Is It Wild Out West? Permitless Carry and State Level Murder Rates

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Abstract: Nearly half of U.S. states no longer require a permit to carry a concealed handgun in public. Proponents of permitless carry argue they may serve to deter violence; opponents claim that, by making it easier to carry firearms, violence will increase. This paper tests this hypothesis using a Generalised Synthetic Control model and state-level data between 1980-2018. The results suggest these laws do not measurably increase or decrease murder rates. The key takeaway from this analysis is that permitless carry will not increase murder.

Keywords: permitless carry; concealed carry; constitutional carry; firearms

Introduction

Since the late 1980s, states have been experimenting with dramatically liberalized concealed carry laws. Prior to the 1980s, the majority of states had laws called "may-issue" or "no-issue." As the name implies, states with no-issue concealed carry laws did not issue permits to carry concealed handguns in public, prohibiting concealed carry. States with may-issue policies *may* issue a permit if a citizen met basic criteria—usually, a minimum age requirement, a clean background check, and basic training. Under a may-issue regime, issuing authorities can still deny permits to individuals who met the baseline criteria (Hamill et al. 2018).

Beginning with Indiana in 1980, six other states in rapid succession in the latter half of the decade adopted "shall-issue" concealed carry laws, which already had existed in some jurisdictions such as Alabama and Connecticut. The key difference between shall-issue and may-issue laws is the level of discretion. Under a shall-issue regime, the issuing authority has no ability to deny a permit to a citizen who meets the minimum criteria to carry. Thus, in theory, these laws made it easier for citizens to carry a firearm concealed.

The newest development in the liberalized concealed carry experiment has been the rise of constitutional carry laws, also known as permitless carry.[1] These laws model themselves after Vermont, a state which has permitless carry due to their state constitution. These laws allow *any* citizen above the age of twenty-one to carry a concealed handgun with no license or training necessary. Permitless carry has been

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[1] This paper opts to use "permitless carry" after this point, as the term is less politically charged and wrought with controversial legal assumptions, even though constitutional carry is the more common colloquialism.

adopted at a shocking rate: as of writing, twenty-four states have adopted constitutional carry, fourteen of which have adopted them in the past five years.

Given the nature of these laws, they present a unique test of the "more guns, less crime" hypothesis first forwarded by Lott and Mustard (1997). The present study uses a state-level dataset between the years of 1980-2018. This is the first paper to analyse the impact of permitless carry on murder rates. This research also differs from past concealed carry research by using a unique method, the Generalised Synthetic Control method, to analyse the impact of these laws on murder.

Literature Review

There exists a large literature analysing the effect of concealed carry laws on crime. Lott and Mustard (1997) were the first to analyse the impact of shall-issue concealed carry laws on violent crime and found states with more liberal concealed carry laws experienced a 7.65% reduction in murders compared to states with more stringent concealed carry laws. This research lends support to the deterrence hypothesis, which states that criminals may be deterred from committing violent crime if the cost of committing crime is high—in this case, due to the high risk of running into an armed civilian.

The majority of early research either confirmed the more guns, less crime thesis put forth by Lott and Mustard (1997) or found that shall-issue laws had no impact on crime. Studies confirming the original result included Bartley and Cohen (1998), Benson and Mast (2001), and Marvell (2001). Studies suggesting these laws had no discernible impact on violent crime included Black and Nagin (1998) and Ludwig (1998).

More recent research has largely concluded that these laws either have no impact on violent crime or may even increase it. Donahue, Aneja, and Weber (2019)

find that shall-issue concealed carry laws are associated with elevated rates of violent crime and hypothesise this is due to increased aggression and theft. Indeed, the introduction of a firearm into a tense situation could, in theory, escalate violence. Other authors finding liberalized concealed carry laws increase crime include Zimmerman (2014) and Aneja, Donahue, and Zhang (2011). Some recent evidence still suggests these laws may reduce crime (Barati 2016; Lott and Moody 2021) or have no effect (Gius 2018; Moody and Marvell 2019; Hamill et al. 2019).

Methods

This paper uses a unique method developed by Xu (2017) called the Generalized Synthetic Control Method (GSCM). The synthetic control method (SCM) has become popular among academics in this literature, having been utilized by Donahue, Aneja, and Weber (2019) and Moody and Marvell (2019) as it can help overcome the parallel trends assumption in standard panel data research. The method also produces easy to interpret graphical evidence.

The basic logic of the SCM and the GSCM are similar. The SCM runs a matching algorithm to generate a weighted average of the dependent variable (in this case, murder) from control states which have not adopted permitless carry. This weighted average serves as our counterfactual. The weighted average murder rate from these control states is extremely close to the treatment states in the pre-permitless carry period. Creating this counterfactual and comparing it to states that have adopted permitless carry allows us to determine whether or not permitless carry has had a positive, negative, or no impact on murder rates.

While the GSCM follows almost the exact same steps, the GSCM is an improvement upon the standard synthetic control method for a few reasons. First, it allows us to generalise the results, providing us an average treatment effect across all

states. Second, the method produces easily interpretable frequentist uncertainty estimates via bootstrapping methods, unlike the standard synthetic control model which produces no uncertainty estimates. Finally, it uses an interactive fixed effects model to model time-varying confounders, which has been shown to outperform the synthetic control method (Xu 2017).

This paper uses murder rate data from the FBI's Uniform Crime Reports. The model controls for multiple variables used in the previous firearms literature, including multiple economic variables, the age structure, alcohol consumption, percent black, and incarceration rates. The sample includes the crack cocaine boom, and the effects of crack cocaine was controlled for by using the Fryer crack cocaine index (Fryer et al. 2013).

Results

The results of the generalized synthetic control method can be displayed below in Figure 1.
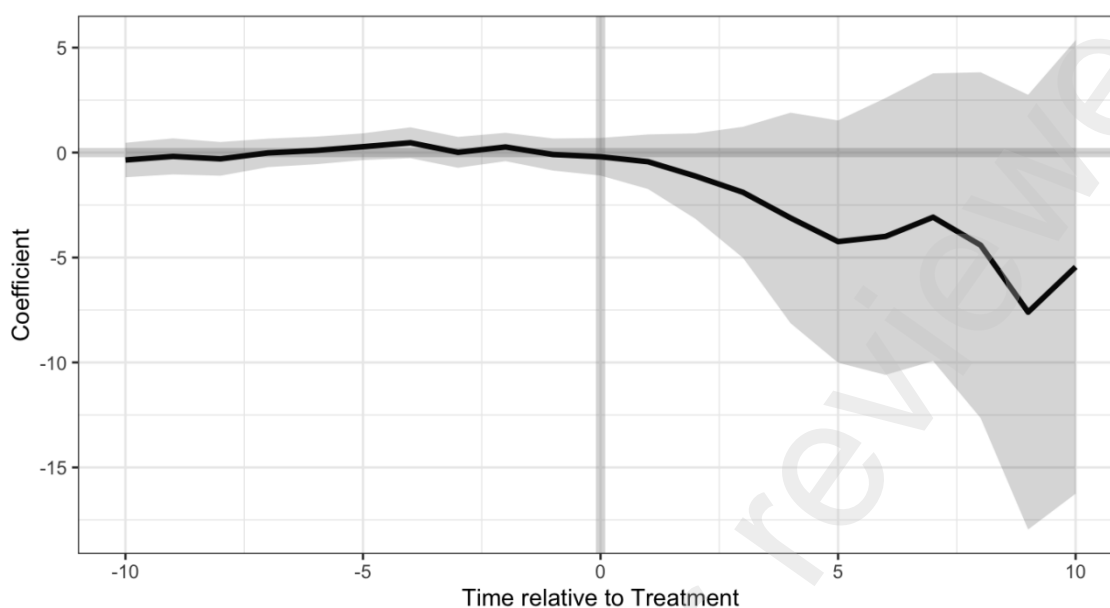
Average Treatment Effect All States

Figure 1. The Average Treatment Effect ten years prior and ten years after permitless carry has gone into effect.

Figure 1 displays the average treatment effect (ATT) across permitless carry compared to all non-constitutional carry states, displaying the effect up to ten years prior and ten years after the law's implementation. The ATT measures the average gap between the counterfactuals and the permitless carry states; a negative ATT would suggest the law may reduce murder; a positive ATT would suggest the law may increase murder.

As can be expected, in the pre-treatment period, the ATT is close to zero, suggesting the model chose adequate synthetic controls. In the post-treatment period, we see the ATT turns negative, suggesting that these laws are correlated with lower murder rates. However, the results are not statistically significant: the average p-value[2] over the ten-year period is 0.28, well above the standard 5% significance level. Overall,

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[2] The ATT p-values are calculated for each year pre- and post-implementation. None of the years were significant.

the results from this generalized synthetic control approach suggests while these laws may not increase murder, they also do not seem to reduce it either.

Discussion and Conclusion

This paper serves as a preliminary test as to whether permitless carry laws increase murder. Overall, the results are null, suggesting the evidence that these laws serve to either increase or decrease murder rates is weak. However, the results of this study can be interpreted in light of the previous research in different ways.

This paper can be interpreted in a way which does not undermine the deterrence hypothesis. The mechanism by which these laws would deter crime is by increasing rates of citizen handgun carrying in public. Barati (2016) notes that the effects of shall-issue laws were greatest when transitioning from no-issue to shall-issue, not may-issue to shall-issue. This means the differences in shall-issue and may-issue laws may not have been great enough to cause a dramatic uptick in carry rates. Since all states which have adopted constitutional carry laws were previously shall-issue, this may suggest that constitutional carry laws do not increase carry rates any more than shall-issue laws already do. This means more gun carrying could still deter crime even if permitless carry does not.

On the other hand, it is possible that constitutional carry laws do increase concealed handgun carrying among the public, as all licensing requirements—including training and fee requirements—are eliminated. This is the most straightforward and intuitive interpretation. If that is indeed the case, these results do not comport with the deterrence hypothesis forwarded by Lott and Mustard (1997). These null findings, and the fact the evidence suggests murder rates are statistically insignificantly lower in the post-treatment period, also seems to contradict the aggression hypothesis defended by

Donahue, Aneja and Weber (2019). Future research is needed to determine whether these laws do change public carrying behaviour to better interpret these results.

While this paper uses novel methods and produces a useful finding, there are some limitations. First, states have adopted permitless carry after the study period, with a surge in legislative action in 2021. Second, the results rely on a relatively few number of states—ten at the beginning of the study period. Finally, this paper does not look at other types of deterrable crime, like assault or rape. Future research ought to be done in this area to improve upon these limitations as more data becomes available.

References

Aneja, A., Donohue, J. J., & Zhang, A. (2011). The impact of right-to-carry laws and the NRC report: Lessons for the empirical evaluation of law and policy. *American Law and Economics Review*, *13*(2), 565-631.

Barati, M. (2016). New evidence on the impact of concealed carry weapon laws on crime. *International Review of Law and Economics*, *47*, 76-83.

Bartley, W. A., & Cohen, M. A. (1998). The effect of concealed weapons laws: An extreme bound analysis. *Economic Inquiry*, *36*(2), 258-265.

Benson, B., & Mast, B. (2001). Privately produced general deterrence. *The Journal of Law and Economics*, *44*(S2), 725-746.

Black, D., & Nagin, D. (1998). Do right-to-carry laws deter violent crime? *The Journal of Legal Studies*, *27*(1), 209-219.

Donohue, J. J., Aneja, A., & Weber, K. D. (2019). Right-to-carry laws and violent crime: A comprehensive assessment using panel data and a state-level synthetic control analysis. *Journal of Empirical Legal Studies*, *16*(2), 198-247.

Fryer, R. G., Heaton, P. S., Levitt, S. D., & Murphy, K. M. (2013). Measuring crack cocaine and its impact. *Economic Inquiry*, *51*(3), 1651-1681.

Gius, M. (2018). The effects of state and federal gun control laws on school shootings. *Applied Economics Letters*, *25*(5), 317-320.

Hamill, M. E., Hernandez, M. C., Bailey, K. R., Zielinski, M. D., Matos, M. A., & Schiller, H. J. (2019). State level firearm concealed-carry legislation and rates of homicide and other violent crime. *Journal of the American College of Surgeons*, *228*(1), 1-8.

Lott, J. R., & Mustard, D. (1997). Crime, deterrence, and right-to-carry concealed handguns. *The Journal of Legal Studies*, *26*(1), 1-68.

Ludwig, J. (1998). Concealed-gun-carrying laws and violent crime: Evidence from

      state panel data. *International Review of Law and Economics*, *18*(3), 239-254.

Marvell, T. (2001). The impact of banning juvenile gun possession. *The Journal of*

      Law and Economics, *44*(S2), 691-713.

Moody, C. E., & Marvell, T. B. (2019). Do right to carry laws increase violent crime?

      A comment on Donohue, Aneja, and Weber. *Econ Journal Watch*, *16*(1), 84-96.

Moody, C., & Lott, J. (2022). Do right to carry laws still reduce violent

      crime? *Academia Letters*.

Xu, Y. (2017). Generalized synthetic control method: Causal inference with interactive

      fixed effects models. *Political Analysis*, *25*(1), 57-76.

Zimmerman, P. R. (2014). The deterrence of crime through private security efforts:

      Theory and evidence. *International Review of Law and Economics*, *37*, 66-75.