Incapacitation: Penal Policy and the Lessons of Recent Experience

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INTRODUCTION

The measurable correlates of crime and delinquency have long been known and have remained essentially unchanged: delinquent behavior is primarily exhibited by males, it peaks in late adolescence, and it is concentrated in socially and economically disadvantaged communities. At the same time, rates of crime fluctuate considerably between place and over time. During the 1990s and into the 2000s, both violent and property crime rates fell across the developed world.[1] In the

United States, the most dramatic and prolonged drop was in New York City, closely followed by Los Angeles.[2] These trends in crime cannot be fully explained by criminal justice policy, demographic changes, or macro-social and economic patterns. Crime has fallen in places in which incarceration rates did not increase; populations have not uniformly aged; economies have improved and worsened without obvious traces on recorded crime.[3] The widespread and unexpected crime drop reanimated the sense that crime is preventable, and made it seem less likely that only intervention grounded in the "root" causes, whether biological, psychological, macro-sociological or economic, offer the means for doing so.[4] As a way forward, scholars have begun to look to more contingent or seemingly superficial ecological features to account for recent trends: more and better policing, broad cyclical influences and social change such as the abatement of the crack epidemic and its associated violence, and fewer opportunities because of increased private security and technological innovations.[5] An important lesson from modern psychology has been to recognize the power of situational context in determining human behavior,[6] yet, much of the thinking about criminal behavior has, until only recently, vastly underestimated this dimension.

The subject of this review is the theoretical and policy reorientations that follow from viewing criminal behavior like other human choices—a question of contingencies and opportunities. The article focuses on Franklin Zimring's account of the New York City crime decline as an articulation of this reorientation and challenge to previous criminological assumptions underlying incapacitation efficacy.[7] That crime in New York plummeted even as prison populations decreased ruptures what Zimring terms "supply side" criminology—the view that criminal predilections are largely fixed and thus the only way to reduce crime is to incapacitate criminals.[8] New York has shown that potential offenders can be deterred by "modest and even temporary alterations in

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International Phenomenon? A Research Note, 20 HOMICIDE STUDIES 321, 322 (2016).

[2]   FRANKLIN E. ZIMRING, THE CITY THAT BECAME SAFE: NEW YORK'S LESSONS FOR URBAN CRIME AND ITS CONTROL 3–28 (2011).

[3]   *Id*

[4]   *Id.*

[5]   *See, e.g.,* ALFRED BLUMSTEIN & JOEL WALLMAN, THE CRIME DROP IN AMERICA 1–13 (2006).

[6]   *See generally* DANIEL KAHNEMAN, THINKING, FAST AND SLOW (2011).

[7]   *See* ZIMRING, *supra* note 2.

[8]   *Id.* at 164–73.

the environment of the city," without resorting to incarceration.[9] Observably similar populations in similar structural conditions can engage in significantly different rates of criminal activity.

The article is organized as follows. Section 1 describes the rise of incapacitation theory in the late 1970s as a justification for expanding imprisonment. This section includes a review of the criminological literature on criminal careers, a literature that was used in support of the incapacitation policy of increasing sentences for serious and repeat offenders. The section also describes research efforts to empirically estimate incapacitation effects. Section 2 details the evidence presented in Zimring's *The City that Became Safe* against the notion that long prison sentences to incapacitate career criminals is the only or central available strategy to successfully reduce crime rates. The New York City evidence includes the drop in the city's prison and jail population that accompanied the dramatic drop in crime, and data on declining rates of new felony prison returns among New York City inmates and declining re-arrest rates among New York City probationers. Section 3 describes alternative conceptions of criminal behavior and behavioral change that take criminal activity to be deeply social, situational, and contingent. The section details the economic model of crime and deterrence and empirical efforts to estimate police effects. It also describes the literature on social influence and peer effects and the challenge of empirically documenting such phenomenon. Section 4 concludes.

INCAPACITATION THEORY, POLICY, & EFFECTS

The Rise of Incapacitation

Incapacitation refers to the effect of physically removing an offender from the community and thereby preventing whatever crimes the offender would commit were he still on the streets.[10] For at least two hundred years, incapacitation has been recognized as a legitimate objective of criminal punishment along with deterrence, retribution, and, to some degree, rehabilitation.[11] But beginning in the mid-1970s,

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[9] *Id.* at 195.
[10] Peter W. Greenwood, *Selective Incapacitation*, 96 HARV. L. REV. 511, 512 (1982); MARK H. MOORE ET AL., DANGEROUS OFFENDERS: THE ELUSIVE TARGET OF JUSTICE 3 (1984).
[11] Albert Alschuler, *The Changing Purposes of Criminal Punishment: A Retrospective on the Last Century and Some Thoughts about the Next*, 70 U. CHI. L. REV. 1, 22 (2003).

incapacitation came to be *the* primary justification for imprisonment and the principle motive and justification for what would become decades of exponential prison growth.[12]

The mid-1970s was a turning point in criminological thinking and criminal justice policy-making. It was a moment of great pessimism about the prospects of preventing criminal behavior. Robert Martinson's review of prison rehabilitation programs, "What Works? - Questions and Answers About Prison Reform,"[13] is often cited as the embodiment of the "nothing works" sentiment of the time.[14] Martinson concluded that rehabilitation strategies "cannot overcome, or even appreciably reduce, the powerful tendencies of offenders to continue in criminal behavior."[15] This demise of the rehabilitation ideal coincided with rising crime and general skepticism about the prospects of crime prevention.[16] If nothing preventative or rehabilitative could work, by corollary logic, stopping crime required physically removing offenders from society for the duration of their criminal careers. "The lack of evidence on the effects of either rehabilitation or deterrence leaves incapacitation as the only utilitarian basis for rationalizing differences in sentence severity for different types of offenders," wrote Peter Greenwood in a 1982 essay on selective incapacitation.[17] James Q. Wilson's *Thinking About Crime* offers the most forceful articulation of the incapacitation argument: "Wicked people exist," he wrote, "[n]othing avails except to set them apart from innocent people."[18] The belief that incapacitation was essentially the only method to reduce crime was the chief intellectual justification for the unprecedented expansion in incarceration in the U.S. that began in the late 1970s and continued into the twenty-first century.[19]

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[12]   FRANKLIN E. ZIMRING & GORDON HAWKINS, *Preface to* INCAPACITATION: PENAL CONFINEMENT AND THE RESTRAINT OF CRIME, at iii (1995).

[13]   Robert Martinson, *What Works? - Questions and Answers About Prison Reform*, 35 PUB. INT. 22 (1974).

[14]   *See, e.g.,* OFFENDER REHABILITATION: EFFECTIVE CORRECTIONAL INTERVENTION (F.T. Cullen & B.K. Applegate eds., 1997).

[15]   Martinson, *supra* note 13, at 49.

[16]   *See, e.g.,* FRANKLIN E. ZIMRING, THE GREAT AMERICAN CRIME DECLINE (2007) (discussing the 1974 Kansas City Preventative Patrol Experiment's null results that called into question the routine police patrol as a preventative strategy).

[17]   Peter W. Greenwood & Allan Abrahamse, *Selective Incapacitation*, RAND REPORT 5 (1982).

[18]   JAMES Q. WILSON, THINKING ABOUT CRIME 209 (1975).

[19]   FRANKLIN E. ZIMRING & GORDON HAWKINS, INCAPACITATION: PENAL CONFINEMENT AND THE RESTRAINT OF CRIME (1995), at 5.

The result has been a sevenfold increase in the prison population between the mid-1970s and the present, a quadrupling of the rate of imprisonment, and a tripling of the rate of incarceration in local jails.[20]

Incapacitation through incarceration became the dominant criminal justice policy in the 1980s and a central focus of criminological scholarship. The early incapacitation framework was a simple one: incapacitation could take a "slice" out of portions of predetermined criminal careers.[21] The benefits derived from incapacitation depend on the magnitude and duration of the counterfactual criminal career of an offender were he to remain in the community: the higher an individual's personal crime rate and the longer the duration of the criminal career the more crimes that will be averted through incapacitation.[22]

Theoretical Underpinnings: Criminal Career Approach

The "criminal career" approach in criminology developed in the 1980s and was at the heart of assumptions of incapacitation efficacy and efforts to estimate crime savings generated by incapacitation.[23] The approach is usually traced to the mid-twentieth century work of Eleanor and Sheldon Glueck,[24] which comprised the first systematic quantitative investigation into individual trajectories of criminal participation[25] involving a twenty-five year longitudinal study following a group of 500 male delinquents matched with a non-delinquent group on age, race/ethnicity, IQ, and place of residence.[26]

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[20] ELLIOTT CURRIE, CRIME AND PUNISHMENT IN AMERICA 3 (2013).

[21] *See* Alex Piquero & Alfred Blumstein, *Does incapacitation reduce crime?* 23 J. OF QUANTITATIVE CRIMINOLOGY 267, 267 (2007).

[22] *Id.*

[23] Jens Ludwig & Thomas J. Miles, *The Silence of the Lambdas: Deterring Incapacitation Research*, 23 J. OF QUANTITATIVE CRIMINOLOGY 287, 288 (2007).

[24] *See, e.g.,* SHELDON GLUECK & ELEANOR TOUROFF GLUECK, 500 CRIMINAL CAREERS (1930); SHELDON GLUECK & ELEANOR TOUROFF GLUECK, ONE THOUSAND JUVENILE DELINQUENTS (1934); SHELDON GLUECK, CRIME AND JUSTICE (1945); Sheldon Glueck & Eleanor Glueck, *Unraveling Juvenile Delinquency*, 2 JUV. CT. JUDGES J. 32 (1950).

[25] Janet L. Lauritsen et al., *The Link Between Offending and Victimization Among Adolescents*, 29 CRIMINOLOGY 265 (1991). The criminological tradition of studying individual "criminal careers" as a means of understanding the etiology of crime dates back to at least 19th century. *See* Alex R. Piquero et al., *The Criminal Career Paradigm*, 30 CRIME & JUST. 359, 359 (2003).

[26] *See* Sheldon Glueck & Eleanor Glueck, *Unraveling Juvenile Delinquency*, 2 JUV. CT. JUDGES J. 32 (1950) (collecting data on key social, psychological, and biological factors, changes in salient life events, and criminal activity measured by personal interviews and official criminal justice statistics. This longitudinal cohort model developed by the

The Gluecks' approach sparked debates that represent foundational disagreements regarding the study of crime and criminality that would come center stage again when the criminal career approach gained prominence in the late 1970s and early 1980s.[27] Chicago sociologist, Edward Sutherland, a prominent critic of the Glueck's research, argued that criminality was deeply dependent on changing social influences such as neighborhoods and educational opportunities; yet the Gluecks' focus on the individual determinants of criminal behavior assumed a relative stability between individual differences and consistency in individual offending over time.[28] The Gluecks' research was also part of the first efforts to generate predictive instruments of future offending, efforts that have been criticized on a variety of grounds including their inability to accurately predict future offending because they assume a stability of deviance.[29]

The modern study of cohorts and criminal careers begins with Wolfgang, Sellin, and Figlio's 1972 work "Delinquency in a Birth Cohort."[30] The study followed a group of 9,945 ten-year-old boys in Philadelphia from 1945 until their eighteenth birthdays in 1963. The most crucial and enduring result of the study, replicated in numerous subsequent cohort studies, was that a small group of "chronic offenders" commit a disproportionate amount of the total crime.[31] Specifically, they found those with five or more police contacts accounted for only six percent of the total cohort but were responsible for over half the police contacts.[32]

Research on the patterning of criminal careers proliferated in the late 1970s and 1980s. In 1983, the National Academy of Sciences appointed a panel to synthesize and summarize what was by then known

Gluecks came to dominate the criminological study of individual offending, a subject that would gain renewed attention in the 1970s and 1980s).

[27]   Robert J. Sampson & John H. Laub, *Life-Course Desisters? Trajectories of Crime Among Delinquent Boys Followed to Age 70*, 41 CRIMINOLOGY, 555, 557–59 (2003).

[28]   Robert J. Sampson & John H. Laub, *Crime and Deviance in the Life Course*, 18 ANNUAL REVIEW OF SOCIOLOGY 63–84 (1992).

[29]   *See, e.g.,* Sampson & Laub, *supra* note 27; Bernard Harcourt & Jens Ludwig, *Broken Windows: New Evidence from New York City and a Five-City Social Experiment*, 73 U. CHI. L. REV. 271 (2006); Sheldon Glueck & Eleanor Glueck, Unraveling Juvenile Delinquency, Commonwealth Fund (1950).

[30]   Robert M. Figlio et al., DELINQUENCY IN A BIRTH COHORT (1972).

[31]   ALEX R. PIQUERO ET AL., KEY ISSUES IN CRIMINAL CAREER RESEARCH: NEW ANALYSES OF THE CAMBRIDGE STUDY IN DELINQUENT DEVELOPMENT 18 (2007).

[32]   MARVIN WOLFGANG ET AL, DELINQUENCY IN A BIRTH COHORT (1987).

as the "criminal career" approach.[33] The panel sought to evaluate the feasibility of predicting criminal careers and assess the potential for risk assessment instruments to identify high-risk offenders and reduce crime through incapacitation.[34] The panel's report, "Criminal Careers and 'Career Criminals'" remains the foundational modern articulation of the criminal career paradigm.[35] The report outlined the parameters and patterning of crime over an individual's life: why and when delinquency begins (onset); the extent to which delinquency continues (persistence); if and how an individual's engagement in crime becomes more serious or frequent (escalation); and, finally, why and when a person ceases criminal involvement (desistance).[36]

The "Delinquency in a Birth Cohort" finding that a small fraction of individuals commit a large proportion of the total offenses was reiterated in "Criminal Careers and Career Criminals" and would again be re-articulated in the 1990s with Developmental Criminology's concept of the "life-course persistent offender."[37] The Developmental approach, grounded in psychology, focused on identifying distinctive etiologies of criminal behavior trajectories and the psychological factors explaining developmental processes.[38] Terrie Moffitt's "dual taxonomy,"[39] the leading example of the developmental approach, decomposes the aggregate age crime curve into two classes of offenders each with distinct criminal trajectory—members of the majority "adolescence-limited" group, who engage in delinquent activity only during adolescence, and "life-course persistent" offenders who continue to engage in antisocial and criminal activities throughout much of their life.[40] Moffitt traces this persistent offending to early childhood neuropsychological traits (*e.g.*

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[33] The Panel on Research on Criminal Careers produced several volumes researching and analyzing "criminal careers." *See, e.g.,* 1 ALFRED BLUMSTEIN ET AL., CRIMINAL CAREERS AND "CAREER CRIMINALS", NAT'L RES. COUNCIL (1986).

[34] ALFRED BLUMSTEIN ET AL., CRIMINAL CAREERS AND "CAREER CRIMINALS", NAT'L RES. COUNCIL (1986). *See also* Piquero, *supra* note 25, at 361.

[35] Alex R. Piquero et al.. The Criminal Career Paradigm, 30 UNIV. OF CHI. PRESS J. 359, 361 (2003).

[36] *Id.*

[37] *Id.*; *see, e.g.,* Sampson & Laub, *supra* note 27.

[38]   Rolf Loeber & Magda Stouthamer-Loeber, *Development of Juvenile Aggression and Violence: Some Common Misconceptions and Controversies*, 53 AM. PSYCHOLOGIST 242, 248 (1998); Terrie E. Moffitt, *Adolescence-Limited and Life-Course-Persistent Antisocial Behavior: A Developmental Taxonomy*, 100 PSYCHOL. REV. 674, 674 (1993).

[39] *See* Moffitt, *supra* note 38, at 674.

[40] *Id.*

cognitive deficits, difficult temperament and lack of self-control).[41]

The consistent finding that a small proportion of individuals are responsible for a vastly disproportionate number of total crimes offered support for incapacitation, in particular, "selective incapacitation." The selective incapacitation strategy, articulated in the early eighties, described the potential for actuarially identifying and selectively confining those individuals who represented the most serious risk to the community.[42] As such, selective incapacitation offered the possibility of both reducing crime and reducing the number of incarcerated individuals. But by the mid 1980s, researchers, including Greenwood himself, concluded that the estimated crime savings generated by selective incapacitation had been greatly overstated and the prospects of actually prospectively identifying future offenders to selectively incarcerate was much more difficult than the early work had hoped.[43] Yet political processes can take on a life of their own and become immune to counter-evidence. Indeed, the criminal career logic and principle of selective incapacitation continued to be reflected in a number of "get tough" policies passed in the late 1980s and early 1990s aimed at removing the most prolific or habitual offenders from society: for example, three-strikes laws, which require a minimum term, usually 25 years to life, for anyone convicted of three felony offenses (typically violent offenses).[44]

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[41] Unlike the adolescent-limited group, the delinquency of the "life-course persistent" offender begins earlier (before the height of peer influence which explains the behavior of the adolescent-limited group). The "life-course persistent" offender tends to offend more frequently and more violently, and continues offending into adulthood. Although the taxonomy recognizes persistent antisocial behavior to be the product of the cumulative interaction between these early childhood neuropsychological problems and a disadvantaged or criminogenic environment, Moffit's explanations for the origins of chronic offending are primarily bio-psychological. *Id.* at 676.

[42] Joan Petersilia, *Criminal Career Research: A Review of Recent Evidence*, 2 CRIME & JUST. 321, 321 (1980); Peter W. Greenwood, *Selective Incapacitation*, 96 HARV. L. REV. 511, 512 (1982).

[43] PETER GREENWOOD & SUSAN TURNER, SELECTIVE INCAPACITATION REVISITED, WHY HIGH-RATE OFFENDERS ARE HARD TO PREDICT 48–49 (1987); Jacqueline Cohen, *Incapacitation as a Strategy for Crime Control: Possibilities and Pitfalls*, 5 CRIME & JUST. 1, 31–32 (1983); Jacqueline Cohen, *Selective Incapacitation: An Assessment*, 1984 U. ILL. L. REV. 253, 253 (1984); Andrew Von Hirsch, *The Ethics of Selective Incapacitation: Observations on the Contemporary Debate*, 30 CRIME & DELINQUENCY 175, 176 (1984); Christy A. Visher, *Incapacitation and Crime Control: Does a "Lock'em up" Strategy Reduce Crime?*, 4 JUST. Q. 513, 530 (1987).

[44] Marc Mauer, *Why Are Tough on Crime Policies So Popular?*, 11 STAN. L. & POL'Y REV. 9, 11 (1999).

One of the shortcomings of the criminal career approach was its neglect for social and environmental determinants. The following section discusses this absence in the literature, and the efforts among some criminologist to incorporate environmental context into understanding the criminal career.

### The Place of the "Environment" in Cohort Research

The structure of the longitudinal cohort model has generated research centered on individual traits and behaviors often at the expense of place and time determinants. The criminal careers research literature has not engaged with broader trends in crime rates and has given little attention to the significance of crime opportunities for criminal careers.[45] Cohort studies have focused on questions regarding the concentration of offending and the determinants of individual offending persistence. At the same time, implicitly, even if not the central subject, place and time are still manifest in these studies. For example, the roughly six percent of chronic offenders found in the 1942 Racine, Wisconsin birth cohort study[46] engaged in fewer and less serious criminal activities than the boys in the 1945 Philadelphia birth cohort, and the second Delinquency in a Birth Cohort study of a second Philadelphia birth cohort, born in 1958, found that the cohort exhibited the same concentration of offending as had the earlier birth cohort, but the 1958 cohort committed a much higher volume of serious crime.[47] Figure 1 illustrates this difference, showing the difference in the magnitude of rates of robbery and homicide arrests per 1,000 individuals for the 1945 and 1958 birth cohort. These results suggest the importance of period (place and time) on crime volume. The cohort research was focused on the patterning of behavior and the correlates and causes of crime, particularly among serious offenders, rather than on accounting for variations in the quantity and type of crime across cohorts.

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[45] *See, e.g.,* Matt DeLisi & Alex Piquero, *New Frontiers in Criminal Careers Research, 2000-2011: A State-of-the-Art Review*, 39 J. OF CRIM. JUST. 289, 292 (2011).

[46] LYLE W. SHANNON ET AL., CRIMINAL CAREER CONTINUITY: ITS SOCIAL CONTEXT (1988).

[47] Marvin E. Wolfgang et al., *The 1945 and 1958 birth cohorts: A Comparison of the Prevalence, Incidence, and Severity of Delinquent Behavior*, CENTER FOR STUDIES IN CRIMINOLOGY AND CRIMINAL LAW, UNIVERSITY OF PENNSYLVANIA 9.

Figure 1. Rate of Robbery & Homicide Arrests per 1,000 boys, 1945 vs. 1958 Philadelphia Birth Cohorts
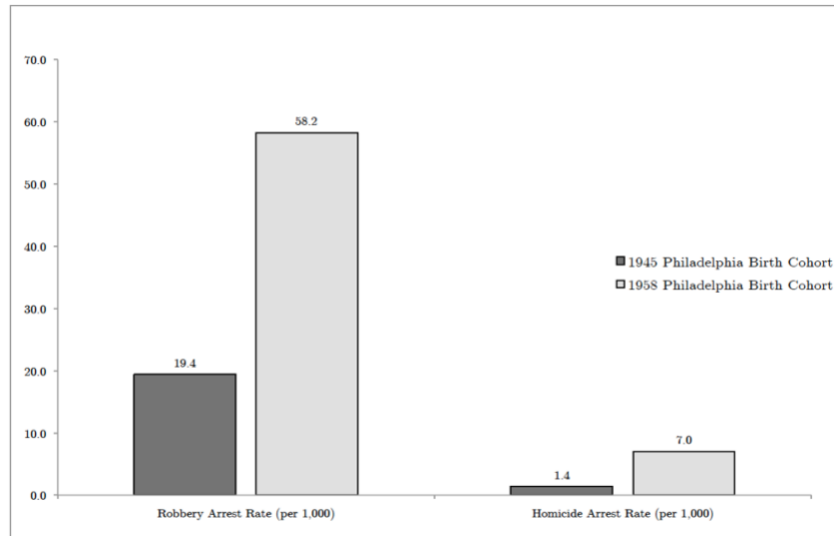
The discounting of environmental and social determinants of crime contributed to what Zimring terms "supply side criminology."[48] This view, in broad strokes, predicts and explains crime volume based on the "supply" of offenders. A supply side view presumes chronic or high rate offenders will continue to offend at relatively fixed rates unless they are removed by incarceration or age out of crime. The supply-side view implied a relatively straightforward translation of demographics to crime volume.

However, demographic-based predictions of crime volume have in fact been shown to be often extremely inaccurate, and the failure of forecasting based on cohort characteristics is typified by the mistaken predictions of a several prominent scholars in the mid-1990s—John J. DiIulio,[49] James A. Fox,[50] and James Q. Wilson[51]—who warned that rising violent crime trends, particularly among youth, would only worsen as the so-called echo boomers aged into their crime-prone years. John DiIulio, credited with coining the term "Super Predator," warned:

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[48] Adam Gopnik, *The Caging of America*, THE NEW YORKER (2012), https://www.newyorker.com/magazine/2012/01/30/the-caging-of-america.

[49] John J. DiIulio, Jr., *The Question of Black Crime*, 117 PUB. INT. 3 (1994).

[50] JAMES A. FOX, TRENDS IN JUVENILE VIOLENCE: A REPORT TO THE UNITED STATES ATTORNEY GENERAL ON CURRENT AND FUTURE RATES OF JUVENILE OFFENDING (1996).

[51] James Q. Wilson, *The Moral Sense*, 87 AM. POL. SCI. REV. 1, 18–22 (1993).

"America is now home to thickening ranks of juvenile super-predators—radically impulsive, brutally remorseless youngsters."[52] DiIulio predicted that by 2010 there would be approximately 270,000 more juvenile super-predators on the streets than there were in 1990.[53] James Q. Wilson likewise warned of looming disaster based on an assumption of a constant age-specific offending rate among high-risk populations.[54] He suggested that by the year 2000 there would be "30,000 more young muggers, killers, and thieves than we have now."[55] Wilson's estimate was based on a projection of an additional million teenagers, half male, and the Philadelphia study's six-percent chronic offender rate.[56] Finally, James A. Fox, writing for a Bureau of Justice Statistics report, predicted that by the year 2005 the number of 14-17 year-old homicide offenders would increase by at least 5,000 simply because of changing demographics.[57] Fox saw no way out but incapacitation through incarceration: "No one in academia is a bigger fan of incarceration than I am" Fox wrote, "by my estimate, we will probably need to incarcerate at least 150,000 juvenile criminals in the years just ahead."[58]

The predictions of Super Predators and rising rates of violence turned out to have been made at the *peak* of violent crime and juvenile arrests. The failure of these predictions underscores the flaw of a simplistic incapacitation framework in which individuals are characterized by an assumed personal crime rate, without sensitivity to costs and benefits, opportunities, policies, and the general environment in which the potential offender operates.[59] Instead, aggregate crime trends suggest that there is no predictable "supply" of criminals; potential criminals are adaptable and malleable.

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[52] WILLIAM J. BENNETT, JOHN J. DILULIO & JOHN P. WALTERS, BODY COUNT: MORAL POVERTY. . .AND HOW TO WIN AMERICA'S WAR AGAINST CRIME AND DRUGS 27 (1996).

[53] JOHN DILULIO, HOW TO STOP THE COMING CRIME WAVE 1 (1996).

[54] Wilson, *supra* note 51, at 18–22.

[55] *Id.*

[56] *Id.*

[57] Between 1985-1992 the rate at which males ages 14 to 17 committed murder increased by about 50% for whites and more than 300% for blacks. FOX, *supra* note 50, at 4.

[58] John Dilulio, *The Coming of the Super—Predators*, THE WEEKLY STANDARD (1995), https://www.weeklystandard.com/john-j-dilulio-jr/the-coming-of-the-super-predators.

[59] This point was made by some in the 1980s at the height of incapacitation scholarship and policy. Philip Cook makes the argument that the mechanical model of incapacitation will not be reliable because criminals in fact exhibit adaptive behavior. Phillip J. Cook, *Criminal Incapacitation Effects Considered in an Adaptive Choice Framework*, in THE REASONING CRIMINAL: RATIONAL CHOICE PERSPECTIVES ON OFFENDING, 202, 214 (Derek B. Cornish & Ronald V. Clarke eds., 1986).

Importantly, while much of the cohort research has neglected social and ecological context and thereby encouraged a "supply-side" view of crime, there have been some efforts to explicitly incorporate environmental dimensions within the study of criminal behavior trajectories. Specifically, "Life-course Criminology," developed in the 1990s, was concerned with the patterning of individual offending but it focused on the importance of social structures and community context in understanding dynamic processes of criminal involvement. The work of Robert Sampson and John Laub provides the leading example of the life-course perspective.[60] The framework criticizes the implicit rigidity of the categories developed under the criminal career and developmental models and suggests that the causes of crime are more dynamic and will vary across an individual's lifespan as the result of shifting social bonds and pivotal moments. The framework views criminal behavior trajectories as "socially emergent" and "contextually shaped"—the product of a constant interaction between individual propensities, their environment, human agency, and random developmental noise.[61]

Laub and Sampson reconstruct and augment data from Gluecks' classic longitudinal study and show the difficulties of actually identifying the high risk "career criminals" based on the usual correlates of risk.[62] They were not able to distinguish between the "persisters" at the beginning of their delinquent careers and the majority of the cohort who had desisted by their early twenties. Rather, they found that major "turning points" such as getting a job, enlisting in the military, or marrying are what predicted criminal career termination.[63] The Sampson and Laub findings underscore the challenge of *prospectively* identifying high-risk inmates to be incapacitated. Further, the research suggests imprisonment can stymie desistance by stymieing important life turning points such as marriage and employment.

Despite the recognition of environmental context in life course criminology, the individual-level unit of analysis in the cohort study

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[60]   Sampson & Laub, *supra* note 27.

[61]   Robert J. Sampson & John H. Laub, *A Life-Course View of the Development of Crime*, 602 ANNALS OF THE AM. ACAD. OF POL. & SOC. SCI. 12, 43 (2005); *accord* John H. Laub & Robert J. Sampson, *Turning Points in the Life Course: Why Change Matters to the Study of Crime*, 31 CRIMINOLOGY 301 (1993).

[62]   Robert J. Sampson & John H. Laub, *A Life-Course View of the Development of Crime*, 602 ANNALS OF THE AM. ACAD. OF POL. & SOC. SCI. 12, 15–19 (2005).

[63]   Such turning points can play an important role in changing criminal trajectories by influencing both immediate routines, supervisions, and other situational factors that induce or discourage crime, as well as providing a broader platform onto which an individual can recreate his or her identity and distinguish the present from the past.

makes it inherently difficult to examine or empirically test for environmental effects. The most notable effort to combine longitudinal analysis with the study of social and environmental determinants was the 1990s Project on Human Development in Chicago Neighborhoods (PHDCN).[64] The project involved data collected on eighty Chicago neighborhoods in 1995-1996, along with a longitudinal study of youth from these targeted neighborhoods. Studies from PHDCN have suggested social and organizational characteristics of a neighborhood are indeed important predictors of violence, beyond the aggregated demographic characteristics of the individuals in the community.[65] The idea that "collective efficacy" —neighborhood social cohesion and a willingness to intervene on behalf of the common good—can help to mitigate violence in the community was an early and important finding from the project.[66]

Data from PHDCN has also been used to disentangle the age-crime curve from cohort and period effects, confirming the importance of the environmental context on individual crime trajectories.[67] Studies using PHDCN data have shown violent behavior peaks for all cohorts in the late teens, but the curve for youth reaching their late teens during a period of lower crime has a lower and somewhat earlier peak than cohorts coming of age in higher crime environments.[68] The influence of period on the shape of the age-crime curve has also been confirmed internationally: high-crime periods may extend the age-crime curve by leading to earlier initiation of violence and/or later desistence.[69]

The fact that place and time will profoundly affect both the volume and type of criminal behavior is on some level obvious and unsurprising. Yet the crime environment was implicitly discounted in supply-side accounts of crime and cohort research that focused on measuring the causes, correlates, and patterning of individual behavior,

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[64]   *See* Project on Human Development in Chicago Neighborhoods, INTER-UNIVERSITY CONSORTIUM FOR POLITICAL AND SOCIAL RESEARCH https://www.icpsr.umich.edu/icpsrweb/PHDCN/about.jsp.

[65]   Robert J. Sampson et al., *Neighborhoods and Violent Crime: A Multilevel Study of Collective Efficacy*, 277 AM. ASS'N FOR THE ADVANCEMENT OF SCI. 918, 921–22 (1997).

[66]   *Id.*

[67]   Stephen W. Raudenbush, *How Do We Study "What Happens Next"?*, 602 THE ANNALS OF THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE 131 (2005).

[68]   Christopher Johnson & Stephen W. Raudenbush, *A Repeated Measures, Multilevel Rasch Model with Application to Self-Reported Criminal Behavior,* METHODOLOGICAL ISSUES IN AGING RESEARCH 131, 160–62 (2005).

[69]   Anthony Fabio et al., *Why Some Generations are More Violent Than Others: Assessment of Age, Period, and Cohort Effects*, 164 AM. J. OF EPIDEMIOLOGY 151, 158 (2006).

rather than the variations in the quantity and type of crime across cohorts. This discounting of the environment contributed to the faulty assumptions underlying estimates of crime savings generated by incapacitation. In the next section, the article turns to a discussion of the conceptual and practical problems with estimates of incapacitation generated crime savings.

The Search for Lambda: Estimates of Incapacitation Crime Savings

This basic "steady-state" model for estimating incapacitation effects was developed by Avi-Itzhak and Shinnar[70] and much of the scholarship attempting to estimate incapacitation effects has been grounded in their approach. Crime prevented by incapacitation depends on two behavioral components—the rate at which offenders commit crime when free ("lambda" (λ)) and the duration of the criminal career – as well as criminal justice system responses to criminal behavior including the likelihood of apprehension, conviction, prison sentence, and the length of the prison term. Much of the research estimating incapacitation effects was conducted in the late 1970s and 1980s with estimates of offending rates derived from retrospective inmate surveys or records of inmates' prior arrests.[71] The average offending rate for the surveyed prison population was annualized and translated into the number of crimes prevented per-prison year.

Early estimates of the crime savings generated by incapacitation ranged widely. Zedlewski, in a report on the cost benefits of expanding prisons, reported an average of 187 non-drug crimes prevented per prisoner-year (1987).[72] Greenberg[73], using arrest data, estimated as few as three index crimes prevented per prisoner-year. Marvell and Moody's 1996 review of the arrest-rate and self-report λ estimate research suggests effects of incapacitation ranging from 16 to 25 index crimes per prisoner

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[70] Benjamin Avi-Itzhak & Reuel Shinnar, *Quantitative Models in Crime Control*, 1 J. OF CRIM. JUST. 185 (1973).

[71] *See, e.g.*, Alfred Blumstein & Jacqueline Cohen, *Estimation of Individual Crime Rates from Arrest Records*, 70 J. OF CRIM. LAW & CRIMINOLOGY 561 (1979).

[72] Edwin Zedlewski, *Making Confinement Decisions*, RESEARCH IN BRIEF, 1, 3 (1987) (using the estimates from the Rand Corporation National Institute sponsored survey of 2,190 inmates confined in jails and prisons in California, Michigan, and Texas, which found inmates averaged between 187 and 287 crimes per year exclusive of drug deals. But they suggest an upper limit of 12 index crimes per year).

[73] David Greenberg, *The Incapacitative Effect of Imprisonment: Some Estimates*, 9 L. & SOC'Y REV. 541, 561 (1975).

per year.[74] However, they ultimately advocate for an alternative estimation approach: panel data regression to estimate the total impact of imprisonment (incapacitation *and* deterrence).[75]The wide range of estimates reflect the range of data collection instruments, jurisdiction of study, crimes counted, and methods of translating λ estimates into crime savings.

The enormous variation in the estimates reveals both practical and conceptual problems with estimates of λ and its translation into estimates of crime savings. These problems are multiple. First, estimates of individual crime rates suffer from measurement and reporting bias. Both self-reporting and official arrest records will likely generate undercounts of actual offending rates. On the other hand, extrapolating annual rates from the "window period" in which the data was collected will likely overestimate annual offending rates because the period just before an offender is caught is likely one in which they were engaging more heavily in criminal activity.[76] The point is made clear when taken to the extreme: if the "window" is simply the day the offender was caught, this would translate to an estimate of at least 365 crimes per year.

More fundamentally, even if prior offending records could be accurately constructed, it does not follow that these individual offending rates can be used to calculate imprisonment crime savings.[77] To begin, assumptions about the crime reducing effects of incapacitation are undermined insofar as there is offender replacement or group criminality.[78] For example, putting a drug dealer or gang leader in prison might simply open up a position for someone else. And to the extent that offenses are committed in groups, the assumptions regarding crime savings from incarcerating one individual will inevitably overestimate the amount of crime prevented unless all those who would engage in the group activity are incarcerated.[79]

Further, using the average offending rate from surveys is problematic given the highly skewed distribution of offending. While this skewed distribution is well recognized in the criminal career literature, it was nonetheless largely neglected in the literature's incapacitation-

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[74]   Thomas B. Marvell & Carlisle E. Moody, *Specification Problems, Police Levels, and Crime Rates*, 34 CRIMINOLOGY 609 (1996).

[75]   *Id*. at 639.

[76]   *See* ZIMRING & HAWKINS, *supra* note 19, at 321–27.

[77]   *See id.*

[78]   *See* Cook, *supra* note 59.

[79]   *Id.*

generated crime savings estimates.[80] If a small percent of offenders commit many crimes annually, estimated incapacitation effects derived from the average offending rate will be highly skewed, with the average much higher than the median. Moreover, neither the average nor the median offending rate of incarcerated inmates is the right metric to use when considering a *change* in incarceration policy. Instead, what matters is the crime commission rate of offenders on the margin of being admitted or released from prison.[81] The crime savings derived from an expansion in prison admissions, for example, will depend on the offending rates of the marginal convicted criminals – those who would now be incarcerated under the more expansive regime; and likewise the expected effect from a policy involving the release of inmates depends on the offending rates of the marginal releasees.[82] The policy changes in the 1980s and 1990s that generated the massive growth in incarceration involved two phenomena: (1) an increasing number of offenders convicted of relatively minor crimes admitted to prison and (2) increasing sentence lengths, which meant an increasingly older (and lower risk) inmate population. Both factors resulted in a substantially lower risk marginal inmate, as well as a lower risk average and median imprisoned offender.[83]

Recent empirical research on incapacitation, exploiting the randomization in changes in prison sentencing and release policies, has derived estimates that are more reliable and much smaller than the earlier survey estimates suggested. Owens,[84] for example, analyzed the criminal activity among convicted felons who ended up serving shorter sentences as a result of a 2001 change in sentencing guidelines in Maryland. She found the implied incapacitation effect for this population was only 1.4-1.6 index crimes per person per year.[85] Similarly, Raphael and Johnson[86]

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[80]   STEVEN RAPHAEL & MICHAEL A. STOLL, WHY ARE SO MANY AMERICANS IN PRISON? (2009).

[81]   *Id. at 28.*

[82]   Emily Owens, *More Time, Less Crime? Estimating the Incapacitative Effects of Sentence Enhancements*, 52 J. OF L. & ECON. 551, 565 (2009); *see also* Ludwig & Miles, *supra* note 23, at 293 n.10.

[83]   The tendency of criminal offending to decline precipitously with age means individuals will "age-out" of their peak offending years while in prison.

[84]   *See* Owens, *supra* note 82, at 551.

[85]   *Id.*; Estimates derived from changes in sentencing policy or selective prisoner releases, such as Realignment in California, measure the incapacitation effect of incarcerating or releasing the offender on the margin which may be the most relevant estimate for policy purposes, but is not the same as the average or medians derived in the inmate and arrest record survey work and therefore will be smaller for that reason alone.

[86]   Rucker Johnson & Steven Raphael, *How Much Crime Reduction Does the Marginal Prisoner Buy?*, 55 J. OF L. & ECON. 275, 302–03 (2012).

and Raphael and Stoll,[87] using an instrumental variables approach, estimate the net effectiveness of incarceration on crime, and plainly demonstrate the declining effects of incarceration on crime rates as rates of incarceration grew.[88] Raphael and Stoll estimate that between 1977 and 1988 the average effect of a one-person increase in incarceration was between 1.3 and 2.1 violent crimes and between 9 and 19 property index crimes; between 1989 and 1999 and 2000 and 2010 they found no statistically significant effect of incarceration on either violent or property crime.[89] In short, the increased rates of incarceration during these latter time periods had little or no measurable effect on the rates of serious crimes.[90]

In summary, while it is undisputed that incapacitation through incarceration reduces crime by some amount, it is relatively small and often difficult to quantify. Recent studies have produced academic agreement on a general point: there are diminishing marginal returns to expanding imprisonment.[91] These findings are also consistent with the consensus that the incarceration-crime effect operates chiefly through incapacitation rather than deterrence.[92] With no more crime today than there was in 1970, but five times as many individuals in prison, the marginal prisoner will be lower risk, making the marginal crime effects small or non-existent.[93]

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[87] R APHAEL & S TOLL, *supra* note 80, at 214–26.

[88] The authors use exit and entrance probabilities to identify the variations in incarceration that are not due to contemporaneous criminal offending.

[89] *See* R APHAEL & S TOLL, *supra* note 80, at 232.

[90] These estimates are of average net incarceration effects rather than incapacitation specifically, and accordingly, include the effect of deterrence as well as incapacitation. But the finding of diminishing returns supports the claim that, insofar as incarceration affects crime, the primary channel is through incapacitation. Consistent with an incapacitation interpretation, as the scale of imprisonment increases, the risk profile of the marginal offender decreases. That is, lower-rate offenders are brought into the system and older offenders remain in the system – both groups that would on average commit fewer crimes were they in the community. There is, on the other hand, no easy account for why there would be a declining general deterrent effect over time.

[91] *See* Z IMRING, *supra* note 2; Steven Levitt, *Why Do Increased Arrest Rates Appear to Reduce Crime: Deterrence, Incapacitation, or Measurement Error?*, 36 E CON. I NQUIRY 353, 370 (1998); Rucker C. Johnson & Steven Raphael, *The Effects of Male Incarceration Dynamics on Acquired Immune Deficiency Syndrome Infection Rates Among African American Women and Men*, 52 J. OF L. & E CON. 251, 287 (2009).

[92] A ARON C HALFIN & J USTIN M C C RARY, N AT'L B UREAU OF E CON. R ESEARCH, T HE E FFECT OF P OLICE ON C RIME: N EW E VIDENCE FROM U.S. C ITIES, 1960-2010 (2012).

[93] In addition to the diminishing marginal returns of incarceration effects on crime, many scholars have also pointed to the need to consider the broader set of negative effects

The article now turns from estimates of incapacitation effects to Franklin Zimring's particular account of the New York City crime decline as a stark case against the reign of incapacitation theory and "supply-side" accounts of criminal behavior, which assumed individuals had predetermined criminal careers that were insensitive to the environmental context.[94]

NEW YORK CITY EVIDENCE AGAINST THE DOMINANT ROLE OF INCAPACITATION IN CRIME REDUCTION

In 1990, the number of homicides in New York City peaked, with more than 2,200 murders; by 2017, there were fewer than 300 homicides in the city, the lowest number on record.[95] Major crime in every category has fallen close to 90% since 1990.[96] Yet, by Zimring's account, there has been little out-migration and incarceration rates have actually declined for much of the period of the crime drop.[97] "Where have all the New York criminals gone?" Zimring asks, "Nowhere" is the answer. Zimring thus concludes that the crime decline *must* have included substantial reductions in crime commission among so-called "career criminals"—those whom previous theory would have assumed would persist in criminal behavior were they not locked up.[98]

New York City Crime & Incarceration Trends

The most general evidence offered in *The City that Became Safe* against the reign of incapacitation through incarceration are the coterminous trends in crime and incarceration.[99] Counter to the national trend of relentless incarceration growth, for roughly two-thirds of the past

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of incarceration with respect to crime. For example, Sampson argues mass incarceration has reduced the ratio of males to females leading to family disruption and higher rates of violence. Robert J. Sampson, *Neighborhood Effects, Causal Mechanisms and the Social Structure of the City*, in ANALYTICAL SOC. AND SOC. MECHANISMS 227 (Pierre Demeulenaere ed., 2011). Imprisonment has been shown to have negative effects on employment, which may also lead to more crime. *See* Bruce Western, et al., *The Labor Market Consequences of Incarceration*, 47 CRIME & DELINQUENCY 410 (2001); Amanda Geller et al., *The Effects of Incarceration on Employment and Wages: An Analysis of the Fragile Families Survey*, CTR. FOR RESEARCH ON CHILD WELLBEING, Working Paper No. 2006-01 (2006).

[94]   ZIMRING, *supra* note 2, at 51–81.
[95]   *Id.*
[96]   *Id.*
[97]   *Id.*
[98]   *Id.* at 166.
[99]   *Id.*

twenty-seven years of declining crime in New York, the population in prison and jails, as well as on probation and parole, has fallen.[100] Figure 2 presents New York City and U.S. prison and jail confinement rates alongside trends in the rate of crime. To isolate the comparative decline and growth in rates, each rate is translated to a 1985 base of 100 and subsequent years are expressed relative to the 1985 value. The figure shows New York City's incarceration rate dropping substantially after 1997, while the rate of prison and jail confinement in U.S as a whole grows until 2009.

Figure 2. Prison, Jail & Crime Trends NYC vs. U.S.: Relative Change Since 1985
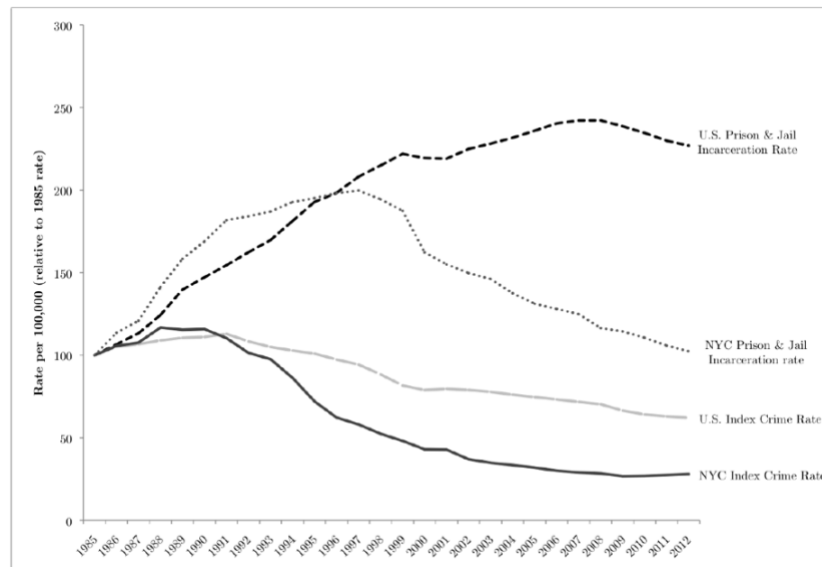
Empirical scholarship on New York City's crime drop has paid relatively little attention to the contribution of incarceration. This is likely because, unlike the changes in policing since the early 1990s, imprisonment trends in the city have not lined up with trends in crime.

Measures of imprisonment have been included in a handful of studies. Corman and Mocan[101] analyze the effect of sanctions and economic factors on crime in New York City using monthly time-series data from 1974-1999. They find increases in the number of inmates from

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[100] Between 1990 and 2013, the city's rate of incarceration in prison and jail dropped 43%. *Id.*

[101] Hope Corman & Naci Mocan, *Carrots, Sticks, and Broken Windows*, 48 J. OF L. & ECON. 235, 236 (2005).

New York City in state correctional facilities are associated with decreases in homicide, robbery, burglary, rape and Motor Vehicle Theft.[102] But the magnitudes of their estimated elasticities are quite low, ranging from -.02 to -.08.[103] Meaning, a 1 percent increase in incarceration is associated with reduction in crime of somewhere between .02 and .08 percent. Moreover, the negative correlation would likely disappear were the analysis extended to include the next decade and a half, a period in which the city's prison admissions and incarceration rates consistently declined alongside declining crime.[104]

Several other studies have examined trends at the precinct level and found that neither prison admissions nor the ratio of imprisonment to felony arrests are significantly related to rates of homicide or robbery.[105] In fact, Cerda et al. find incarceration rates are associated with increases in gun-related homicides among certain age groups.[106] This finding is consistent with an emerging body of work that points to the deleterious community effects of imprisonment, arguing U.S. incarceration policy is not only racially and socially inequitable, but counter-productive in its crime prevention aim.[107]

Zimring does not offer regression estimates of incarceration effects or lack thereof. Instead, the argument in *The City that Became Safe* is a broader and more intuitive one: the New York City experience makes stark that expanding prisons and jails is by no means a necessary condition for lowering crime. What for over a generation had been taken to be an important if not the determinative influence on crime looks to be almost inoperative in New York. As such, the New York City crime drop undercuts the ascendancy of imprisonment as the go-to response to street crime, and much of the theory of crime prevention upon which imprisonment policy gained its dominance.

California's recent realignment policy offers collaborative large-scale circumstantial evidence of the relatively weak link between aggregate incarceration and crime trends.[108] In New York City there was a dramatic decline in crime without increases in imprisonment; in

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[102] *Id.*

[103] *Id.* at 256.

[104] ZIMRING, *supra* note 2.

[105] *See* Magdalena Cerdá et al., *Misdemeanor Policing, Physical Disorder, and Gun-Related Homicide: A Spatial Analytic Test of 'Broken-Windows' Theory*, 20 EPIDEMIOLOGY 533, 538–39 (2009).

[106] *Id.* at 536.

[107] *See* Todd R. Clear, *The Impacts of Incarceration on Public Safety*, 74 SOC. RES. 613 (2007).

[108] ZIMRING, *supra* note 2, at 167.

California, there was substantial de-carceration without substantive increases in crime: between 2012 and 2014 California's imprisonment rate dropped from 622 inmates per 100,000 residents to 570 inmates per 100,000, with only about a third offset by increases in the jail population.[109] This amounted to roughly 18,000 more formerly incarcerated individuals on the street.[110] Yet researchers have found no evidence that realignment had an impact on violent crime or property crime, except for motor vehicle theft.[111]

While the New York City (and California) crime and incarceration trends highlight the loose relationship between aggregate rates of penal confinement and crime, our ability to make conclusive causal claims with respect to the effects of incarceration, or incapacitation specifically, is limited.[112] None of the empirical studies testing New York City incarceration effects employ quasi-experimental designs to account for the problem of endogeneity between crime and incarceration rates. That is, the problem that crime and incarceration are to some extent simultaneously determined, with the effects pulling in opposite directions: more incarceration should, in theory, reduce crime, but changes in crime that are unrelated to incarceration policy will push incarceration in the same direction.[113] This endogeneity is now widely recognized as a

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[109] Magnus Lofstrom & Steven Raphael, *Realignment, Incarceration, and Crime Trends in California,* PUBLIC POLICY INSTITUTE OF CALIFORNIA (2015), https://www.ppic.org/publication/realignment-incarceration-and-crime-trends-in-california/.

[110] *Id.* at 5.

[111] *Id.*

[112] The loose relationship between trends in crime and trends in incarceration is present at the national, state, and local level. In the United States, from the 1920s through the mid 1970s, the number of people incarcerated in American state and federal prisons hovered around 110 per 100,000 in the population (with a high of 131.5 and low of 95.5 in 1972), *See* Frank E. Zimring, *The Scale of Imprisonment in the United States: Twentieth Century Patterns and Twenty-First Century Prospects*, 100 J. CRIM. L. AND CRIMINOLOGY 1225, 1227 (2010). Since 1972, state and federal imprisonment rates grew every year; by 2007 it had increased more than fivefold, reaching 503 per 100,000 in 2007. *Lofstrom & Raphael*, *supra* note 109. Likewise, the nation's jail population expanded considerably, albeit at a slightly slower rate, from 80 per 100,000 in 1980, the first year data are available, to 247 per 100,000 in 2009. Meanwhile, over these decades of unabated prison and jail expansion, serious crime cycled up and down several times. Today, despite the dramatic increase in the rates of incarceration, the national crime rate in the U.S. is roughly what it was in 1970, *See* Todd Clear, IMPRISONING COMMUNITIES: HOW MASS INCARCERATION MAKES DISADVANTAGED NEIGHBORHOODS WORSE (2009).

[113] *See* Daniel S. Nagin, *Deterrence: A Review of the Evidence by a Criminologist for Economists*, 2013 ANN. REV. OF ECON. 83, 86.

fundamental identification problem likely to bias estimates of the prison-crime effects toward zero.[114] A failure to account for the simultaneous relationship was an inherent flaw in early panel regression studies of the crime-incarceration relationship, and is similarly present in the studies estimating incarceration effects on crime in New York.

More generally, seeking any causal explanation such as incarceration for the New York City crime difference, or the 1990s nationwide crime drop more generally, is a search for the causes of an effect rather than the effect of a cause and this inherently limits strong causal conclusions.[115] The rise of the counterfactual paradigm and "credibility revolution" in the social sciences, including in criminology, has moved research towards a focus on identifying the specific effect of an identified cause (for example, the effect of police on crime, as compared to seeking causes such as the causes of falling crime).[116] With this causal turn, correlational evidence such as been offered in New York City is more readily dismissed.

At the same time, causal stringency may lead us to miss the forest for the trees. A simple time-series association, or lack thereof, between crime and incarceration does not offer an estimate of a well-identified effect, but the lack of correlation between incarceration and crime highlights the relatively weak place that incarceration, at least at the level seen in the U.S. in the last decades, has had in explaining changes in crime. All else equal, more imprisonment may have some crime-suppressing effect, and higher (or lower) crime should result in higher (or lower) imprisonment. But the impact in either direction may be relatively small.[117] Whatever the precise magnitude of incarceration effects, expanding prisons and jails does not provide a plausible account for New York City's steeper and longer crime drop relative to other American cities.

Declining Return to Prison & Probationer Re-arrest Trends

One account for the minor role of incarceration in the New York City crime decline is the diminishing returns of incarceration and the near

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[114] Rucker Johnson & Steven Raphael, How Much Crime Reduction Does the Marginal Prisoner Buy? 55 J. L. ECON. 275, 275–310 (2012).

[115] Paul W. Holland, *Statistics and Causal Inference*, 81 J. OF THE AM. STATISTICAL ASS'N 945, 945 (1986).

[116] Robert J. Sampson et al., *Translating Causal Claims*, 12 CRIMINOLOGY & PUB. POL'Y 587, 588–90 (2013).

[117] *See generally* TODD R. CLEAR, IMPRISONING COMMUNITIES: HOW MASS INCARCERATION MAKES DISADVANTAGED NEIGHBORHOODS WORSE (2009).

non-existent crime reducing effects present at current rates of incarceration in the U.S.[118] Such an interpretation does not demand a revision of the notion of fixed proclivities for career criminals, as Zimring suggests. However, Zimring offers additional evidence to speak more directly to individual behavior trajectories. He presents two time series showing declines in prison return rates and rearrests among former prisoners and probationers, respectively, as potential documentation that experienced felons fully participated in the decline in serious crime in the city.[119]

The rate of new felony returns among former inmates from New York City closely tracks the city's crime trends: the return rate rises in the late 1980s, as did crime rates, reaching a high of 28% returned among the 1990 release cohort, and then declines steadily, falling to 8%-9% returned within three years for the last three release cohorts (2009-2011) for whom data is available.[120] Data on probationer rearrests is only available dating back to 1995, but the same pattern of decline is present: between 1998 and 2011 the rate of re-arrest within three years for any felony fell from 42% to 31% and from 18% to 12% for violent re-arrests.[121] These smaller drops over the shorter time frame are consistent with the larger decline over the longer time period in the rate of prison return.

Zimring references these trends as demonstration of the significant effect the general crime environment can have on criminal behavior and the criminal trajectories of already experienced offenders. Offenders returning from prison to a city in which there was less crime, in which their friends were engaged in less crime, meant they themselves were less likely to engage in crime. This implies the New York City crime decline was not just a matter of a new generation of youth committing crimes at lower rates, but also included the participation of already active and serious offenders. If so, criminal behavior, even among high-risk groups, is much more situational and contingent than the theories underlying incapacitation had assumed.

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[118] This work suggests diminishing returns set in with levels of incarceration at less than 200 per 100,000. STEVEN RAPHAEL & MICHAEL A. STOLL, WHY ARE SO MANY AMERICANS IN PRISON? 211–12 (2013).

[119] ZIMRING, *supra* note 2, at 168.

[120] ZIMRING, *supra* note 2, at 167; Zimring's data is from 1990-2005; 10% of the 2005 release cohort were returned for a new felony within three years.

[121] ZIMRING, *supra* note 2, at 169.

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Some Problems with the Aggregate Statistics

While Zimring's data are suggestive, two central assumptions are required to interpret them as evidence that refutes the notion of fixed criminal proclivities. First, it must be assumed that the decline in the prison return rate is not an artifact of prosecutorial and court practices but, rather, represents real change in criminal behavior. Each point in the criminal justice system - the decision to arrest, to criminally prosecute, to convict, and to imprison - are involved in who ends up being returned to prison. Insofar as these practices changed over the course of the crime decline, new felony returns to prison will not serve as a consistent proxy for individual returns to crime. For this reason, to better capture the behavioral trends, the felony return to prison statistics should, at a minimum, exclude those returned on a felony drug conviction. Drug arrests and convictions are poor proxy for other criminal behavior (serious crime and violence) that is the focus of the scholarship on "criminal careers." Further, drug arrests and convictions are highly discretionary, making them particularly subject to shifts in the criminal justice system's policies and practice. Indeed, an analysis of New York City court statistics reveals prison sentences for felony drug convictions fell substantially during the 1990s and into the 2000s.[122]

The probationer re-arrest data offers some an advantage over the prison return data in that it is a less mediated measure of criminal behavior. In these data, there is not the same concern about changes in prosecutorial charging or court sentencing. But here again the trends would be more convincing proxies for criminal behavior were they to exclude felony drug arrests. Further, it is possible that the nature of supervision changed, which would provide an alternative account for the statistics that does not require a story of behavior change.

Second, Zimring assumes that the risk profile of the released prisoners and probationers did not change in significant ways over the period of study. But here too, if the average risk of the released inmate or probationer fell during this period this would offer an alternative account for the lower rates of arrest and incarceration. Indeed, there is some evidence that the risk composition of prison releasees changed over this period. The most dramatic and important change was the increasing age of the prison release cohorts. The average age of those released in 1990 was thirty; in 2008 the average age of releasees was thirty-seven.[123] In

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[122] Email from the New York State Division of Criminal Justice Services (NYDJS) (on file with author).

[123] This was calculated from data obtained from the New York Department of Corrections (on file with author).Their data also shows that while length of stay in prison

summary, we cannot simply interpret the drops in the rates of new felony returns and probationer rearrests as commensurate with drops in personal crime rates among former prisoners and probationers.

At the same time, holding age constant, the likelihood of re-arrest for a major violent and property crime was lower among ex-prisoners released in 2008, an era in which there was dramatically less crime in New York City.[124] This leaves open the question of how and to what extent the crime environment influenced the personal crime rates of known offenders.

In the following final section, the article turns to describe alternative models of criminal behavior that view potential offenders as sensitive to their economic, social and policy environments. The section focuses on the rational choice theory of deterrence, and social influence and social contagion models of crime.

ALTERNATIVE MODELS OF CRIMINAL BEHAVIOR

Deterrence & The Economic Model of Crime

The economic literature on crime has long recognized a model of offending behavior that assumes offenders are sensitive to costs and benefits.[125] Economists studying crime and incarceration have given much more attention to deterrence than to incapacitation, which has been the focus in criminology.[126] The principle assumption at the heart of deterrence theory is that individuals respond to changes in the certainty, severity, and celerity (immediacy) of punishment and the decision to engage in crime involves a calculation of net utility gains and losses.[127] These foundational principles were first articulated by the Enlightenment philosophers Cesar Beccaria and Jeremy Bentham,[128] who both advocated

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did increase in the 1990s, particularly for violent crimes, this aging of the release cohorts appears to have be driven in large part by the aging of the population *entering* prison.

[124] This is derived from a regression analysis of data obtained from the New York State Division of Criminal Justice Services (NYDJS) (on file with author).

[125] *See generally* Aaron Chalfin & Justin McCreary, *Criminal Deterrence: A Review of the Literature*, 55 J. of Econ. Literature 5 (2017).

[126] *See* Daniel S. Nagin, *Criminal Deterrence Research at the Outset of the Twenty-First Century*, 23 Crime & Just. 1, 1–2 (1998).

[127] Daniel S. Nagin et al., *The Economics of Deterrence: A Review of the Theory and Evidence*, *in* DETERRENCE, CHOICE, AND CRIME, VOL. 23, 39 (Daniel S. Nagin et al. eds., 2018).

[128] Jeff L. Lewin & William N. Trumbull, *The Social Value of Crime?*, 10 INT'L. REV. L. ECON. 271, 272–73 (1990).

for a rationalization of the criminal law with an aim to prevent rather than punish crime.

The modern writings on criminal deterrence, and empirical attempts to verify and quantify its magnitude, are rooted in Gary Becker's seminal article "Crime and Punishment: An Economic Approach."[129] Becker plainly described his efforts as a resurrection and modernization of the pioneering studies of Beccaria and Bentham, which at the time of his writing had "fallen out of favor."[130] From the mid-nineteenth century through much of the twentieth century, the study of crime had instead been concerned chiefly with establishing the "root" causes of law breaking, whether it be through an individual-centered psychological or biological model of criminal behavior, or a sociological model of crime concerned with ecological and social conditions. Becker argued that crime should instead be seen as an activity like any other economic activity: the product of rational self-interest. "Some persons become 'criminals,' not because their basic motivation differs from that of other persons, but because their benefits and costs differ."[131]

Becker offered a simple expected utility model of criminal decision-making: an individual is assumed to be a rational actor who will engage in criminal activity when the benefits of committing a crime, discounted by the expected cost of punishment, is greater than the utility associated with the risk-free choice of abstaining from crime. The expected cost calculus is comprised of two components: (1) the probability of sanctioning, and (2) the magnitude or severity of the punishment imposed on those caught.[132]

According to the original Becker model, whether potential criminals will be more deterred by increases in the probability or severity of the sanction depends on whether individuals are risk preferring or risk adverse.[133] An increase in the probability of punishment will be a more effective deterrent only if individuals are risk preferring; if individuals are risk averse, increasing the severity of punishment will be a more effective deterrent.[134] The optimal enforcement policy should thus depend on

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[129] Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1968).

[130] *Id.* at 209.

[131] *Id.* at 176.

[132] *Id.* at 178.

[133] *Id.* at 178.

[134] Scholars have noted that this result in Becker's model requires the assumption that the baseline utility is that of getting away with crime. *See e.g.,* William W. Brown & Morgan O, *Reynolds, Crime and "punishment": Risk implications*, 6 J. OF ECON. THEORY 508 (1973).

potential offenders' responsiveness to changes in enforcement or sanctioning (and the cost to the state of apprehending, convicting and punishing offenders).[135]

An extensive literature has developed elaborating and refining this core economic model of crime.[136] There has also been extensive econometric work attempting to estimate the causal impact of crime control policies, with evidence in support of the deterrent effect of the certainty of punishment, specifically, the certainty of apprehension, far more consistent than evidence for the severity of punishment.[137] Such evidence suggests the nation's crime control dollars should be shifted from prisons towards spending on law enforcement and other forms of crime prevention: the "bang-per-buck" of additional police spending is estimated to be approximately $1.60 in reduced crime costs for each additional dollar spent, as compared to estimates suggesting the return on each dollar spend on California prisons is less than one.[138]

The most recent and statistically sophisticated estimates of apprehension deterrence, mostly operationalized as the effect of the police on crime, have used quasi-experimental designs to account for the problems of simultaneity and measurement error bias, and have found increased levels of police have a significant negative effect on rates of crime. McCrary and Chaflin,[139] for example, examine changes in police staffing and crime in large U.S. cities between 1960-2010, and find a 10% increase in police will reduce crime by between roughly 2% and 7%, on average, depending on the crime type.[140] There is also large literature documenting the importance of policing tactics, beyond sheer police

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[135] Becker advocated to use fines "whenever feasible" because doing so will allow the state to achieve the same expected punishment with lower apprehension probabilities, which are costly, and high sanction severity, which, in the form of monetary fines, are costless. Becker, *supra* note 129, at 193.

[136] *See, e.g.*, A. Mitchell Polinsky & Steven Shavell, *On the Disutility and Discounting of Imprisonment and the Theory of Deterrence*, 28 J. LEGAL STUD. 1 (1999).

[137] Recent reviews of the literature on the threat of incarceration as a deterrent have concluded that the effect is modest at best. *See, e.g.*, John J. Donohue & Justin Wolfers, *Estimating the Impact of the Death Penalty on Murder*, 11 AM. L. & ECON. REV. 249, 292 (2009); Steven N. Durlauf & Daniel S. Nagin, *Imprisonment and Crime: Can Both Be Reduced?*, 10 CRIMINOLOGY & PUB. POL'Y 13, 14 (2011); Nagin, *supra* note 113, at 101; RAPHAEL & STOLL, *supra* note 80, at 216–22.

[138] Steven Raphael, *How Do We Reduce Incarceration Rates While Maintaining Public Safety?*, 13 CRIMINOLOGY & PUB. POL'Y 579, 589 (2014).

[139] CHALFIN & MCCRARY, *supra* note 92, at 22.

[140] Indeed, when McCrary and Chaflin restrict their analysis to the 1990s, the estimated effects of police on crime are even larger, supporting the hypothesis of the efficacy of the police innovations of the last decades. *See id.*

manpower.[141] For example, randomized experiments have supported the idea that targeted deployments to crime "hot spots" produce significant reductions in crime without displacing crime to other parts of the city.[142] This absence of displacement underscores the importance of criminal opportunities in determining not only how crime is distributed, but also its volume.[143] Studies, including Zimring's, have shown individuals do not simply move to a non-patrolled street corner. Instead, they seem to engage in different non-criminal activities altogether.[144]

Returning to the New York City case, by process of elimination, Zimring offers policing as a partial explanation for the city's 85% drop in major crime as compared to the average ~40% drop nationwide. However, Zimring also argues that the police are only part of the New York City crime decline story. The fact that small changes in the environmental context could produce such big changes in the number of serious crimes implies models of criminal behavior that take crime to be social, situational, and contingent. Zimring does not directly measure peer effects or social influence, but does suggests a set of social phenomena likely contributed to the decline and may help to explain the gap between the scale of demographic and policy change in the city and the scale of the crime decline. "If all your friends are doing less crime and you're hanging out with them, so are you."[145]

The article now turns to describe the theory and estimation of social determinants of criminal behavior, in particular the literature on "social interactions" or "peer effects."

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[141] *See, e.g.*, Sherman Telep & Weisburd (2012); David Weisburd & John E. Eck, *What Can Police Do to Reduce Crime, Disorder, and Fear?*, 593 ANNALS AM. ACAD. POL. & SOC. SCI. 42 (2004).

[142] *See* Anthony A. Braga, *Hot Spots Policing and Crime Prevention: A Systematic Review of Randomized Controlled Trials*, 1 J. EXPERIMENTAL CRIMINOLOGY 317 (2005).

[143] If there were complete crime displacement, this would suggest opportunity plays no part in crime determination.

[144] Until the relatively recent implementation and evaluation of place-based policing efforts, it was assumed that targeted crime reduction interventions could not produce overall crime prevention benefits because crime would just move to another place or time. *See e.g.,* R. V.G. Clarke, "Situational" Crime Prevention: Theory and Practice, 20 BRIT. J. CRIMINOLOGY 136, 138 (1980).

[145] *See* Joe Domanick, *The New York "Miracle,"* THE CRIME REPORT (Oct. 17, 2011), http://www.thecrimereport.org/news/inside-criminal-justice/2011-10-the-new-york-miracle.

Social Interaction Models

The concept of an endogenous and self-generating social process that will produce a non-linear affect has been articulated in a scattered set of disciplines and literatures. Models of this nature include tipping points, contagion effects,[146] epidemic theories,[147] threshold models,[148] diffusion models,[149] and bandwagon effects.[150] MacCoun[151] showed that many of these models are just special cases of a more general "soft" logistic threshold model. These "threshold" models carry several important implications relevant to how we study and think about crime trends and criminal behavior. First, these models highlight the idea that individual predispositions to engage in criminal behavior will be affected by social context and the extent to which this behavior is already occurring. Second, the models point to the possibility of seeing rapid and non-linear changes in crime following a tipping point or threshold.

Fagan, Wilkinson and Davies[152] explicitly examine the possibility of "social contagion" in New York City. Specifically, they test for and find some evidence that gun contagion can explain the non-linear increase and decline in homicides in the city between 1986-1996. More broadly, versions of social contagion models have been used to understand the spread of violence within and across communities[153] and social

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[146] *See, e.g.*, Jonathan Crane, *The Epidemic Theory of Ghettos and Neighborhood Effects on Dropping Out and Teenage Childbearing*, 96 AM. J. OF SOC. 1226, 1227 (1991); Colin Loftin, *Assaultive Violence as a Contagious Social Process*, 62 BULL. OF THE N.Y. ACAD. OF MED. 550, 550 (1986); Rodrick Wallace, *Expanding Coupled Shock Fronts of Urban Decay and Criminal Behavior: How US Cities Are Becoming "Hollowed Out,"* 7 J. OF QUANTITATIVE CRIMINOLOGY 333 (1991).

[147] *See, e.g.*, Crane, *supra* note 146, at 1227; Jeffrey Fagan, *Death and Deterrence Redux: Science, Law and Causal Reasoning on Capital Punishment*, 4 OHIO ST. J. CRIM. L. 255, 261 (2006).

[148] *See, e.g.*, Mark Granovetter & Roland Soong, *Threshold Models of Collective Behavior*, 83 AM. J. OF SOC. 1420, 1420 (1978); Wallace, *supra* note 146.

[149] *See, e.g.*, Ronald S. Burt, *Social Contagion and Innovation: Cohesion Versus Structural Equivalence*, 92 AM. J. OF SOC. 1287, 1288 (1987); Granovetter & Soong, *supra* note 148, at 166.

[150] *See* Granovetter & Soong, *supra* note 148.

[151] *See* Robert J. MacCoun, *The burden of social proof: Shared thresholds and social influence*, 119 PSYCHOL. REV. 345 (2012).

[152] Jeffrey Fagan, Deanna L. Wilkinson & Garth Davies, *Social Contagion of Violence*, THE CAMBRIDGE HANDBOOK OF VIOLENT BEHAVIOR 688, 698–90 (2007).

[153] *See, e.g.*, Phillip J. Cook & John H. Laub, *The Unprecedented Epidemic in Youth Violence,* CRIME & JUST.(1998); Raaj Kumar Sah, *Social Osmosis and Patterns of Crime: A Dynamic Economic Analysis*, J. OF POL. ECON. (1991); David Hemenway, *Gun Carrying Among Adolescents*, 59 L. & CONTEMPORARY PROBLEMS 39, 44–45 (1996).

interactions have been offered as an account for the high variance in rates of crime across time and space that can't be explained by standard demographic variables.[154] Notably, while the group nature of delinquency and the idea that peers influence criminal behavior has long been recognized in the sociological and criminological literature on crime,[155] the literature has not focused empirically on group criminality as a way to understand crime fluctuations and variability across place and over time.

The central difficulty in estimating social interaction effects is distinguishing between three possible group behavior phenomenon: correlation of individual characteristics (correlated effects), the influence of group characteristics on individuals (contextual effects), and the influence of group behavior on individual behavior (endogenous effects).[156] Correlated effects describe variation across neighborhoods in structural differences and the quality of local institutions such as schools, public transportation, and police.[157] Contextual effects describe the characteristics of neighborhood social factors and the attributes of fellow residents to explain variation across geographic place. This logic underlies social disorganization, sub-culture and labeling theory. The concept animates William Julius Wilson's account of the effects of social isolation and the absence of role models in communities of the "underclass," as well as the Sampson et al. concept of "collective efficacy," which refers to the shared values and levels of trust in a neighborhood that can produce greater levels of social control and correspondingly lower levels of crime.[158] The article now turns to describe

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[154] *See, e.g.*, Edward L. Glaeser et al., *The Social Multiplier*, 1 J. OF EUR. ECON. ASS'N 345, 345 (2003).

[155] *See, e.g.*, JERSEY SARNECKI, DELINQUENT NETWORKS: YOUTH CO-OFFENDING IN STOCKHOLM (2001); MARK WARR, COMPANIONS IN CRIME: THE SOCIAL ASPECTS OF CRIMINAL CONDUCT (2002); Clifford R. Shaw & Henry D. McKay, *Juvenile Delinquency and Urban Areas*, 16 BRITISH J. OF CRIM. 1, 1–3 (1942).

[156] Charles F. Manski, *Identification of Endogenous Social Effects: The Reflection Problem*, 60 REV. OF ECON. STUD. 531, 532–33 (1993).

[157] *See, e.g.,* Christopher Jencks & Susan E. Mayer, *The Social Consequences of Growing Up in a Poor Neighborhood,* INNER-CITY POVERTY IN THE UNITED STATES 111 (1990); Steven D. Levitt, *Juvenile Crime and Punishment*. NATIONAL BUREAU OF ECONOMIC RESEARCH (1997); Steven D. Levitt, *Using Electoral Cycles in Police Hiring to Estimate the Effects of Police on Crime: Reply*, 92 AM. ECON REV. 1244, 1245 (2002); Lawrence W. Sherman, *Trust and Confidence in Criminal Justice*, 248 NAT'L INST. OF JUST. J. 22, (2002); Lance Lochner & Enrico Moretti, *The Effect of Education on Crime: Evidence from Prison Inmates, Arrests, and Self-Reports*, 94 AM. ECON REV. 155, 183–84 (2004).

[158] Terry E. Duncan et al., *A Multilevel Contextual Model of Neighborhood Collective Efficacy*, 32 AM. J. OF COMMUNITY PSYCH. 245 (2003).

the theory and estimation of social determinants of criminal behavior, in particular the literature on "social interactions" or "peer effects."

The Moving to Opportunities (MTO) randomized housing mobility experiment, launched in the 1990s and sponsored by the U.S. Department of Housing and Urban Development, was motivated by the assumption that there are causal neighborhood and peer effects and the need for experimental evidence on the subject.[159] Over 4,500 families living in high-poverty public housing projects in five cities were randomized into a control group, a group receiving geographically-unrestricted Section 8 vouchers, and a full "treatment" group that received vouchers to move to subsidized private-market rental units in neighborhoods with lower levels of poverty.[160]

The findings of the MTO demonstration project were mixed depending on the sub-group and outcome: short-term crime-reduction effects were found for boys, whereas longer term decreases in delinquency were found for girls.[161] More generally, researchers found improvements in adult physical and mental health, but no improvement in educational or employment outcomes.[162]

In addition to the experimental evidence generated by the MTO project, there is some quasi-experimental research that speaks to peer effects and criminal behavior. For example, MacCoun et al.[163] exploit a rare natural experiment provided by the randomized grade configuration

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[159] Although Sampson, for example, has argued "sorting" should not simply be seen as an empirical nuisance that biases estimates, but rather is important in its own right as part of the phenomena of social reproduction. Robert J. Sampson, *Rethinking Crime and Immigration*, 7 CONTEXTS 28 (2008).

[160] Jennifer Comey, et. al. *MTO: A Successful Housing Intervention*. CITYSCAPE, 87, 90 (2012).

[161] Jeffrey R. Kling, Jens Ludwig & Lawrence F. Katz,. *Neighborhood effects on crime for female and male youth: Evidence from a randomized housing voucher experiment*, 120 QUAR. J. OF ECON. 87, 90 (2005).

[162] MTO was an unusual opportunity in which to estimate the importance of neighborhood on short and long-term individual outcomes without the usual concern of spurious correlations. But even with a randomized design, it is not possible to separate contextual from endogenous effects. That is, to the extent that there were neighborhood effects, it is not possible to identify whether these effects were driven by changes in incentives or by social interactions. Criminal behavior could be affected by changes in social expectations associated with the act, the perceived pay-off of engaging in crime, or a non-social phenomenon in which the actual probability of arrest varies by neighborhood context. MARK KLEIMAN, WHEN BRUTE FORCE FAILS: HOW TO HAVE LESS CRIME AND LESS PUNISHMENT 73–76 (2009).

[163] Robert MacCoun et al., *The Negative Impacts of Starting Middle School in Sixth Grade*, 27 J. OF POL'Y ANALYSIS & MGMT. 104, 112 (2008).

in North Carolina middle schools. They find sixth graders exposed to older peers have higher rates of delinquent behavior. Jacob and Lefgren[164] use the exogenous variation generated by teacher in-service days to estimate the short-term effect of school on juvenile crime. They find the level of property crime committed by juveniles decreases by 14% on days in which school is in session, suggesting school serves an incapacitation function, but find that levels of violent crime increase by 28% on such days, suggesting a concentration influence on juvenile crime. Unsupervised, juveniles are more likely to engage in property crime, but social interactions appear to play an important role in explaining violent crimes.[165]

The models of criminal behavior described in this section all share the assumption that criminal behavior is susceptible to modest changes in environmental and social circumstances. Again, these conceptions stand in contrast to the early incapacitation framework that assumed some significant number of offenders with fixed criminal proclivities.[166]

CONCLUSION

This article has focused on Franklin Zimring's account of the New York City crime decline as a case study pointing to the fallibility of early incapacitation theory and the assumption that there might be a straightforward translation between the number of incarcerated offenders and the amount of crime. If we now take the macro and micro environment to be important determinants of criminal behavior, we are still left with many open questions as to how place and period operate on potential offenders and offending rates. There is substantial circumstantial evidence that changes in the environment have an impact on personal

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[164] Brian A. Jacob & Lars Lefgren, *Are Idle Hands the Devil's Workshop? Incapacitation, Concentration, and Juvenile Crime*, 93 THE AM. ECON. REV. 1560, 1561 (2003).

[165] *Id.* at 1560.

[166] A number of crime prevention strategies follow from the insight that criminal activity is much like any other human behavior - social, subject to incentives, opportunities and contingencies. These strategies include various forms of policing, such as "focused deterrence" or "pulling-levers policing." DAVID KENNEDY, DETERRENCE AND CRIME PREVENTION: RECONSIDERING THE PROSPECT OF SANCTION (2009). Further, look to probationer programs such as Project HOPE (Hawaii Opportunity with Probation Enforcement) - a community supervision program that aims to efficiently and effectively allocate scarce resources by setting out clear conditions of probation, closely monitoring compliance, and imposing quick and predictable sanctions for rule violations. ANGELA HAWKEN & MARK KLEIMAN, MANAGING DRUG INVOLVED PROBATIONERS WITH SWIFT AND CERTAIN SANCTIONS: EVALUATING HAWAII'S HOPE 4–5 (2009).

crime rates and community crime rates, but there is no direct or observational evidence to confirm this inference.[167] Further, even if we had credible evidence for an environmental effect, this still tells us nothing about *how* environments influence individuals and groups. As Zimring articulates, the critical next step is to seek evidence and generate research strategies to make visible whatever processes are operating on individuals and groups.

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[167] And circumstantial evidence may overestimate the magnitude of the effect - it is because there was such a large drop in crime in New York City in the first place that we even begin to search for the cause of the effect.