

EVALUATING GUN-POLICY EVALUATIONS*

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The paper in this volume by Tomislav Kovandzic and Thomas Marvell raises an important question that is relevant for a wide range of policy issues: In cases in which policy decisions depend in part on answers to factual questions, what should policymakers do in the face of imperfect and/or conflicting research findings? Consider the problem facing state legislators and governors as they decide whether to enact (or repeal) a permissive “right to carry” concealed gun-carrying law in their state. A literature review will quickly identify the influential and widely publicized paper by economists John Lott and David Mustard, published in 1997 in the *Journal of Legal Studies*, claiming that right-to-carry laws are one of the most cost-effective methods yet devised for reducing crime (Lott and Mustard, 1997). Yet the same review will uncover additional articles such as those by Daniel Nagin, Dan Black, John Donohue, Ian Ayres, Franklin Zimring, and now that of Kovandzic and Marvell, suggesting that there is little reliable evidence that such laws reduce crime (Black and Nagin, 1998; Ayres and Donohue, 1999; Donohue, 2003; Zimring and Hawkins, 1997). What is a poor policymaker to think?

In what follows, I note that in principle conflicting and/or imperfect research evidence need not grind the policymaking process to a halt, or force policymakers to make decisions with complete disregard to facts. A number of institutions are available to help policy officials make sense of conflicting research findings, in addition to a number of basic rules-of-thumb that professional policy staffs might use themselves in wading through even highly technical scientific literatures. In addition, some students of the policymaking process have also offered some rules-of-thumb about how to make decisions in the face of uncertainty about important facts, with an approach that emphasizes incremental changes, monitoring, and modification. But in practice, the process through which science has been brought to bear on right-to-carry legislation, and gun policy more generally, has been something less than ideal.

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EVALUATING EVALUATIONS

A natural starting point for some policymakers will be to assign greater weight to the factual assertions made by experts compared to those from lay people or advocates. This instinct is not very helpful in cases in which conflicting evidence comes from academic experts from reputable universities. Should a policymaker expect a visiting scholar at the University of Chicago to be more or less competent than tenured faculty members at Berkeley, Stanford, Yale, and Carnegie Mellon?

Fortunately, society has developed a number of institutions to help policymakers evaluate technical arguments on their substance, institutions that include the General Accounting Office, the Congressional Research Service, and particularly the National Academies of Science (NAS). The NAS is uniquely qualified to conduct this type of work given its ability to draw on leading scientists, who donate their time to service on NAS panels, and as a result of the unusual trust and prestige the organization enjoys from the public. An example of the NAS process working as it should comes from the debate in the 1970s about the deterrent effects of punishment. The influential NAS report issued in 1978 suggested that the correlational evidence available at that time could not provide strong support on behalf of deterrence, although future research focused on “natural experiments” could in principle yield stronger evidence on this question (Blumstein et al., 1978; see also Cook, 1977). As it turns out, research in the natural experiment tradition by Steve Levitt and others during the 1990s has produced stronger evidence for deterrence (for reviews, see Nagin, 1998, and Levitt, 2002). So although science advances over time and changes our understanding of the natural world, NAS reviews are one of society’s best mechanisms for assessing the state of science at a given point in time.

Professional policy staffs should also feel empowered to make some assessments on their own about conflicting research literatures, even if they lack complete expertise in the research area in question, by using some basic rules for assessing research findings. For example, a rule that assigns the most weight to studies with the most credible research designs (such as randomized experiments) may in some cases help sharpen the inferences that might be drawn from competing research claims. In my personal judgement, policy staffs should also assign more weight, all else equal, to studies that use panel data techniques over those that use cross-sectional or simple before-after time-series comparisons.

In cases in which weighting findings by some sort of research-design hierarchy is not possible or helpful, policy staffs can also, as Philip Cook has argued in this volume, seek guidance from social science theories that appear to hold in other related applications. For example prices generally

matter for a variety of illegal or risky behaviors, even for adolescents (Gruber, 2001). In the case of gun policy, this insight suggests that even imperfect efforts to restrict gun availability to high-risk people can reduce illegal gun use on the margin, even if these regulatory barriers can be overcome in a number of ways by those who are determined to obtain a gun. The notion of downward-sloping demand curves thus suggests that as a logical matter, gun regulation has the potential to produce some benefit in the form of fewer gun crimes, although whether such benefits justify the resources or liberty that must be sacrificed is unavoidably an empirical and political question.

In short, the confusion produced by conflicting research findings can be at least partially addressed by relying on some combination of the institutions that have been developed to help bridge the science-policy gap, simple guidelines that help distinguish more from less credible research findings, and basic social science theory. But our understanding of the way the world works will inevitably be something less than definitive, and thus, there will always be uncertainty about the consequences of our policy decisions.

In response to the unavoidable uncertainty over the effects of public policy actions, Charles Lindblom argues in his classic article, "The Science of Muddling Through," that policymakers should be cautious, adopt incremental policy changes, evaluate these changes as best we are able, and then make incremental revisions to our policies on the basis of what we have learned (Lindblom, 1950). Although such a strategy may not be appropriate in all applications, I can see some merit in the case of gun policy, particularly because modest policy shifts enjoy widespread popular support, even among gun owners, whereas more extreme measures such as gun bans do not (Teret et al., 1998).

RESEARCH AND GUN POLICY

How well have public policymakers muddled through in debates about right-to-carry laws and other gun policies more generally? The good news is that the NAS has commissioned a blue-ribbon panel to review existing research on firearms issues, including right-to-carry laws. Yet as of this writing, the NAS report is not yet available, more than six years after the initial wave of publicity surrounding Lott and Mustard's claim that right-to-carry laws reduce crime. Part of this lag is associated with the process of raising external funding to support the NAS panel, and part is due to the time required to conduct a careful, systematic review of the entire research literature on gun-policy issues. More unfortunate have been the

efforts by some to impugn the NAS panel's objectivity,¹ a claim that seems inconsistent with the experiences that most of us have had with NAS panels.

Perhaps one way to complement the standard NAS review process is for the federal government to set aside a standing fund for "rapid response" NAS reviews on narrow research questions of pressing policy importance. Another possibility is to improve the ability of policymakers and their staffs to critically interpret scientific evidence by training them in social science and statistics. This is the goal of public policy schools, which have enjoyed a substantial increase in enrollments since they were founded in the late 1960s and a growing impact over time as alumni filter through the ranks of policymaking institutions. Providing similar scientific training to members of the news media would also have considerable value added, as recognized by the curriculum revisions now underway at Columbia University's school of journalism.²

Academics can also help facilitate this process by regularly reporting the results of basic specification checks on the validity of their empirical estimates. These types of specification tests provide one objective standard for consumers of research to choose among competing estimates, although unfortunately in practice such results are often not reported. Academics can also help facilitate this process by supporting and encouraging replication, because what appear to be conflicting research findings can in some cases simply result from computational or other errors in published work. Although replication is not unknown in the area of policy research (and in fact Lott and Mustard deserve much credit for sharing their data for this purpose), replication work remains too rare within the social sciences in part because of the general difficulty of getting such studies published in scholarly journals.

As we await the NAS report on firearm research, what should policymakers conclude about the effects of RTC laws? Here is a case in which specification tests combined with basic social science theory and common sense can carry us a fair way. Lott and Mustard's influential estimates rely primarily on a fixed-effects analysis of panel data that compares crime trends across states around the time that right-to-carry laws are enacted. However, states that enact right-to-carry laws have different crime trends from other states even before these laws go into effect, even after Lott and Mustard's regression adjustments for a variety of confounding factors. This type of preintervention comparison is itself a specification test

1. See, for example, John Lott, "Gun Panel Hears With an Ear Shut," *Los Angeles Times*, Opinion, August 31, 2001, and David Kopel and Glenn Reynolds, "Doing Science a Grave Injustice," *National Review*, Opinion, August 29, 2001.

2. See, for example, Karen W. Arenson, "Columbia Names New Dean for Its Journalism School," *The New York Times*, April 16, 2003.

(Heckman and Hotz, 1989), and it suggests that any differences in trends following the laws may be due to the same omitted factors that drive the pre-law differences (Ayres and Donohue, 1999; Black and Nagin, 1998; Donohue, 2003). The same problem—that implementation of right-to-carry laws, and presumably the acquisition of right-to-carry permits as well, is not independent of local crime conditions—also makes me wary of reading too much into the estimates presented by Kovandzic and Marvell in their paper. None of the other estimates that I have seen on this topic, including, I should add, my own (Ludwig, 1998), completely addresses this problem. As a result, my own reading of this literature is that there is currently not much reliable evidence one way or the other about the effects of right-to-carry laws on crime (see Ludwig, 2000).

But although empirical evidence can provide only limited information to policymakers about right-to-carry laws, social science theory and common sense can provide some basic guidance about the likely consequences of such laws. As Kovandzic and Marvell and others have noted, in most states with right-to-carry laws, only a relatively small proportion of the public obtains permits to carry concealed handguns. Population surveys suggest that in the country as a whole, far more adults carry guns in public than have permits, suggesting that the net change in gun carrying from right-to-carry laws may be modest, particularly if some of those who obtain permits simply switch from illegal to legal carrying. Moreover, permits seem to be obtained disproportionately by middle-aged, middle-class white men in rural areas, a group that is at relatively low risk for both criminal victimization and offending (Ludwig, 1998). Whatever the benefits or costs of right-to-carry laws, they are likely to be fairly modest.

Finally, how have policymakers behaved in the face of conflicting research about the effects of right-to-carry laws? Most states with right-to-carry laws have been operating in a fashion consistent with Lindblom's suggestion of incrementalism, in the sense that guns are still restricted in those public places with the greatest potential for harm (or, as proponents would argue, for good)—taverns, sporting events, churches, schools, and the like. However policymakers are currently not well positioned to follow Lindblom's advice of learning from their incremental policy changes, given the limits to existing data systems for measuring injury patterns in the United States (Azrael et al., 2003). Moreover, as Kovandzic and Marvell note, few states keep good records about the number of gun-carrying permits issued over time, and no states have data on the frequency of overall (legal and illegal) carrying. The minimal level of current federal and foundation funding for firearms research also places important limits on what policymakers and society as a whole might learn from ongoing "natural experiments" in gun policy at the state and local levels. That more is not invested in gun research is itself an interesting puzzle given the

substantial costs of gun violence to American society, perhaps on the order of \$100 billion per year (Cook and Ludwig, 2000).

Optimists might take away from this essay the conclusion that in principle empirical evidence can help constructively guide public policy even in the area of gun policy, although some changes in a number of institutions might be required to fully realize this potential. Pessimists might conclude that research, particularly conflicting research, can hardly affect politics as usual and that at most politicians will simply focus on those findings that support their own preconceived notions or interests (Kahan and Braman, 2003). America's experience since Franklin Zimring first started the field of empirical gun-policy research in 1968 might be taken as providing at least partial support for the pessimist's position. But there's always room for hope.

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