Laws Facilitating Gun Carrying and Homicide

John J. Donohue
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See also Siegel, et al., p. 1923.

In “Easiness of Legal Access to Concealed Firearm Permits and Homicide Rates in the United States,” Siegel et al. (p. 1923) estimate the impact of right-to-carry (RTC) laws on murders over the period from 1991 to 2015. They advance the current understanding of the impact of crime that can illuminate our social objective function would say is worth the cost of having some intentional killings, whether criminal or resulting from legal intervention or self-defense.”

REPLICATING

Although Siegel et al. show in their Table 4 that the basic results shown in the first row of my Table 1 are relatively unaffected by a number of permutations, I was interested in further probing some of the econometric choices underlying these estimates. Accordingly, I tried to replicate the first row using the data I had available (I had one less year of data, so I used 1991–2014), making a number of data choices that I thought were used by the authors in creating their own data set and analysis (for more complete details of all the models in Table 1, see the version of this comment on my bepress Web page, http://works.bepress.com/john_donohue). The result is shown in the first replication row of Table 1, which is fairly close to the first row values in that it again shows that RTC laws increase total, firearm, and handgun homicides, while showing no statistically significant effect on nonfirearm homicides and long-gunt use of guns.

CRACK COCAINE EPIDEMIC

One potential concern in estimating the impact of RTC laws on crime is that the period from about 1985 through 1992 was one of substantially increasing crime in certain (usually non-RTC) states owing to the crack cocaine epidemic, which tended to improperly make RTC laws seem beneficial even though this simply reflected a serious problem of omitted variable bias. One might fear that by using the data from 1991 to 2015, the authors might be causing the reverse problem: making RTC states look worse than in fact they were as the crack problem.

ABOUT THE AUTHOR

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REFERENCES

1. Easiness of Legal Access to Concealed Firearm Permits and Homicide Rates in the United States.” Siegel et al. (p. 1923) estimate the impact of right-to-carry (RTC) laws on murders over the period from 1991 to 2015. They advance the current understanding of the impact of crime that can illuminate our social objective function would say is worth the cost of having some intentional killings, whether criminal or resulting from legal intervention or self-defense.”

2. Although earlier studies on this topic have typically relied on crime data from the Uniform Crime Reports, the authors used murder data from the National Vital Statistics and from the Supplemental Homicide Reports, which enabled them not only to get a different set of estimates on overall homicides but also to explore subcategories of crime that can illuminate our understanding of the impact of RTC laws. The Vital Statistics data are particularly attractive because they are collected under mandatory obligations (as opposed to police data, which are submitted on a voluntary basis) and are gathered pursuant to public health norms that place a high value on measurement and science.1 A potential pitfall is that the Vital Statistics include justifiable homicide by citizens in their intentional homicide counts (homicides by police in the line of duty are separately classified as “legal intervention” cases). Although this could be problematic if RTC laws increased justifiable homicides in a way that reduced other criminal victimizations, the evidence is now quite strong that RTC laws have led to an increase in overall violent crime.2 Thus, the value of having the best count of intentional killings is worth the cost of having some justifiable homicides in the measure. After all, as Phil Cook noted in an e-mail to me, “Any reasonable social objective function would say we want to reduce the number of intentional killings, whether criminal or resulting from legal intervention or self-defense.”

3. Siegel et al. (p. 1923) estimate the impact of right-to-carry (RTC) laws on murders over the period from 1991 to 2015. They advance the current understanding of the impact of crime that can illuminate our social objective function would say is worth the cost of having some intentional killings, whether criminal or resulting from legal intervention or self-defense.”

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My replications in 2000 to 2014 (a period past the December 2017, Vol 107, No. 12
the authors theretofrom murder.
subsided and differentially lowered
laws; IRR = incident rate ratio; SHR = Federal Bureau of Investigation
Note based on authors Homicide Reports. Standard errors clustered in the replication rows. I calculated standard errors for the
*ni
handguns with no statistically sig-
The Impact of Right-to-Carry Laws on Intentional Homicides Using Variations in Speci-
cal, I dropped all other crime rates
(e.g., violent crime), which might be endogenous. I included the proportions of the population
that are male; either Black, White, or other race; and either aged 15 to 19 years or 20 to 39 years
(rather than the proportions aged 18–29 years and the male proportion of that age group that
Siegel et al. used). Alabama data was excluded because of possible missing data, and I re-coded the
RTC laws so that the year in which they take effect is counted as the proportion of the year
for which the law was in effect. Rather than using both disposable and median household income
as controls, only disposable income was included to reduce overfitting. The Siegel et al. model used controls
for population density, total population, and urbanization, while my modified model only includes population and percentage of
population in a metropolitan statistical area (as a measure of urbanization). I further dropped the
gun prevalence measure because of possible confounding with the treatment effect. When I made these changes in a
“modified model,” they turned out to somewhat strengthen the overall results over the 1991 to
2014 period (“Modified model, 1991–2014” row) and had little impact on four of the five estimates over the 2000 to 2014 period,
while weakening the finding on overall homicides (“Modified model, 2000–2014” row).
For completeness, I also repeated the approach of the modified model rows (now shown in the DAW model rows), while using the basic model that I used in Donohue et al.² (as opposed to the original model rows or my modified version of the modified model rows). The DAW model rows are quite similar to the results of the modified model rows.

OVERWHELMING SUPPORT
The evidence in Table 1 overwhealmingly supports the view that RTC laws increase firearm homicides by at least
8.5% and handgun homicides by perhaps as much as 16% while having no statistically significant impact on nonfirearm
homicides. In all of the rows in the table, RTC laws are consistently associated with increases in total homicides of from 5% to 9.5%
(but these estimates lost statistical significance for the shortened 2000–2014 period in the modified and DAW models). This will be
important information for judges and policymakers to consider in evaluating RTC laws.

The impact of RTC laws on long-gun homicides is less certain because the estimates are not statistically significant in five of the
seven rows and vary more widely than do those in the other four columns from a slight drop to a 20% increase (presumably
because of the lower number of long-gun homicides and the weaknesses of the Federal Bureau of Investigation’s Uniform Crime
Reports, Supplemental Homicide Reports data). The somewhat anomalous statistically significant estimates of RTC laws on long-
gun homicides (for the years 1991–2014 in the “Modified model, 1991–2014” and “DAW model, 1991–2014” rows) may provide evidence that the states
with large crack problems (who often resisted passing RTC laws) saw larger drops in long-gun ho-
micides in the postcrack era.

John J. Donohue, JD, PhD

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I am grateful to Phil Cook for his insights into the particular value of the National Vital Statistics data and to Jacob Dorn,
Sudharrth Sah, and Henrik Sachs for excellent research assistance.

REFERENCES

TABLE 1—The Impact of Right-to-Carry Laws on Intentional Homicides Using Variations in Specification

<table>
<thead>
<tr>
<th></th>
<th>CDC, IRR (SE)</th>
<th>SHR, IRR (SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Firearm</td>
</tr>
<tr>
<td>Original results, 1991–2015</td>
<td>1.065* (0.017)</td>
<td>1.086* (0.020)</td>
</tr>
<tr>
<td>My replications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Original model, 1991–2014</td>
<td>1.078* (0.036)</td>
<td>1.087* (0.043)</td>
</tr>
<tr>
<td>Original model, 2000–2014</td>
<td>1.077* (0.038)</td>
<td>1.085* (0.044)</td>
</tr>
<tr>
<td>Modified model, 1991–2014</td>
<td>1.092* (0.046)</td>
<td>1.133* (0.061)</td>
</tr>
<tr>
<td>Modified model, 2000–2014</td>
<td>1.051 (0.042)</td>
<td>1.089* (0.045)</td>
</tr>
<tr>
<td>DAW model, 1991–2014</td>
<td>1.094* (0.047)</td>
<td>1.133* (0.062)</td>
</tr>
<tr>
<td>DAW model, 2000–2014</td>
<td>1.060 (0.043)</td>
<td>1.095* (0.045)</td>
</tr>
</tbody>
</table>

Note: CDC = Centers for Disease Control and Prevention; DAW = the basic model that I used in my own study of RTC laws; IRR = incident rate ratio; SHR = Federal Bureau of Investigation’s Uniform Crime Reports, Supplemental Homicide Reports. Standard errors clustered in the replication rows. I calculated standard errors for the first row based on authors’ confidence intervals, using the delta rule.

*P < .05.