Crime and U.S. Cities: Recent Patterns and Implications

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For most of the twentieth century, U.S. cities – and their high-poverty neighborhoods in particular -- were viewed as dangerous, crime-ridden places that middle class, mobile (and typically white) households avoided, fueling suburbanization. While some pundits and policy analysts bemoaned this urban flight, others voiced concern over the potential impact of crime-ridden environments on the urban residents who were left behind. In the past decade or so, the media has instead highlighted the dramatic reductions in crime taking place in many large cities.

In this paper we explore these crime reductions and their implications for urban environments. We begin by examining the changes in central city crime rates in greater detail, documenting how central cities fared relative to suburban communities and examining *which* cities and neighborhoods experienced the largest declines. Given these patterns, we then explore two key questions: (1) whether and how these changes altered existing disparities in safety (or exposure to crime) among particular groups, and (2) the extent to which these reductions increased the relative attractiveness of cities and ultimately led to city growth. In exploring these questions, we draw on theory, past literature, as well as empirical evidence.

I. Changes in City Crime Between 1990-2005

Between 1990 and 2005, crime rates in the United States as a whole fell by a striking 33%, with similar declines occurring for both property and violent crime (FBI Uniform Crime Reports). In this section, we specifically examine the crime reductions that took place in central cities. We describe crime changes for a sample of 278 cities and their surrounding suburbs.

City Crime Data

We rely on crime data available through the Department of Housing and Urban Development's (HUD's) State of the City website, which provides electronic annual crime rates for over 500 central cities, and more than 6,800 suburban places beginning in 1992. To define the suburbs of any particular central city, we match the city to the metropolitan area in which it was located in 1990 and then define its suburbs as all parts of that metropolitan area that are not in a central city. We then aggregate up crime rates from all non-central city reporting agencies in that metropolitan area, for each year to get the suburban crime rate.

The website reports crime data for 1992 and then annual data from 1997-2005. However, we are confident that crime rates declined fairly steadily between 1992 and 1997, for in an analysis of a sample of 150 large central cities for which we manually collected annual crime data, we found that crime rates peaked in 1992 and then declined monotonically until 1997 (Ellen and O'Regan 2008).

Data are missing for particular cities within coverage years as well.[1] To minimize our reliance on estimated rates and to build a consistent panel of cities to examine, we only include cities with complete data, or for which we had complete data in all years but one.[2] We also only include cities if we have suburban crime data from surrounding

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[1] In many years, a few states did not report crime data at the city level. In addition, where monthly data is not provided by the local reporting agency, the FBI uses an estimation procedure that relies on those months the agency does report. The HUD/FBI data does identify which annual crime rates are based on incomplete reporting data, and whether the incomplete data are based on 3-11 months of reported data, or fewer than 3 months.

[2] We consider data for an agency to be complete in a given year if the annual crime rate is based on at least three months of actual data.

reporting agencies which cover at least 80% of the total suburban population.[3] In total,

we are able to identify city and suburban crime rates for 278 central cities.

For our analysis of neighborhood-level exposure to crime, we rely on

neighborhood crime data from city agencies in Cleveland and Denver. The Denver crime

data is available via the Piton Foundation's community facts website

(http://www.piton.org/index.cfm?fuseaction=CommunityFacts.Search), provided by

the Denver Department of Public Safety.   Data are reported for 78 Denver

neighborhoods that are comprised of 1-3 census tracts, from 1990 to 2007.[4] We access

data on Cleveland crime from the Center on Urban Poverty and Social Change, at Case

Western's Mandel School of Applied Social Sciences

(http://neocando.case.edu/cando/index.jsp). They obtained the data from the

Cleveland police department on 228 census tracts from 1990 through 2007 (though data

for 1998 is missing).

Changes in central city crime rates

Figure 1 shows trends in the average crime rate for our sample of 278 central

cities from 1992 through 2005.[5]   (We report total crimes per 100,000 people, and weight

the average by city population.) The top line is crime rates for central cities and shows

that there was a dramatic decline in total crime rates in these cities beginning in 1992.

From an average of over 9,200 reported crimes per 100,000 in 1992, to just over 5,600 in

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[3] Only 7 cities in the panel have a year in which estimates were used.
[4] Crime rates are reported per 1,000 persons, but have been adjusted to correspond to the conventional reporting practice, per 100,000.
[5] We found fairly similar patterns for a larger set of 429 central cities, which include cities for which no suburban crime data are available. For consistency with the rest of the paper, we focus on the 278 central cities for which we have crime data for their surrounding suburbs. Throughout the paper, our reference to cities is to the central cities in our samples.

2005, these cities experienced a 39 percent decline in total crime during this 12-year period. The largest declines occurred in the 1990s, with some additional small declines post 2000. Property and violent crimes declined at similar rates: 38% and 48%, respectively. Overall, average crime rates in cities fell even more sharply than crime in the country as a whole during this period, suggesting that cities became relatively safer compared to the rest of the country.

Crime rates in cities also declined more sharply than crime in their own surrounding suburbs. As shown by the second line on the graph, while the suburbs also experienced a steady reduction in crime, the decline was not quite as dramatic as that taking place in cities. As a result, the difference between city crime rates and suburban crime rates fell from a high of about 4,100 crimes per 100,000 people in cities in 1992 to a low of about 2,100 in 2005. Indeed, 36 percent of the central cities in our sample had crime rates in 2005 that were lower than the average suburban crime rate in 1992; more than a quarter of our cities had 2005 crime rates that were lower than those in their surrounding suburbs in 1992.

While cities clearly became safer, and safer relative to their suburbs on average, we also find meaningful variation. Figure 2 reports the distribution of changes in city crime rates over this time period, documenting the large variation in experience. Indeed, nearly a quarter of our cities experienced declines of 15% or less, and in 10% of our cities, crime rates *increased* from 1992 to 2005.

Table 1 explores this variation by comparing the baseline characteristics of the cities that experienced the largest and smallest declines in crime rates. The first column shows mean characteristics for all 278 cities in our sample, the second column provides

similar statistics for the 25% of cities that experienced the largest declines in crime rates, while the final column reports on the bottom quartile, or the 25% of cities that experienced the smallest declines (or in some cases, increases) in crime rates. The table reveals that relative to other cities, the cities where crime reductions were largest were themselves larger, had higher shares of minority and foreign-born residents, and had slightly higher poverty rates. These 'large-decline' cities also started off the 1990s with higher rates of crime, suggesting something of a convergence in crime rates across cities over the decade. Finally, the cities that experienced the largest reductions are also disproportionately concentrated in the Northeast, and least likely to be in the Midwest.[6]

These patterns suggest a potentially large change in the spatial landscape of crime that may disproportionately affect the urban experience of particular groups. We turn next to exploring what these changes have meant in terms of exposure to crime and safety for urban residents.

II.   How did crime rate reductions affect exposure to crime?

Background on differential exposure to crime

Numerous authors provide evidence that at least as recently as 1990, cities and neighborhoods with larger minority populations tended to have higher crime rates. Liska and Bellair (1995) suggest that racial minorities were more likely than whites to live in communities that are economically marginalized, socially disorganized, and characterized by high rates of crime. They report a correlation in 1990 between the percentage of racial

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[6] Note that our sample under-represents cities in the Midwest. However, we have replicated this analysis for the larger sample of 429 central cities, which is much more representative geographically, and the general patterns are the same.

minorities in a city and robbery rates of 0.67. They also provide evidence showing that communities have tended to become less white as crime becomes more common.

Liska, Logan and Bellair (1996) look specifically at race and crime in the suburbs. Although both crime rates and minority population shares are lower in suburbs than in central cities, they again find an association. In suburbs where minority population shares were relatively high in 1990, crime rates tended to be higher. Notably, the association between racial composition and crime was not quite as large as the association between the poverty rate (or the share of single-parent households) and crime.

As for exposure to crime at the neighborhood level, Logan and Stults (1999) use data from the Public Use Microdata Sample of the 1990 Census and find that in 1990, the average black person lived in a neighborhood with a property crime rate two-thirds higher than the average white person. Indeed, they find that in 1990, race was a more powerful predictor of exposure to neighborhood crime than income – affluent blacks lived in neighborhoods with higher crime rates than those lived in by poor whites.

Evidence on changes in City-level exposure to crime

Given the dramatic reductions in crime that took place during the 1990s, it seems likely that the relationships reported above have changed. Indeed, given that crime reductions were largest in large central cities with large poor and minority populations, it seems likely that poor and minority populations may have differentially benefited from the fall in crime.[7] To test this possibility, we calculate exposure-rates for relevant populations in both 1992 and 2000. In essence, these exposure rates describe the

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[7] Given that populations are mobile, and that past research shows that minority populations tend to grow as crime rates climb, it isn't necessarily true that poor and minority populations have differentially benefited from crime reductions.

'average' or typical city crime rate experienced by a member of a given population group in 1992 and 2000.[8]

Table 2 presents our summary results. The first column shows the average or typical city-level crime exposure rates by demographic group for 1992,[9] while the second column shows crime rates for 2000. As shown, exposure to crime declined significantly for all groups during this period. By 2000, the average member of every group lived in a city with a crime rate of less than 7,000 crimes per 100,000 people, which was far below the average crime rate experienced by whites in 1992 (8,900).[10]

The table also shows some convergence among groups. Between 1992 and 2000, average city crime rates fell far more sharply for minorities than they did for whites, thus narrowing the gap in crime rates between whites and non-whites. Indeed, by 2000, Hispanics actually lived in safer cities on average than whites. Part of this may have been due to the relatively large decrease in crime that occurred in heavily immigrant cities. Indeed, while there was virtually no difference between city crimes rates for the average foreign-born city resident and the average native-born city resident in 1990, by 2000, exposure to crime was noticeably lower for the foreign born. The table also shows a modest reduction in the gap in crime rates between the poor and non-poor.

To focus more clearly on relative differences, Table 3 reports these crime exposure rates as differences from the average exposure rate. The first column shows the number of additional crimes per 100,000 people that a member of the group experiences

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[8] The exposure rates are the average crime rate across cities, weighted by the share of each group residing in a city. This is a standard exposure rate, here measured for out entire sample rather than within a city or school.

[9] While our crime data begins in 1992, because we need Census-based data on racial and poverty populations in cities, we are weighting 1992 crime rates by the 1990 census population numbers.

[10] We find similarly dramatic declines for all subgroups when violent and property crime are examined separately.

on average in his/her city in 1992 compared to the average person living in one of our sample cities. For example, the average white person in our sample was exposed to 364 fewer crimes per 100,000 people in her city on average in 1992 than the average city resident in our sample, while the average black person was exposed to 1,046 more. In 2000, the 'white advantage' had decreased to 15 crimes per 100,000 residents, and the black disadvantage had fallen to 775 crimes. In other words, in addition to the average decline in exposure to crime experienced by all, black residents of cities enjoyed an additional decline of 271 crimes per 100,000 people.

For foreign-born and native born, the initially small advantage of the foreign born grew to be as large an advantage as the black disadvantage in 2000. For the poor, the disparity in exposure rates declined from 407 (compared to the average) to 133.

Across the board, in other words, we see a convergence in safety levels (with the exception of the increase in the foreign-born advantage). Of course, these changes only describe shifts in safety at the city level. Given the variation in crime rates within a city, as well as the typical link between disadvantaged populations and crime at the neighborhood level, these same patterns may not hold at the level of the neighborhood.

Evidence on changes in exposure to crime within Cities

Anecdotal reports have recently suggested that as crime fell during the past decade or so, it may have also deconcentrated. Where previously crime was concentrated in a few poor neighborhoods, that is, it may now be more evenly spread across communities. Such a deconcentration would likely have important implications for *exposure* to crime for particular demographic groups.

As noted above, there is very little research on this question (and virtually no recent research), largely due to the difficulty of gathering crime data at the neighborhood level. We focus on two cities for which we were able to obtain neighborhood crime data: Cleveland and Denver.

We begin by examining where, within cities, crime declined the most. Table 4 describes the characteristics of Cleveland and Denver neighborhoods overall, and then of the top and bottom quintiles of neighborhoods, ranked by the magnitude of declines in crime (the largest and smallest declines in crime rates). We see patterns similar to those at the city-level, though even more dramatic. Unlike the city level analysis, which revealed only small differences in poverty rates, we find that within these two cities, poverty rates were initially much higher in neighborhoods that experienced the largest declines in crime. These neighborhoods also had a much larger share of households who were renters. In addition, in both cities, neighborhoods experiencing the largest declines in crime rates were less white. In Cleveland, where the minority population is largely black, neighborhoods with the greatest reductions in crime were disproportionately black. In Denver, where the minority population is more Hispanic, the 'large crime decline' neighborhoods were disproportionately Hispanic and black.

These numbers suggest that even more than at the city level, the distribution of reductions in crime rates may have disproportionately benefited traditionally disadvantaged groups. But again, this analysis is based on where these groups lived in 1990 and doesn't take into account shifts in residential patterns between 1990 and 2000. To assess the actual change in environments after households adjust locations, Table 5

presents the average exposure to crime for each of these groups, in 1990 and 2000. The first panel provides average rates in Cleveland, and the second panel for Denver.

In Cleveland, we see a large drop in exposure to neighborhood crime across the board, but again the drop was larger for blacks and Hispanics than it was for whites. Over the course of the decade, black exposure to crime fell to just about the level of white exposure to crime in the early 1990s. We also see a relatively large decline in exposure to crime for the poor; indeed of all these groups, the poor enjoyed the largest absolute decline in exposure to crime.

In Denver, a very different city demographically, we see fairly similar patterns. Overall reductions in crime are larger, but minority exposure to crime again declined much more than white exposure. Here, Hispanics experienced the most dramatic shift. Poor households also experienced extremely sharp reductions in exposure to crime, with the difference in average neighborhood crime rates for the poor and non-poor falling from nearly 2,200 crimes per 100,000 people year to just over 900.

In sum, much as at the city level, we saw considerable convergence in exposure to neighborhood crime across groups by the end of the decade. By 2000, at least in Cleveland and Denver, the poor and the non-poor, the non-white and the white, and the foreign-born and the native-born were all living in far more similar neighborhood environments in terms of safety or exposure to crime. In this sense, the reductions in crime were highly progressive.

III.   Does Crime reduction drive city growth?

During the 1990s, a number of large cities experienced a notable resurgence. In New York City, for instance, population increased by a remarkable 15 percent, after having fallen by 5 percent during the 1970s. In Chicago, population rose by 4 percent during the 1990s, after having declined by 11 percent during the 1970s. In this second part of the paper, we explore whether reductions in city crime during the 1990s may have contributed to this apparent urban resurgence.

Background on City growth and Crime

Cities grow for two reasons. First, a city may become more attractive relative to its surrounding area, drawing population who would otherwise live in the suburbs. Second, and perhaps more critically, a city may grow due to the economic growth (population and employment) of the larger region or metropolitan area. Given this, city crime rates may not play a central role in shaping overall city growth rates.

Indeed, economists studying urban growth have not traditionally included crime or urban amenities in their explanatory models. In explaining the variation in growth across cities in the 1990s, for instance, Glaeser and Shapiro (2001) conclude that the factors associated with high growth are: being located in the West, having large service sector industries, high foreign-born populations, high levels of education, and being auto-dependent. These are really characteristics of metropolitan areas and not cities *per se*.

Some recent researchers have emphasized the importance of urban amenities, and their appeal to workers, however. Glaeser, Kolko, and Saiz (2000) argue that while the urban economics literature has traditionally focused on the ways in which cities can make themselves more attractive and productive places for *firms,* the future of cities may

depend more critically on their ability to attract increasingly wealthy and footloose workers.

Indeed, Glaeser and Gottlieb (2006) argue that the growth that occurred during the 1990s in large, dense cities was driven by increases in labor supply. Specifically, they show that as large, dense cities grew during the 1990s, their real wages declined relative to other areas in the United States, and housing prices increased. This suggests that urban growth in recent years has not been driven by increases in firm productivity in cities but rather by an increase in their ability to attract workers. It is plausible that one key amenity change for cities has been the decline in crime rates.[11]

There is a fair amount of research exploring the extent to which increases in crime and other perceived sources of urban blight push households out to the suburbs (for overviews, see Bradford and Kelejian, 1973; Mieszkowki and Mills, 1993). While this theory has intuitive appeal, the empirical support for the importance of crime rates in shaping residential location decisions is decidedly mixed. Frey (1979) uses aggregate central city migration data on thirty-nine large MSAs from 1967 to 1970, to assess the relative role of central city decline in migration flows. He finds some evidence that central city crime rates influenced the likelihood of moving to the suburbs, conditional on changing housing, but the independent influence of crime was quite small.

Mills and Price (1984), in their analysis, find no evidence that central city crime contributed to suburbanization. They consider the importance of city crime relative to suburban crime, controlling for a variety of other city characteristics. Their primary

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[11] Shapiro (2006) considers the potential role of local amenities, and specifically crime, more directly. However, his work examines metropolitan level outcomes. As noted earlier, the more likely avenue through which crime may well affect city population growth is through residential location decisions *within* metropolitan areas.

approach is based on density gradients for between thirty-five and fifty-eight

metropolitan areas between 1960 and 1970, although they also estimate a variety of

alternative models, with similarly unsupportive results. In their examination of the

1980s, Jordan et al (1998) find higher city crime rates are associated with *less*

suburbanization, counter to their expectations.

Some researchers find that only certain populations appear sensitive to crime.

Grubb (1982) considers both the suburbanization of households and jobs from 1960 to

1970 in over one hundred large MSAs and finds evidence of sensitivity to central city

crime rates only for white households, particularly upper-income white households.   By

contrast, South and Crowder (1997), using the geo-coded files of the Panel Study of

Income Dynamics (PSID) between 1979 and 1985, find that the ratio of central city

violent crime rates to suburban increased the likelihood that black households would

move to the suburbs but not white households.

One reason for the mixed evidence is that in addition to crime affecting residential

decisions, residential decisions -- and suburbanization in particular – may actually affect

crime rates. If models fail to correct for this reverse causality, the resulting estimates are

likely to be biased. Farley (1987) and more recently, Jargowsky and Park (2006) suggest

several avenues through which suburbanization may well lead to higher crime rates in the

central city, including changes in the composition of households in the city and suburb, as

well as increased social stratification.

Cullen and Levitt (1999) offer some of the most recent (and most widely cited)

work in this area. Unlike the vast majority of previous work, they focus on changes in

crime rates, rather than levels. Using a series of data sources and models, they find that

increases in crime rates during the 1970s and 1980s led to population losses, and that white households, families and those with greater education are more sensitive to changes in crime. In addition, the authors find that changes in crime rates had their greatest influence on relocation decisions within the metropolitan area. Their work also employs an instrumental variables strategy to better identify a causal relationship, and still finds that increases in crime contributed to lower growth and greater migration to the suburbs.

Of course, even if the prior evidence on the role of increasing or high levels of crime in the depopulation of cities were more consistent, it is not obvious *a priori* that the relationship between crime and residential decisions would be symmetric – while increases in city crime may push residents away from cities, similarly-sized reductions may not attract them. Thus, the remainder of the paper offers some new empirical evidence to test whether the decline in city crime rates shaped residential decisions and ultimately contributed to city population growth in the 1990s.

Evidence on the effect of reductions in city crime on changes in city population

Building on the work of Cullen and Levitt (1999) and drawing on our recent paper (Ellen and O'Regan, 2009), we examine whether reductions in central city crimes rates led to overall population gains for cities. We study this more recent time period using census data and Uniform Crime Report data for 1990 through 2005.

Our basic regression models are as follows.[12]

$$\Delta \ln \text{population}_{i(1990, 2000)} = \alpha + \beta_1 \Delta \text{CityCrime}_{i(1989, 1994)} + \beta_2 \text{CityCrime}_{i, 1990} + \gamma X_{i1990} + \delta_{t1} + \lambda_r + \varepsilon_{it} \quad (1)$$

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[12] This model is very similar in structure to Cullen and Levitt (1999).

$$\Delta \ln \text{population}_{i(2000, 2005)} = \alpha + \beta_1 \Delta \text{ CityCrime}_{i (1995, 2000)} + \beta_2 \text{CityCrime}_{i, 2000} +$$

$$\gamma X_{i2000} + \delta_{t1} + \lambda_r + \varepsilon_{it} \quad (2)$$

where subscripts i and r reference city i and region r. The dependent variable is the change in the log of city population from year 1990 to 2000 in model 1 and the change in the city population between 2000 and 2005 in model 2. The independent variables include changes in city crime rates over an earlier time period and city crime rates at the start of the time period. X is a vector of characteristics of the city at the start of the period, which includes: the initial population, unemployment rate, median family income, the percentage of the city's population that is black, the percentage that is foreign born, the percentage with college degrees, and the percentage that own their homes. We also include measures of the age distribution of the population, the average temperatures in January and July, 1994 total precipitation, and regional dummy variables to capture variation across the nine census regions. All baseline variables are measured at the start of the time period, to minimize endogeneity.

We use decennial census data for city characteristics in 1990 and 2000 and ACS data for 2005 population. Data on city crime rates are taken from the Federal Bureau of Investigation's *Uniform Crime Reports* (UCR). We estimate our regressions on a sample of 145 large central cities. These are all the central cities that had populations in 1980 of at least 100,000.

A few notes on the specification. While most of the empirical literature on crime and flight examines crime levels, Cullen and Levitt (1999) argue that it is changes in

crime rates that should matter for flight since the level of crime has already been factored into decisions of residents to live in a city.[13] While this argument makes sense, we think crime levels may still be important too. In particular, once a household makes a decision to move (decisions that are typically prompted by changes in a household's housing needs, such as family formation, child bearing, aging), the choice of which jurisdiction to settle in (including whether to remain in the city or choose a jurisdiction outside) may well depend on the current assessment of relative attractiveness of different location alternatives, which may be based on crime levels or recent changes in crime. Thus, it is unclear a priori whether reductions in crime, or simply low levels of crime, should be more likely to induce households to move to or choose to stay in central cities. For these reasons, we test for effects of both levels and changes.

In terms of the temporal relationship between changes in crime and changes in population, there are important arguments for lagging changes in crime. If these changes are presumed to be causal, they should precede any residential movements they affect. Lagging crime rates also helps to address endogeneity. However, for our decade models, to focus on changes in crime that precedes 1990 prohibits capturing any of the decline in crime in the early 1990s and moreover would suggest a very long lag between the change in crime and any impact on moves over the second half of the decade. As a compromise, the period of time in which we measure change in crime overlaps with the start of the decade, specifically changes in crime from 1989 to 1994.

Table 6 shows our basic results. The coefficients on the non-crime variables generally have the expected signs. Population growth during the 1990s was higher in

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[13] They also note that relying on changes in crime rates has the benefit of minimizing differences in reporting practices across police jurisdictions.

cities that had – relative to their regions - smaller percentages of black residents, larger

percentages of children and adults of child-bearing age, and warmer weather. The

regional coefficients suggest that growth was slower in cities in the Northeast, mid-

Atlantic and West, than it was in the Pacific region (omitted). Most critically for us,

there is some evidence here that cities that experienced larger reductions in crime

between 1989 and 1994 grew more rapidly between 1990 and 2000. Admittedly,

however, this result is not fully robust. We do not see the same pattern when we try to

explain population growth between 2000 and 2005, though the lack of result may be due

to the fact that our city population estimates for 2005 are less accurate, taken as they are

from the American Community Survey.[14] And even for the 1990s, when we change the

time period used to capture crime changes, the coefficients on crime change is not always

statistically significant.   Finally, it's important to note that our results do not prove

causality. Still, we find weak evidence here that changes in crime were at least

associated with city population growth, at least for the time period during which crime

dropped dramatically. There is little evidence that initial crime levels matter to growth.

It is perhaps not surprising that overall city population is not dramatically affected

by crime. Changes in overall city population are driven by a multiplicity of forces, many

of which are unlikely to be related to crime: births, deaths, and migration from abroad.

Moreover, this aggregate measure combines the two key residential decisions that we

think are likely related to crime – retention and attraction – into a single net effect. In

other work, we have examined these distinct channels separately and found that while

lower crime rates do not enable cities to attract new residents, they do help them to retain

a larger share of those residents who originally live in the central city and who remained

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[14] Results for 2000-2005 growth regression available from authors upon request.

in the metropolitan area. While not supporting an actual reversal of flight, this latter finding is completely consistent with abating flight. It also suggests that the reductions in crime in cities may have contributed to a shift in the distribution of the population within metropolitan areas.

IV.   Conclusions

The findings here show that crime rates fell dramatically in cities during the 1990s and the early years of the 21st century. City crime rates fell even more sharply than they did in the nation as a whole, and the absolute difference in crime rates in central cities and their surrounding suburbs was cut in half during this time period. These relative reductions in crime appear to have contributed to the ability of cities to retain households who otherwise might move to the suburbs, although the measurable direct impact on overall city growth is modest at best. Beyond impacts on residential decision making, the reductions in crime did clearly change the geography of crime and dramatically reshape differential exposure to crime. Both at the city and neighborhood level, we consistently find that the distribution of crime reductions was highly 'progressive,' with reductions disproportionately benefiting historically disadvantaged groups.

Figure 1
City & Suburban Crime Rates
1992, 1997-2005
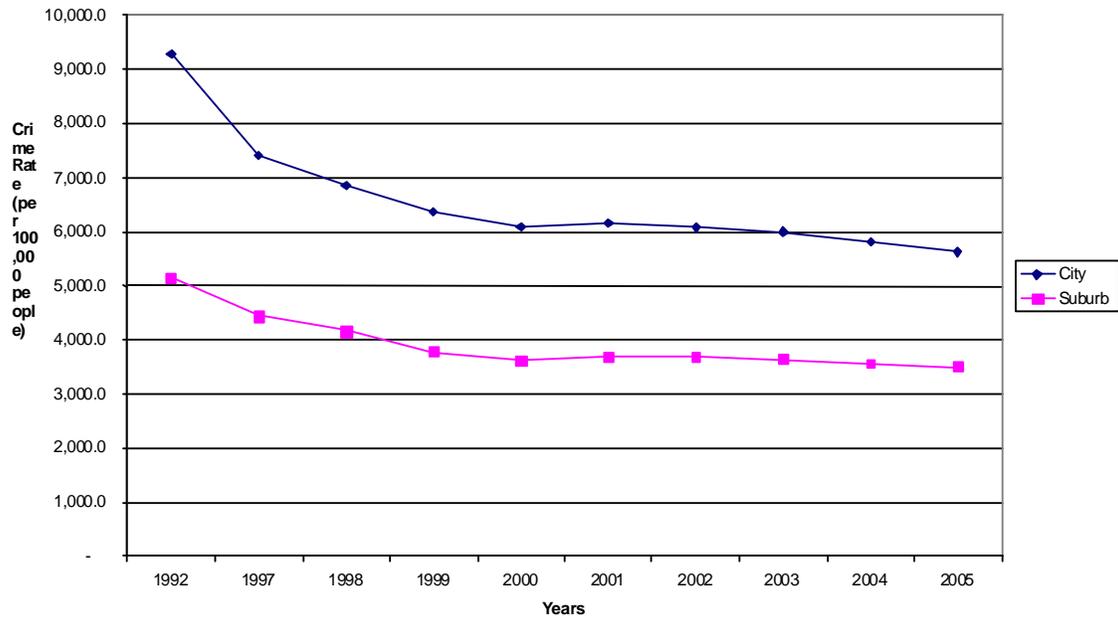
Figure 2:
Variation in City Crime Rate Changes, 1990-2005
278 Cities
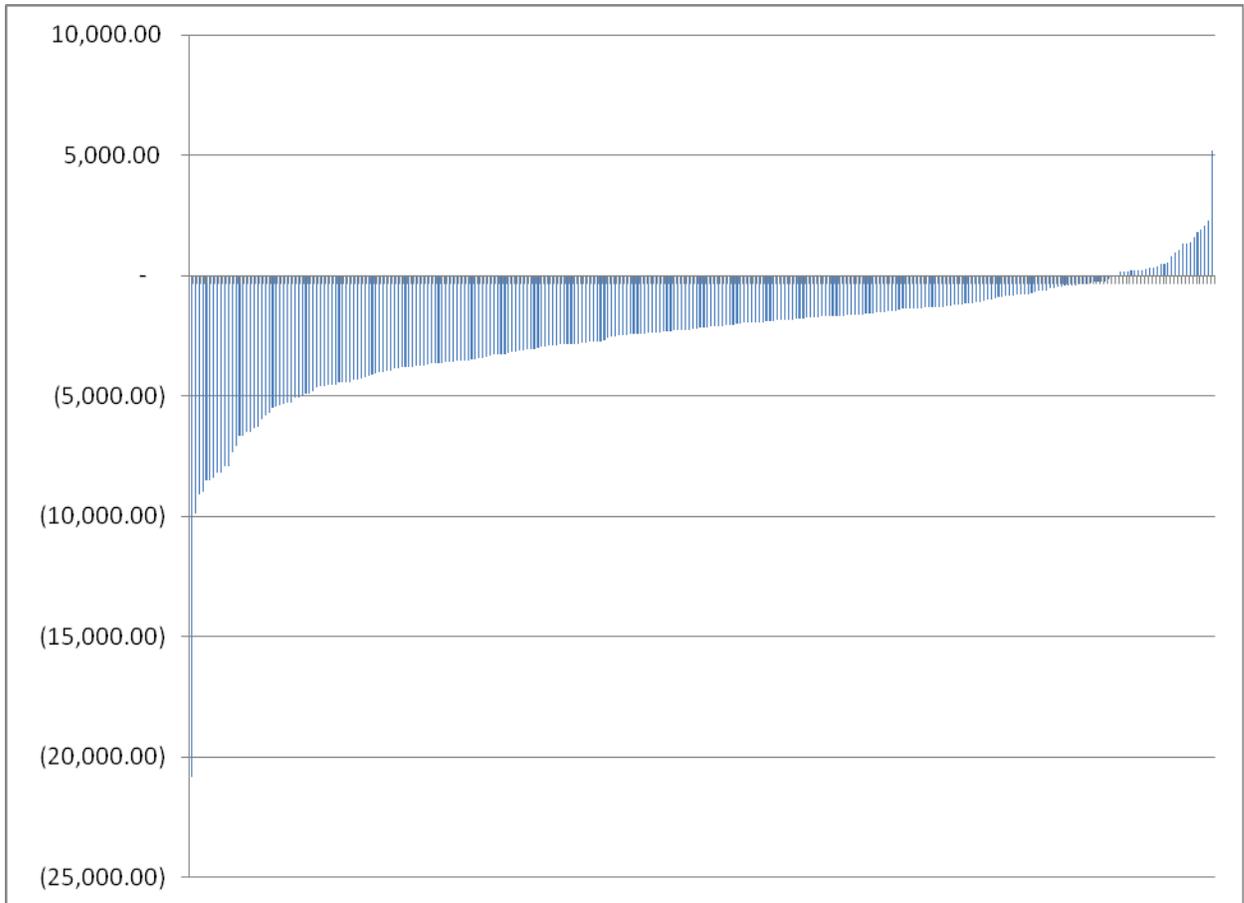
	Entire Sample	Top Quartile	Bottom Quartile
Table 1: Baseline Characteristics of Cities, by Changes in City Crime rates, 1992-2005			
Number of Cities	278	71	71
Region			
% Midwest	9.0%	2.1%	27.2%
% Northeast	20.9%	35.4%	4.9%
% South	35.2%	31.9%	39.8%
% West	34.9%	30.7%	28.2%
Average Population	172,821	346,953	75,526
Race/Ethnicity			
% Non-Hisp White	55.6%	45.7%	76.7%

%Black (NH)	19.5%	23.1%	11.1%
%Hispanic	19.2%	24.3%	9.0%
%Foreign Born	15.8%	22.1%	4.6%
% Poor	17.1%	18.5%	16.1%
Crime rate (weighted)			
Total Crime, 1992	9,462	10,711	7,555
Violent crime, 1992	1,572	2,078	774
Property crime, 1992	7,890	8,634	6,781
Population Change			
Mean pop % change (1992-2005)	12.6%	13.1%	10.5%
Mean pop % change (1990-2000)	15.0%	14.7%	14.3%

Note: City characteristics are for 2000 if not noted otherwise.

	Table 2: Average City Crime Exposure Rates, by Demographic Groups		
	Total Crime Exposure Rate 1992	Total Crime Exposure Rate 2000	% Change Total Crime Exposure
Overall	9,274	6,092	-34.3%
White	8,910	6,077	-31.8%
Black	10,320	6,867	-33.5%
Hispanic	9,389	5,847	-37.7%
Foreign Born	9,238	5,380	-41.8%
Native Born	9,281	6,274	-32.4%
Poor	9,190	6,064	-34.0%
Non poor	9,681	6,225	-35.7%

	Table 3: Difference Between Group Exposure Rate and Average Exposure Rate	
	Exposure Rate Difference, 1992	Exposure Rate Difference, 2000
White	-364	-15
Black	1,046	775
Asian	-455	-1119
Hispanic	116	-245
Under 18	-1	9
Foreign Born	-36	-712
Native Born	7	183
Below Poverty	-84	-28
Above Poverty	407	133

Table 4: Demographic Characteristics of Cleveland and Denver
Neighborhoods, by Crime Change Quartiles, 1990-2000

	Cleveland			**Denver**		
		Quartiles			Quartiles	
	All	Highest	Lowest	All	Highest	Lowest
%White	48.1%	24.6%	48.5%	60.8%	51.4%	69.1%
%Black	46.2%	71.1%	45.7%	12.6%	18.4%	8.7%
%Hispanic	4.4%	3.1%	4.4%	23.5%	27.3%	18.8%
%Poverty	28.6%	46.9%	27.6%	17.5%	23.1%	13.3%
%Renters	47.1%	67.3%	45.4%	45.0%	55.7%	40.6%
%Foreign-Born	4.2%	3.4%	4.2%	7.5%	8.6%	6.7%

Table 5: Average Crime Exposure Rates, by Group and City

Panel A: Cleveland				**Panel B: Denver**			
	1990	2000	Change 1990-2000		1990	2000	Change 1990-2000
Total	8189	6626	-1562	Total	9210	5332	-3878
White	7129	5882	-1247	White	8669	5147	-3522
Black	9244	7208	-2036	Black	9033	5377	-3656
Hispanic	8516	6667	-1849	Hispanic	10740	5663	-5077
Poor	9930	7559	-2372	Poor	10981	6066	-4915
NonPoor	7290	6148	-1142	NonPoor	8818	5152	-3666
Foreign	7713	6282	-1431	Foreign	9887	5311	-4576
Native	8209	6643	-1567	Native	9156	5336	-3819
Renters	9230	7305	-1925	Renters	10757	5794	-4962
Owners	6742	5690	-1052	Owners	7869	4848	-3021

N = 211   N = 74

Table 6: Regression Results: Dependent Variable = Change in Log(Population), 1990-2000

| | | | **R-Square:** | 0.730 |
| | | | **Adj R-Sq:** | 0.670 |

Variable*	Estimate	Error	t Value	Pr > |t|
Intercept	**-1.357**	**0.371**	**-3.66**	**0.000**
Chg Crime Rate, 89-94	**-0.936**	**0.395**	**-2.37**	**0.019**
Crime Rate, 1990	0.172	0.328	0.52	0.601
LN(Population), 1990	0.005	0.007	0.76	0.446
Unemployment Rate, 1990	0.225	0.521	0.43	0.667
Median Family Income, 1990	0.000	0.000	0.89	0.374
Percent Black, 1990	**-0.322**	**0.070**	**-4.62**	**<.0001**
Percent Age 17 and under, 1990	**1.357**	**0.377**	**3.61**	**0.001**
Percent Age 18 to 24, 1990	0.497	0.463	1.07	0.285
Percent Age 25 to 44, 1990	**1.033**	**0.522**	**1.98**	**0.050**
Percent Age 45 to 64, 1990	1.145	0.845	1.36	0.178
Percent Manufacturing, 1990	-0.014	0.151	-0.09	0.929
July Avg Daily Temp, 1994	**0.005**	**0.002**	**2.37**	**0.020**
Jan Avg Daily Temp, 1994	0.001	0.001	-0.51	0.610
Percent with College Degree, 1990	0.215	0.203	1.06	0.291
Percent Homeowners, 1990	-0.120	0.111	-1.08	0.283
Annual Precipitation, 2000	**0.002**	**0.001**	**2.78**	**0.006**
Percent Foreign-born, 1990	-0.172	0.114	-1.51	0.133
NEW ENGLAND	**-0.128**	**0.054**	**-2.38**	**0.019**
MID-ATLANTIC	*-0.085*	*0.048*	*-1.79*	*0.076*
EAST NORTH-CENTRAL	-0.072	0.045	-1.62	0.107
WEST NORTH-CENTRAL	*-0.086*	*0.050*	*-1.73*	*0.086*
SOUTH ATLANTIC	-0.042	0.044	-0.96	0.342
EAST SOUTH-CENTRAL	-0.069	0.054	-1.28	0.205
WEST SOUTH-CENTRAL	*-0.076*	*0.043*	*-1.77*	*0.080*
MOUNTAIN	0.066	0.041	1.61	0.111

Note: regressions weighted by 1990 state population

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