Introduction to the Death Penalty Symposium

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In 1975, Isaac Ehrlich launched the modern econometric evaluation of the impact of the death penalty on the prevalence of murder with a controversial paper that concluded that each execution would lead to eight fewer homicides (Ehrlich, 1975). A year later, the Supreme Court cited Ehrlich’s work in issuing an opinion ending the execution moratorium that had started with the 1972 decision in Furman v. Georgia. The court held that capital punishment could satisfy constitutional requirements if it was administered in accordance with more elaborate capital sentencing procedures as a punishment for only the most egregious, highly aggravated murders. After about two decades of experience with this new death penalty regime, a series of papers emerged that tried to extend the basic Ehrlich model to newer data using the more sophisticated econometric techniques of panel data and, in some cases, 2SLS approaches. While Berk (2005), Fagan (2006), and Katz et al. (2003) were expressing contrary views, many of the new panel data studies found support for Ehrlich’s general conclusion of deterrence. In 2005, Cass Sunstein and Adrian Vermeule concluded in the Stanford Law Review that there was “powerful” and “impressive” evidence that the death penalty “has a significant deterrent effect” (Sunstein and Vermeule, 2005).

In the same issue of the Stanford Law Review, John Donohue and Justin Wolfers questioned this conclusion, and this academic dispute was soon picked up by the Justices in the 2008 death penalty decision in Baze v.
Rees. In *Baze*, Justice Stevens cited Donohue and Wolfers (2005) and others to justify the claim that “there remains no reliable statistical evidence that capital punishment in fact deters potential offenders.” Relying on only the work of Sunstein and Vermeule (2005), Justice Scalia responded to Stevens by saying that his conclusions “are not supported by the available data.” But Sunstein quickly responded to Scalia’s citation, indicating in a short piece with Justin Wolfers that his views had evolved: “In short, the best reading of the accumulated data is that they do not establish a deterrent effect of the death penalty” (Sunstein and Wolfers, 2008).

With this degree of both academic and judicial ferment, we, as the editors of the *American Law and Economics Review*, thought it would be a good time to bring together some of the latest research in this area. We are extremely grateful to John Pepper of the Department of Economics, University of Virginia, for agreeing to be the Special Editor of this symposium, and for culling through the large number of submissions to select and then extensively edit the seven articles that now appear in this issue. An indication of the range of the articles that John has selected is that two articles are primarily focused on methodology, three present interesting new evidence on specific aspects of the deterrence question, and two focus on the costs of administering the death penalty under the post-moratorium statutory schemes.

More specifically, of the two methodological papers, the Donohue–Wolfers paper is largely skeptical about the nature of the empirical support for the death penalty, while the Cohen-Cole–Durlauf–Pagan–Nagin paper tries to employ Bayesian strategies to deal with the vexing issue of model dependence. Of the three articles offering substantial new evidence, Hjalmarsson finds no evidence of deterrence in looking at data across three Texas cities, Zimmerman responds to earlier criticisms from Donohue and Wolfers with further arguments in favor of deterrence, and Frakes and Harding argue that extending the death penalty to child murders led to substantial reductions in killings of children. The final two articles argue that because the costs of processing post-moratorium death penalty cases are so high, the resort to capital punishment substantially raises criminal justice system costs over what they would be if capital sentencing were abolished.

While for most of the industrialized world, this is an uninteresting debate (for example, the European Union already prohibits any member state from using the death penalty), the growing empirical work on deterrence and incentives is sharpening our understanding of key issues of economic analysis.
across the board. For example, some have conjectured from price theoretic principles that the death penalty must reduce murders because it elevates the price of murder and therefore must lead to at least some reduction. Indeed, a remarkable new paper based on the release of 40% of the prison population of Italy on one day in 2005 shows that, as a general matter, those who face a higher sanction if re-arrested will have a lower rate of recidivism (Drago et al., 2009). This paper provides some of the clearest empirical support for the general economic theory of deterrence that has been provided to date. At the same time, the authors found that if one limits the analysis to the 2,350 prisoners who received original sentences over 69 months—that is, those who had committed the worst crimes—there was no evidence of deterrence. If this latter finding holds up, then it shows that strictly greater expected punishments may have no impact on the most serious offenders, which may (or may not) explain the frequent lack of evidence that the threat of the death penalty reduces the number of murders.

An interesting new study by Angrist and Lavy illuminates the flip side of the Italian study by looking at monetary inducements (as opposed to harsh sanctions). Again, this study supports a core price theoretic finding: “a randomly assigned offer of cash awards to students in low-achieving schools [in Israel] appears to have generated substantial increases in the matriculation rates of girls” (Angrist and Lavy, 2009). Remarkably, though, the same monetary incentives had no impact on boys. The lesson is that the best empirical evidence from randomized (or near-randomized) experiments—necessarily of a higher quality than exists for the death penalty research—illuminates that price theory arguments are supported in some contexts and not others. Only data can tell us whether the subset of most horrific murderers is in the group that will be deterred by the threat of execution (at least more than any brutalizing effect on the rest of the population that operates in the opposite direction).

In “Estimating the Impact of the Death Penalty on Murder,” John Donohue and Justin Wolfers evaluate the growing death penalty literature, as well as examine the complexities of modeling the impact of the death penalty on murder. The paper shows that a simple dummy for a death penalty law or an execution count doesn’t handle the complexities of a state like New York, which had a death penalty law for the period 1995–2004 (which prosecutors in Manhattan and the Bronx immediately indicated they strenuously opposed), although no one was executed. In the end, Manhattan and the Bronx
had the greatest drops in murder in the state, yet we know little about what the potential murderers in those boroughs were responding to—the passage of the law, the prosecutorial statements that the death penalty would not be used, the absence of executions, or none of those factors.

Donohue and Wolfers show that when the best and most complete data is used, there is simply no evidence of any deterrence using OLS models, but that some papers purport to find deterrence using 2SLS models structured on Ehrlich’s flawed pseudo-probabilities on older data that ends in 1996 or 1997. In addition, Donohue and Wolfers conclude that the instruments used in these pro-deterrence studies are simply too flawed to generate reliable estimates. Indeed, it is not clear that OLS estimates are biased against a finding of deterrence, so the 2SLS estimates may be assailable both on theoretical grounds as well as because of instrument invalidity.

In “Does Capital Punishment Have a ‘Local’ Deterrent Effect on Homicides?” Randi Hjalmarsson evaluates the short-term effect of executions on homicides using disaggregated daily data for three Texas cities for 1999–2004: Dallas, San Antonio, and Houston. This study addresses the concern that aggregating data geographically or temporally makes it difficult to identify slight variations in homicides due to executions. Hjalmarsson runs Poisson regression models on all executions (across all three cities), executions of each city individually (local executions), and executions in each city that received local media coverage. She finds no support for the claim that capital punishment has a deterrent effect at the local level.

In “Model Uncertainty and the Deterrent Effect of Capital Punishment,” Cohen-Cole, Durlauf, Fagan, and Nagin assert that the current literature on capital punishment has not used the latest techniques to address the important problem of model uncertainty, which is critical when the results vary so massively with slight model perturbations. To address this issue, the authors advocate the use of a model averaging approach when faced with uncertainty in model selection. They demonstrate this approach by combining models from two papers yielding different conclusions about the deterrent effect of capital punishment: Dezhbakhsh, Rubin, and Shepherd (2003) and Donohue and Wolfers (2005). Dezhbakhsh, Rubin, and Shepherd (DRS) used county-level data from the post-moratorium period (1977–1996) in their analyses, but Donohue and Wolfers (DW) showed that small changes in the DRS models led to large changes in the estimated effects. While the DW entry in this volume criticizes the structure of the DRS model,
Cohen-Cole et al. accept this basic structure in order to implement their model averaging approach, explaining in detail how to construct the model space and weigh each model appropriately. The authors conclude that "The model averaging approach indicates how one can understand and resolve disparate empirical findings. Our application to the analyses of DRS and DW [for the period 1977–1996] leads us to support the conclusion that DRS claims about strong deterrence effects are an artifice of particular model choices."

In "Statistical Variability and the Deterrent Effect of the Death Penalty," Paul Zimmerman responds to some aspects of Donohue and Wolfers' (2005) critique of Zimmerman (2004). With some recent evidence suggesting that crime models estimated with panel data can generate Type I error rates in the range of 50–75% simply using robust standard errors, the need for adjustment of standard errors is clearly an important issue. DW had noted that the Zimmerman results were not statistically significant with clustering, but Zimmerman responds that there is some evidence from simulations (not using crime data) suggesting that clustering may overcorrect. Zimmerman argues that the original 2SLS estimates of Zimmerman (2004) estimated on state panel data for 1978–1997 are robust to a number of parametric corrections for autocorrelation. In addition, Zimmerman presents estimates from a lagged dependent variable specification that, according to Zimmerman, "also provide evidence for a deterrent effect of the death penalty, although they too are found to be somewhat sensitive to functional form. In this sense the empirical evidence of capital punishment's deterrent effect is best regarded as 'mixed.' But, again, it is important to recognize that this is effectively the same conclusion originally reached by Zimmerman [in his 2004 paper]."

In "The Deterrent Effect of Death Penalty Eligibility: Evidence from the Adoption of Child Murder Eligibility Factors," Frakes and Harding use within-state variations in the scope of capital punishment laws across time, focusing on the child murder eligibility provision, to examine the deterrent effect of legislative expansions in eligibility for capital punishment. The authors posit that this effect, distinct from the deterrent effect of the application of capital punishment, operates through increasing the number of executions as well as giving the state greater leverage in obtaining stronger noncapital punishments. The authors use homicide data from 1977 to 2004 from the FBI's Supplementary Homicide Reports, which provides incident-level data
containing information about time, location, victim and offender characteristics, weapon used, and circumstances of homicide. Using a difference-in-differences approach, the authors find that extending capital punishment eligibility to child murderers is associated with an approximately 20% decrease in homicides of those under the age of 15. Subsequent research will likely probe how an expansion to cover child murders could generate such a large deterrent effect while expansions to cover the murder of the elderly are associated with an imprecisely estimated 16% higher rate of elderly murders. Consistent with the view that deterrence is not likely to work similarly for different types of offenders, the authors speculate that “child murderers may simply perceive and respond to punitive risks in an entirely different manner. Moreover, prosecutors may elect to embrace the bargaining potential of capital eligibility in the case of child murderers to a different extent than they would in the case of other eligible murderers.”

Perhaps somewhat ironically, Texas passed a child murder law in 1994 (although it applied only to murders of those of age 5 and younger, not the higher age that Frakes and Harding use) and executed Cameron Todd Willingham in 2004 for the arson murder of his three young children, even though strong evidence of innocence has now been amassed (Grann, 2009). Of course, killing the innocent could still generate deterrence benefits as long as the evidence that those executed are innocent is not widely known or accepted.

The threat of executing the innocent has in part been responsible for the move toward more procedural due process in capital sentencing. Years of appeals and the advent of DNA testing have enabled many innocent men to get off death row—one of the most egregious cases of prosecutorial error and misconduct occurred in the horrifying 1983 murder case of 10-year-old Jeanine Nicarico in Naperville, Illinois, in which the prosecutors aggressively fought to execute two innocent men who spent over ten years on death row (the state is now trying to execute the actual killer—with the support of DNA evidence—who had confessed in 1985!). Both of the innocent defendants would have been executed under any sort of streamlined capital punishment regime that limited appellate review.

This of course has been the dilemma with which the Supreme Court has struggled: by insisting on more thorough and elaborate death penalty procedures in the effort to reduce arbitrariness and wrongful executions, the Court has greatly increased the expense and duration of the administration
of the death penalty. In his paper "Potential Savings from Abolition of the Death Penalty in North Carolina," Philip Cook centers his empirical study on a two-year period (2005 and 2006), and seeks to estimate the hypothetical cost savings that North Carolina would have generated by abolishing the death penalty in July of 2004. Cook's predictions of the financial impact of death penalty abolition are based on the following assumptions:

1. The number of murders would be unaffected by abolition.
2. Currently capital-eligible murder cases would progress much like serious murder cases that have been processed noncapitally.
3. In July of 2004, all death row offenders would have been (costlessly) resentenced to life in prison without the possibility of parole.
4. Post-conviction activity for those currently sentenced to death would follow the same course as those who were sentenced to life in prison.

Based on this analysis, Cook concludes that if North Carolina had abolished the death penalty in 2004, it would have saved nearly $11 million in expenditures associated with processing murder cases. Cook qualifies his conclusion by pointing out that these estimates are based on key suppositions about how relevant players would respond in the absence of the death penalty. In his opinion, though, the death penalty is a financial burden on the state, as well as a resource-drain for trial courts.

In their paper "Reassessing the Costs of the Death Penalty Using Quasi-Experimental Methods: Evidence from Maryland," John Roman, Aaron Chalfin, and Carly Knight explore whether the decision to prosecute cases capitaly resulted in additional costs to the state of Maryland. They seek to improve on past studies by constructing a complete case event history based on administrative data and information from interviews with court personnel and then use regression analysis to estimate the lifetime cost of seeking the death penalty in a capital-eligible case. The model is identified by the prosecutor's decision to file a death notice that announces the state's intention to seek the death penalty. Moreover, to account for the likelihood that this decision is driven by cost considerations, the authors use propensity score methods to balance capitaly prosecuted and noncapitally prosecuted cases along several case characteristics. Ultimately, Roman, Chalfin, and Knight estimate that filing a death notice increases case processing costs by $1 million.

— The Editors
References


