it must be that the net benefits of killing are perceived of as a meaningful fraction of lifetime utility, and it is most unlikely that lifetime utility is so affected by noncustodial sanctions that an individual would forego what they perceive to be such important benefits.

So, the level of the penalty matters, even if some people are not deterred, and some people are deterred only some of the time. The question for deterrence theory is not what will deter all crime but what the "optimal sanction" will be given the reduction in crime balanced against the various costs associated with application of the sanction. In Shavell's formulation, "As the level of sanctions rises, more undesirable acts will be deterred, but the social cost of imposing sanctions in a given instance becomes greater, as does the problem of discouraging socially desirable acts. The optimal level of the sanction will be that which makes the best compromise between these competing effects."[32] Applying this basic theory to murder adds considerable richness but also certain complications to the model. The primary focus of this Article concerns how many "more undesirable acts" (murders) will be deterred when the level of sanction rises between life imprisonment and capital punishment, a reasonably concrete question. In order to justify such a focus, we must first discuss why the social cost factors are not determinative.

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[32] Shavell, *supra* note 22, at 1243-44.

To begin with, the number of "socially desirable acts" we might confuse with murder, most especially first-degree murder, is rather small.[33] This is not a problem of mistaken identity – that is a separate issue, but of a circumstance when the actor did indeed do the act, but the act is not actually a murder, although it so appears. There are certainly circumstances such as euthanasia or abortion where somebody can end up dead at the hands of someone else. Likewise, any risky activity like firefighting or surgery brings with it the risk of death by misadventure and potential liability for someone who caused the death. One person might call what happened murder, whereas others might think that the act was (or could be) socially desirable. The important point to note is almost none of these cases fulfill the conditions for first-degree murder, and where criminalized at all have much lesser penalties. In the current context, therefore, the availability of death penalty is not relevant to the rate at which such acts are performed.

The most likely socially desirable act that can be confused with first degree murder is probably self-defense or defense of others, wherein socially acknowledged negatives such as injury or death are forestalled by getting the other fellow (the truly bad actor) before he can commit them. However, any confusion that will occur in the justice system will be between cases where lethal force was justified and where some force was justified, but not lethal force. If the system confuses the former with the latter, somebody may be convicted who committed a socially desirable act, and the possibility of this confusion will presumably cause people to be more cautious (than they should be) about

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[33] From a strictly utilitarian view, it is arguable that some murder victims are themselves "undesirables" whose existence imposes positive harm on the communities in which they live. Perhaps an example might be gang members killing one another. If we increase the sanction for killing generally, deterrence will save bad people from an untimely death along with "good" people. Nevertheless, vigilantism is a strained interpretation of what we consider socially desirable – the optimal level of this activity is usually thought to be near zero.

defending themselves with lethal force. However, in many states such persons have recourse to an imperfect self-defense plea and will not be eligible for first-degree murder (or at least, it will serve as a mitigating factor to prevent their being eligible for the death penalty). The rate therefore of socially desirable acts of this type lost to excessive precaution is more dependent on the sanctions applied to manslaughter, not to murder.

There are non-killing acts that are deterred by sanctions for intentional killing with malice aforethought, but they are generally socially undesirable as well, both because they carry the risk of death and intrinsically. For instance, an individual on trial may argue that they did not "intend" to kill their victim – they only intended to beat them "within an inch of their life" and "accidentally" the victim died when the extra "inch" was taken. Or, a rapist may partially strangle their victim in order to control them during the commission of the sexual assault, but "accidentally" the victim struggles and ends up with a broken neck. Or, a robber may not intend to use their weapon to carry out the robbery, but because the victim had a gun, the robber "had to" shoot to defend his own life. The risk a death will result from these activities, and that it will be punishable by the sanction associated with first-degree murder, means these activities will be engaged in at a rate that falls with the sanction for first-degree murder. Since these activities are harmful, though, this is a simply a social benefit, and will not decrease the level of the optimal sanction.[34]

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[34] Not all the foregoing examples would actually be prosecuted according to the theory of felony murder; however the reasoning about the absence of an overdeterrence problem applies *a fortiori* to circumstances where the predicate offense involved an actual intentional assault. Therefore the analysis of felony-murder is generally relevant: "In the felony-murder context, we need not be concerned with the overdeterrence problem. We would regard as a benefit any effect the felony-murder rule had on deterring individuals from committing the underlying felony. Because the felony-murder rule does not operate against those who are engaged in activities that 'are closely allied with and easily confused" with noncriminal conduct, the overdeterrence problems … are absent." Kevin Cole, *Killings During Crime: Toward a Discriminating*

More problematic is the additional social cost required to implement a capital sentence. For most ordinary crimes, social cost scales rather naturally with the extent of a sanction. If we imprison someone for one year, society is on the hook for a year's worth of room, board, guarding and so on, and there is a loss of one year's worth of economic productivity (if any) of the inmate. If we increase the sentence to five years, multiplying the one year cost by five is at least a good first approximation of social cost. Since it costs many thousands of dollars to imprison people, long prison terms for petty crimes are usually inefficient. Death, as they say, is different; it is very cheap to kill someone, but very expensive to obtain the *right* to kill someone. As far as costs intrinsic to the penalty are concerned, death sentences are cheaper than life imprisonment, a unique inflection in our scale of sanctions.

As a practical matter, it may be that the social cost of a death sentence, associated as it is with intense expenditure of legal resources, is in fact more costly than life imprisonment. Estimates vary between one and two million dollars a death penalty case;[35] this is the price society pays for putting somebody on death row. In addition, because most death row inmates serve long prison sentences under more expensive conditions of confinement[36] only a small amount of savings are realized relative to a life sentence and it is generally thought this cannot compensate for the fixed cost of obtaining a death conviction. These cost factors, though, are pure products of a legal system of

Theory of Strict Liability, 28 AM. CRIM. L. REV. 73, 102 (1990)(*quoting* Louis Michael Seidman, *Soldiers, Martyrs, and Criminals, Utilitarian Theory and the Problem of Crime Control*, 94 YALE L.J. 315, 325 (1984))

[35] *See* Alex Kozinski & Sean Gallagher, *Death: The Ultimate Run-On Sentence*, 46 CASE W. RES. L. REV., 1, 12-14 (1995)

[36] Although there were 16,503 criminal homicides in 2003 (the latest year for which the FBI fully reports), there were only 144 people sentenced to execution, and only 65 people actually executed. THOMAS P. BONCZAR AND TRACY L. SNELL, CAPITAL PUNISHMENT, 2003, Bureau of Justice Statistics Bulletin 1 *available at* http://www.ojp.usdoj.gov/bjs/pubalp2.htm#cp.

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capital adjudication that is widely considered to be bizarrely convoluted, drawn out and inefficient. It is very hard to know what the additional net cost would be if this system were adequately reformed. Assuming that some additional procedure is appropriate when moving between a life sentence and a death sentence, it is unclear to what extent this fixed cost would be balanced by the decreased cost which occurs when a convict only spends one or two years on death row rather than the current several or more years, and in comparison with the decades of confinement and care (including medical care in old age) that are associated with life without parole. Because of the contingent nature of these costs, what follows will assume that although it is no cheaper to apply a death sentence (which might encourage us to resort to it more readily than a life sentence), it is also not prohibitively more expensive so long as there is a meaningful level of deterrence associated with it.

The justification behind this assumption is that even a one or two million dollars increment is usually deemed to be insufficient in social policy making to justify the loss of a life.[37] If the coefficient of deterrence is therefore above 1, and each execution results in saving one life, then execution is socially desirable. If the coefficient of deterrence is below 1, we probably cannot capably distinguish the coefficient from zero, and whether or not the death penalty is implemented loses much of its urgency. Because human lives are sufficiently valuable – following the practice of assigning commonplace values of one million dollars or more even to the economically less valuable members of society – they shift the debate from cost to what is the proper coefficient for capital punishment's

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[37] The current estimates used by the federal government in making regulatory decisions are between 5 and 6.5 million. *See* Eric A. Posner and Cass R. Sunstein, *Dollars and Death*, 72 U. CHI. L. REV. 537 (2005). A "market" based evaluation, compiled by the same authors through examination of jury awards for wrongful death, and excluding outliers, indicates that the price assigned is somewhat under $3 million. *See id*. Even this lower figure is well above the incremental cost of a death trial.

deterrent effect. Perhaps we as a society should not have to pay extra to obtain a death sentence. Assuming we do pay extra though, it is not particularly relevant, because if capital punishment has a deterrent effect at all, it is deterring the loss of something valuable enough to pay extra for.

The central inquiry therefore returns to the extent to which an increase in sanction reduces the number of murders committed. In the way I will shortly define, this amount of reduction represents the "marginal deterrence" of capital punishment. "Marginal deterrence" has come to mean two distinct, if related things, in the criminal deterrence literature. On the one hand, following Stigler, Shavell and others have defined this to mean the effect on the *level* or intensity of some ongoing criminal activity.[38] To take the classic example, the more violent and brutal someone is carrying out a robbery or rape, the higher the sanction will normally be if they are caught.[39]

According to this view of "marginal deterrence," the scaling of sanctions in this way has an efficiency justification, because even if **B** increases with the force applied, it may increase more slowly than **C + A*P**, and those not totally deterred may still have an incentive to do less harm. In Figure 1, this usual model has been sketched for a hypothetical crime. The criminal uses force up to the level after which (1) is no longer satisfied and continued force would be unprofitable. This is sometime before point F, where force becomes lethal. If, it is usually argued, the curve for sanctions was flat and all crimes of this type had similar punishments, most particularly if one followed the traditional law and punished all felonies with capital punishment, then there would be no

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[38] George J. Stigler, *The Optimum Enforcement of Laws*, 78 J. POL. ECON. 526-527 (1970).
[39] *See* Shavell, *supra* note 22, at 1232.

"marginal deterrence," causing criminals to desist at some pre-lethal level of violent force (although if C rose with force, there would be some of this).

Figure 1

Force Applied by D
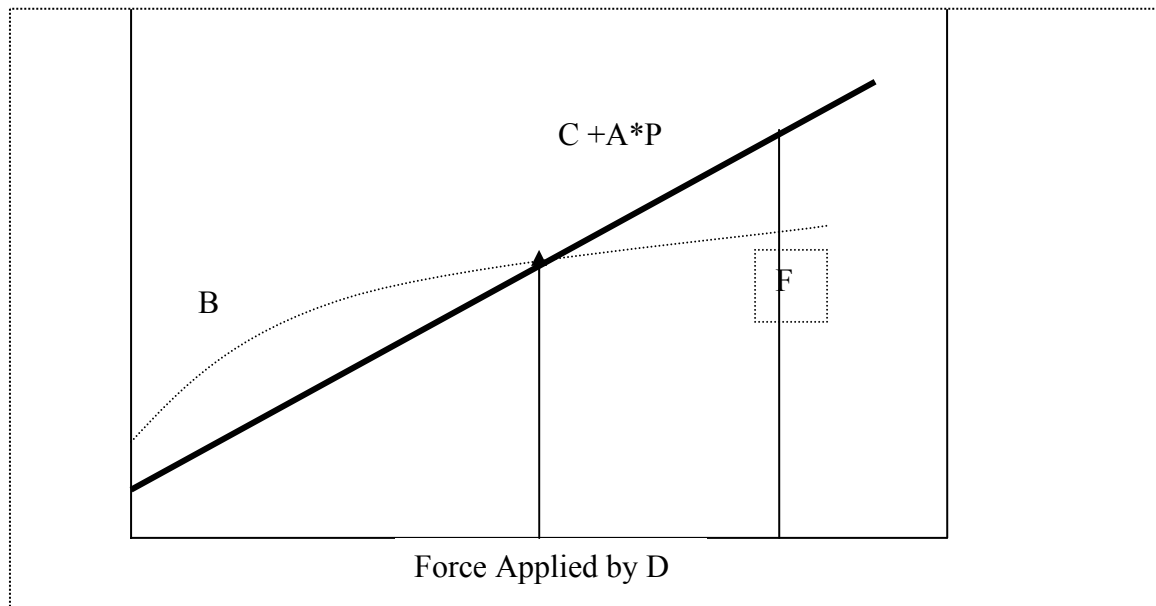
The model illustrated in Figure 1 is useful for explaining certain features of the criminal justice system, but it seems less useful for many types of murder, where the benefit that accrues to the killer is wholly derived from his application of maximum force to the victim. This creates a step function and a solution illustrated in Figure 2. There is no "Stigler deterrence" with this assumption about the benefit curve to the perpetrator, where we can assume that optimal force is above point F, the level of lethal force. In addition, even as to murders that take place within the context of other felonies, there seems to be a behavioral error with regard to the Stigler model, because the goods produced by additional criminal activity are generally distinct from those generated by the earlier activity. Consider for instance a rapist who applies a certain level of violence to perform the rape and thereby get whatever satisfaction might be obtained from coerced sex. They are then at the choice point of whether to kill the victim. Although there are of

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course psychosexual sadists whose satisfaction is directly proportionate to the harm inflicted, these are not the norm even among sex criminals.[40] (For such persons, there is presumably Stigler deterrence). The usual rapist, when considering whether to kill, is considering a quite separate problem from the further slaking of their lusts, namely whether they need to shut the victim up in order to avoid apprehension. The benefits and costs of force *at this point* are more likely to resemble Figure 2 than Figure 1.

Figure 2


C +A*P

F

B

Force Applied by D
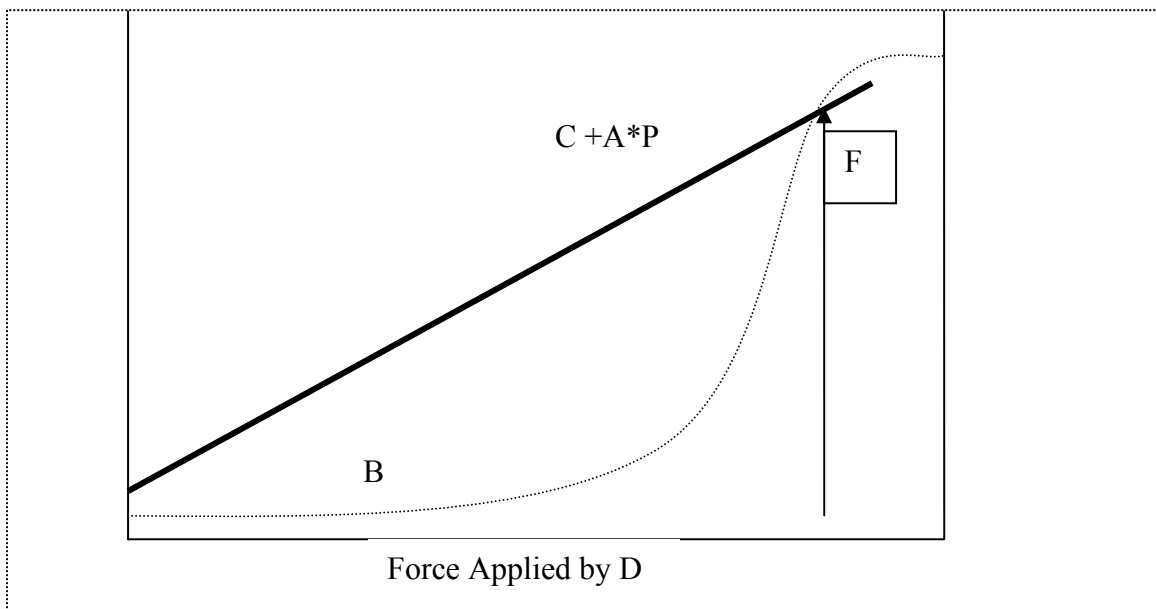
One does not have to abandon an individual rational choice perspective to take this view; a person who is a potential murderer will face a series of varying provocations, incentives, and risks for each killing opportunity. The question will be whether these ever reach the level of profitability (or for multiple murderers, how often they do). By altering the level of P, we deter undesirable acts by making it less likely that (1) is satisfied; how much less likely is reflected in a reduction in the murder rate. This can be

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[40] *See* Christina E. Wells & Erin Elliott Motley, *Reinforcing the Myth of the Crazed Rapist: A Feminist Critique of Recent Rape Legislation*, 81 B. U. L. REV. 127, 157 (2001) (reviewing evidence of the non-psychopathic nature of rapists).

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illustrated in Figure 3, where three different defendants face a choice, and where an increased sanction for murder, going from P_1 to P_2, applied at F, deters Defendant 2. Alternatively, the three different benefit curves, B_1, B_2, and B_3, might characterize three different sets of circumstances for a defendant repeatedly presented with a choice of whether to kill. Defendant 1 is deterred by the ordinary regime of sanctions. Defendant 3 gains sufficient benefits from applying lethal force so that even the additional increment in sanctions applied to murder does not deter him.

Figure 3

$C + A*P_2$

B_3

B_2

B_1

Sanction increased from P_1 to P_2

$C + A*P_1$

F

B_1, B_2, B_3

Force Applied by D1, D2, D3
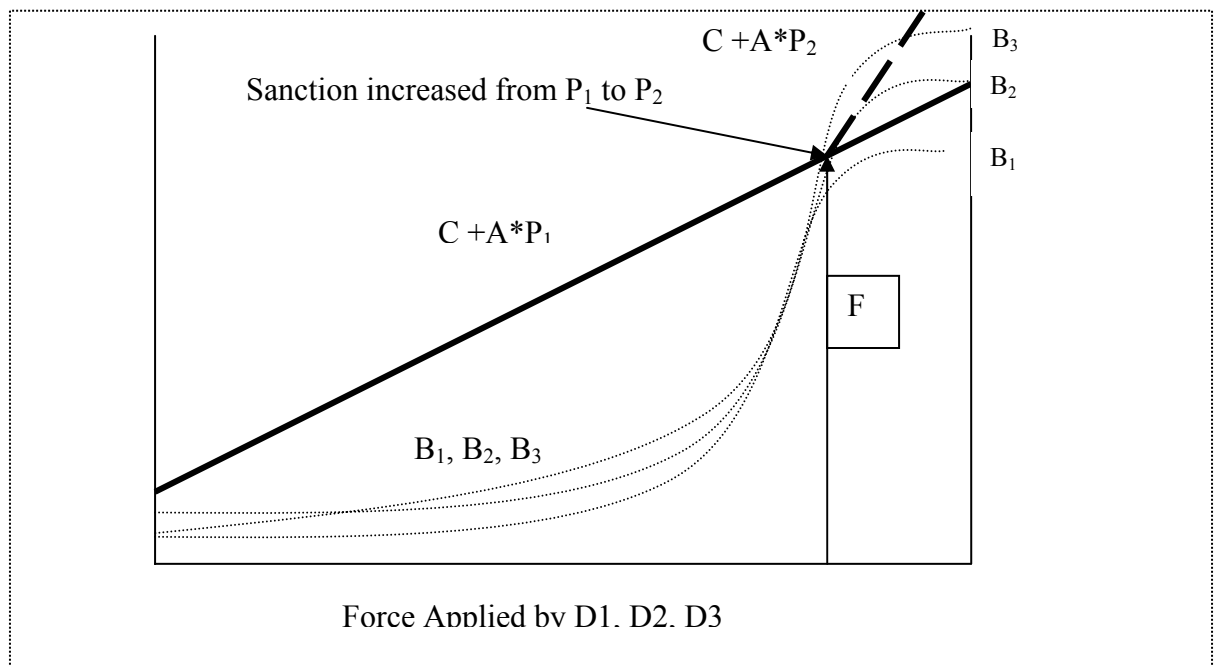
All three of these defendants are very bad people who are restrained from killing, if at all, by the legal system we construct with them in mind. We know there are people like Defendant 1 – people who would gain a benefit from killing another person but who are deterred by what we might call a standard punitive regime consisting of a lengthy prison term. We know there are people like Defendant 3, because murders keep occurring in every jurisdiction and some people are neither deterrable by a standard

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punitive regime, nor by an increased sanction for murder, P_2 (not to hide the ball here, let's call this increased sanction "capital punishment"). Another way to rephrase the basic question in the death penalty debate is whether there is anybody like Defendant 2, or alternatively, whether a potential killer is ever describable as Defendant 2?

The number of people like Defendant 2 who commit the undesirable act of murder when $P = P_1$, but not when $P = P_2$, measured at the same violent activity level, F, are the individuals I will consider as *marginally deterred* by the increase in sanction. In some cases these individuals will have been committing other crimes and their unwillingness to kill will appear as a "limit" on the intensity of their criminality; in other cases, probably most cases, "marginal deterrence," as I am using the term, will involve people who commit no crime at all (at least that day). By contrast, the *absolute deterrence* effect when $P=P_2$ encompasses both Defendant 1 and Defendant 2.[41] Finally, the number of undeterrable persons is represented by those like Defendant 3. To the extent a choice to kill is represented by the middle curve outlined on Figure 3, the outcome of that choice will be determined by whether or not capital punishment is the expected sanction. The number of choices characterized by the bottom curve is largely unknown to us and must be inferred – it is the benefit we get from having a penal system generally. The expected marginal reduction in the murder rate is dependent on the relative ratio of the number of choices best characterized by the middle curve in Figure 3 and the top curve in Figure 3. If nobody – or more strictly, no decision analysis – is characterized by the middle curve, then there will be no reduction in the murder rate.

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[41] For a similar usage, see Donald S. Nagin, *Criminal Deterrence Research at the Outset of the Twenty-First Century*, 23 CRIME & JUSTICE 1,3-4 (1998)

That the set of defendants like Defendant 2 is an empty set is an implicit assumption of people assuming no marginal deterrence effect for capital punishment.

If deterrence is admitted at all with regard to criminal sanctions, it is difficult to deny theoretically the plausibility of a death penalty sanction deterring serious murders, at least with regard to premeditated deaths or felony murders. In order to do so, it would seem that one must demonstrate that a different type of decision process is occurring for murders – as opposed to other premeditated acts, and for felonies that resulted in death – as opposed to those felonies that, adventitiously, did not result in death. On the face of it, these distinctions seem unlikely to be generally true. In particular, although deliberation is not the strong suit of violent felons, the choice to murder must usually involve a serious contemplation of risks and benefits, scaling at least with the amount of time spent in determining how one can best go about it.

Generally, the more reasonable parts of the death penalty debate admit "a" penalty upon murder acts as a deterrent to its commission, so that if the choice is between the death penalty and no penalty at all, the death penalty deters. That is, they admit the existence of Defendant 1. This follows from the empirical evidence of the basic proposition that the presence of a cost, attached to a crime, causes fewer of such crimes to be committed.[42] Usually a claim the death penalty does not "deter" may be taken to mean there is a lack of proof it "deters better than" some alternative lesser sanction. Likewise, for those who claim that the death penalty *does* provide deterrence for crime – they are not making (what ought to be) the trivial claim that potential criminals may be forestalled

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[42] For a review of this evidence, including time-series, perceptual, and ecological studies, see Nagin, *supra* note 41, at 3 and *passim* (concluding that "the evidence for a substantial deterrent is much firmer than it was fifteen years ago" and "the collective actions of the criminal justice system exert a very substantial deterrent effect").

by fear of death.[43] Both sides, instead are speaking of the marginal deterrence supposed by one side to occur upon the "increase" of the penalty for certain kinds of murder from life imprisonment (which for simplicity's sake I will assume to be without the possibility of parole) to execution, as this is applied to the decision of the potential perpetrator.

Slightly more formally, and put in behavioral rather than aggregate terms, the hazard that a person, D, will commit a murder, Q, all else equal, given that the cost to the offender, upon arrest and conviction for murder, is a function of the imposition of life imprisonment, P_1. This is based on the chance, given that $P=P_1$, circumstances will arise such that (1) is satisfied, where his optimal response is lethal force. Translated to Figure 3, this includes the aggregate probability that D's benefit curve will be above the corresponding cost curve, the chance that either B_1 or B_2 accurately describes D's choice. This gives as the conditional probability:

(3) $H_1 = prob(Q)_D | f(P_1)$

Here murder is defined as the presence or absence of an event in some time period over which we observe the behavior of D, a potential murderer. The corresponding hazard, where total cost is a function of the imposition of an execution punishment, is represented by the chance that D's benefit curve is B_3 and that he is undeterrable. Cost is given by $f(P_2)$, and combined with the chance of being above the cost curve, gives the conditional probability:

(4) $H_2 = prob(Q)_D | f(P_2)$

There seems to be some consensus that although P_1 and P_2 are denominated quite differently, $f(P_2) > f(P_1)$ such that a change in $f(P)$ over the range from P_1 to P_2 is

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[43] *See* Allan D. Johnson, Note, *The Illusory Death Penalty: Why America's Death Penalty Process Fails to Support the Economic Theories of Criminal Sanctions and Deterrence*, 52 HASTINGS L. J. 1101, 1112 (2001).

positive, $\Delta f(\mathbf{P}) > 0$. This view is reflected by the greater slope in the modified line at point F in Figure 3. For an individual the question of whether the death penalty deters is whether H_2 is less than H_1, or if one prefers, whether:

(5)(a) $\Delta \mathbf{H}/\Delta f(\mathbf{P}) < 0 \,|P_1 \leq P \leq P_2$ **Deterrence**

(5)(b) $\Delta \mathbf{H}/\Delta f(\mathbf{P}) \approx 0 \,|P_1 \leq P \leq P_2$ **No Deterrence**

Collectively, for the death penalty to show substantial deterrence there must be enough killing decisions where 5(a) is true, where capital punishment is the difference between life and death (for the potential victim), or to restate the graphical formulation, where curve B_2 represents the most accurate description of the costs and benefits of the actor . Retentionists maintain that (5)(a) is satisfied in the jurisdiction they are analyzing, while abolitionists maintain that (5)(b) is the correct form[44] or perhaps more often, that the retentionists have failed to show change in H significantly different from zero (which of course, is not quite the same thing as empirical validation of (5)(b)).   Represented in the following simple figure 4, and ignoring as irrelevant any variant hypotheses about deterrence prior to P_1, the debate is over the slope of the line from P_1 to P_2.   If an individual decisionmaker is sensitive to the difference between P_1 and P_2, then there will be fewer circumstances in which benefits of lethal force exceed its intrinsic and socially

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[44]At one time, and still occasionally, abolitionists promoted the view that, in fact, capital punishment actually caused more people to kill, usually explaining this counter-intuitive result by arguing that the death penalty "brutalized" people, making them more comfortable with killing. Brutalization theorists did not usually deny that, on a direct trade-off basis, execution was perceived as worse than imprisonment. Rather, they argued that the desensitized, lawless population would react less to *all* kinds of legal and non-legal (conscience-based) restraints on behavior, and thus have its entire cost curve for murder lowered. In economic terms, this discounting of murder's costs would act as a subsidy, raising the probability of crime. Shifts in the cost-curve are certainly worth exploring, at least if one expands one's view of the potential causes of brutalization beyond the death penalty, and they might well be a way to model differing rates of murder between societies. However, the brutalization process as just described is not much argued for nowadays, and I will ignore it here in favor of a more thorough discussion of the present debate, between those who advocate 5(a), and those who advocate 5(b), as the correct assumption for legal policy-making.

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imposed costs, reducing the hazard that someone will kill. If the number of lethal force decisions is held constant, then this reduced individual hazard will translate into a reduced social hazard, i.e., there will be a lower murder rate per capita.

Figure 4

Hazard

of

Murder

"RETENTIONIST" LINE

"ABOLITIONIST" LINE

Range of Rival Hypotheses of Functional Relation

P₁   P₂

Penalty for Murder
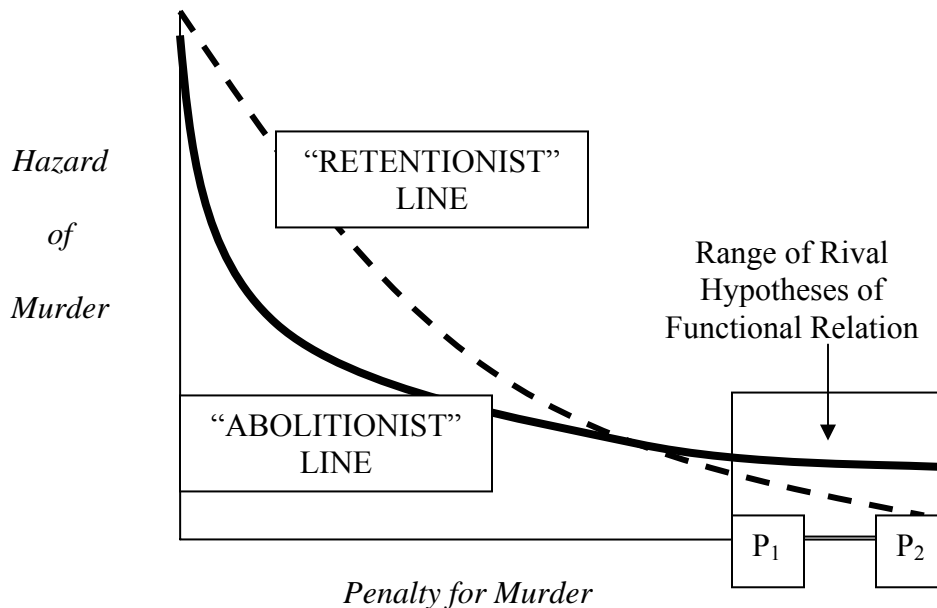
II. Trading Life for Death

If the problem of the death penalty has now been restated as about the slope of line in an implicit model of sanction, this is hardly surprising, but to what extent has it advanced the debate, given that we seem to be left once again only with rival intuitions? One way to assess the relative plausibility of the intuitions is to look more closely at the actual difference in cost between life and death, which the model leaves unnecessarily and damagingly vague. As mentioned above, the difference between a life sentence and a death sentence is not the same as between a one year sentence and a five year sentence, or even between a five year sentence and a life sentence. Do we think that with regard to

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the imposed cost, $f(P_2) > f(P_1)$, the cost imposed by execution is *much* greater than the cost imposed by life imprisonment? Or are we to suppose that it is only *slightly* greater? Any deterrent effect, ΔH, will scale with increasing differential between $f(P_1)$ and $f(P_2)$, which places demands on specifying them more precisely.

$$(6) \qquad (\Delta H' > \Delta H) \rightarrow (\Delta f(P)' > \Delta f(P))$$

At the limit, where there was only infinitesimal difference between life in prison and execution, 5(b) would almost certainly be correct, because a miniscule change in they x-axis would be matched by a miniscule change in the y-axis, *regardless of the true slope of the line*. By contrast, if there is a great difference in perceived utility loss between life in prison and death, and one takes seriously the idea of deterrence generally (indicating a monotonically negative function should relate sanctions to the likelihood of committing an act), then the absence of some detectable slope – and a corresponding deterrent effect – becomes harder to accept, because we have to believe the slope of the sanction function has become not just fairly flat, but very close to zero over an extended portion of the range of the function.

A. The Intensity of Revealed Preference For Life, By Those Sentenced To Death

An approximation of the set of very bad people for whom we design the law of capital murder is provided by those who are convicted of the same. Of course there is a selection bias in this, because they consist only of the subset of very bad people who did, after all, decide to kill, who then proceeded to get caught, and had the misfortune to be in a jurisdiction and before a jury that handed them a death sentence. Still, it is inarguable they belong to the group we are concerned to regulate, and their opinion about how much

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they value their own skin can tell us something about whether execution is a meaningful addition to the social tax we impose on killing.

In general, those convicted of capital murder have the option of choosing to abandon their appeals and accepting execution – those who do are referred to as "volunteers" and constitute a significant fraction of the people executed in those states where very few people are executed, but a much lower fraction where executions are routine and the process does not require the acquiescence of the defendant.[45] The most obvious evidence the death penalty is perceived as worse by the relevant population is provided by the fact that the vast majority of death row inmates *do not* become "volunteers." According to Blume's recent tabulation, there were 106 successful "volunteers" from 1977 to 2003.[46] The relevant comparative population is *not* the number of people involuntarily executed, which is only seven times as large (786);[47] rather it more closely approximates those who are continuing to "fight" their death sentence, which surely constitutes a fair proportion of those people who have ever been sent to death row, 7061 between 1977 and 2003.[48]

Some of these individuals remain in the process of appealing their *conviction*, so their relevant choice was freedom versus death, and they did not reach the point of contesting directly between life in prison and a death sentence; we do not know if they would be "volunteers." So 106/7061 would be an overestimate, but not a large one; Blume's data shows a maximum of twelve volunteers per year (in 1999);[49] this in a year

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[45] *See* John H. Blume, *Killing the Willing: "Volunteers," Suicide, and Competency*, 103 MICH L. REV. 939, 959 (2005)

[46] *Ibid*.

[47] *See id*. at 961.

[48] THOMAS P. BONCZAR AND TRACY L. SNELL, CAPITAL PUNISHMENT, 2003, *supra* note 36, at 1.

[49] Blume, *Killing the Willing*, *supra* note 45, at 959.

when 272 death sentences were handed down.[50] Taking this as a conservative estimate of the relative preference for life over death, 4.4% of the relative population will "volunteer" but in excess of 95% of death row inmates would prefer to stay alive, thank you very much.

Gary Gilmore revealed an understandable preference when he told the Supreme Court "he did not 'care to languish in prison for another day.'"[51] If all potential murderers had the preference set of a Gary Gilmore, the deterrence rationale for capital punishment would simply collapse, because its core assumption of an incremental disincentive would be violated. This would, incidentally, create at least a rhetorical problem for the abolitionist cause, as arguments used against the death penalty frequently portray it as being more severe,[52] a position contradicted by its being chosen voluntarily. But Gilmore's set of preferences, which are not *per se* insane or inconsistent,[53] appear to be quite unusual.

This is by no means an obvious result. Despite the overwhelming confinement emphasis of our penal system, it is not dictated by necessity, much less by the unanimous assent of convicts. The Romans, for instance, thought of life in prison as worse than the

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[50] TRACY L. SNELL, CAPITAL PUNISHMENT, 1999 Bureau of Justice Statistics Bulletin 1 *available at* http://www.ojp.usdoj.gov/bjs/pub/pdf/cp99.pdf

[51] *Gilmore v. Utah*, 429 U.S. 1012, 1015 n.4 (1976) (rejecting the appeal of Gilmore's mother to stop his execution by firing squad). The law on voluntary relinquishment supposedly prevents such choices being made due to the "duress" caused by conditions of imprisonment, which is understandable as a legal rule to avoid incentives for recreating medieval prisons. Nonetheless, if prisoners were treated like Napoleon after Waterloo, and given their own Mediterranean island to rule as emperor, they would not prefer death.

[52] This is not necessarily inconsistent with the rejection of substantial deterrence. The abolitionist point is that, under a non-deterrence hypothesis, this increased imposed cost is especially egregious because it brings about no corresponding social benefit. Although the convict pays the cost, murderers are supposedly sufficiently insensitive to cost such that they will not be deterred.

[53] *See, e.g., Harper v. Parker*, 177 F.3d 567, 570 (6th Cir. 1999) (rejecting attempt of Kentucky Department of Public Advocacy to intervene and stop execution when testimony showed the convict was "competent and that his determination to have counsel discharged and not to proceed with filing a habeas petition is based on his desire not to have to live in prison for the rest of his natural life").

death penalty,[54] and few premodern civilizations even had prisons. Where there were prisons, the abysmal conditions of confinement (usually leading to an unpleasant slow death through disease, malnutrition, overwork and exposure) and the omnipresent shame and indignity could easily cause expectations of the future utility derivable from any future period to dip below zero. Such negative prospects make rational any action that will avoid these costs, including suicide.[55] Even under current prison conditions, a "life sentence" adds considerable extra risks of mortality in comparison with living on "the outside,"[56] whereas a "death sentence" de facto consists of a long stretch of imprisonment combined with an extra mortality risk created by an unpredictable legal process that might choose to actually execute in some particular year. In other words, the penalties are not nearly as distinct as one might suppose – yet capital convicts usually do distinguish them.

In order to determine whether to choose life imprisonment over the death penalty, a convict will assess the expected utility that they will receive in the prison environment over the period of their natural life. For sake of simplicity, suppose the decision is just whether or not to pursue a legal strategy that will delay execution and allow the prisoner to survive into the next time period, x+1. Using conventional demographic form, an individual has an exogenous probability p_x of surviving from their current age x into the

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[54] *See* Russ VerSteeg, *Law and Justice in Caesar's Gallic Wars*, 33 HOFSTRA L. REV. 571, 575 (2004) (noting that Julius Caesar, when acting as magistrate expressed this inverse view of the relative harshness).
[55] A distinction that may be noted between Roman and common law practice is that in the former, actual suicide was frequent, if conviction or a lighter sentence (such as exile) was unavoidable. Influenced by Christian tradition, individuals in the common law were ingrained with prohibitions against suicide (prohibitions enforced to some extent by post-mortem humiliation of the body and family of the suicide). Therefore, even if an individual preferred death, there were certain barriers to implementing this desire.
[56] *See* Katz, Levitt, & Shustorovich, *Prison Conditions, Capital Punishment, and Deterrence*, *supra* note 3, at 323. Although Katz, Levitt, and Shustorovich argue that death rates in prison provide a stronger deterrent than execution, they do not deny that execution might have some effect- they claim to have been unable to come to an empirical conclusion about it.

next time period x+1. During that period they will experience (or rather, expect) a certain amount of utility, U_{x+1}. Apart from any other discount rate applied to this future utility stream, the value expected from this period, **E**, must be discounted for the possibility that the potential recipient will die of some other cause than execution.

(7) $E = p_x \cdot U_{x+1}$

Execution prior to x+1 reduces $p_x = 0$, and therefore (E| execution) = 0. An individual would therefore prefer execution only when (E| ~ execution) < 0, and since p_x is a probability that can vary only between 0 and 1, this can occur only when $U_{x+1} < 0$. In other words, people choose to die when life, even if you get it, is not worth living. This may seem trivial, but is worth establishing at the beginning of developing a model of punishment cost.

The total amount of expected utility in the person's remaining lifespan is determined by the potential to survive to some age, l_x (which is the product of the joint probabilities of surviving all preceding periods, $p_0 \cdot p_1 \ldots \cdot p_{x-1}$). This chance of living to age x is multiplied by the utility one gains at that age if in fact you live long enough to enjoy it, U_x. The utility times the survivorship, $l_x \cdot U_x$, is then totaled by is summing across all future time periods (x varies from current age to extreme old age) to give expected value of the remaining lifespan, **V**.[57]

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[57] The above formula adapts the reproductive value equation generally used in biology, although it is also related to various models of human capital. A biological equation would divide the summation by the survivorship probability to the individual's current age to account for the fact that they have, actually, beat the odds so far and have greater expected value in the future years than was the case at their birth. Second, utility would be directly replaced by biological fertility (m_x) as the measure of the utility productivity of a future time period. Since it is not necessary or possible in this current work to discuss the extent to which utility tracks this objective measure in human beings, the conventions of economics are usually adhered to instead. I would note that punishment by confinement, like punishment by death, successfully suppresses reproduction by preventing sexual contact with the opposite sex, and more generally, activity that would allow accumulation of resources. I need not defend that this is *why* at a fundamental level prison is experienced as unpleasant. Such motivation is *usually* unconscious; cases such as *Gerber v. Hickman*,

(8) $V = \sum (l_x \cdot U_x)$

The current form of (8) is useful insofar as it shows there is a fairly specific meaning to lifetime utility and what one sacrifices at death. For the sake of simplicity, we can ignore the changes in l_x and U_x that may occur at different ages, as well as the structure of the equation, and simply note that V is a positive function of l and U.

(9) $V = f(l, U)$ $\Delta V/\Delta l > 0$ $\Delta V/\Delta U > 0$

Presumably the problem with incarceration is that the utility of a period spent in prison is less than the utility derivable from a period unincarcerated, or else prison would not be as undesirable it is;[58] in addition, a lowered life expectancy within prison may make it less attractive. If **V** is the lifetime expected utility as a free man, then set **V′** equal to the utility derived from an imprisoned natural life, based on the altered prison variables, **l′** and **U′**. We could also assess **V** given execution, but we know it already as a generalization from (7): all future periods produce zero utility if you are dead, so **V** upon application of capital punishment falls to zero. With these definitions we are now ready to specify $f(\mathbf{P_1})$ and $f(\mathbf{P_2})$, and thereby $\Delta f(\mathbf{P})$.

(10)(a) $f(\mathbf{P_1}) = \mathbf{V} - \mathbf{V'}$

(10)(b) $f(\mathbf{P_2}) = \mathbf{V}$

(10)(c) $\Delta f(\mathbf{P}) = \mathbf{V'}$

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where the prisoner, a "lifer," sought to use the Constitution to impregnate his wife through artificial insemination, are rare. The analogy nevertheless goes slightly beyond the formal one, and suggests that the en banc opinion in *Gerber* was on the right track when it held procreation to be inconsistent with incarceration, given "the nature and goals of the correctional system, including isolating prisoners, deterring crime, punishing offenders, and providing rehabilitation." *Gerber v. Hickman*, 291 F.3d 617, 622 (9th Cir. 2002) (reversing panel opinion in 264 F.3d 882, 890 (2001), which would have upheld the constitutional right to ship sperm out of the penitentiary for reproductive purposes).

[58] Although I would suspect them to be a smaller group than "volunteers," it is possible that some people might actually prefer prison to the world outside. I discuss this problem briefly, below, and suggest the amount of utility such people are likely to be deriving is quite low, it not being so much that they like prison, but that their unincarcerated life would be yet more unpleasant.

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We arrive at the conclusion that the deterrent effect of capital punishment *per se* depends entirely on the length and quality of a life sentence. The value of one's life as a free person is irrelevant at the margin – although highly relevant to the deterrent effect of life imprisonment.[59] To the extent existence in prison becomes progressively more lethal or odious, the additional deterrence provided by a threat of execution goes away. This creates a behavioral critique of the study of Katz, Levitt, and Shustorovich on prison conditions. According to the present theory, bad prison conditions should relate negatively to the marginal deterrent effect of execution, so their two primary regressors of interest are related in a way they do not discuss. Indirectly, however, their study does suggest such a relation, since they report a significant deterrent effect of capital punishment on murder for later decades (post 1971) of more than 1/100,000.[60] Earlier decades, however, show a much smaller (if any) effect on deterrence, in line with the theoretical structure here proposed, since prison conditions as measured by mortality were much worse during this early period.[61]

In order to identify those people on whom capital punishment might have most effect, we should thus look to those who still have something significant to lose, despite being put in prison. That there are such people is again suggested indirectly by volunteers, whose presence signals a certain level of variation in $\mathbf{V'}$; we can infer that if

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[59] Thus someone who has a relatively shortened expectation of life, and/or low expectations for the possibility of utility generation at future ages, will be less deterred by the threat of jail, and will commit more crimes. For instance, Jack Ruby, who was dying, shot Lee Harvey Oswald, and the fact that Ruby was dying no doubt lowered the expected loss from the social sanction, raising the benefit of the killing over its costs. The commission of interpersonal crime, especially homicide, will have localized effects that reduce the expected survivorship and economic security of surrounding individuals, reducing their own incentives against criminal conduct. The existence of hypothetical environments containing such feedbacks may warrant sociological investigation.

[60] *See supra* note 3 at 335 (cautioning this effect. -1.15/100,000, is highly dependent on the econometric model employed and highly variable)

[61] *See id*. at 324 (general secular trend of improving conditions) and at 335 (pre-1971 coefficient is estimated at approximately -.1, ten times lower than the mean of the fluctuating coefficient detected from the modern death penalty era).

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there are persons within the death-sentenced population who are relatively less able to bear incarceration, *there also should be another group, who are relatively more able to bear incarceration.* For this latter group, **V′** remains significantly different from zero, and they therefore have the most to fear from death; consequently they are predicted to be most deterred by capital punishment.[62] Naturally, there are general trends that affect the difference between life in prison and execution, the general nature of prison conditions being the most obvious one – the worse these are, the better life in prison serves as a deterrent, and the worse execution will serve as a *marginal* deterrent.

The current model, in part because it is designed with the hope to focus the death penalty more precisely, simply takes this one step further, to consider the *individual variation* in the relative difference between life in prison, the policy implication being that while it is pointless to threaten a Gary Gilmore with execution, and the usefulness of the threat is debatable as to some other percentage of killers, there should exist a group for whom the death penalty might be a particularly effective deterrent, regardless of the background cost of prison conditions for the average inmate. Moreover, **V′** is negatively correlated with **V - V′** (unless one assumes that these individuals are just naturally happy, adaptable people who have better lives – higher V – outside the stir as well as in it).

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[62] If we were guided only by the above equations, we might suppose law professors to be a likely group on whom to observe the marginal deterrence of threatened execution. Thanks to the beneficence of the Supreme Court, prisons are provided with law libraries, so unlike other professionals, imprisoned law professors may continue to practice their profession (from which they derive some modicum of satisfaction), albeit in a more restricted fashion. Because of the legally charged atmosphere, there will also be intellectual resources that would partially offset the loss of more traditional colleagues, particularly for the empirically inclined scholar. Moreover, prisoners with pending or potential litigation, particularly those in need of novel and untested legal theories, would likely show some solicitude for the well-being of the law professor, leading to a less severe loss of life expectancy than might otherwise be imagined. I therefore conclude that law professors should show particular distaste for capital punishment. Q.E.D. The only trouble with this account is that law professors are rarely *very* bad men.

Therefore (10)(a) will be lower than normal, as will be the deterrence provided by a life sentence; they are people for whom only execution will do.[63]

Figure 5
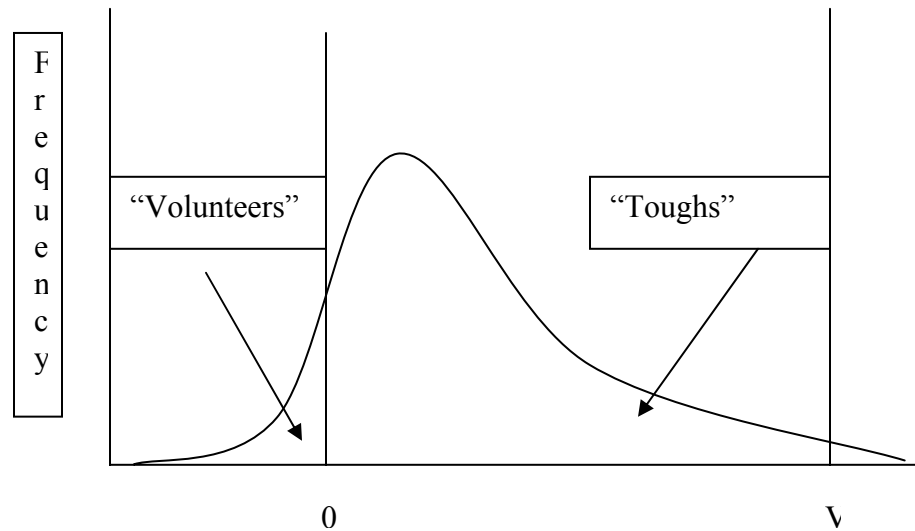
Presumably, we would be looking for a group of individuals – let's call them "Toughs" – willing and able to use violence, and who are relatively comfortable in the prison environment. Some limited evidence on this variation is provided by a four-year field study conducted in Lorton Prison in the late 1980's.[64] Although this research was qualitative in nature, one of its chief conclusions was that the aversive nature of the prison experience varied widely, with many individuals suffering serious mental distress due to the high level of risk of injury and death and the "fear, uncertainty and boredom" involved in incarceration; others, however, perceived the prison as at least a tolerable

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[63]The "desert" model of punishment would track this conclusion, since putting people into what amounts to a "second home" for them is hardly commensurate with the punitive notion of desert.

[64]*See* Robert Blecker, *Haven or Hell? Inside Lorton's Central Prison: Experiences of Punishment Justified*, 42 STAN. L. REV. 1149, 1154 (1990). Lorton prison is in Virginia, but houses inmates convicted of serious crimes with the District of Columbia, such as robbery, murder, rape, and narcotics offenses. *Ibid*. The District of Columbia has no death penalty.

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place where they could "play basketball, get high, dress well, work out, have sex and watch color television…."[65]

Generally those having the easiest time are naturally the "toughest criminals who committed the worst crimes" because they usually have established contacts for contraband goods and services, supervisory positions in the prison work details, and can effectively terrorize the "timid, short-term first offender[.]"[66] As relevant to our purposes here, assuming this scale to be approximately correct, those experiencing a relatively non-aversive environment would often include murderers in for long sentences, especially those with prior prison experience, although other murderers for whom their crime is not an outgrowth of a criminal career, may lack prison experience and suffer greater than average costs for at least a certain period.

Noting again the selection bias (out of all potential murderers) that comes with doing so, I will make do with relevant observations on two further subsamples for which there is significant data, (1) death row inmates and (2) murder defendants more generally. Keeping in mind the caveats expressed above about who enters these groups, it seems to me useful to investigate whether it is possible to identify – as a preliminary to other potential empiricism, perhaps – groups who have particularly high marginal costs for death.   These individuals, in their cost structure, are essentially the reverse of death

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[65] Blecker, *Haven or Hell?*, at 1216. One revealing inmate comment is that for some younger prisoners, "life in prison is 'pretty much the same as on the street. Their little honeys can come and see them; they can sneak off and have a little sex here and there. Drugs when they want, get drunk when they want. They can have personal clothing so they can dress similar to the way they did in the streets. Get up late. Pretty much the same thing as at home. Somebody to look after them." *Id.* at 1172.   If this was in any way accurate, it obviously greatly reduces the deterrent effect of the prison, with V′ converging toward V.

[66] *Id*. at 1173. As noted by Blecker, who is sympathetic to the retributivist viewpoint, a moral desert model of punishment would reject this pattern of prison suffering. It also provides an additional justification (from either the retributive or deterrence view) for application of the death penalty if (and only if) a death-eligible individual is likely to experience an abnormally easy time serving a life sentence. *Cf*. J. K. ROWLING, HARRY POTTER AND THE PRISONER OF AZKABAN, 214 (1999) ("Black isn't affected by Azkaban like normal people are. It's not a punishment for him like it is the others.") (vigilante schoolboy arguing for death, rather than return to life imprisonment, of convicted killer, in non death penalty jurisdiction)

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penalty "volunteers." For volunteers, $V' < 0$, so death is preferable. We can assume they represent one extreme end of a distribution, the bulk of which is greater than zero, and whose mean is centered between zero and V. The right tail of the distribution can be taken as V,[67] while the left tail is some arbitrary negative number.[68] The greater the skew towards the right of the distribution in Figure 5, the greater predicted incentive for the marginal deterrence of the death penalty.

One sample of death row inmates, already discussed, has been characterized at a sufficient level to perhaps make certain distinctions. The 156 killers given clemency by George Ryan were all given capsule profiles by the Chicago Tribune.[69] Although these narratives are brief, they allow for more precise coding of the activities of the offender that ultimately led to their capital crime, coding that can be cross-checked for most of them by reference to state appellate opinions on their cases. Within this sample, there appear to have been no "volunteers" who complained about the commutation. There was, however, a blind spree-killer whose preference reversal between life and death is recorded in his attempt to withdraw his unbargained-for guilty plea to capital murder.[70] The defendant, Ernest Jamison, had a busy day June 19, 1995; he began by killing a man

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[67] Hypothetically the tail extends out past V, to include those who may actually prefer long-term imprisonment to life on "the outside." There is some anecdotal evidence for this among persons whose V is relatively low, but the percentage for whom $V' > V$ is likely small. Individuals of this type, because *both* V and V' are probably low, should not show an especially strong specific aversion to the death penalty because they are insensitive to penalties generally. *See Blecker*, *supra* note 64, who reports inmate (and rational calculator) Leo Simms as musing that "'A person have to have something that you take away from them, … but if you don't got nothing, or consider what you have of any value or any importance, then you ain't took nothing from them.'"

[68] One slightly less arbitrary way to left-censor the distribution would be to calculate the utility value already accumulated by the offender from age 0 to the age of incarceration, V_0. Negative utility periods past this point could be assumed to accumulate until the individual reaches $(- V_0)$, at which point they wish literally "that they had never been born." This specifies a commonly uttered threat often considered to have connotations of the maximum possible infliction of harm.

[69]*Available at* http://www.chicagotribune.com/media/flash/2003-01/6205019.pdf and http://www.chicagotribune.com/media/flash/2003-01/6205191.pdf

[70] *See People v. Jamison*, 756 N.E.2d 788, 790 (Ill. 2001).

in Memphis, stealing his car, and heading north; on his way, he killed a gas station attendant in Missouri, and when his first car broke down in Illinois, he shot a woman in the head for her Honda. The Honda went into the ditch during a high speed chase with the local sheriff, and when approached, Jamison turned the gun on himself. This indicates at least a momentary preference against incarceration in favor of death.[71]

Jamison failed in his suicide attempt, but his gunshot to the head rendered him blind, and contributed to him being depressed. He voluntarily changed his plea to guilty and waived his right to a trial; a subsequent hearing found him eligible for the death penalty. It was reported that "defendant became sad when he spoke about the future and maintained he would rather die than go to prison because he was afraid of being victimized in prison due to his blindness."[72] There is no doubt that Jamison, at this point, can be located at the left hand of the hypothetical distribution shown in Figure 5. However, after a certain amount of treatment with anti-depressives, Jamison's mood improved; his boredom was relieved by provision of books-on-tape and music, and he "attended Bible study sessions, wrote rap songs, and enjoyed witnessing his faith to his

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[71] *See* Blume, *Killing the Willing*, *supra* note 45, at 968 ("there are important similarities between persons who commit suicide and those who volunteer for execution"). Of course, those who do not let the cops take them alive are a special case – they are making in effect a penal choice that indicates their expectation of V′, rather than the normal suicide, whose action reveals expectations about V < 0. Nevertheless, it is not surprising if these were correlated, since if somebody already has a low expected value of V – little to live for – a lifetime of incarceration is unlikely to improve their outlook on life. Formally speaking, a low V indicative of those at risk for suicide makes them less resilient to the subtraction effected in (10)(a) as part of the sanction of imprisonment and makes it more likely that V-V′ < 0, producing a potential volunteer. Blume also appears puzzled by the racial disparity in volunteering, in that although 42% of death row inmates are black, only 3% of volunteers are. *See id*. at 962 & n.120 (reporting this phenomenon has been unanalyzed in the legal literature). Although there are no doubt many factors involved here, one implication of the model is that if the greater organization of African-American gangs in prisons may mollify the effects of incarceration, reducing its cost, volunteering becomes less likely for those who are (or who are, at least, eligible to be) a member of such a gang; in addition, black defendants have recourse to some legal arguments based on racial discrimination that might potentially overturn their conviction, a strong incentive to stay alive.

[72] *People v. Jamison*, 756 N.E.2d at 793.

fellow inmates."[73] It is plausible to conclude that Jamison now had something to live for,

therefore subjectively determined **V-V′** > 0, no longer wished to die, and hence

(unsuccessfully, as it turned out) attempted to withdraw his plea. At this point, Jamison

can be placed over the zero line – but perhaps not much over this line.

Other inmates can be inferred to further out on the distribution hypothesized in

Figure 5. For instance, here is the skinny on Victor Ganus, convicted 1990: "While

serving a life term for murder in 1988 at Menard Correctional Center, he stabbed and

strangled fellow inmate Lucas Gonzales in a gang dispute." Next in alphabetical order on

the mercy list is Oasby Gilliam: "Kidnapped and robbed Aileen D'Elia, 79, of Chicago in

1992, then beat her with a tire iron and dumped her body in Downstate Jefferson

County."[74] Neither the law that condemned them, nor the blanket executive clemency

that saved them, made any particular distinction between Mr. Ganus or Mr. Gilliam, who

I think it is not disparaging to remark are both very bad people. Nor did Ganus or

Gilliam abandon their appeals and show a preference for volunteerism, as did Jamison.

Nevertheless, as revealed by examining their cases, there is a difference between

them. Gilliam appears to be a typical economically motivated criminal with no particular

brief for killing old ladies, but also no particular compunction against doing so.[75] There

is no reason to believe he would find a life sentence particularly easy or hard, and

therefore at a guess we can place him at the middle of the cost distribution and probable

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[73] *Id.* at 798.

[74] *Available at* http://www.chicagotribune.com/media/flash/2003-01/6205019.pdf and
http://www.chicagotribune.com/media/flash/2003-01/6205191.pdf

[75] *See People v. Gilliam*, 670 N.E.2d 606, 612 (Ill. 1996) (victim was murdered as a potential witness after
Gilliam carjacked her in order to escape from a botched attempt to rob a liquor store). He drove with her
(locked in the trunk) for several hours as "he considered what to do with the victim." *Ibid*. This is notable
as a counterexample to any claims that criminals lack the mental capacity or time to consider whether or
not to elevate their criminal activity to the level governed by maximum penalties.

deterrability.[76] Mr. Ganus, on the other hand, seems to be a bit of harder nut – a "tough criminal" of the type recorded by Blecker – and the murder for which he received his death sentence was "part of his duty as cellhouse security chief for the Latin Kings gang."[77] Ganus was already serving a natural life sentence at the time for a 1985 murder that he committed just forty-one days after getting out of a previous stretch in prison.[78]

After one eliminates the four women among the 156 people, 152 men formerly on Illinois death row remain as a sample. Of these 152, I coded 15 as committing their principal crime as part of either gang activity and/or in pursuit of their commercial activities as drug dealers.   Gang members and drug dealers, in most American penitentiaries, have the opportunity to continue to pursue the same type of economic activities they did while not incarcerated, thereby providing compensable services and having a greater opportunity for utility generation than would be the case for the average inmate. Because a substantial portion of the gang is imprisoned at any particular time, and their rivalry with economically competitive gangs is positively affected by people willing to act in capacities such as "cellhouse security chief," the imprisoned gang member – even the "lifer" – remains integral to overall economic life of the criminal organization. *Ceteris paribus*, I suggest $U'_{GANUS} > U'_{GILLIAM}$, generating $V'_{GANUS} > V'_{GILLIAM}$. The protection afforded by the gang in terms of survival probability may or may not be offset by the greater exposure of the individual as a target from rivals, so we

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[76]Gilliam fled to Mississippi where he holed up with relatives, but appeared "restless and nervous" and refused to specify what wrong, saying "If you only knew." *Id*. at 611. After two months he returned to Chicago by bus and requested his girlfriend arrange for his surrender to the authorities, to whom he confessed his crime. *See ibid*.; *cf.* FYODOR DOSTOYEVSKY, CRIME AND PUNISHMENT (1866).

[77] *People v. Ganus*, 594 N.E.2d 211, 212 (Ill. 1992) (the victim supposedly had "raped the wrong [female person] out on the street" and Ganus found it necessary to increase the penalty that had been imposed by the justice system)

[78] *People v. Ganus*, 706 N.E.2d 875, 878 (Ill. 1998). Expert psychological testimony established that Mr. Ganus "had a tendency to be excessively absorbed with his own needs and insufficiently aware of the needs of others. Defendant is impulsive, shows poor judgment and has difficulty controlling himself." *Id*. at 877.

perhaps can ignore that factor until more evidence is gathered on it. At least 10% of the sample of capital convicts is therefore shifted right on the distribution by a retained capacity to continue valuable economic activity.

Another subgroup from this sample that *may* be partially immunized by the effect of the prison environment is the subgroup of killers who are also rapists; at least those who while at liberty satisfied their desires using adult victims.[79] Including some marginal cases who assaulted and killed teenagers, I identify 27 members of this category, or about 20% of the sample. Arguably, because rape is unfortunately prevalent in many correctional institutions, it is possible for these individuals to continue to some extent an activity for which they revealed a preference while not incarcerated. It is true that the majority of these men raped women, whereas in prison they will have access only to other males as victims. However, opportunistic homosexuality is common in prisons or other same-sex environments, demonstrating the substitutability of one good for another.[80] More speculation is required here, but again, I would argue that those who have the motivation and opportunity to engage in highly desired behavior will have a higher retained utility upon imposition of a life sentence, and thus will be more susceptible to the next step in penalization.

B. Revealed Preference For Life, By Those Eligible For Death

Those who are convicted of – or more often, plead guilty to – a murder *eligible* for the death penalty, but who do not actually receive it, are no doubt more representative

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[79] Those who rape and kill children, anecdotally, have lower survivorship in prison, and may be subject to disutility generated by fellow inmates. *See* Blecker, *supra* note 64, at 1172 (noting that "child molestation or crimes against the elderly" may result in a prisoner being "ostracized or physically attacked").
[80] *See* RICHARD A. POSNER, SEX AND REASON 121 (1992).

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of the relevant regulated population than are death row inmates. However, this group receives much less legal treatment (or attention from legal reformers and the bar), in part because their sentences are generally not separately appealable, or they may have waived appeal of their conviction and sentence as part of the exchange for avoiding a possible death penalty. It is therefore more difficult to estimate to what extent they would mirror the distributions estimated above or how they might reveal other aspects of the variability in immunity to prison costs that I have suggested is at the heart of the question of deterrence.

Nevertheless, studies of them reinforce the essential point that life is preferred to death. The option of the death penalty gives prosecutors an important amount of leverage in plea negotiations. With the exception of New York, where there are legal restrictions on the use of this threat, it is said to be "the virtually universal day-to-day practice in every other American death-penalty jurisdiction."[81] The actual *amount* of leverage of this threat, however, is specified by the same formal relations as have been sketched above, since the amount a bargaining defendant would be willing to exchange (in terms of possibility of acquittal or legal recourse) is highly dependent on the additional amount of cost imposed upon them by a death sentence.[82] This in turn will vary according to the individual's expected quality and length of life in prison. Gary Gilmore, presumably could assert, with Patrick Henry, "Give me liberty or give me death!" There would be no prosecutorial leverage over such a defendant.

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[81] Joseph L. Hoffmann, Marcy L. Kahn, and Steven W. Fisher, *Plea Bargaining in the Shadow of Death*, 69 FORDHAM L. REV. 2313, 2316 (2000).

[82] It is not wholly dependent because such negotiations take place prior to trial and the "death is different" legal regime may allow certain prosecutorial advantages during the trial that could increase the chance of conviction. *See* James S. Liebman, *The Overproduction of Death*, 100 COLUM. L. REV. 2030, 2097 (2001) (describing the rationale for, as well as sharply criticizing, the practice of "overcharging" murder defendants).

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Over the average defendant, however, the influence of the death penalty is apparently quite substantial. In order to achieve a *plea* of life in prison without the possibility of parole, where the trial outcome is uncertain, it is patent that there must be some penalty that is perceived to be substantially in excess of life imprisonment, such that a rational defendant chooses with certainty a result of $f(\mathbf{P_1})$. Indeed, it appears to be essentially only those who are death-eligible who will accept, without adjudication, costs of $f(\mathbf{P_1})$.[83] To simplify matters somewhat by ignoring the possibility of conviction on a lesser charge than death eligible murder, and of avoiding the death penalty at the sentencing phase, we get the following decision, which, when true, will result in accepting a plea bargain.

(11) $\quad \mathbf{V'} > \mathbf{Prob_{acquittal}} * \mathbf{V}$

We can see that as prison conditions ($\mathbf{V'}$) improve from the defendant's subjective viewpoint, the chance of taking a deal increases. The problem with this is that the "Toughs" and most experienced inmates have the greatest incentive to take a deal, although the optimal penalty for them is *more likely* to be the death penalty (from society's point of view) than other prisoners who fear incarceration more. Obviously, when the chance of avoiding a death sentence falls, a plea becomes more attractive. The chance (and the right side of (11)) would rarely fall to zero, however, given the vagaries of the justice system, and this suggests defendants who take a "deal" of a natural life sentence are usually giving up something of importance. The only reason why they would act this way (and be professionally counseled to act this way by their lawyers) is that the fear of even a relatively small chance of a death sentence operates as primary determinant of their post-arrest litigation behavior.

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[83] *See* Hoffman, et al., *supra* note 81, at 2350.

In a study of Nebraska capital punishment, Baldus and his colleagues analyzed the results of 185 "death-eligible" murder cases.[84] For 96 of these cases, the death sentence was not sought, often because of pretrial plea bargain. Of the remaining 89, seventeen pled guilty at the guilt phase of the trial; this largely eliminated the risk of a death sentence (only two of the seventeen received such a sentence), and so might be thought of as an implicit equitable plea bargain, i.e., "throwing one's self on the mercy of the court." Of the seventy-two contested cases, however, 37% resulted in a death sentence. Presumably those who are engaged in plea bargaining have some sense of their chance for acquittal or for receiving a death sentence, and behave accordingly.

For those who fear a death sentence, a strong incentive is created that shifts the bargaining outcome of the negotiation between the criminal defendant and the state, resulting in a greater length of agreed-upon imprisonment than would be the case were the death penalty not present in the background. The relevance of this phenomenon for the deterrence debate is manifold. Most obviously, it strongly suggests that, controlling for likelihood of acquittal, the sample of those who actually get on death row is biased towards those killers who have the lowest marginal cost of death, and the lowest "quality of life" in prison. These correlate with the incentive to conclude a plea bargain that would avoid a death sentence in exchange for a longer period of term imprisonment or for sacrificing the possibility of parole. This is perverse from both a deterrence and desert perspective.

A perhaps more important consequence of considering bargaining is that, quite against the intent of the critics who have generally examined these practices, the death

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[84] David C. Baldus et al., *The Nebraska Death Penalty Study, An Interdisciplinary Symposium: Arbitrariness and Discrimination in the Administration of the Death Penalty: A Legal and Empirical Analysis of the Nebraska Experience (1973- 1999)*, 81 NEB. L. REV. 486 (2002).

penalty is shown to have a far more pervasive effect among murderers than is commonly assumed. The statistics showing a very small coterie of murderers actually receive the death penalty radically underestimate the aggregate amount of additional cost imposed on convicted murderers by the presence of the death penalty. The aggregate additional cost it attaches to murder is composed not only of a small probability of offender death, but also by the de facto increase in prison sentences implemented as prosecutor-favorable shift in the bargained-for sentences that determine the penal outcome in the majority of murder cases.

Because the probability of receiving $\mathbf{P_1}$ is a positive function of the probability of receiving $\mathbf{P_2}$, then a reduction of the probability of receiving $\mathbf{P_2}$ to zero – as required by a death penalty moratorium or abolition – is necessarily to assume that the probability of receiving $\mathbf{P_1}$ rather than some lesser penalty, is irrelevant to the hazard of committing murder. So long as the individual is at least plausibly eligible for the death penalty so it is a credible threat – and this may include all, or nearly all, first-degree murderers[85] – there is an expected increased cost from the death penalty, whether or not it is actually sought, obtained, upheld, or carried out. We can therefore relax the range conditions applied *supra* to the competing functional hypotheses in (5)(a) and (5)(b) and restate them in a form requiring a stronger claim by proponents of abolition.

(12)(a) $\Delta \mathbf{H}/\Delta \mathit{f}(\mathbf{P}) < 0$ **Deterrence**

(12)(b) $\Delta \mathbf{H}/\Delta \mathit{f}(\mathbf{P}) \approx 0$ **No Deterrence**

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[85] *See* Steven F. Shatz & Nina Rivkind, *The California Death Penalty Scheme: Requiem for Furman?* 72 N.Y.U. L. REV. 1283, 1330 (1997) (85% are death eligible); *see also id.* at 1340 ("the prosecutor can use the death penalty threat against almost any defendant charged with first degree murder"). In Georgia, Baldus and his colleagues indicate the comparable percentage is a near-identical 86%. DAVID C. BALDUS, ET AL. (eds.), EQUAL JUSTICE AND THE DEATH PENALTY: A LEGAL AND EMPIRICAL ANALYSIS 268 n.31 (1990). The Florida system is more straightforward and simply makes first degree murder a potentially capital crime, with the question of life imprisonment or a death sentence determined after conviction in the guilt phase of the trial. *See Hildwin v. Florida*, 490 U.S. 638, 638-639 (1989) (describing system).

The anti-deterrence argument therefore becomes that much more difficult to sustain, at least on a theoretical level. The change in expected costs for murder wrought by the death penalty, it is now apparent, should be relevant to most murderers; that is, there is much greater certainty than is commonly recognized that it will apply in *some cost-increasing fashion* to any particular person contemplating murder. In addition, the predicted extra years added on to sentences indicates that the aggregate cost differential between death penalty and non-death penalty jurisdictions would seem to be higher than mere elevation of mortality of a small fraction of the most heinous offenders.

Moreover, the non-deterrence thesis now requires, for there to be "no effect," that murderers are not only insensitive to the difference between death and life, but also do not respond behaviorally to the difference between life with parole and life without, nor to the difference between life and a term of years, nor distinguish between a longer term of years and a shorter term of years, because the bargaining solution will be shifted in the defendant's favor when the chance of a death sentence falls to zero. All of these cost-shifts, and not just execution, are consequences of having the death penalty available.

Therefore, instead of merely asserting a zero slope at one point at the extremity of the cost curve, as described *supra* in Figure 4, a thoroughgoing rejection of capital punishment deterrence seems to require a much more general assertion of cost insensitivity along the complete length of the curve relating costs of murder to the likelihood of its commission. This is illustrated in Figure 6, where the implicit "abolitionist line" from Figure 4 is reproduced for comparison with a new implicit line that takes account of the bargaining process and therefore flattens out at a much earlier stage. Because penalties to the left of point D, where death eligibility begins, will be

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applied with a greater average severity in a capital jurisdiction, one is forced to assume that this greater average severity is irrelevant.

Figure 6
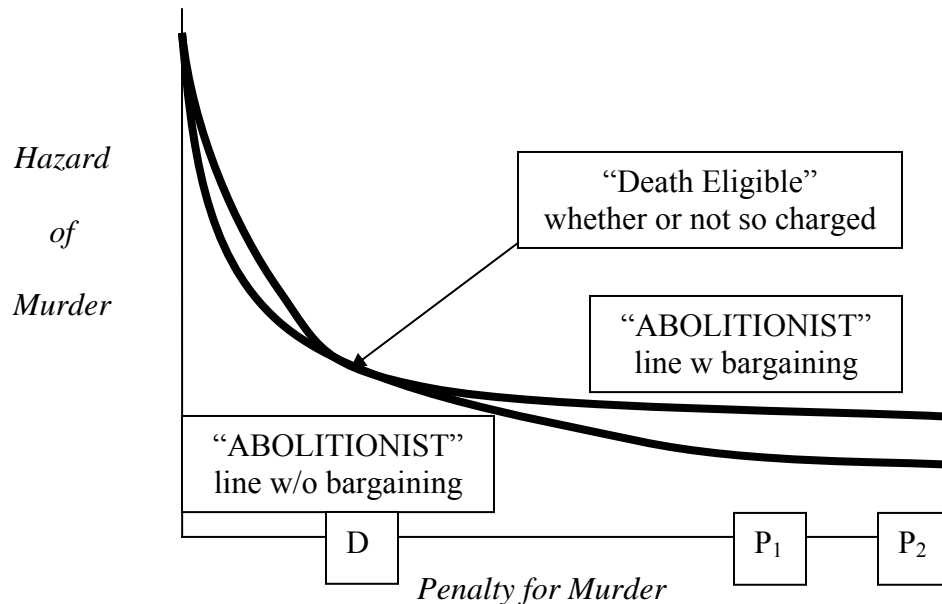
There are three other, more qualitative, consequences of incorporating life and death bargaining into the deterrence debate. First, it calls into doubt any attempt to fall back upon the claim that a life sentence without parole is "just as good as" the death penalty,[86] because even if this were true, the possibility of getting such sentences is not independent of the death penalty; it seems necessary for death penalty abolitionists, insofar as murder is concerned at least, to claim that the rational model of crime is without meaning and penalties simply do not deter. Second, and related, is that the death penalty's effect during plea bargaining cannot be discounted as psychologically unlikely because the rational faculties are overwhelmed by any "instinctive" reactions or

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[86] *See, e.g.,* Johnson, *The Illusory Death Penalty, supra* note 43, at 1125, claiming "it is hard (if not impossible) to argue that the death penalty, as currently administered, could possibly provide a significant enough marginal deterrent over life imprisonment without parole to outweigh the death penalty's exorbitant deadweight losses."

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unreasonable optimisms thought to accompany crime offenses. Rather, the increased

threat available to a death penalty jurisdiction is more "real" because the person is

already arrested, and it occurs during a negotiation conducted over an extensive period,

with the assistance of trained professional, on an obviously important matter, all

circumstances conducive to rational deliberation. Third, it provides another plausible

mechanism by which the death penalty – although rarely applied – could conceivably

enter the calculations of the rational criminal and cause him to refrain from, or at least be

more circumspect about, the choice to kill.[87] Although empirically this effect might be

difficult to note, since capital jurisdictions are generally "tough on crime" and have

higher *de jure* sub-capital penalties as well as *de facto* ones negotiated through leverage,

it might be worth further research to investigate whether the lack of a credible threat of

the death penalty, and/or plea bargaining practices that restrain the use of such a threat,

may influence any variation in the deterrent effect of the death penalty *among* capital

jurisdictions. [88]

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[87] *See, e.g.* Johnson, *The Illusory Death Penalty*, *supra* note 43, at 1123 (arguing the "credibility of the death penalty cannot possibly be maintained when so few persons who are sentenced eventually receive the punishment") *Contra* Johnson, as long as there is a realistic chance of actually receiving the death sentence if one goes to trial, and of then being executed, it should influence the calculations of murderers who take a plea deal and have it within their control to avoid being one of the unlucky ones on death row. In fairness, however, there are probably some "death penalty states" where the sanction is so rarely applied or where judicial resistance to its execution is so strong, that practically speaking, only "volunteers" or possibly individuals whose cases are a *cause célèbre* among the public stand any realistic chance of being executed, *regardless* of their procedural choices. The question a potential murderer would ask is whether someone "like me" has been executed in the state; if the answer is "yes" then the mortality risk has to be factored in.
[88] *See* Joanna M. Shepherd, *Deterrence versus Brutalization: Capital Punishment's Differing Impacts Among States,* 104 Mich. L. Rev. (forthcoming 2005). Shepherd finds a "brutalization effect," see *supra* note 44, in several putative death penalty states where few executions actually take place, but a deterrent effect in most of the states where nine or more people have been executed. (She finds an overall national deterrent effect.) A brutalization effect anywhere is contrary to the current theory. One possible hypothesis to consider might be that, in terms of signaling, if it becomes widely known and publicized, in the context of the rare and drawn out capital case, that a particular state "will not, without great difficulty, kill" anyone, this might send a signal encouraging crime. The potential killer might reason that a prosecutorial death penalty threat is not only without any credibility, but that if the death penalty were actually obtained at trial, it would mobilize judicial and public sympathy and procedural scrutiny such that his prison conditions might improve and his underlying conviction as well as sentence might be overturned. Thus it would not

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III. Applications

Because we should *expect* to see an additional deterrent effect among hardened (in the way described above) and potentially lethal criminals, econometric results showing a general deterrent effect of executions are consistent with theoretical expectations. Those studies showing no such effect would seem to require a behavioral explanation for why the general process of cost-benefit decision making does not apply for murderers before they commit their crimes, despite the fact that it influences their decisions *after* they are apprehended, during the trial process, and during their incarceration. It seems implausible, for instance, that criminals simply assume unrealistically they will get away with their crime, and only become cognizant of the risk of death penalty when caught, given that the majority of murders in the United States do in fact result in arrest.

A fuller behavioral model may assist econometric modeling, most particularly by indicating that the primary source of deterrence will be located among a particular subset of potential murderers. It further predicts that efficient communication of the fear of death to this group may determine how effective the death penalty will be. This should focus both research and the judicial system on identifying this group of relatively resistant to incarceration individuals. In addition, since deterrence works through the threat of death by law – rather than directly by the executions that keep this threat credible – a better independent predictor for the murder rate may be how often this threat is credibly made by the law to the relevant persons, rather than how many executions are carried out.

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truly be "brutalization" that increases murder in these states, but rather the criminal response to the perceived sympathy and public uproar provoked by introduction of the death penalty, which sends signals to killers of a pro-defendant orientation within a jurisdiction.

As discussed, plea bargaining converts the threat of death into greater years of imprisonment, and this shifts the focus of the death penalty debate back to questions of the efficacy of deterrence generally, at least in part. Some part of the death penalty deterrence must arise from its effect in plea bargaining, but we will not understand the extent of this secondary effect until we know in more detail *to what extent* a death threat increases the mean penalty; specifically, we need to know how many additional years it adds, and in addition, how costly these additional years are to potential murderers. Such knowledge would have the side benefit of separating out the deterrent effects present in a "tough on crime" state that mandates longer sentences generally for crimes, and which also uses the death penalty. Although it can be clarifying to direct attention to the precise difference in imposed cost represented by a life incarcerated and death, ultimately the debate over the deterrence of the death penalty is bound up with the question of the deterrent effect (on potential murderers) of criminal penalties generally.

The primary legal method of distinguishing murderers who receive the death penalty from those who do not is a state-by-state system of aggravating and mitigating factors that has been created and regulated by the United States Supreme Court, based on their understanding that the Constitution requires certain special adjudicative procedures in a capital case.[89] This "system" is not generally thought to be based upon any single theoretical basis, such as a rational program of criminal deterrence.[90] Indeed, a deterrence

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[89] *See* LINDA E. CARTER & ELLEN KREITZBERG, UNDERSTANDING CAPITAL PUNISHMENT LAW, Ch. 13 (2004). Discussing this fascinatingly intricate body of jurisprudence, derived primarily from a five word restriction against "cruel and unusual punishments inflicted[,]"is beyond the scope of what can be encompassed by the present analysis.

[90] *See, e.g.*, *Atkins v. Virginia*, 536 U.S. 304, 342-352 (2003) (Scalia, J., dissenting) (ridiculing "death-is-different jurisprudence" as consisting of, *inter alia*, "lip service to precedents," "empty talk," and a "grab bag of reasons" put forth in support of the case-specific "*feelings* and *intuitions* of a majority of the Justices" regarding decency, penology and mercy, and any attention they give to considerations of incapacitation, deterrence or retribution "does not bear analysis") (emphasis in original).

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rationale is sometimes specifically disclaimed.[91] Nevertheless, taking the current system

of regulation as a constraint, these aggravating and mitigating factors, or the definition of

capital murder, are susceptible to rational reform in light of the foregoing model, in that

they can be shaped to become informational tools to distinguish the relative costliness of

prison to certain offenders, and through the logic of marginal deterrence, focus the death

penalty on the subcategory of persons on whom it has the greatest effect.

To generalize, a more rational system of selecting persons for capital punishment,

from the set of all murderers, would base this decision on empirical studies of those who

are most likely to be unfazed by imprisonment. Each capital sentencing "factor" would

be considered a point of similarity with the "target group" for the death penalty, or

alternatively, a piece of information that shifts the sentencing authorities estimate of

marginal deterrent effect a death sentence would have on *potential* offenders *like the one*

under consideration. This estimate, and the ultimate decision of whether to apply the

death penalty, would be guided by defining aggravating factors as those increasing the

probability of being over some threshold of undeterrability for which first-degree

murderers are to be executed, while each mitigating factor would be defined as a datum

decreasing this probability.[92]

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[91]*See Ring v. Arizona,* 536 U.S. 584, 614-615 (2002) (Breyer, J., concurring) ("Studies of deterrence are, at most, inconclusive") (citing to one study of capital punishment's effect in one state, one "special report" by the NEW YORK TIMES, and one survey soliciting the "expert views" on the topic of seventy past and current presidents of two criminological associations and the Law and Society Association)

[92] This system is probably most applicable in a procedural context like that of Florida. In Florida, all first degree murder is, by definition, a capital crime, but unless a sentencing hearing is held, life imprisonment is imposed as an alternative punishment. The jury hears evidence on aggravation and mitigation and makes a recommendation regarding the applicability of the death penalty. However, the trial judge can ignore this recommendation. The positive and negative factors are "weighed" by both the judge and jury. *See Bottoson v. Moore*, 833 So.2d 693, 713-714 (Fla. 2002) (Shaw, J., concurring in result only) (describing and criticizing system). Florida's process seems one where it would be possible for a judge to engage in the process of rationally updating beliefs based on evidence relevant to the estimate; I have in mind a novel application of Bayes's Theorem in the sentencing context. For a description of this rule, and other

Actual deterrence, of course, requires such potential killers to know that they are under enhanced risk of death. For some possible factors implied by the current model, this would be relatively easy, since prior prison experience would likely harden someone against future imprisonment and shift them towards the target group of a rationally applied death penalty.[93] At the same time, however, extended prison time (say, for a violent felony) offers plenty of time and opportunity for the criminal justice system to educate the offender that should he kill upon his release, the death sentence is waiting.

Aggravating factors or capital murder specifications[94] often include elements such as participation in organized crime,[95] gang membership,[96] directing, hiring, or compelling others to kill,[97] or killing as part of the drug trade.[98] All of these could be interpreted to reflect the likelihood the individual involved is, or has the potential to be, part of a continuing criminal network with operations inside and outside a prison. Therefore, it is more likely the convict will have continued economic capacity as well as

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applications, see Stephen E. Fienberg & Mark J. Schervish, *Relevance of Bayesian Inference for the Presentation of Statistical Evidence and for Legal Decisionmaking*, 66 B.U. L. REV. 771, 774 (1986).

[93] *See* CARTER & KREITZBERG, supra note 89, at 117 n.2 (reporting that 32 of 38 death penalty states make prior convictions an aggravating circumstance). Most of these involve a requirement of *violent* felony, however. Although this makes some sense, given that these individuals will more likely face a decision whether or not to murder in the future, any felony giving a long sentence could adapt the felon to make him resistant to the sanction of further incarceration. *But see* James Robertson, *Closing the Circle: When Prior Imprisonment Ought to Mitigate Capital Murder*, 11-WTR KAN. J.L. & PUB. POL'Y 415, 419 (2002) (arguing that prison harms inmates psychologically and makes them less culpable for post release crimes). Comparison of the present analysis and Robertson's, which reach opposite conclusions, is a good example of the distinction between consequentialist and desert approaches to capital sentencing.

[94] Alternatively, certain kinds of murders may be defined as including special circumstances. For purposes of the current analysis, the two are not distinguished.

[95] *See, e.g.,* 21 U.S.C. § 848.

[96] *See, e.g.*, CAL. PENAL CODE § 190.2(a) (West Supp. 2004) (making potentially capital "murder carried out to further the activities of a criminal street gang")

[97] *See, e.g.*, 21 U.S.C. § 848(e)(1)(A), creating a possible death sentence for someone who "intentionally … counsels, commands, induces, procures, or causes the intentional killing of an individual and such killing results…."

[98] *See, e.g.*, VA. CODE ANN. § 18.2-31(9) (Michie 2004) (making potentially capital "willful, deliberate, and premeditated killing of any person in the commission of or attempted commission of a violation …involving a Schedule I or II controlled substance, when such killing is for the purpose of furthering the commission or attempted commission of such violation.")

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some preferred status during incarceration. [99] Although it may be factually true that these features were attached to an increased penalty because the underlying activity (organized crime, drugs, etc.) was thought especially socially harmful in itself and therefore killings attached to it are especially "heinous," these bases can be justified in light of a deterrence rationale.

This is not true of factors like the killing of children or the killing of pregnant women, [100] or more generally, murders "especially heinous, atrocious or cruel,"[101] which are also considered "deserving" of the death penalty. Of course, even from a deterrence perspective taken here, assigning the death penalty to heinous killings may well serve the public good. First, we must not lose sight of the most basic conclusion that the great majority of all murderers fear death and at least plausibly are deterred by it; therefore providing for potential capital punishment of all first-degree murder (essentially true already in several states) *might* be justified. Second, people who commit heinous crimes could be particularly dangerous; this is an almost definitional point, since the types of killings they commit are designated by society as especially harmful. Given plea bargaining, putting them under fear of a death sentence makes it generally more likely that a life sentence or long term of years can be obtained with certainty, and thereby serves an important incapacitation function.

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[99] *See, e.g.*, *United States v. Shryock*, 342 F. 3d 948, 961 (9th Cir. 2003) (describing one hybrid prison street gang, the "Mexican Mafia") ("By using violence, the Mexican Mafia eventually gained significant power and control over illegal activities in the California prison system. As members were released from state custody, they extended their influence outside the prison system to control drug distribution – principally by 'taxing' drug dealers – in parts of Southern California.") The rest of this extended case describes several lethal operations of this group, and also describes specific instances where members received narcotics in jail, sold them, and collected money for the account of their supplier. *See id.* at 969.
[100] VA. CODE ANN. § 18.2-31(11)-(12) (Michie 2004)
[101] CAL. PENAL CODE § 190.2(a) (West Supp. 2004)

Realistically, however, the amount of time and money a particular state will allocate to pursue the death penalty will not be limitless, and therefore it is advisable if these resources are directed where they can achieve the greatest deterrent effect. As discussed in Part II, this is partly a product of the process of plea bargaining, and there is the potential for a critique here of current prosecutorial practice. Individuals with the potentially for a relatively "easy" time in prison have every incentive to save their skins to avoid the death penalty, and the most obvious such people are those with command authority over other criminals inside and outside of prison, like organized crime bosses or gang leaders.[102] Probably, and understandably, many prosecutors find appealing the prospect of getting prominent public enemies "off the street" with certainty and without an expensive trial.

However, the above analysis suggests there are serious dangers to giving in to this temptation, particularly since these are the types of killers who are most likely to deliberate and be knowledgeable about the personal risks and rewards of killing. A targeted message to criminal "kingpins" – that they will be selected for capital sentencing if a death can be attributed to them – is not likely to stop their activities, of course, but it could make them more cautious, killing fewer people or taking costly precautionary measures.[103] Moreover, unlike the murderer who is faced only once with a decision

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[102] A well documented example is provided by Jeff Fort, the head of the Chicago street gang once known as the Blackstone Rangers, and later as the El Rukns (with Fort taking the title of "Imam"). Although Fort was put in federal prison for long sentence, "[d]espite this incarceration, Fort remained the leader and mastermind of the El Rukns." *United States v. McAnderson*, 914 F.2d 934, 939 (7th Cir. 1990) (describing Fort's planning from prison to have the gang hire itself out as a terrorist group to the Libyan government in exchange for millions of dollars, planning murders to impress the Libyans, and acquiring light anti-tank missiles for use on the South Side of Chicago).

[103] This would have an additional salutary effect of decisively showing "crime does not pay" for prominent killers whose criminal success prior to arrest encourages others within their communities and organizations to engage in criminality and lethal violence. If someone like this continues to wield power and authority from prison, this message is not sent. Assuming that a prominent crime figure is tied to murder, there is at

about whether to kill, a kingpin will be faced with multiple lethal decisions,[104] and any deterrent effect on such a person will be multiplied over the number of these decisions. If there is indeed deterrence, these people will most likely and most often be the ones whose behavior is influenced by it, and therefore, despite the increased cost of trying them even in comparison with other capital defendants, if anybody should get a death sentence, it should be these cold killers, who are notable for treating the lives of everyone else according to the calculations of the personal utility, and against whom incarceration is an empty threat.

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least theoretical merit in the policy (and message) of "no deals" and seeking the death sentence where possible. *Cf.* Blecker, *Haven or Hell*, *supra* note 64, at 1223: "A general deterrence advocate would urge the D.C. police to concentrate on the ostentatious criminals – perverse role models who parade the streets poisoning the minds of the kids. These criminals, who most undermine deterrence, would not be permitted to hustle openly and flaunt their lifestyle."

[104] This trait is shared by serial killers, who also are a better target of death penalty prosecutions, and thus, the use of aggravating factors, than are individuals who commit multiple murders at the same time (a very common aggravating factor). As was illustrated with the case of Jeffrey Dahmer, this may not prevent serial killers entirely, but it has a good chance to slow them down. This distinction points out a difference between the present theory and the alternative view of marginal deterrence as described by Stigler. When "marginal deterrence" is viewed as targeted toward the intensity of the criminal activity, we might imagine that a rule of "life for one murder, death for two" would result in the criminal only killing one person when they could have killed two. While this might happen occasionally, it seems somewhat unrealistic in most murder contexts. For instance, if there are two witnesses and you kill one but not the other, you have saved some expected cost, but you have gained nothing of value. For this to happen, both witnesses must die. So we should not see much "Stigler deterrence" due to the death penalty. I hypothesize more lives are likely to be saved by reducing those occasions when people do *any* killing, and those occasions when they know there will be a risk they may have to kill in order to carry out the crime.