Dispersing the Crowd:
A Natural Experiment of the Effects of Concentrated Prisoner Reentry

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ABSTRACT

More than 700,000 prisoners are released from incarceration each year in the United States, and most end up residing in urban areas, clustered within a select few neighborhoods. The massive rise in the number of returning prisoners combined with the geographic concentration of these ex-prisoners means that select urban neighborhoods have become inundated with individuals who have served time in prison. Likely consequences of this concentration of prisoner reentry include higher rates of crime and incarceration, as well as recidivism. In fact, more than one-half of released prisoners return to prison within only 3 years of release. The routine exposure to criminogenic influences and criminal opportunities portends a bleak future for individuals who reside in neighborhoods with numerous other ex-prisoners. By investigating national patterns of prisoner reentry as well as a natural experiment focused on post–Hurricane Katrina Louisiana, I examine a counterfactual scenario: if instead of concentrating ex-prisoners in geographic space, what would happen to recidivism and incarceration rates if ex-prisoners were dispersed across space? My findings reveal that an increase in the concentration of parolees in a neighborhood leads to a significant increase in the rate of admission to prison for neighborhood residents generally and in the re-incarceration rate for former prisoners specifically. To reduce these collateral consequences of concentrated prisoner reentry, an alternative policy should be considered, one that disperses the parolee population instead of concentrating it into select neighborhoods.
INTRODUCTION

One in every 100 adults in the United States is in prison or jail at this very moment, with approximately 1.6 million individuals serving time in state and federal prisons and another 760,000 in local jails (Pew Center on the States 2008; Carson and Sabol 2012). Most of these individuals are not “lifers” and will eventually be released from incarceration. Although the War on Drugs and the “tough on crime” sentencing policies of the 1980s and 1990s facilitated the mass removal of criminals from many U.S. metropolitan neighborhoods, the most recent decade has been characterized by a growing number of individuals returning to these very same neighborhoods following their exit from prison.¹ In 1998, roughly 560,000 prisoners were released from state and federal prisons back into the community. By 2009, that number had reached 730,000 (Bureau of Justice Statistics 2002; West, Sabol, and Greenman 2010).

Despite the sheer magnitude of returning prisoners in the United States, most neighborhoods in the United States are untouched by prisoner reentry.² The geographic distribution of prisoner reentry is highly concentrated in a relatively small number of neighborhoods within metropolitan areas. For instance, research reveals that more than one-half of prisoners released from Illinois prisons return to the city of Chicago, and one-third of these are concentrated in just six community areas (La Vigne, Mamalian, et al. 2003). These six communities are among the most economically and socially disadvantaged in the city. In Maryland, nearly 60% of released prisoners return to the city of Baltimore, and 30% of these are concentrated in just six neighborhoods (La Vigne, Kachnowski, et al. 2003).

¹ Massoglia, Firebaugh, and Warner (2013, p. 143) suggest, however, that White offenders are less likely to return to former neighborhoods. Because incarceration is a less common experience in predominately White neighborhoods, White neighborhoods are less likely to welcome the return of their “straying members” when they exit prison.
² “Prisoner reentry” refers to the process of leaving prison and returning to the community (National Research Council 2007).
Research suggests that up to one-half of individuals released from prison have been in prison on at least one other occasion, and that two-thirds of returning prisoners are re-arrested within 3 years of prison release and more than one-half are re-incarcerated (Langan and Levin 2002). Whether these patterns—concentrated prisoner reentry and high rates of criminal recidivism—are causally linked is a question that has received scant attention in the research literature, in part because of the methodological challenges of disentangling the relationship. Yet, there are sound theoretical reasons to expect that concentrated prisoner reentry undermines an offender’s ability to reintegrate into society. The extreme concentration of criminals in geographic space likely produces a contagion effect that not only leads to elevated rates of recidivism among existing criminals but also pulls the previously noncriminal toward deviance. When individuals are embedded in social networks with numerous other felons, and reside in a neighborhood characterized by a severe distrust and cynicism of the police and the law more generally, it may be far less likely that they will comply with the law.

Through investigations of national patterns of prisoner reentry and a natural experiment focused on post–Hurricane Katrina Louisiana, this study investigates a counterfactual scenario: *if instead of concentrating ex-prisoners in geographic space, what would happen to recidivism and incarceration rates if ex-prisoners were dispersed across space?*

**HYPERINCARCERATION AND CONCENTRATED PRISONER REENTRY**

From 1925 to 1975, the incarceration rate in the United States hovered around 110 per 100,000 residents (Maguire 2010). The remarkable stability of the incarceration rate occurred across both prosperous and recessionary periods as well as in times of war and of relative peace. However, since the mid-1970s, the incarceration rate has skyrocketed to previously unfathomable levels
(e.g., see Blumstein and Cohen 1973). The incarceration rate currently stands at approximately 500 per 100,000 residents, which includes only incarcerations to prisons and not to local jails (Maguire 2010). The reasons for this increase are widely debated, but it is clear that what did change in the 1980s was the way crimes were sanctioned (Western 2006). Over the past 3 decades, it has become far more likely that a crime will result in an arrest, because of what Wacquant (2010, p. 75) calls the “hyperactivism” of the police. It is also now more likely that an arrest will result in a conviction. And although incarceration has soared as a form of punishment, the rolls of probation and parole too have swelled. There are roughly 5 million individuals on probation and parole in the United States, in addition to the 2.3 million in jail and prison (Maruschak and Parks 2012). As Wacquant (2009, 2010) argues, this enlargement of the criminal justice system in the United States in order to manage the poor and the deprived has coincided (by design) with the downsizing of the welfare state.

Sampson (2012, p. 102) importantly observes that incarceration is unevenly distributed across geographic space—that is, “a small proportion of communities bear the disproportionate brunt of U.S. crime policy’s experiment with mass incarceration” (see also Lynch and Sabol 2001). In this sense, the concept of “mass incarceration” may conjure up misleading images of individuals being scooped up by the law in neighborhoods throughout the country. In reality, mass incarceration occurs in only relatively few, extremely affected neighborhoods. In some areas, incarceration is so common that researchers have coined the phrase “million dollar blocks” to describe city blocks where state governments spend more than one million dollars annually to incarcerate former residents of the block (Columbia Spatial Information Design Lab 2006).³ Most urban neighborhoods, however, are characterized by what would be appropriately called

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³ Researchers from the Vera Institute of Justice (Henrichson and Delaney 2012) estimate that the annual cost of prison per inmate in the United States is $31,286, which ranges from $14,603 in Kentucky to $60,076 in New York.
“zero dollar blocks.” Hence, Wacquant (2010) argues that the phrase “mass incarceration” is a mischaracterization. “Hyperincarceration” more appropriately conveys the fact that the penal net concentrates on particular places, classes, and colors: lower-class African American men residing in neighborhoods of severe disadvantage.

The hyperconcentrated removal of individuals to prison has considerable societal ramifications. As Western (2006, p. 138) observes, in the year 2000, more than 10% of young Black children had a father in prison. Accordingly, one consequence of mass incarceration has been the growing racial inequality in child mental health and well-being (Wakefield and Wildeman 2011). Another effect of concentrated incarceration has been the disruption of family and neighborhood social networks and the social capital derived from these networks (Rose and Clear 1998; Clear 2007). In turn, the disruption of social networks undermines efforts to informally control neighborhood crime, including the creation of neighborhood-watch programs, looking out for a neighbor’s house when she or he is away from home, or even supervising one’s own children.

Whereas a growing amount of scholarly attention has been dedicated to understanding the consequences of hyperincarceration (i.e., removal) in neighborhoods in the United States, relatively little attention has been devoted to the implications of prisoner return. Yet the facts of prisoner reentry suggest that the consequences for communities could be grave. Data reveal that 95% of prisoners will eventually exit prison (Langan and Levin 2002). As noted with the examples of Chicago and Baltimore (La Vigne, Kachnowski, et al. 2003; La Vigne, Mamalian, et al. 2003), the spatial distribution of prisoner reentry is very localized. Offenders are being removed from a select few neighborhoods nationwide, and they are later returning to those few neighborhoods. Even when ex-prisoners are able to move to different neighborhoods from where
they resided prior to incarceration, typically the new neighborhoods are not any better in terms of poverty and economic disadvantage, and oftentimes they are worse, particularly for White offenders (Kirk 2008; Massoglia, Firebaugh, and Warner 2013).

**THE CONCENTRATION OF PRISONER REENTRY, CRIME, AND RECIDIVISM**

A key question is why, exactly, would concentrated reentry and recidivism be causally linked? The reasons can be broadly categorized by whether returning prisoners are agents of criminogenic influences or whether they are recipients of criminogenic influences from the other ex-prisoners in the neighborhood. In all likelihood, many former prisoners serve both roles. Regarding the former role, the funneling of massive numbers of ex-prisoners back into a select few neighborhoods likely facilitates the contagious spread of criminogenic influences from ex-prisoners to neighborhood residents, such that residents learn the motivations and techniques for crime. Edwin Sutherland’s (1947) differential association theory is a prominent version of the contagion model. He posits that criminal behavior is learned through interaction in intimate social groups.

Sutherland (1947) also argues that the process by which individuals learn criminal behavior is influenced by the broader social organization in which they are embedded, including the organization of neighborhoods. In some neighborhoods—for example, those where many former prisoners live—residents are more likely to be exposed to cynical individuals who spread views about the inequities and the ineffectiveness of the law and the justice system (Kirk and Papachristos 2011). Recent work by Weaver and Lerman (2010) reveals that direct experiences with incarceration or police harassment fundamentally influence an individual’s distrust of the law. They find that involvement with the criminal justice system significantly depresses a
person’s trust in government, with trust becoming increasingly damaged as criminal sanctions become more severe. Given that ex-prisoners are relatively more distrustful of the criminal justice system, concentrated prisoner reentry may have a devastating effect on perceptions of the law and authority among a community of residents. Concentrating ex-prisoners in the same neighborhood saturates residents’ social networks with criminals and potentially leads to the contagious spread of legal cynicism and distrust of the police. Rose and Clear (1998) suggest that a cultural heterogeneity will come to characterize neighborhoods on the receiving end of many ex-prisoners, as prison subcultures imparted by the formerly incarcerated mix with prosocial cultural orientations. Of course neighborhoods with an extreme concentration of ex-prisoners may ultimately become culturally homogeneous if prosocial cultural worldviews disappear.

Apart from the contagion argument, residence in a neighborhood housing many former prisoners may facilitate an individual’s criminal activity through expansion of criminal opportunities (Osgood et al. 1996). Association with criminal peers does not necessarily mean that a given individual is learning the motivations for committing crime or to distrust the police; rather, it may just mean that the individual is exposed to more opportunities to commit crime than he otherwise would in the absence of criminal peers. In this case, the greater the prevalence of former prisoners in a neighborhood, the greater potential exposure to criminal opportunities.

In sum, whereas the mechanisms are different across the contagion and opportunity perspectives, the empirical predictions are similar. The concentration of returning prisoners into a select few neighborhoods likely produces elevated rates of criminal activity and the resulting sanctions, such as imprisonment.

Of course, ex-prisoners are not simply agents of criminogenic views (and providers of criminal opportunities), they are also recipients. In a study intriguingly yet aptly titled, *Why Do*
Criminals Obey the Law?, Papachristos, Meares, and Fagan (2012) point out that among the criminal class there is great variation in the frequency of criminal offending, and that most criminals actually spend the majority of their time complying with the law. The authors thus wonder why criminals do, in fact, obey the law most of the time, and they look to the import of criminal social networks for an answer. Papachristos and colleagues (2012) find that members of street gangs—particularly, those whose social networks are inundated with criminal associates—are more likely to view the law and the police as illegitimate and therefore are more likely to engage in criminal behavior. Conversely, criminals who do not generally associate with other criminals are far more likely to have positive views of the criminal justice system than those who associate primarily with other criminals. As a consequence, criminals embedded in networks with noncriminals engage less often in criminal activity than those embedded in social networks with many other criminals. In relation to concentrated prisoner reentry, if association with noncriminals is vital for desisting from crime, then residing in a neighborhood with limited access to prosocial peers would appear to thwart turning points in the life course of crime even if an individual is motivated to change. Accordingly, an empirical prediction is that ex-prisoners who reside in a neighborhood with many other former prisoners are more likely to recidivate than ex-prisoners who are not routinely exposed to other criminals. Recent research by Stahler and colleagues (2013) provides support for this prediction. They find that ex-prisoners are more likely to be re-incarcerated if they reside in proximity (measured as a radius of one mile) to other recidivists (see also Mennis and Harris 2011 for a similar analysis of juvenile offenders).

PRIOR EVIDENCE AND HYPOTHESIS
While limited in number, a select set of prior research does provide some initial answers to whether concentrated prisoner reentry is predictive of subsequent criminal outcomes. In a study of Tallahassee neighborhoods, Clear and colleagues (2003) find that the rate of releases from prison to a neighborhood in a given year is positively associated with neighborhood rates of crime in the next year. Similarly, in a study of census tracts in Seattle, Drakulich et al. (2012) find that the rates of prison releases to a neighborhood is positively associated with subsequent violent crime rates. They also importantly find that prisoner reentry undermines collective efficacy, which is negatively related to violent crime. Through a fixed effects estimation of the consequence of the growth in the parolee population in a census tract on crime rates in Sacramento, Hipp and Yates (2009) find that an increase in the rate of parolees leads to an increase in an assortment of crime types (aggravated assault, robbery, and burglary).

These studies, while informative, are lacking in two important regards. First, because existing studies are limited to analysis of single cities, it remains to be determined if results are generalizable. Second, with the exception of the study by Hipp and Yates (2009), the existing literature does not sufficiently account for the possibility of omitted variable bias or other endogeneity problems such as simultaneity (for a discussion, see Harding and Morenoff 2014).

In this study, I seek to remedy these limitations of prior research. I hypothesize that concentrated prisoner reentry leads to increases in subsequent incarceration and criminal recidivism rates. There are several potential mechanisms to explain the expected association. Ex-prisoners may be agents of criminogenic views as well as the architects of criminal opportunities, thereby elevating the likelihood of criminal activity among residents of a neighborhood. Hence, we should see that concentrated prisoner reentry is positively associated with subsequent incarceration rates because of its effect on crime. And like a disease, these contagious processes
can infect all residents of a neighborhood, reinforcing the criminal tendencies of those already inclined to lawbreaking while also pulling previously noncriminal individuals into crime. Therefore, concentrated prisoner reentry should also lead to elevated rates of recidivism among ex-prisoners.

To explore these expected relationships, in this study I use a two-pronged analytic approach. First, I examine the cross-sectional relationship between the concentration of returning prisoners in a neighborhood and subsequent prison admission rates across a sample of U.S. states, using data archived with the Justice Atlas of Sentencing and Corrections. This approach relies on a between-neighborhood comparison to assess whether the concentration of prisoner reentry is predictive of subsequent prison admission rates.

Whereas a multistate analysis of the association between the concentration of reentry and prison admission rates has benefits in terms of generalizability, the availability of data and the resulting cross-sectional research design limit the extent to which I can address the important problem of endogeneity. Neighborhoods with and without concentrated levels of former prisoners may systematically differ on unmeasured confounding factors, thereby leading to selection bias in estimates of the effect of concentrated prisoner reentry. Per the potential outcomes framework (see Morgan and Winship 2007), the question I seek to answer is how incarceration and recidivism rates would differ if a given neighborhood had proportionally fewer individuals returning to the neighborhood post-prison.

Thus, as a second analytic approach, I use the property destruction and corresponding population shifts in Louisiana induced by Hurricane Katrina as a natural experiment for examining how neighborhood changes in the concentration of parolees affect parolee re-incarceration rates. Hurricane Katrina altered the preexisting patterns of residency among not
only the general population but also ex-prisoners, resulting in a dispersion of ex-offenders away from select urban neighborhoods in New Orleans to locations throughout the state (Kirk 2009, 2012). Accordingly, I use a difference-in-differences strategy to compare the change in re-incarceration rates across two time periods (i.e., pre- and post-Katrina) in “treatment” neighborhoods that experienced a change in the concentration of parolees, relative to “control” neighborhoods that did not experience such a change in parolee concentration. The change in re-incarceration rates over time in the control neighborhoods serve as a counterfactual for what the trend in re-incarceration rates would have been in treatment neighborhoods had there not been a change in the concentration of parolees.

NATIONAL ESTIMATES

RESEARCH DESIGN

SAMPLE AND DATA

This analysis utilizes data from the Justice Atlas of Sentencing and Corrections (hereafter, Justice Atlas; http://www.justiceatlas.org), which is an online data repository of information culled from state and federal criminal justice agencies. The site was created by the Justice Mapping Center, affiliated with Rutgers University, and it provides information on the geographic distribution of prison admissions and releases for numerous states throughout the country for the year 2008. A total of 22 states provided data for the site, although only 11 states provided data on both prison admissions and parole releases.4 Because residential address information following prison release is arguably more precise for parole releases than for

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4 The 11 states include Arkansas, Iowa, Kentucky, Louisiana, Michigan, Nebraska, New York, North Carolina, Rhode Island, Texas, and West Virginia.
unconditional releases, the analysis to follow draws on Justice Atlas data on releases to parole specifically, in addition to data on prison admissions.5

Justice Atlas data can be analyzed and downloaded at several different units of analysis: state, county, and zip code. Whereas admission and parole release data at the state or county level can easily be obtained from state prison websites or the Bureau of Justice Statistics, the Justice Atlas data are unique in that data on prison admissions and releases are geocoded to zip code. This analysis uses data by zip code.6

From the Justice Atlas data, I constructed a variable of the count of admissions to prison in a given zip code, and this count is used as the dependent variable in analyses. Admissions include those from new court commitments following a criminal conviction as well as those occurring because of parole or probation revocation. To attempt to disentangle the mechanisms underlying the effect of concentrated prisoner reentry—that is, whether concentrated prisoner reentry leads to elevated prison admission rates by increasing the criminal activity of neighborhood residents generally and/or by reinforcing the criminal tendencies of former prisoners specifically—I also conduct separate analyses of prison admissions from new court

5 Releases to parole supervision are generally made through parole board action or through the diminution of the criminal sentence via good time credit (i.e., earlier release for good behavior). Parole release is generally considered a privilege, as opposed to a right. Accordingly, to be released onto and to remain on parole, ex-prisoners must meet certain criteria and abide by a variety of conditions. One condition is tell their parole officers where they are residing, and to not move without notifying their parole officers. Parole releases contrast unconditional releases, which do not require postrelease supervision. Hence, with unconditional releases, prison systems oftentimes do not require prisoners to report where they will be living following release. When prisons report the geographic location of unconditional releases, they often make the assumption that prisoners are returning to the same geographic area (county, zip code, and even address) where they resided prior to incarceration. Yet, research estimates that half or more of individuals released from prison do not return to the neighborhoods where they resided prior to imprisonment (Visher and Farrell 2005; Massoglia, Firebaugh, and Warner 2013). Therefore, the accuracy of data on residential addresses for unconditional releases may be suspect.

6 The level of aggregation (e.g., census tract, zip code, county) used to study contextual effects may influence statistical inferences derived from the association between a given contextual characteristic and a dependent variable (Hipp 2007), and it may influence the ability of the analyst to detect spatial spillover effects. In this study, I utilize zip code as a unit of analysis and do so, in part, because data for my dependent and main independent variables are not available at a smaller unit of analysis. Zip codes can be quite expansive outside metropolitan areas, so in the analyses to follow I restrict the data to include only zip codes within Core Based Statistical Areas (i.e., CBSAs). I also restrict my analyses to CBSAs because a vast majority of parolees reside in CBSAs.
commitment versus parole and probation revocation. As my main independent variable, I constructed a measure of the concentration of parolees in a zip code, defined as the point-in-time count (in 2008) of the number of parolees residing in a zip code per 1,000 adult residents aged 18–34.7

Consistent with the social disorganization thesis and recent work in the tradition (e.g., Land, McCall, and Cohen 1990; Bursik and Grasmick 1993), I utilize seven measures of neighborhood structure and sociodemographic characteristics as control variables in my analyses: concentrated poverty, residential stability, immigrant concentration, the proportion of non-Hispanic Black population, income inequality (as measured by the Gini coefficient), the proportion of male population, and the proportion of residents under the age of 18 who reside in the neighborhood.8 Neighborhood structural data come from the 2007–2011 American Community Survey (ACS) 5-year data release, which is the first release of the ACS that has data at the zip-code level of analysis.

Concentrated poverty, residential stability, and immigrant concentration represent scales of a total of nine items from the ACS (the other four measures are based on individual items). Concentrated poverty is a scale of economic disadvantage in a given zip code that is created via principal components analysis and is based on the following indicators: mean family income and the proportions of families below the poverty line, of families receiving public assistance, of unemployed individuals, and of female-headed families with children. A measure of residential

7 It is entirely likely that the concentration of parolees in a zip code serves as a proxy for a more general measure of the concentration of criminals in a neighborhood; that is, there is a high, positive correlation between the proportion of parolees in a neighborhood out of the total adult population and the proportion of individuals who have criminal records (whether under parole supervision or not). Hence, if the analyses reveal a significant association between the concentration of parolees and subsequent prison admission rates, the mechanism could be the concentration of criminals, broadly defined.

8 I assessed collinearity among the seven measures of neighborhood characteristics as well as my main independent variable, the concentration of parolees. Variance inflation factor values were all less than 2, which is well below the generally accepted threshold of 10 (Kennedy 1998).
stability is similarly created with principal components analysis and is based on the following ACS items: the proportion of residents 1 year old and older who lived in the same house in the previous year and the percentage of homes that are owner occupied. Immigrant concentration is scaled via principal components analysis and represents a combined measured of the proportions of foreign-born residents and Latino residents in a neighborhood.

Finally, as a statistical control I use a lagged measure of prison admissions at the county level, which is drawn from the National Corrections Reporting Program (NCRP). Data from the NCRP is available through the Interuniversity Consortium for Political and Social Research. Justice Atlas data are available only for the year 2008, so to obtain a lagged measure of prison admissions—that is, a lag of the dependent variable—it is necessary to draw from other data sources. The downside to the NCRP is that data are not available at the zip-code level. Nevertheless, the NCRP provides perhaps the best measure of lagged prison admissions. In this case, I use the rate of prison admissions in a given county in 2006 (per 1,000 adult residents aged 18–34) as the lagged measure. Similar to the dependent variable, lagged admissions include new court commitments as well as admissions from parole and probation revocations. This lagged measure allows me to control for unmeasured causes of prison admissions (e.g., the crime rate).

Methods

A standard approach to estimating per capita rates—in this case, the rate of admissions to prison from a zip code—is to use an ordinary least squares regression. As Osgood (2000) notes, least squares regressions may be inappropriate when rates are computed from a small number of events, as is the case with prison admissions at the zip-code level of analysis. Thus, as an alternative, I use a negative binomial regression to estimate the count of prison admissions per
zip code, adjusting for varying population exposure (i.e., the size of the adult population aged 18–34) across zip codes. I utilize the 18–34 age range because some age groups are not at risk of incarceration (e.g., young children) and other groups have a very low risk of incarceration (e.g., the elderly).  

**FINDINGS**

To situate the analysis, I start by visually depicting the concentration of prisoner reentry in two cities of comparable size but with diverging patterns of violence. The Detroit metropolitan area is one of the most violent urban areas in the United States, whereas Austin, Texas, is one of the safest of the large metropolitan areas in the country (Federal Bureau of Investigation 2012). On any given day in Detroit, there are roughly 3,000 active parolees distributed across 28 zip codes in the city. However, this distribution is highly concentrated, with just eight zip codes hosting the residence of more than one-half of the parolees. Zip code 48214 alone contains 14% of the parolees in Detroit.

Similarly, in Austin, there are roughly 2,500 active parolees on any given day, unevenly spread across 41 zip codes. Just eight zip codes account for more than two-thirds of the parolees in Austin, with one zip code (78741) as the place of residence for 14%.

Figure 1 shows these patterns visually. Despite differences in rates of violent crime and reputation for safety across these two cities, this figure shows a similar pattern of prisoner reentry. Most neighborhoods in each city have few parolees (fewer than 5 per 1,000 residents). Yet, there are a select few zip codes where active parolees make up a very sizeable proportion of the neighborhood residents (more than 1%). Hence, Figure 1 reveals that it is most certainly not

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9 As a sensitivity analysis, I reestimated all models after widening the age range for rate computations to 18–54, and I received very similar results to those reported here.
the case that returning prisoners are evenly distributed across geographic space; rather, prisoner reentry is concentrated. This is consistently true in Detroit, Austin, and other urban areas across the country. The remainder of this analysis will examine just how consequential this concentration is to the behavior of residents in those neighborhoods.

[FIGURE 1 ABOUT HERE]

Table 1 presents results of the negative binomial regression of prison admissions. Analyses are restricted to zip codes within Core Based Statistical Areas (i.e. CBSAs). Model 1 is an unconditional model absent any predictors, Model 2 includes all covariates except the lagged prison admission rate, and Model 3 includes the lagged rate. Focusing first on the results from Model 1, exponentiation of the intercept value in Model 1 (exp [-4.655]) reveals that the rate of admission to prison is equal to 0.0095; that is, on average, 0.95% of the adult population of a given zip code is admitted to prison each year. As a check on this number, the Bureau of Justice Statistics (Carson and Sabol 2012) reports that approximately 685,000 individuals were admitted to prison in 2008, and 2007–2011 American Community Survey data reveal that the size of the population aged 18–34 in the United States is roughly 72 million. This equates to an admission rate of 0.95% across the entire United States. Thus, the estimated admission rate in CBSA zip codes across the 11 Justice Atlas states is equivalent to national figures.

[TABLE 1 ABOUT HERE]

Results from Model 2 reveal a significant, positive relationship between the concentration of parolees in a zip code and the prison admission rate. Converting the coefficient (0.017) to a percent change in the prison admission rate (100 × exp [0.017] − 1) reveals that for each additional parolee per 1,000 adult residents in a zip code, the prison admission rate increases by 1.7%. For each standard deviation increase in the concentration of parolees, the prison admission
rate increases by 35.3%. To put this percentage into perspective, among the other independent variables in the model, only concentrated poverty has a greater standardized effect.

Turning to Model 3, I add a lagged measure of prison admissions to control for unmeasured causes of prison admissions and to account for the possibility of simultaneous causation between prison admissions and parole releases. Results remain essentially the same when the lagged measure is added. Each standard deviation change in the concentration of parolees equates to a 35% increase in the subsequent prison admission rate. Results from Model 3 also reveal that the prison admission rate is significantly and substantially greater in zip codes characterized by concentrated poverty and income inequality, and the admission rate is lower in the Northeast and Midwest relative to the South.

Re-incarceration results from one of two paths: a new criminal conviction or a parole or probation revocation due to violations of the conditions of supervision (e.g., a failed drug test). In Table 2, I disaggregate the analysis by prison admission type in order to examine whether the association between concentrated prisoner reentry and prison admissions depends on the reasons for admission. Results reveal that both types of prison admissions are more likely in neighborhoods characterized by a concentration of prisoner reentry. Although the effect is substantial for both types, it is relatively larger for new convictions. For each standard deviation increase in the concentration of parolees, the prison admission rate increases by 46.5% and 30% for new convictions and parole/probation revocations, respectively.

[TABLE 2 ABOUT HERE]

Whereas these national estimates are strongly suggestive of an association between concentrated prisoner reentry and a substantial rise in subsequent prison admission rates, there

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10 For the Justice Atlas data, disaggregation of prison admissions type is not available for Arkansas. Thus, zip codes in Arkansas are excluded from this analysis.
are several limitations of the analysis that call for further empirical work. First, as noted, there may be simultaneous causation between the concentration of prisoner reentry and rates of incarceration. Second, there may be one or more omitted variables related to both the concentration of prisoner reentry and prison admission, thus confounding estimates of the effect of concentrated reentry. Controlling for a lag of the dependent variable (i.e., the county-level prison admission rate in 2006) should provide a better estimate of the effect of concentrated reentry than if this lagged variable is not included, but it is not a perfect solution. In particular, data limitations mean that I could only measure the lagged variable at the county level, whereas the unit of analysis for the dependent variable is the zip code. However, using a natural experiment associated with Hurricane Katrina provides a unique opportunity to test the effect of concentrated prisoner reentry on incarceration in a design that more thoroughly resolves the endogeneity problems mentioned earlier.

**POST-KATRINA LOUISIANA**

In August 2005, Hurricane Katrina ravaged the Louisiana Gulf Coast, effectively damaging a vast majority of the housing stock in the New Orleans metropolitan area. For instance, in Orleans Parish, 71.5% of housing units suffered some damage following Hurricane Katrina, with 56% of housing units being significantly damaged (U.S. Department of Housing and Urban Development 2006). The extent of housing-unit destruction was similar in adjacent parishes. The consequence of this property destruction was a massive depopulation of the New Orleans metropolitan area. The population of Orleans Parish in July 2005 was 437,186, but it had declined to 158,353 by January 2006 (U.S. Census 2006). Repopulation to the region has been substantial, although not completely to pre-Katrina levels. In July 2006 the population of Orleans

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11 “Parishes” are unique to Louisiana but are equivalent to counties.
Parish was 208,548, and it increased to 288,113 by July 2007 and to 336,644 by July 2008 (U.S. Census 2009). In comparison, the population of Baton Rouge increased from 220,975 in July 2005 to 229,995 in July 2006, and the population of Lafayette during that same period increased from 113,740 to 117,035 (U.S. Census 2012). Although population counts have since stabilized in New Orleans, the important point for the ensuing analysis is that neighborhood population change in the Louisiana Gulf Coast region during the first few years following Hurricane Katrina was substantial.

One consequence of the property destruction from Hurricane Katrina was a dispersion post-Katrina of Louisiana parolees away from select New Orleans metropolitan neighborhoods and to other residential locations throughout the state (Kirk 2009). For instance, Figure 2 provides a snapshot of the post-Katrina geographic redistribution of parolees. This figure reveals in which parish parolees resided immediately following exit from prison. Pre-Katrina, nearly 50% of prisoners convicted in the New Orleans metropolitan area returned to Orleans Parish. Post-Katrina, this number dropped to 20%. In the post-Katrina period, many parolees dispersed throughout the state, often to other urban areas. This pattern developed because parolees who were released from prison post-Katrina had substantially reduced residential choices in New Orleans relative to their pre-Katrina counterparts. In many areas the growth in the number of new parolees outpaced the population growth from Katrina evacuees, in part because an overwhelming majority of new parolees were required to remain in Louisiana as a condition of parole whereas the general population could leave the state. The changes in residential patterns resulting from this natural disaster serve as a counterfactual for investigating what would happen to re-incarceration rates if ex-prisoners were dispersed across space instead of clustered into select urban neighborhoods.
RESEARCH DESIGN

SAMPLE AND DATA

This portion of the analysis draws on data on parolees from the Louisiana Department of Public Safety and Corrections (DPS&C), including information on the residential addresses of new parolees in the state and the numbers of those parolees who were re-incarcerated within 1 year. The analytic sample is drawn from prisoners released from Louisiana correctional facilities in two separate time periods. A first cohort ($N = 2,859$) is composed of releases from a Louisiana prison to parole supervision immediately following Hurricane Katrina (i.e., from September to December 2005). A second cohort ($N = 2,555$) consists of releases to parole supervision 1 year later, between September and December 2006. Assuming that the macro-level shock from Hurricane Katrina affected re-incarceration in unforeseen or unmeasured ways, I attempt to control for this shock by using only those cohorts released post-Katrina—that is, one cohort released in 2005 and a second released in 2006. As will be explained in detail in the following pages, I take additional steps to avoid bias from the shock of Katrina by restricting my analyses to zip codes located outside the five-parish New Orleans metropolitan area.

I used residential address information available from DPS&C records to assign parolees to their respective zip codes; this is the unit of analysis used in the statistical models to follow. This zip-code assignment represents where a parolee resided immediately upon release from prison. After I determined zip-code locations of ex-prisoners, I aggregated the data to the zip-code level to determine the total number of ex-prisoners in a zip code across the two time periods. On the basis of the count of parolees in a zip code and an estimate of the yearly
population in a zip code from Geolytics (2008), I computed a measure of *parolee concentration* based on the number of parolees per 1,000 residents in a zip code. Using data on recidivism from the DPS&C, I also computed a measure of the number of parolees in a given cohort released to each zip code who were subsequently *re-incarcerated* for a new felony conviction or a parole violation within 1 year of prison release.

In addition to the Louisiana DPS&C data, I draw upon zip code and parish-level data from the Louisiana Department of Labor, Geolytics, and the Supreme Court of Louisiana. These data are used to control for observed differences in social context across time and space, to isolate the specific effect of parolee concentration on re-incarceration rates. Contextual variables at the zip-code level include concentrated disadvantage, the proportion of renters, and the number of providers of prisoner-reentry resources (e.g., counseling, education, employment, and health resources). Variables at the parish level include average adjusted weekly wage and the average caseload per judge in the parish criminal court. See the Appendix for further description of these control variables.

**METHODS**

Conceptually, the empirical analysis to follow is based on a comparison of the rate of re-incarceration between otherwise equivalent neighborhoods, where treatment neighborhoods are characterized by a growing concentration of ex-prisoners. To estimate the effect of the concentration of prisoner reentry on re-incarceration rates, I use a difference-in-differences (DID) estimation strategy (see Card and Krueger 1994) and capitalize on two sources of variation: (1) *between*-neighborhood differences in the concentration of parolees (i.e., where the concentration of parolees is the treatment condition) and (2) *within*-neighborhood change over
time in the concentration of parolees. In essence, I compare changes in re-incarceration in treatment neighborhoods between 2005 and 2006 \( (Y_i^T - Y_o^T) \) with changes in re-incarceration in control neighborhoods \( (Y_i^C - Y_o^C) \), where the superscripts identify the treatment status and the subscripts denote the time period. In this case, the control group reveals what would have happened to the treatment group—in terms of changes in re-incarceration—in the absence of treatment (i.e., if the concentration of ex-prisoners had not changed). The resulting treatment effect is the difference between these two quantities: \( (Y_i^T - Y_o^T) - (Y_i^C - Y_o^C) \). Such an approach is beneficial, because a comparison of control and treatment neighborhoods at one point in time may not yield valid inferences about the effects of the concentration of prisoner reentry because control and treatment neighborhoods may differ in other characteristics besides the concentration of parolees (i.e., unobservable heterogeneity across neighborhoods). Moreover, a before-and-after comparison of re-incarceration within the same neighborhood would be inadequate given that changes in addition to changes in the concentration of parolees surely occurred in the neighborhood during the observation period (i.e., unobservable heterogeneity across time).

A key assumption of the DID approach is that the change in the re-incarceration rate would be the same across treatment and control neighborhoods if both experienced the same change over time in the concentration of parolees. In the absence of any kind of change in the concentration of parolees, the temporal change in re-incarceration would be the same for treatment and control groups. Satisfying this “parallel trends” assumption becomes problematic when some factor besides the treatment affects the treatment group but not the control group.

To undertake a DID model, I pool cross-sections of data (i.e., 2005 and 2006 observations) for zip codes in Louisiana. Because my interest is in the effect of concentration and a vast majority of ex-prisoners return to urban areas, I focus my analyses on CBSAs. Of
importance, in order to reduce the possibility of violating the parallel-trends assumption, I exclude New Orleans zip codes from the analysis (i.e., zip codes from Orleans, Jefferson, Plaquemines, St. Bernard, and St. Tammany parishes). It is likely that Hurricane Katrina affected these parishes in unmeasured ways, such that there were additional factors affecting treatment neighborhoods in New Orleans that did not affect control neighborhoods elsewhere in the state.

If I limit my analyses to Louisiana zip codes located outside New Orleans, I necessarily still must include zip codes that experienced a change in the concentration of parolees. Many zip codes outside New Orleans experienced an influx of parolees immediately after Hurricane Katrina and a decline in parolees as the New Orleans metropolitan area redeveloped. For instance, in Lafayette, the average concentration of new parolees across zip codes increased by 35% from 1 year before Hurricane Katrina to immediately following Katrina because the growth in the new parolee population (the numerator of the concentration measure) surpassed the growth in the general population (the denominator). Then, between 2005 and 2006, the parolee concentration in Lafayette declined by 22%, although it did not quite reach pre-Katrina levels. In contrast, in Shreveport the average concentration of parolees decreased by 9% from the period before Katrina to that immediately following the hurricane because the growth in the general population outpaced the increase in the size of the parolee population. Then, between 2005 and 2006, the concentration of parolees in Shreveport increased by 8%, reaching almost the exact same concentration as before Hurricane Katrina. Hence, Hurricane Katrina did produce changes in the concentration of parolees in metropolitan areas throughout the state because of population shifts. The point of restricting analyses to those zip codes outside the New Orleans metropolitan area is to make a more plausible case that I have satisfied the parallel-trends assumption that is core to the DID framework. A total of 317 zip codes are used in this analysis.
Equation (1) specifies the model estimated with a negative binomial regression:

\[
\log E(Y_{it}) = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 Year06_i + \beta_4 Concentration_{ion_{it}} + \delta(Year06_i \times Concentration_{ion_{it}}) + \log(\text{NewParolee } s_{it}) + \epsilon_{it} \tag{1}
\]

where

- \( Y_{it} \) is the number of individuals from a given cohort \( t \) (2005 or 2006) who were reincarcerated to prison from zip code \( i \) within 1 year following release from prison;
- \( X_1 \) is a vector of zip-code characteristics, used to account for differences in zip-code socioeconomic conditions and the availability of reentry resource-service providers;
- \( X_2 \) is a vector of parish characteristics, used to account for differences in parish socioeconomic conditions and criminal justice practices;
- \( Year06 \) is a dummy variable indicating the cohort of prison release (i.e., release year 2006 = 1 and 2005 = 0);
- \( Concentration \) indicates the extent of the concentration of parolees in a zip code per cohort year (i.e., the number of parolees per 1,000 residents in a zip code). In this case, the measure of concentration is analogous to a treatment dosage—that is, the concentration of parolees in a zip code is a dose—and the model reveals whether the level of dosage affects the re-incarceration rate;
- \( NewParolees \) is a measure of the number of parolees released to each zip code \( i \) in a given cohort \( t \); it is a measure of exposure.

In Equation (1), \( \beta_3 \) represents the time trend in re-incarceration that is common across zip codes. In other words, it captures differences across time that are common to zip codes. \( \beta_4 \) accounts for any systematic differences between zip codes that are constant across time periods.
The coefficient $\delta$ is the key parameter of interest, and it identifies the effect of the concentration of parolees on re-incarceration rates. It reveals the effect on re-incarceration rates of the increasing concentration of parolees in Louisiana between the 2005 and 2006 time periods. In equation form: $\hat{\delta} = \left( \widehat{\mathcal{Y}_1^T} - \widehat{\mathcal{Y}_0^T} \right) - \left( \widehat{\mathcal{Y}_1^C} - \widehat{\mathcal{Y}_0^C} \right)$.

**FINDINGS**

Table 3 presents results from the estimation of Equation (1). The first model is estimated without controls for zip code or parish characteristics, whereas the second model includes these controls. Exponentiation of the intercept value in Model 1 ($\exp[-1.705]$) reveals that the average 1-year re-incarceration rate was 0.182 for ex-prisoners released in 2005 immediately following Hurricane Katrina and 0.222 ($\exp[-1.705 + 0.201]$) for ex-prisoners released 1 year later. To facilitate interpretation of the intercept, the concentration of parolee variable is centered on 1, so the exponentiated intercept is interpreted as the re-incarceration rate in a zip code with a concentration of one parolee per 1,000 residents. Thus, even in a neighborhood with very few new parolees, it is still expected that roughly 20% of recently released parolees will be back in prison for a new felony conviction or a parole violation within 1 year.

Turning to the main finding of the study, the significant positive interaction between parolee concentration and the time period (0.114) indicates that zip code-level re-incarceration rates are a positive function of the extent of the concentration of parolees. On the basis of model coefficients, in Figure 3 I plot the relationship between parolee concentration and re-incarceration rate. For each additional parolee released to a neighborhood per 1,000 residents, the
re-incarceration rate increases by 12%. So, for example, the re-incarceration rate in a neighborhood with two new parolees per 1,000 residents equals 0.247, which is 12% greater than 0.222. To put these numbers into context, most zip codes in Louisiana experience fewer than one new parole release per 1,000 residents but roughly 10% of Louisiana zip codes receive more than two new parolees per 1,000 residents and 5% receive more than three new parolees per 1,000 residents. In areas of extreme concentrations of ex-prisoners, more than one-third of recently released prisoners are expected to be back in prison in less than 1 year. This can be seen in the right tail of the distribution in Figure 3.

Model 2 adds controls for zip code and parish-level factors designed to account for systematic differences between zip codes other than the concentration of parolees. Coefficients for the control variables are centered around their grand means. As expected, the zip code re-incarceration rate is negatively related to wages earned, although associations with all other control variables are nonsignificant. After controlling for observable differences in socioeconomic conditions, access to resource providers, and judge caseloads between zip codes and parishes, I still find a positive effect of parolee concentration on re-incarceration. In summary, my results indicate that parolees who reside in neighborhoods with high concentrations of other parolees are significantly and substantially more likely to be re-incarcerated than those who reside in neighborhoods with relatively few other parolees.

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12 For the sake of clarity, the concentration measure used in my analysis of Louisiana is computed as the number of parolees released to a zip code from September to December of the respective time period (2005 or 2006). In the 11-state analysis of Justice Atlas data, the concentration measure was computed as the number of “active” parolees in a zip code at a given point in time, and not just new releases to parole. Because the average parole term in the United States is 18 months, there will be many more active parolees in a neighborhood than new parolees in a 4-month window.
DISCUSSION

Since the publication of The Truly Disadvantaged (Wilson 1987), considerable research attention has been devoted to understanding the causes and consequences of concentration effects—in particular, poverty. In the case of ex-prisoners, more than 700,000 prisoners are released each year, and most return to a select few neighborhoods in urban areas. Surely, such a spatial pattern is of consequence. Absent a randomized place-based intervention at the neighborhood level, however, estimating the causal consequences of concentration effects is challenging. Neighborhoods that differ in the concentration of a select social dynamic (e.g., the concentration of the impoverished or the criminal) may also systematically differ in unmeasured confounding factors, thereby leading to selection bias in estimates of concentration effects. This study utilized Hurricane Katrina as a natural experiment to investigate the consequences of one particular form of concentration: the extreme clustering of ex-prisoners in space.

The results of my analyses at both the national level and in the specific case of Louisiana suggest the greater the concentration of ex-prisoners in a neighborhood, the greater the rate of subsequent recidivism and prison-admission rates. These analyses are not without limitations, however. The cross-sectional design of the national analysis may be affected by selection bias. The case of post-Katrina Louisiana provides a method to more rigorously estimate the effect of concentration, yet there are also potential limitations with this design. The trade-off is that post-Katrina Louisiana might represent a unique social context, and inferences may not generalize as well as with a national analysis. Yet, combining the nationwide analysis with that of post-Katrina Louisiana provides a truer and more generalizable picture of the relationship between concentrated prisoner reentry and subsequent rates of incarceration and recidivism.
The reasons why ex-prisoners concentrate in a select few urban neighborhoods include personal factors such as social ties to the neighborhood. Yet, there are also important institutional and structural barriers that lead to this clustering. First, many states legally require parolees to return to their county of conviction or last residence when they exit prison (National Research Council 2007). The result is that many ex-prisoners return to the very same urban neighborhoods where they resided prior to incarceration. Second, limited housing opportunities funnel ex-prisoners into those neighborhoods where residence may be possible for them.

The lack of housing for ex-offenders is certainly a function of the limited income, wealth, and job prospects of the typical offender, but it is also the product of the unwillingness of owners and landlords in the private housing market to rent to felons and the combination of long waiting lists for public housing assistance and subsidies and the unwillingness of public housing authorities to provide units or vouchers to felons. In fact, there are only two circumstances under federal law that preclude eligibility for public housing assistance: (1) if an individual is a lifetime registered sex offender and (2) if an individual has been convicted of manufacturing methamphetamine on the premises of federally assisted housing (Federal Interagency Reentry Council 2011). In practice, however, public housing authorities with long waiting lists of noncriminal applicants have generally been disinclined to provide housing assistance to ex-prisoners. Of course, one way to avoid the politically impractical scenario of allowing criminals to move to the head of housing waiting lists is to expand funding for housing assistance in the United States. However, government data reveal that the availability of subsidized housing (including public housing, housing vouchers, and private, project-based housing programs) has moved in the opposite direction over the past decade and a half, declining from roughly 5 million subsidized units in 1996 to 4.5 million units in 2009 (U.S. Department of Housing and Urban
During this period of decreasing availability of subsidized housing, the number of households in the United States increased by 16%. Thus, the decrease in subsidized households does not reflect a decrease in the number of total households. The confluence of declining availability of federal subsidized housing and legal discrimination against ex-prisoners in the private housing market means that ex-prisoners move to areas, often deeply impoverished, where they can either find housing for themselves or share housing with others.\(^{13}\)

The results presented in this study suggest that although parole and public housing policies and practices in principle were designed to enhance public safety, they may in fact be undermining it. Put simply, the alarming rates of recidivism in the United States are partly a consequence of the fact that many individuals being released from prison ultimately reside in the same neighborhoods as other former felons. Concentrating ex-offenders in the same few neighborhoods contributes significantly and substantially to the high rates of recidivism and incarceration in the United States. Although the data used in this study prevent an analysis of intervening mechanisms, there is theoretical reason to believe that concentrated prisoner reentry leads to elevated rates of recidivism, because neighborhoods inundated with ex-prisoners become characterized by the contagious spread of criminogenic influences and opportunities. In particular, a cynicism about and distrust of the law may spread through social networks. When the law is viewed as illegitimate and with cynicism, individuals are less likely to comply with it (Tyler 1990; Kirk and Papachristos 2011, 2014; Papachristos, Meares, and Fagan 2012). Testing intervening mechanisms, such as legal cynicism or the ubiquity of criminal opportunities, that

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\(^{13}\) Homelessness is also a serious problem among ex-offenders. About 6% of individuals entering homeless shelters reported spending the previous night in jail or prison (U.S. Department of Housing and Urban Development 2010), and an estimated 25% of the homeless population reported past incarceration (Travis 2005).
explain the relationship between concentrated prisoner reentry and rates of recidivism or incarceration is an important avenue for future research.

According to the findings presented in this study, in order to reduce recidivism, an alternative policy is worth considering, one that disperses the ex-prisoner population instead of concentrating it into select urban neighborhoods. This dispersion may be accomplished by loosening parole residency restrictions and by providing public housing subsidies and relocation assistance to ex-felons with the caveat that public housing opportunities are not to be concentrated in the same general areas of a given city.
APPENDIX A:
DESCRIPTION OF VARIABLES FOR POST-KATRINA ANALYSIS OF LOUISIANA

ZIP CODE VARIABLES

CONCENTRATED DISADVANTAGE is a scale of economic disadvantage in a given zip code, created via principal components analysis, that is based on the following time-varying indicators from 2005 and 2006 Geolytics sociodemographic estimates: median income and the percentages of adults (aged 25+) who have a high school education or less and of female-headed families with children.

PROPORTION OF RENTERS is an indicator of the proportion of households in a zip code that reside in rental properties. This variable is taken from 2005 and 2006 Geolytics estimates.

RESOURCE PROVIDERS. For the purposes of connecting parolees to service providers, the Louisiana Department of Public Safety and Corrections maintains a list of both government and nonprofit social service providers. This list contains a total of 2,420 nonduplicate addresses, of which I was able to geocode 2,258 (93.3%). The range of services provided include counseling, education, employment and job training, driving instruction, substance abuse treatment, child care, food, shelter or housing services, medical services, and transportation.

PARISH-LEVEL VARIABLES

ADJUSTED WEEKLY WAGE is a measure of the average weekly wage (in 2000-adjusted dollars) in each parish during the two separate periods: September to December 2005 and September to December 2006. Data are from the Louisiana Department of Labor.
JUDGE CASELOAD is a measure of average caseload across parish judges, and it is derived from information contained within Louisiana Supreme Court annual reports.¹⁴ There is a vast body of research that examines the relationship between judge caseload and criminal case dispositions (e.g., see Heumann 1975). Recent research reveals that judge caseload is inversely related to the likelihood of incarceration and the severity of criminal sentences (Ulmer and Johnson 2004; Johnson 2005). Thus, I include a control for judge caseload given that such caseloads likely influence whether convicted offenders are sentenced to a term of imprisonment or to some other sanction, such as probation. To correspond to the two time periods, I use the average number of cases per judge in 2005 and 2006, respectively, in each parish.

¹⁴ http://www.lasc.org/press_room/annual_reports/
REFERENCES

Journal of Criminal Law and Criminology 64:198-207.


the Fast-Food Industry in New Jersey and Pennsylvania.” American Economic Review 
84:772-84.


Crime: a Preliminary Examination of Concentrated Incarceration and Social 
Disorganization” Justice Quarterly 20:33-64.

Columbia University Graduate School of Architecture, Planning and Preservation, New 
York.

“Instability, Informal Control, and Criminogenic Situations: Community Effects of Returning 

 u.s.-2011/tables/table-6).

16, 2013 (http://www.nationalreentryresourcecenter.org/documents/0000/1090/REENTRY_MYTHBU 
STERS.pdf).

distributor].


Table 1. Negative Binomial Estimates of Prison Admissions in 11 States

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Robust Coef.</td>
<td>Robust Coef.</td>
<td>Robust Coef.</td>
</tr>
<tr>
<td>Intercept</td>
<td>-4.655 (0.217) ***</td>
<td>-4.206 (0.477) ***</td>
<td>-4.241 (0.474) ***</td>
</tr>
<tr>
<td>Concentration of Parolees</td>
<td>0.017 (0.005) ***</td>
<td>0.017 (0.005) ***</td>
<td>0.017 (0.005) ***</td>
</tr>
<tr>
<td>Proportion Male</td>
<td>-0.011 (0.006)  *</td>
<td>-0.011 (0.006)</td>
<td>-0.011 (0.006)</td>
</tr>
<tr>
<td>Proportion Black</td>
<td>0.001 (0.003)</td>
<td>0.002 (0.003)</td>
<td>0.002 (0.003)</td>
</tr>
<tr>
<td>Proportion Under 18</td>
<td>-0.013 (0.007)</td>
<td>-0.013 (0.007)</td>
<td>-0.013 (0.007)</td>
</tr>
<tr>
<td>Concentrated Poverty</td>
<td>0.412 (0.051) ***</td>
<td>0.412 (0.050) ***</td>
<td>0.412 (0.050) ***</td>
</tr>
<tr>
<td>Immigrant Concentration</td>
<td>-0.056 (0.037)</td>
<td>-0.055 (0.037)</td>
<td>-0.055 (0.037)</td>
</tr>
<tr>
<td>Residential Stability</td>
<td>0.033 (0.040)</td>
<td>0.032 (0.040)</td>
<td>0.032 (0.040)</td>
</tr>
<tr>
<td>Income Inequality (Gini)</td>
<td>0.690 (0.223) **</td>
<td>0.689 (0.220) **</td>
<td>0.689 (0.220) **</td>
</tr>
<tr>
<td>Northeast Region</td>
<td>-0.799 (0.169) ***</td>
<td>-0.784 (0.168) ***</td>
<td>-0.784 (0.168) ***</td>
</tr>
<tr>
<td>Midwest Region</td>
<td>-1.054 (0.195) ***</td>
<td>-1.049 (0.188) ***</td>
<td>-1.049 (0.188) ***</td>
</tr>
<tr>
<td>Lagged County Admission Rate</td>
<td>0.002 (0.001)</td>
<td>0.002 (0.001)</td>
<td>0.002 (0.001)</td>
</tr>
</tbody>
</table>

Notes: * p<=0.05;   ** p<=0.01;  *** p<=0.001 (two-tailed test).

The reference category for the regions is the South. Western states did not provide data to the Justice Atlas on both prison admissions and parole releases, so the Western region is excluded from analyses.
Table 2. Prison Admissions Disaggregated by Type

<table>
<thead>
<tr>
<th></th>
<th>New Conviction</th>
<th>Revocation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Robust Coef.</td>
<td>Robust Coef.</td>
</tr>
<tr>
<td></td>
<td>Std. Err.</td>
<td>Std. Err.</td>
</tr>
<tr>
<td>Intercept</td>
<td>-4.782 (0.525)</td>
<td>-5.231 (0.780)</td>
</tr>
<tr>
<td>Concentration of Parolees</td>
<td>0.023 (0.004)</td>
<td>0.016 (0.005)</td>
</tr>
<tr>
<td>Proportion Male</td>
<td>-0.011 (0.007)</td>
<td>-0.013 (0.007)</td>
</tr>
<tr>
<td>Proportion Black</td>
<td>-0.001 (0.003)</td>
<td>0.006 (0.004)</td>
</tr>
<tr>
<td>Proportion Under 18</td>
<td>-0.007 (0.007)</td>
<td>-0.016 (0.009)</td>
</tr>
<tr>
<td>Concentrated Poverty</td>
<td>0.381 (0.052)</td>
<td>0.467 (0.077)</td>
</tr>
<tr>
<td>Immigrant Concentration</td>
<td>0.000 (0.059)</td>
<td>-0.166 (0.036)</td>
</tr>
<tr>
<td>Residential Stability</td>
<td>-0.020 (0.053)</td>
<td>0.090 (0.043)</td>
</tr>
<tr>
<td>Income Inequality (Gini)</td>
<td>0.073 (0.537)</td>
<td>1.523 (0.327)</td>
</tr>
<tr>
<td>Northeast Region</td>
<td>-0.738 (0.094)</td>
<td>-1.060 (0.152)</td>
</tr>
<tr>
<td>Midwest Region</td>
<td>-0.978 (0.295)</td>
<td>-1.107 (0.232)</td>
</tr>
<tr>
<td>Lagged County Admission Rate</td>
<td>0.001 (0.001)</td>
<td>0.002 (0.001)</td>
</tr>
</tbody>
</table>

Notes: * p<=0.05; ** p<=0.01; *** p<=0.001 (two-tailed test).

The reference category for the regions is the South. Western states did not provide data to the Justice Atlas on both prison admissions and parole releases, so the Western region is excluded from analyses.
Table 3. Difference-in-Differences Estimates of Louisiana Re-Incarceration

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th></th>
<th>Model 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-1.705 (0.062) ***</td>
<td>2.505 (5.480)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concentration of Parolees</td>
<td>-0.006 (0.035)</td>
<td>-0.034 (0.055)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 2006 (vs. 2005)</td>
<td>0.201 (0.067) **</td>
<td>0.220 (0.072) **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concentration * Year 2006</td>
<td>0.114 (0.051) *</td>
<td>0.113 (0.051) *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concentrated Disadvantage</td>
<td></td>
<td>0.024 (0.027)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion Renters</td>
<td>0.228 (0.417)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg. Weekly Wage</td>
<td>-0.149 (0.042) ***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nearby Service Providers</td>
<td>0.031 (0.143)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Judge Caseloads</td>
<td>-0.006 (0.007)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: * p<=0.05;   ** p<=0.01;  *** p<=0.001 (two-tailed test).
The dependent variable is the one-year re-incarceration rate. The coefficients and standard errors for Avg. Weekly Wage, Nearby Service Providers, and Judge Caseloads are multiplied by 100.
Figure 1. The Rate of Prisoner Reentry (per 1,000 Residents): Detroit and Austin

Source: Justice Atlas of Sentencing and Corrections
Datum: NAD 1983
Projection: State Plane Michigan South FIPS 2113 Feet; State Plane Texas Central FIPS 4203 Feet
Notes: Unshaded area of Detroit represents townships outside of Detroit’s city limits.
Figure 2. Parish of Release for Ex-Prisoners Originally from New Orleans
Figure 3. Estimated Re-incarceration Rates by Neighborhood Concentration of Parolees