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Ending Rent Control Reduced Crime in Cambridge[†]

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Neighborhood prosperity and safety typically trend in the same direction: affluent households enter; criminal activity falls; other amenities improve; low-income residents relocate to lower-cost areas; additional affluent residents enter; and so on. These changes in neighborhood characteristics are ultimately equilibrated by price responses in the housing market.[1] However, the feedback between neighborhood amenities and prices makes it difficult to isolate the contribution of any particular part of the cycle of neighborhood change on prices, absent a large exogenous shock. In this paper, we use the largely unanticipated elimination of rent control regulations in Cambridge, Massachusetts in 1995 to study how ending rent control affected criminal activity and was capitalized into house prices.

  [1] Thaler (1978) and Gibbons (2004) estimate a one standard deviation increase in property crime reduces property values by 3 and 10 percent, respectively. Bishop and Murphy (2011) use a dynamic hedonic model to estimate a \$472 willingness-to-pay to avoid a 10 percent increase in nearby violent crime. Pope and Pope (2012) estimate an elasticity of property value with respect to crime between −0.15 to −0.35.

Like many US urban areas, Cambridge saw sharply rising house prices and falling crime rates during the 1990s. Prior to 1995, Cambridge had stringent rent regulations that depressed housing values, as shown by Autor, Palmer, and Pathak (2014). A statewide referendum narrowly eliminated rent control in 1995 in the three towns with active rent control policies and generated cross-sectional differences among neighborhoods with varying exposure to rent decontrol. Using data assembled from the archives of the Cambridge Police Department from 1992–2005, we relate these differences across neighborhoods to the spatial distribution of criminal activity over time.[2]

While only about one-third of Cambridge residential units were subject to rent controls prior to 1995, this fraction frequently exceeded 60 percent in neighborhoods that had older housing stocks and a substantial numbers of renters. This neighborhood-level variation allows us to assess the impact of rent decontrol on criminal activity by comparing pre- and post-decontrol changes in the incidence of crime among neighborhoods with different exposures to rent control. Using unique location-specific data on every reported crime in Cambridge between 1992 and 2005, we track the evolution of criminal activity by drawing tight geographic comparisons across narrow slices of the city, while also accounting for aggregate city-level trends in criminal activity and detailed neighborhood-specific trends at the census tract level.

We find robust evidence that rent decontrol caused an overall decline in crime of approximately 16 percent—approximately 1,200 reported crimes annually. To quantify the relative importance of the public safety component of neighborhood change, we use external estimates of the cost of crime from Cohen and

Piquero (2009) to calculate the contribution of our estimated changes in public safety to changes in Cambridge's overall appreciation due to rent deregulation. Autor, Palmer, and Pathak (2014) show that additional investment activity can explain 12 percent of the post-decontrol appreciation of Cambridge residential properties, leaving the rest explained by the capitalization of other benefits of decontrol. We find that the crime reduction due to rent deregulation generated approximately $10 million (in 2008 dollars) of annual direct benefit to potential victims. Capitalizing this benefit into property values, this crime reduction accounts for 10 percent of the growth in Cambridge residential property values due to rent decontrol.

Since the 1990s are widely seen as a period of improving public safety in urban neighborhoods, it's possible that Cambridge's decrease in crime was not unusual relative to other cities and therefore has little to do with rent deregulation. In Autor, Palmer, and Pathak (2017), we use city × year-level FBI crime statistics to show that Cambridge's post-1995 decrease in crime was distinctive relative to similarly sized US cities over the same time period, ranking as the thirteenth largest fall out of 147 cities. The city-wide excess crime decreases in Cambridge relative to similarly sized cities across the country suggests that our estimated public safety improvements had aggregate effects and were not merely a displacement of criminal activity from treated neighborhoods to untreated neighborhoods. We do not detect any corresponding increase in late-1990s crime in Boston-MSA cities and towns not experiencing decontrol.

I. Empirical Strategy

The treatment that we exploit is the voiding of Cambridge's rent control ordinance by statewide vote in a closely contested November 1994 Massachusetts ballot initiative. Although rent control was eliminated citywide, locations differed initially in their rent control density, and this variation provides the cross-location differences in rent control exposure we exploit for identification. Autor, Palmer, and Pathak (2014) show that resident turnover rates, appreciation in rents and property values, and improvements in the quality of the housing stock that accompanied the end of rent control were proportional to the initial rent-control density of the area.

Disentangling the simultaneous relationship between public safety improvements and neighborhood change normally poses a significant empirical challenge due to their co-determination. The unique natural experiment afforded by the sudden end of rent control mitigates many of these issues by providing a clean exogenous shock. Panel data on criminal activity at fine geographies allows accounting for fixed differences across space—most importantly, the heterogeneity in baseline crime levels across Cambridge neighborhoods—to ascertain how the frequency of reported crime changed in response to rent decontrol.

Our empirical specifications explain changes in crime counts per 1,000 square meters after the end of rent control. Denoting our annual crimes per area measure as y_{gt}, our baseline specification is

$$(1) \quad y_{gt} = \alpha_g + \delta_t + \beta RCI_g \times Post_t + \varepsilon_{gt},$$

where α_g and δ_t are block and year fixed effects, respectively, RCI_g is the rent control intensity (exposure measure) of block g, and $Post_t$ is an indicator for years 1995 through the end of the sample (2005).[3] We cluster standard errors by block, to account for potential correlation in reported criminal activity within a block across years.

The coefficient of interest in this specification is β, which measures the differential change in crime in high- versus low-RCI areas after rent decontrol. For $\hat{\beta}$ to represent the causal effect of decontrol on local crime, we require the following identifying assumptions. First, the change in rent control status needs to be unanticipated. This seems plausible given the close, uncertain nature of the referendum and strong local opposition to ending rent control and is consistent with our event studies, which show criminal activity in high-RCI areas did not seem to be on a different trend prior to 1995. Second, conditional on our detailed geographic and time fixed effects (that absorb, among other things, baseline crime and rent-control exposure), $RCI \times Post$ needs to affect criminal activity exclusively through decontrol and not other

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[3] For our geographic unit of analysis, we manually adjust census blocks to contain blockfaces. See Autor, Palmer, and Pathak (2017) for details.

factors correlated with rent control intensity but not caused by decontrol.

The end of rent control in 1995 coincided with a nationwide period of urban renaissance, raising the possibility of confounding trends. The time effects δ_t in our estimating model absorb these changes to the degree that they affect the overall level of reported crimes in Cambridge. Time effects do not absorb any differential safety improvement in rent control-intensive neighborhoods. We address this by estimating specifications containing tract trends, in addition to 816 geographic main effects for Cambridge blocks, thereby allowing the rate of falling crime to differ across tracts.

We test whether our results are driven by differential neighborhood trends by estimating an event study version of equation (1), replacing $RCI \times Post$ with a full set of interactions between RCI and calendar year dummies. Because of fixed effects α_g, we omit $RCI_g \times \mathbf{1}(t = 1994)$ such that the event study coefficients plotted in Figure 1 reflect how criminal activity changed in Cambridge in more versus less rent control-intensive neighborhoods relative to the relationship between RCI and crime in 1994. The regression estimates plotted in the figure show no statistically detectable correlation between trends in crime and RCI prior to 1995, indicating that tracts with higher exposure to the end of rent control were not on differential paths of criminal activity before decontrol.

The time path of the coefficients in Figure 1 suggests a swift change in criminal activity following the end of rent control, with crime falling significantly from 1994 baseline levels in high versus low RCI blocks. By 1996, there is a statistically significant, persistent, and economically meaningful relative decrease in crime in more exposed neighborhoods, all while resident turnover and residential investment surged in formerly rent-controlled housing units (Autor, Palmer, and Pathak 2014). Overall, our results provide clear evidence of a causal relationship between rent deregulation in Cambridge and decreased criminal activity from 1995–2005.

II. The Economic Value of Reduced Crime

How valuable was the improved public safety that accompanied Cambridge rent deregulation in the late 1990s? We estimate how many fewer crimes occurred in Cambridge due to the end
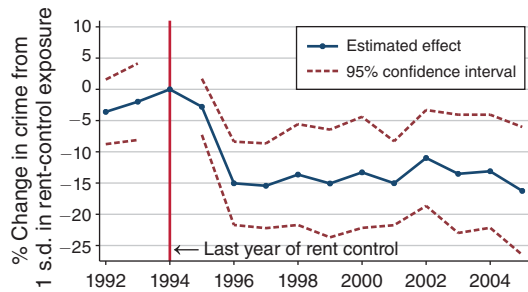

FIGURE 1. EFFECT OF RENT CONTROL EXPOSURE ON TOTAL CRIMES PER 1,000M^2

Notes: Figure plots event study estimates of the annual effect of one standard deviation higher rent control intensity (RCI) on total reported crimes per 1,000m^2 along with 95 percent confidence intervals clustered at the block level. RCI measures the intensity with which a block was exposed to rent controlled properties in 1994. The specification includes year and block fixed effects. The year 1994 is the omitted RCI × Year category.

of rent control, and we use estimates from the criminology literature to calculate the welfare gains associated with the induced reduction in criminal activity, reflecting the economic value of improved public safety.

We model the counterfactual level of total crimes per area that would have occurred absent the 1995 deregulation of Cambridge's rental market by turning off the $RCI \times Post$ term. Focusing on our most conservative specification, we estimate that rent decontrol led to almost 1,200 fewer crimes reported in Cambridge each year. Much of this reduction came from averted public disturbances and property crimes, by far the two most frequent types of crime in Cambridge. Our estimates also show meaningful decreases in other crime categories, including violent crimes, a particularly costly category of crime.

We discuss in Autor, Palmer, and Pathak (2017) how we adapted estimates of the direct (monetary) and indirect (psychic) costs of crime from Cohen and Piquero (2009). There is significant crime-cost variation across categories, with victimization costs ranging from $1,291 (in 2008 dollars) for a public disturbance to over $47,000 for a typical violent crime. Taking the frequency-weighted average across all crime categories, the typical crime incident has a direct cost of $9,711 and an indirect cost of $23,170.

To quantify if the value of the criminal activity reductions that we estimate are attributable to neighborhood change resulting from the end of rent control in Cambridge, we multiply the number of averted crimes by cost estimates from Autor, Palmer, and Pathak (2017). Importantly for understanding the economic value of these crime reductions, we estimate a reduction of 77 fewer violent crimes per year—crimes that are particularly costly for both victims and communities. On net, we estimate that the end of rent control averted $9.8 million in annual economic costs of Cambridge crime. At a 5 percent discount rate, this amounts to a $196 million increase in the amenity value of residing in Cambridge. Autor, Palmer, and Pathak (2014) estimate that the elimination of Cambridge rent control raised the value of Cambridge residential properties by approximately $2 billion as of 2005. Our analysis here implies that approximately 10 percent of this increase in aggregate value can be attributed to the reduced burden of criminal activity.

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