

A Reply to Rubin on the Death Penalty

JOHN DONOHUE AND JUSTIN J. WOLFERS

Dear Editors:

We would like to respond to Paul Rubin's *Economists' Voice* column. There, he defended the analysis he did with his co-authors which estimated that each execution deters 18 homicides. His work is widely cited and is the basis for his recent Congressional testimony about the deterrence value of capital punishment. We have critiqued this estimation and found it wanting in a number of respects. Rubin's response to our critique suggests that it might be helpful to emphasize three points.

First, in their original article, Rubin and coauthors described their key instrument for executions as "the Republican presidential candidate's percentage of the statewide vote

in the most recent election." But, we found that using that precise instrument leads to the exact opposite finding that they reached: each execution *causes* 18 *more* homicides.

Second, the instrumental variables regressions employed by Rubin and coauthors are only valid if spending on police, the courts, prison admissions and partisan shifts affect homicide through execution policy, *but not through other pathways*. To us, this claim is simply not credible, and our intuition is supported by a Hausman test for overidentification, which easily rejects the validity of the instruments.

Rubin responds as follows:

"Most of our instrumental variables have been used in numerous empirical papers because previous researchers

believed (often based on empirical testing) that the instruments were as uncorrelated with crime rates as one was likely to find.”

But, as we pointed out, the previous use of these instruments is one of the things which suggest that they cannot be validly used in this context. In separate papers, Rubin and coauthors have used the *same* instruments (or subsets of them) as providing variation in truth-in-sentencing legislation, firearms right-to-carry laws, sentencing guidelines and California’s three-strikes law. It *cannot be the case* that these previous papers were correct in positing that these instruments affect homicides only through that array of channels, *and* that Rubin is correct that these instruments influence homicides through their effect on execution policy to the exclusion of other pathways. Yet without valid instruments, one cannot generate reliable results nor offer useful policy recommendations from an instrumental variables estimation. Their results turn out to be extremely fragile to the inclusion or exclusion of particular instruments.

Third, even if we believed that their

instruments were valid, we find that by failing to account for spatial and intertemporal correlation in their data, Rubin and his coauthors *substantially* overstate the precision of their estimates. With appropriate corrections, the 95% confidence interval surrounding their key estimate ranges from massive *increases* in homicide to massive *decreases*, instead of a relatively tight band around 18 lives saved as they claim.

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