July 3rd Meeting

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Data

Treatment cities:

- Asheville city, North Carolina
- Baton Rouge city, Louisiana
- Flint city, Michigan
- Hartford city, Connecticut
- Kansas City city, Missouri
- Rapid City city, South Dakota
- Salt Lake City city, Utah
- Waco city, Texas

We have 205 control cities. 1617 Observations.

Parallel Trends

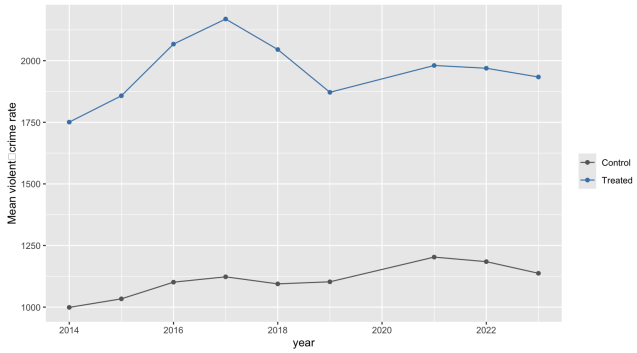

Figure 1: Mean Violent Crime Rate per 100k - Treatment vs Control

It is clear that the treated cities have a much higher violent crime rate in general. Further from 2015-2019 we see a divergence in crime rate. Wald test confirms that years

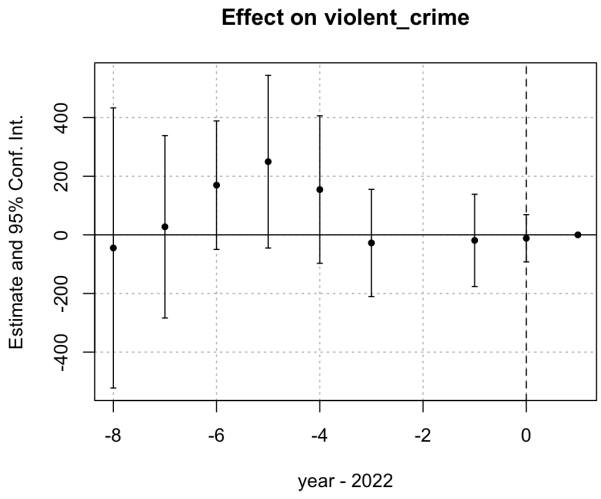

Figure 2: Event Study Plot

Wald test p-value: 0.63, fail to reject the null hypothesis that trends are parallel. More robustness checks needed.

Baseline Difference-in-Difference

$$\underbrace{\text{violent\_crime}_{it}}_{y_{it}} = \beta_0 + \beta_1 \left(\text{treated}_i \times \text{post}_t\right) + \underbrace{\alpha_i}_{\text{city fixed effect}} + \underbrace{\lambda_t}_{\text{year fixed effect}} + \varepsilon_{it},$$

i indexes **cities**

t indexes **years**

$\textbf{treated}_i$ $= 1$ if city i ever received the 2022 grant

$\textbf{post}_t$ $= 1$ for 2022 and later

α_i**,** λ_t are the city and time fixed effects

β_1 is the causal DiD estimate

Table 1: Difference-in-Differences Estimation Results (Without Controls)

Variable	Estimate	Std. Error	t value	Pr(> |t|)
treated:postTRUE	-78.7228	106.236	-0.74102	0.4595

Notes: OLS estimation with violent crime as dependent variable.
RMSE: 280.7, Adj. R^2: 0.977751, Within R^2: 4.911e-4.
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Difference-in-Difference with Controls

$$
\begin{aligned}
y_{it} = \beta_0 + \beta_1 \big(\text{treated}_i \times \text{post}_t\big) \\
+ \theta_1 \,\text{pct\_white}_{it} + \theta_2 \,\text{pct\_bach\_degree}_{it} \\
+ \theta_3 \,\text{unemployment\_rate}_{it} + \theta_4 \,\text{poverty\_rate}_{it} \\
+ \alpha_i + \lambda_t + \varepsilon_{it}.
\end{aligned}
$$

Table 2: Difference-in-Differences Estimation Results (With Controls)

Variable	Estimate	Std. Error	t value	Pr(> |t|)
pct_white	87.4965	207.753	0.421156	0.6741
pct_bach_degree	823.7577	508.242	1.620797	0.1066
unemployment_rate	2586.9382	838.519	3.085126	0.0023**
poverty_rate	-518.6812	353.140	-1.468769	0.1434
treated:postTRUE	-84.0615	104.651	-0.803258	0.4227

Notes: OLS estimation with violent crime as dependent variable.
RMSE: 292.2, Adj. R^2: 0.977264, Within R^2: 0.009056.
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