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# *Do Right to Carry Laws Still Reduce Violent Crime?*

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## I. Introduction

If people carry concealed weapons, potential attackers will not be able to discern if the intended victim is armed. Criminals are therefore deterred from committing violent crime. Individuals who carry concealed weapons create an externality, protecting potential victims, while protecting themselves. The counterargument is that if more people carry firearms more encounters will lead to violence and result in more serious injury or death than might have occurred in the absence of firearms. So, theoretically right to carry (RTC) laws could result in more or less violent crime.

Since the seminal article (Lott and Mustard 1997) there have been 52 academic empirical studies of the effect of RTC laws on various kinds of violent crime.[1] Of these, 25 have found that these laws reduce violent crime while 12 find that RTC laws increase violent crime. The remaining 15 studies find no significant effect implying that 40 out of 52 studies find that the laws do not increase crime. Restricting the evidence to refereed articles only, 22 find crime reduction and 9 find that RTC laws increase crime. The preponderance of the evidence therefore supports the crime reduction hypothesis. However, since 2010, 10 academic studies have found that RTC laws reduce or have no effect on violent crime while 11 find that RTC laws increase violent crime. Has something changed recently leading to RTC laws increasing violent crime where before they decreased it? Or is there a problem with the more recent studies? We show that many of the more recent studies do have a serious problem.

[1] See an earlier version of this paper for the complete list and citations

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Recent studies finding that RTC laws increase crime limit the sample to post-1990 data, e.g. Doucette et al (2019), Knopov et al (2019), and Siegel (2019, 2020). Other recent studies, e.g. Zimmerman (2014), Aneja et al (2014), and Sabbath et al (2020) limiting the sample to post-1999 data have also found that RTC laws increase crime. These studies usually assume that the laws are the same across states and over time and also assume that RTC laws cause more people to carry concealed handguns. However, the laws are not the same because late-adopting states (post-1990) tend to impose more restrictive regulations – higher fees, longer training requirements, more restrictions on where people could carry, and higher age restrictions (Table 1).

| Year of Adoption | Avg fee per year | Avg hours training | Avg qualifying age |
|---|---|---|---|
| <1977 | $5.81/$3.87 | 0.63/0.00 | 19.13/18.43 |
| 1980s | $11.21/$9.82 | 2.83/1.50 | 20.00/20.40 |
| 1990s | $15.13/$5.31 | 6.12/2.56 | 20.59/20.44 |
| 2000s | $22.09/$13.61 | 9.50/6.00 | 20.88/20.38 |

Table 1: Criteria for permits for the right-to-carry concealed weapons, 2005/2021 | Note: see Lott (2010, 256-7), Lott and Wang (2020) and the appendix in that paper.

As a result of these restrictions, RTC permit growth has been slower for late adopting states compared to all other states. From 1999 to 2019 the number of permits grew 4.3 percent in late adopting states while permits in early adopting states grew 6 percent. (Table 2)

 

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| | 1999-2015 | 1999-2017 | 1999-2019 | 2007-2019 |
|---|---|---|---|---|
| Post-1999 | | | | |
| RTC states | 3.1% (8) | 3.9% (8) | 4.3% (8) | 4.8% (11) |
| All other | | | | |
| States | 4.2% (19) | 5.3% (19) | 6.0% (19) | 5.8% (35) |

Table 2: Percent change in permits | Notes: number of states in parentheses; https://crimeresearch.org/tag/annual-report-on-number-of-concealed-handgun-permits.

Failing to take these differences into account results in biased measurement of the laws' impact. In a regression over the period beginning in 1991 with a RTC dummy variable for states that adopt right-to-carry laws, the coefficient estimates the change in violent crime for the states that changed their laws during that period relative to all the other states, including early-adopting RTC states. Because these late adopting states make it much more difficult to obtain a permit, they have smaller increases in permits than the other RTC states. A positive coefficient on the RTC dummy in studies limiting the data to post-1990 (or post-1999) therefore reflects the relatively smaller reduction in crime due to the smaller increase in permits for these states, rather than any crime-increasing effect of RTC laws.

## II. A Simple Test

In Table 3 we report the regression of the log of the murder rate on several dummy variables. The first represents all the RTC states. The second represents 11 early adopting states that passed RTC laws before 1991. The third represents 26 late adopting states that passed RTC laws during or after 1991. The fourth represents the 15 states that have adopted constitutional carry laws which allow concealed carry without a permit. The control group consists of the eight may-issue states, three states that adopted RTC laws before the start of our data in 1970, and Vermont which never prohibited concealed carry.

We use the fixed effects panel data model to avoid unobserved heterogeneity. We include one lag of the dependent variable which allows us to control for unobserved time varying effects. We also include year dummies which control for common factors that affect all states in certain years and also control for any overall trend. We cluster the standard errors to avoid second order bias due to heteroskedasticity or autocorrelation.

The control variables are similar to the model used by Aneja, Donohue, and Zhang (2014). We include prison incarceration per capita and police per capita, both lagged. We include

 

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the unemployment rate, construction workers per capita, and the Donohue and Levitt (2019) measure of the abortion rate, all of which have been found to be associated with crime. We include spirit, wine, and beer consumption per capita. We also include the percent of the population between 15 and 39, the percent of black males between 15 and 39, and population density. Finally, we include the Fryer et al (2013) measure of cocaine use, to control for the crack epidemic.

| | Full Sample | Full Sample | Post-1990 | Post-1999 |
|---|---|---|---|---|
| All RTC states | -5.314 | | | |
| | (2.21)** | | | |
| Early adopters | | -6.779 | | |
| | | (1.91)* | | |
| Late adopters | | -4.200 | 2.191 | 2.759 |
| | | (-1.52) | (-0.65) | (-0.61) |
| Constitutional Carry | -15.852 | -14.707 | -1.665 | -0.817 |
| | (-3.39)*** | (-3.07)*** | (-0.28) | (-0.10) |
| N | 2249 | 1200 | 1200 | 750 |

Table 3: Distinguishing between early and late adopters | Notes: * p<0.1; ** p<0.05; *** p<0.01; t-ratios in parentheses; dependent variable is 100*log(murder rate); fixed effects model estimated on state panel data 1970-2014; standard errors clustered on states; all regressions use the same set of control variables; coefficients on year dummies and control variables are suppressed to conserve space.

The first column of Table 3, using all the data, shows that RTC states have experienced significantly lower murder rates than those states that did not adopt RTC laws. The second column, also using the full sample, shows that early and late adopters both had lower murder rates, with later adopters experiencing somewhat less reduction than early adopters. Limiting the data to post-1990 causes the RTC coefficient to become positive, despite the fact that the coefficient is negative in the full sample. Limiting the data to post-1999 causes the RTC coefficient to become even more positive, as expected. Constitutional carry states, allowing the concealed carrying of handguns with no permit requirements, have experienced even larger declines in murder rates. Although not reported to conserve space, similar regressions indicated that RTC laws had no significant effect on other violent or property crime, indicating that RTC laws reduce murder without increasing other crime. Results, programs and supporting

 

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data are available at http://cemood.people.wm.edu/EarlyLateRTCLaws.zip.

## III. Conclusion

Late adopting states issue fewer permits than early adopting states, implying less of a risk to criminals and a smaller reduction in murder rates. Limiting the sample to recent years causes the estimated coefficient on the right-to-carry dummy to switch from negative to positive, making it appear that these laws increase murder rates when in fact the coefficient is reflecting the smaller reduction in murder rates associated with fewer permits. Researchers studying the effect of right-to-carry laws should use all the data available and limit the comparison states to primarily may-issue states.

 

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