From the Asylum to the Prison: Rethinking the Incarceration Revolution

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The incarceration revolution of the late twentieth century fueled ongoing research on the relationship between rates of incarceration and crime, unemployment, education, and other social indicators. In this research, the variable intended to capture the level of confinement in society was conceptualized and measured as the rate of incarceration in state and federal prisons and county jails. This, however, fails to take account of other equally important forms of confinement, especially commitment to mental hospitals and asylums.

When the data on mental hospitalization rates are combined with the data on imprisonment rates for the period 1928 through 2000, the incarceration revolution of the late twentieth century barely reaches the level of aggregated institutionalization that the United States experienced at mid-century. The highest rate of aggregated institutionalization during the entire period occurred in 1955 when almost 640 persons per 100,000 adults over age 15 were institutionalized in asylums, mental hospitals, and state and federal prisons.

Equally surprising, the trend for aggregated institutionalization reflects a mirror image of the national homicide rate during the period 1928 through 2000. Using a Prais-Winsten regression model that corrects for autocorrelation in time-series data, and holding constant three leading structural covariates of homicide, this Article finds a large, statistically significant, and robust relationship between aggregated institutionalization and homicide rates.

These findings underscore, more than anything, how much institutionalization there was at mid-century. The implications are both practical and theoretical. As a practical matter, empirical research that uses confinement as a value of interest should use an aggregated institutionalization rate that incorporates mental hospitalization rates. At a theoretical level, these findings suggest that it may be the continuity of confinement—and not just the incarceration explosion—that needs to be explored and explained.

I.   Introduction

The classic texts of social theory from the 1960s tell a consistent story not only about the rise and (in some cases) fall of discrete carceral institutions, but also of the remarkable continuity of confinement and social exclusion. This pattern is reflected in the writings of Erving Goffman on *Asylums*,[1] Gerald Grob on *The State and the Mentally Ill*,[2] David Rothman on *The Discovery of the Asylum*,[3] and Michel Foucault.[4]   In *Madness and Civilization*, for instance, Foucault traces the continuity of confinement through different stages of Western European history, from the lazar houses for lepers on the outskirts of Medieval cities, to the Ships of Fools navigating down rivers of Renaissance Europe, to the establishment in the seventeenth century of the Hôpital Général in Paris—that enormous house of confinement for the poor, the unemployed, the homeless, the vagabond, the criminal, and the insane.[5]

Surprisingly, this literature never made its way into the empirical social science research on the incarceration revolution of the late twentieth century. With the marked exception of a few longitudinal studies on the *interdependence* of mental hospital and prison populations,[6] as well as a small subset of the empirical research on the causes of the late-twentieth century prison explosion,[7] no published empirical research conceptualizes the level of confinement in society through the lens of institutionalization *writ large*.   Uniformly, the research limits the prism to rates of imprisonment only.   None of the research that uses confinement as an *independent*

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1. ERVING GOFFMAN, ASYLUMS: ESSAYS ON THE SOCIAL SITUATION OF MENTAL PATIENTS AND OTHER INMATES (1961).

2. GERALD N. GROB, THE STATE AND THE MENTALLY ILL: A HISTORY OF WORCESTER STATE HOSPITAL IN MASSACHUSETTS 1830–1920 (1966).

3. DAVID J. ROTHMAN, THE DISCOVERY OF THE ASYLUM: SOCIAL ORDER AND DISORDER IN THE NEW REPUBLIC (1971).

4. MICHEL FOUCAULT, MADNESS AND CIVILIZATION (Richard Howard trans., Vintage Books 1988) (1961).

5. *Id.*

6. *See, e.g.*, Peter N. Grabosky, *Rates of Imprisonment and Psychiatric Hospitalization in the United States*, 7 SOC. INDICATORS RES. 63 (1980) (examining the interrelation between prison and mental hospitalization rates 1930–1970); Allen E. Liska et al., *Modeling the Relationship Between the Criminal Justice and Mental Health Systems*, 104 AM. J. SOC. 1744 (1999) (examining the reciprocal relationship between the mental health system and the criminal justice system); Henry J. Steadman et al., *The Impact of State Mental Hospital Deinstitutionalization on United States Prison Populations, 1968–1978*, 75 J. CRIM. L. & CRIMINOLOGY 474 (1984) (employing both a comparative framework and a longitudinal framework to analyze the relationship between mental hospital and prison populations).

7. *See, e.g.*, John F. Pfaff, Explaining the Growth in U.S. Prison Populations: 1977–1998 (July 17, 2004) (unpublished working paper, on file with author); Steven Raphael, The Deinstitutionalization of the Mentally Ill and Growth in the U.S. Prison Populations: 1971 to 1996 (Sept. 2000) (unpublished manuscript), *available at* http://ist-socrates.berkeley.edu/~raphael/raphael2000.pdf (finding that mental hospitalization rates have significant negative effects on prison incarceration rates).

variable—in other words, that studies the effect of confinement (and possibly other social indicators) on crime, unemployment, education, or other dependent variables—includes mental hospitalization in its measure of confinement.[8] Moreover, none of the *binary* studies of confinement—in other words, research that explores the specific relationship between confinement and unemployment, or confinement and crime, or confinement and any other non-mental-health-related indicator—uses a measure of coercive social control that includes rates of mental hospitalization.[9] Even the most rigorous recent analyses of the prison–crime relationship use only imprisonment data.[10] Though a tremendous amount of empirical work has been done on long-term crime trends,[11] structural covariates of homicide,[12] unemployment,[13] and the prison expansion,[14] none of this literature

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8. *See, e.g.*, Robert H. DeFina & Thomas M. Arvanites, *The Weak Effect of Imprisonment on Crime: 1971–1998*, 83 SOC. SCI. Q. 635, 644 tbl.1 (2002) (investigating the effect of prison incarceration rates on crime by using per capita imprisonment rates); Steven D. Levitt, *Understanding Why Crime Fell in the 1990s: Four Factors that Explain the Decline and Six that Do Not*, J. ECON. PERSP., Winter 2004, at 163, 177–79 (examining the rising prison population as a factor in the reduction of crime during the 1990s).

9. *See, e.g.*, Alfred Blumstein & Soumyo Moitra, *An Analysis of Time Series of the Imprisonment Rate in the States of the United States: A Further Test of the Stability of Punishment Hypothesis*, 70 J. CRIM. L. & CRIMINOLOGY 376, 377–89 (1979) (examining trends in imprisonment rates by state, noting "[t]he data also exclude prisoners in . . . mental institutions, and other forms of incarceration"); Lee H. Bowker, *Crime and the Use of Prisons in the United States: A Time Series Analysis*, 27 CRIME & DELINQ. 206, 208 tbl.1 (1981) (deriving imprisonment rates by using the number of prisoners in state and federal institutions and examining the relationship between crime and incarceration rates); Theodore G. Chiricos & Gordon P. Waldo, *Punishment and Crime: An Examination of Some Empirical Evidence*, 18 SOC. PROBS. 200, 203–06 (1970) (using state prison data in an examination of the relationship between certainty and severity of punishment and crime rates); Steven D. Levitt, *The Effect of Prison Population Size on Crime Rates: Evidence from Prison Overcrowding Litigation*, 111 Q.J. ECON. 319, 323 (1996) (using prison overcrowding litigation as a variable to analyze the effects of prison population on crime); William J. McGuire & Richard G. Sheehan, *Relationships Between Crime Rates and Incarceration Rates: Further Analysis*, 20 J. RES. CRIME & DELINQ. 73, 77 tbl.1 (1985) (deriving imprisonment rates by using the number of "individuals confined in state and federal institutions" and examining the relationship between crime and incarceration rates).

10. *E.g.*, DeFina & Arvanites, *supra* note 8 (analyzing the effect of imprisonment on seven criminal offenses using annual state-level data); Levitt, *supra* note 9; Levitt, *supra* note 8; Thomas B. Marvell & Carlisle E. Moody, Jr., *Prison Population Growth and Crime Reduction*, 10 J. QUANTITATIVE CRIMINOLOGY 109, 127 (1994) (investigating the relationship between state prison population and crime rates).

11. *See, e.g.*, Blumstein & Moitra, *supra* note 9, at 377 (examining state prison populations "from 1926 to 1974"); Lawrence E. Cohen & Kenneth C. Land, *Age Structure and Crime: Symmetry Versus Asymmetry and the Projection of Crime Rates Through the 1990s*, 52 AM. SOC. REV. 170, 170 (1987) (analyzing "annual rates of homicide and motor vehicle theft from 1946 to 1984").

12. *See, e.g.*, Kenneth C. Land et al., *Structural Covariates of Homicide Rates: Are There Any Invariances Across Time and Social Space?*, 95 AM. J. SOC. 922, 922 (1990) (explaining that the current empirical literature on the structural covariates of homicide rates contains inconsistent findings across time periods and geographical units, and that a reestimation of the regression model greatly reduces these inconsistencies).

13. *See infra* notes 72–79 and accompanying text.
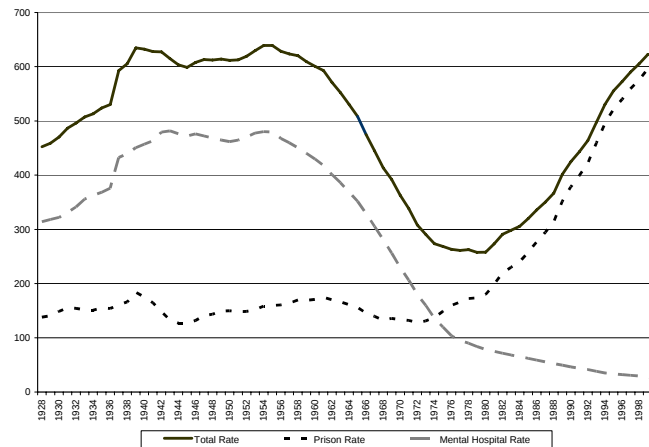
conceptualizes confinement through the larger prism of institutionalization, and none of it aggregates mental hospitalization data with prison rates.

This is remarkable for at least two reasons. First, the empirical data on mental hospitalization reflect extraordinarily high rates of institutionalization at mid-century. Simply put, when the data on mental hospitalization rates are combined with the data on prison rates for the years 1928 through 2000, the incarceration revolution of the late twentieth century barely reaches the level of aggregated institutionalization that the United States experienced at mid-century.[15] The highest rate of aggregated institutionalization during the entire twentieth century occurred in 1955 when almost 640 persons per 100,000 adults over age fifteen were institutionalized in asylums, mental hospitals, and state and federal prisons. Throughout almost the entire period from 1938 to 1960, the U.S. population experienced rates of institutionalization *in excess* of 600 inmates per 100,000 adults. Figure 1 shows the aggregate rate of institutionalization in the United States for the period 1928 to 2000, as well as the disaggregated trend lines for mental hospitalization on the one hand and state and federal prisons on the other.

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14. *See, e.g.*, Alfred Blumstein & Joel Wallman, *The Recent Rise and Fall of American Violence*, *in* THE CRIME DROP IN AMERICA 1, 1–12 (Alfred Blumstein & Joel Wallman eds., 2000) (noting the enormous expansion of the prison population); Levitt, *supra* note 8, at 178–79 (examining the link between increased punishment and lower crime rates); Marvell & Moody, *supra* note 10, at 109 (suggesting that regression analysis is a better tool for estimating the impact of increased imprisonment on crime rates); William Spelman, *The Limited Importance of Prison Expansion*, *in* THE CRIME DROP IN AMERICA 97, 125 (Alfred Blumstein & Joel Wallman eds., 2000) (concluding that increased incarceration was an important contributing factor to the reduction of violent crime in recent years).

15. For a description of the methodology employed to determine the institutionalized population rates discussed in this Article, see *infra* subpart III(A).

Figure 1: Institutionalization in the United States (per 100,000 adults)
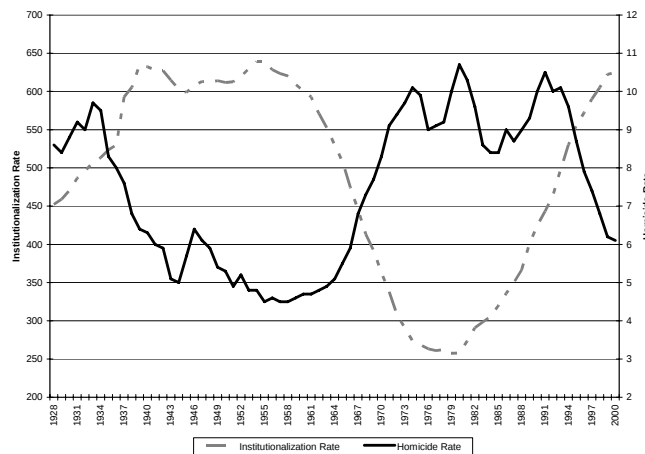
Aggregating mental hospitalization and imprisonment rates into a combined institutionalization rate significantly changes the trend line for confinement over the twentieth century. We are used to thinking of confinement through the lens of incarceration only, and to referring to the period prior to the mid-1970s as one of "relative stability" followed by an exponential rise—and I include myself here.[16] As a literal matter, this is of course right. If all we are describing is the specific variable in our study and the source of the data, then indeed the observations are relatively stable over the five decades. But the truth is, what we are trying to capture when we use the variable of imprisonment is something about confinement in an institutional setting—confinement that renders the population in question incapacitated or unable to work, pursue educational opportunities, and so forth. And from this larger perspective, the period before 1970—in fact, the entire twentieth century—reflects remarkable instability.

Second, for anyone who has spent time looking at longitudinal data on homicide in the United States, the aggregated institutionalization trend from Figure 1 is shocking: it reflects a mirror image of national homicide rates. This is visually represented in the following figure, Figure 2, using vital statistics data from the National Center for Health Statistics.[17]

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16. *See* BERNARD E. HARCOURT, AGAINST PREDICTION: PROFILING, POLICING, AND PUNISHING IN AN ACTUARIAL AGE (forthcoming 2006) (manuscript at 230, on file with the author and the Texas Law Review) (noting that the shift from rehabilitation in the 1950s to incapacitation in the 1980s and 1990s can be traced to the popular rise of actuarial methods in predicting and controlling criminality); BERNARD E. HARCOURT, ILLUSION OF ORDER: THE FALSE PROMISE OF BROKEN WINDOWS POLICING 4 (2001) (describing the dramatic increase in incarceration from the 1970s to the 1990s).

17. Nat'l Ctr. for Health Statistics, Dep't of Health and Human Servs., National Vital Statistics System, http://www.cdc.gov/nchs/nvss.htm.

Figure 2: Institutionalization and homicide rates (per 100,000 adults)

The relationship between aggregated institutionalization and homicide rates in Figure 2 is remarkable, at least at first glance. Later in this Article, I test and quantify the relationship and find that, correcting for autocorrelation in the time-series data and holding constant the leading structural covariates of homicide (poverty, demographic change, and unemployment), the relationship is large, statistically significant, and robust.[18] Naturally, the correlation does not begin to explain the relationship. These are aggregated national level time-series data and, as such, they provide weak power to rule out alternative explanations for the patterns observed in the data. But what this does suggest is that we may need to revisit all of our empirical studies that use the imprisonment rate as a proxy for confinement.

In this Article, I explore the continuity of spatial exclusion and confinement in the United States from the high rates of mental hospitalization in the mid-1950s to the high rates of imprisonment at the turn of the twenty-first century, and argue that *when we conceptualize confinement for purposes of longitudinal research on crime, unemployment, education, or any other social indicator, we should use an aggregated institutionalization rate that includes both mental hospitalization and prison rates.* The potential implications are wide ranging and particularly salient for sociological, criminological, and economic research into the incarceration–crime relationship and punishment theory more generally.

My purpose in this Article is not to prove an institutionalization–homicide relationship, nor to question the studies on the incarceration–unemployment relationship. Instead, my goal is more limited: to reconnect social theory to empirical research; to take seriously the writings on the asylum from the 1960s and 1970s and to allow those writings to inform our

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18. *See infra* subpart III(B).

empirical research; and to provoke us all—myself included—to rethink confinement through the lens of institutionalization.

This Article proceeds in three parts. Part II locates the central idea of the Article in the larger social theory literature and reviews some of the empirical research surrounding the incarceration expansion. Part III presents the empirical data on aggregated institutionalization rates and offers preliminary quantitative findings on the institutionalization–homicide relationship. Part IV then offers reflections on possible interpretations and directions for future research.

II.   Asylums and Penitentiaries

A.   *The Social Theory*

Leading social theorists of the 1960s identified a continuity of spatial exclusion and confinement between the asylum and the penitentiary. Erving Goffman's essays are a good place to start.[19] Goffman located the asylum within the space of what he called "total institutions"—a class of institutions that includes prisons, jails, sanitaria and leprosaria, almshouses for the poor and infirm, army barracks, boarding schools, and monasteries.[20] These total institutions, Goffman explained, are marked by a "basic split" between a group of inmates removed from the outside world and a staff that is integrated with that outside world:[21]

> A total institution may be defined as a place of residence and work where a large number of like-situated individuals, cut off from the wider society for an appreciable period of time, together lead an enclosed, formally administered round of life. Prisons serve as a clear example, providing we appreciate that what is prison-like about prisons is found in institutions whose members have broken no laws. This volume deals with total institutions in general and one example, mental hospitals, in particular.[22]

It is the continuity—and discontinuities—between the different "total institutions" that Goffman explored in his work, tracing the contours of the asylum inmate's world and the inmate's relation to the supervisory staff, and in the process producing a manual on the structure of the self.[23]

David Rothman similarly explored total institutions but from the perspective of social history.[24] He too located the asylum squarely in a shared space with the prison, the sanitarium, the orphanage, and the almshouse. The

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19. GOFFMAN, *supra* note 1.

20. *Id.* at 4–5.

21. *Id.* at 7.

22. *Id.* at xiii.

23. *Id.* at 1–124.

24. ROTHMAN, *supra* note 3.

question Rothman posed was: "Why in the decades after 1820 did [Americans] all at once erect penitentiaries for the criminal, asylums for the insane, almshouses for the poor, orphan asylums for homeless children, and reformatories for delinquents?"[25] It is this "revolution in the practices toward the insane" that Rothman sought to explore and explain—a revolution that encompasses institutionalization writ large.[26]   Institutions, Rothman observed, became places of "first resort, the preferred solution to the problems of poverty, crime, delinquency, and insanity."[27] In remarkably Durkheimian fashion, Rothman's answer turned on social and moral cohesion—on the perceived need to restore some form of social balance during a time of instability at the birth of the new republic.[28] In this quest for stability and social cohesion, the invention of the penitentiary, the asylum, and the almshouse—as well as houses of refuge, reformatories, and orphan asylums—represented an ordering of spatial exclusion necessary to appease apprehension of the unknown.   It produced, again, a continuity of confinement.

In *Madness and Civilization*, Foucault also documented the continuity from the lazar homes for lepers on the outskirts of villages in the Middle Ages to the all encompassing houses of confinement in the seventeenth century, to the birth of the asylum in the modern age:[29]

> Leprosy disappeared, the leper vanished, or almost, from memory; these structures remained. Often, in these same places, the formulas of exclusion would be repeated, strangely similar two or three centuries later. Poor vagabonds, criminals, and "deranged minds" would take the part played by the leper . . . . With an altogether new meaning and in a very different culture, the forms would remain— essentially that major form of a rigorous division which is social exclusion but spiritual reintegration.[30]

Goffman's "total institutions" were all reunited in the establishment in 1656 by Louis XIV of the Hôpital Général in Paris.[31] Once an arsenal, a rest home for war veterans, and several hospitals, the new Hôpital Général served as a house of confinement for the poor, the homeless, the unemployed, prisoners, and the insane—those who sought assistance and those who were

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25. *Id.* at xiii.

26. *Id.* at 128.

27. *Id.* at 131.

28. *See id.* at 133 (observing that the goals of the asylum system was to create a "new world of the insane [that] would correct within its restricted domain the faults of the community and through the power of example spark a general reform movement" and noting that that "broad program had an obvious similarity to the goals of the penitentiary").

29. FOUCAULT, *supra* note 4, at 1–4.

30. *Id.* at 5.

31. *Id.* at 37.

sent there by royal or judicial decree.[32] In the space of several months, one out of every hundred inhabitants of Paris would find themselves confined in these institutions.[33] What characterized the house of confinement was precisely its indiscriminate nature: "the same walls could contain those condemned by common law, young men who disturbed their families' peace or who squandered their goods, people without profession, and the insane."[34]

An outpouring of critical work in the 1960s and 70s, from the Left and from the Right, portrayed the mental hospital as an inherently repressive institution, on par with the prison. Drawing on the writings of Thomas Szasz, especially, *The Myth of Mental Illness*,[35] as well as on the works of Goffman, Rothman, Foucault, and Michael Ignatieff,[36] these critical writings contributed to the idea of continuity in confinement.[37] From this perspective, mental illness was "an abstraction designed to rationalize the confinement of individuals who manifested disruptive and aberrant behavior" and the asylum's primary function was to "confine social deviants and/or unproductive persons."[38]

B. The Empirical Social Science Research

But little of the social theorizing made its way into the measurement of coercive social control for purposes of empirical research, data collection, and statistical analyses. The one exception, naturally, involves studies of the interdependence of mental hospitalization and prison populations. This research specifically explores whether the deinstitutionalization of mental hospitals in the 1960s fed prison populations, contributing to the rise in incarceration in the following decades.[39] But other than this specific body of literature, the link between the asylum and the penitentiary has essentially been ignored.

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32. *See id.* at 43 ("We must not forget that a few years after its foundation, the Hôpital Général of Paris alone contained six thousand persons, or around one percent of the population.").

33. *Id.*

34. *Id.*

35. THOMAS SZASZ, THE MYTH OF MENTAL ILLNESS: FOUNDATIONS OF A THEORY OF PERSONAL CONDUCT (1961) (arguing against modern psychiatry and denying the existence of mental illness).

36. MICHAEL IGNATIEFF, A JUST MEASURE OF PAIN: THE PENITENTIARY IN THE INDUSTRIAL REVOLUTION, 1750–1850, at 210 (1978) ("The persistent support for the penitentiary is inexplicable so long as we assume that its appeal rested on its functional capacity to control crime. Instead, its support rested on a larger social need. It had appeal because the reformers succeeded in presenting it as a response, not merely to crime, but to the whole social crisis of a period . . . .").

37. *See* GERALD N. GROB, MENTAL ILLNESS AND AMERICAN SOCIETY, 1875–1940, at ix (1983) (stating that 1960s "revisionist scholars" thought "mental illness was not an objective description of a disease within the conventional meaning of the term; it was rather an abstraction designed to rationalize the confinement of individuals who manifested disruptive and aberrant behavior").

38. *Id.* at ix–x.

39. *See supra* notes 6–7 and accompanying text.

This is the product, in part, of the balkanization of research on systems of social control.[40] Criminologists and sociologists of punishment have turned most of their attention recently—and justifiably—to the massive prison build-up.[41] Historians of mental health systems, in contrast, have had their own remarkable trend to explain: the massive deinstitutionalization of mental health patients.[42] The focus of their research predominantly has been to analyze the shift to deinstitutionalization, and much of the research has explored alternative explanations to the traditional humanitarian gloss.[43] But the two research interests seem not to have intersected.

It is also, in part, an accident of history. Much of the longitudinal research into structural covariates of homicide and the incarceration–crime relationship was conducted using pre-1980 data during a period of perceived stability of imprisonment—for instance, the important work of Alfred Blumstein on the stability-of-punishment hypothesis,[44] research on the prison–crime nexus,[45] leading studies on covariates of homicide,[46] and research of the National Research Council's Panel on Deterrent and

40. *See* Liska et al., *supra* note 6, at 1744 ("The last decade has witnessed a plethora of social control studies, ranging from imprisonment to psychiatric hospitalization. Unfortunately, research on each of these two forms tends to be isolated from the other, and research on the relationships between them is limited.").

41. *See supra* note 7 and accompanying text.

42. *See, e.g.*, William Gronfein, *Incentives and Intentions in Mental Health Policy: A Comparison of the Medicaid and Community Mental Health Programs*, 26 J. HEALTH & SOC. BEHAV. 192, 192 (1985) ("State hospital populations have declined substantially since the mid-1950s, falling by more than 75% from 1955 to 1980.").

43. Gronfein shows that the structure of reimbursement policies that came into effect with the passage of the federal Medicaid program was the decisive factor in moving toward deinstitutionalization—and not, as many tend to think, the mere policy choice, nor the funding of community mental health centers. *Id.* at 193. *But see* Uri Aviram et al., *The Effects of Policies and Programs on Reduction of Mental Hospitalization*, 10 SOC. SCI. & MED. 571, 576 (1976) ("In an attempt to account for variations in the decline trends for inpatients in mental institutions between and within states during a 15-yr period, we found an association between the pattern of decline and change in administrative policies and programs."); Stephen Rose, *Deciphering Deinstitutionalization: Complexities in Policy and Program Analysis*, 57 MILBANK MEMORIAL FUND Q. 429, 434–35 (1979) (discussing various factors scholars have proposed as influencing deinstitutionalization, such as a humane new concept of mental health, fiscal motives, and the role of psychotropic drugs).

44. *See* Blumstein & Moitra, *supra* note 9, at 389 ("In examining the trends in the per capita imprisonment rates in the forty-seven states, it has been noted that almost half, twenty, are trendless, *i.e.*, stationary, and that the trends in the remainder are small, *i.e.*, less than 2% of the mean per year in all cases. These findings are thus consistent with the general homeostatic process previously observed in the United States as a whole and in other countries.").

45. *See, e.g.*, Bowker, *supra* note 9, at 206 (extending a previous analysis that reported a positive relationship between crime and imprisonment); Chiricos & Waldo, *supra* note 9, at 200 (extending prior research by examining three points in time instead of one and by examining changes in prior rates of crime); McGuire & Sheehan, *supra* note 9, at 73−74 (extending prior research by accounting for "lag structures and interdependencies characterizing the relationships").

46. *See, e.g.*, Land et al., *supra* note 12, at 922 (demonstrating "that the empirical literature on the structural covariates of homicide rates contains inconsistent findings across different time periods and different geographical units").

Incapacitative Effects.[47]   The shock of the incarceration explosion in the 1980s and 1990s led most researchers—including Blumstein[48]—to revise their earlier findings on the stability of punishment, and triggered an outpouring of new research on the effect of incarceration on crime, this time using 1990s data.[49]   But the temporal disjuncture obscured the role of mental hospitalization: By 1999, the number of persons in mental hospitals was so relatively small that the rate of mental hospitalization seemed insignificant.[50]

Lack of attention to the link between the asylum and the penitentiary also reflects the wide gulf between critical social theory and quantitative research.   Whatever the explanation, though, the result is striking: no published empirical research conceptualizes confinement through the lens of aggregated institutionalization.   The criminology has failed to connect the prison to the asylum.

For instance, Alfred Blumstein, in his account of crime trends in the introduction to *The Crime Drop in America*—generally perceived as an authoritative compilation on recent crime trends—never addresses aggregated institutionalization.[51]   With regard to the sharp increase in crime in the 1960s, Blumstein hits on all the usual suspects—the baby-boom generation, political legitimacy, economics[52]—and includes later the usual explanations for the 1990s crime drop—changing drug use patterns, decreased gun violence, New York-style policing, the federal COPS program, and increased incarceration.[53]   Notably absent in all of this, though, is the relationship between mental health and prison populations.   It is simply nowhere in the analysis.   Here, then, are the major causes of the trends from the 1960s to 1990s, according to Blumstein:

> The marked growth in violence between 1965 and the early 1970s may have been, at least in part, a result of the decline in perceived legitimacy of American social and governmental authority during this turbulent period, which contained the civil rights movement and the strident opposition to the war in Vietnam.   The continuing uptrend from 1970 to 1980 and the decline to 1985 are largely attributable to the movement of the baby-boom generation into and then out of the

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47.   NAT'L RESEARCH COUNCIL PANEL ON DETERRENT AND INCAPACITATIVE EFFECTS, DETERRENCE AND INCAPACITATION: ESTIMATING THE EFFECTS OF CRIMINAL SANCTIONS ON CRIME RATES, at vii (Alfred Blumstein et al. eds., 1978).

48.   Alfred Blumstein, *Prisons*, *in* CRIME 387, 388 (James Q. Wilson & Joan Petersilia eds., 1995).

49.   For a review of that extensive literature, see Spelman, *supra* note 14, at 97.

50.   AM. PSYCHIATRIC ASS'N, MENTAL ILLNESS AND THE CRIMINAL JUSTICE SYSTEM: REDIRECTING RESOURCES TOWARD TREATMENT, NOT CONTAINMENT 2 (2004), http://www.psych.org/downloads/MentalIllness.pdf (reporting that in 1955, the state mental hospital population was 559,000, but by 1999, it was less than 80,000).

51.   Blumstein & Wallman, *supra* note 14, at 1–12.

52.   *Id.* at 4.

53.   *Id.* at 4–5, 244.

high-crime ages of the late teens and early twenties; this is reflected in the general stability of violence rates within individual ages during that period. The rise following the 1985 trough should almost certainly be laid at the crack (smokable cocaine) epidemic and the contagion of violence spawned by its markets, which became a major factor in the urban problems of the late 1980s. The decline in the 1990s is a much more complicated story, which involves the numerous factors addressed in the subsequent chapters of this volume.[54]

Those chapters cover gun violence, drug markets, policing practices, demographics, and prison population expansion—but nowhere mention the asylum.

This is also true of the literature that focuses exclusively on the incarceration–crime relationship. When addressing the role of prison populations, for example, Blumstein refers to the period from 1925 to 1975 as "a fifty-year period of impressive stability."[55] Blumstein discounts the role of incarceration as too "simplistic," observing that, "[a]fter all, in the 1980s, during the period of the most prodigious growth in imprisonment, violence was increasing most markedly."[56] (Incidentally, neither of these statements is correct if we use an aggregated institutionalization measure).

More recently, Steven Levitt, in his review of the empirical literature on crime, *Understanding Why Crime Fell in the 1990s: Four Factors that Explain the Decline and Six that Do Not*, identifies the prison-population build up as one of the four factors that explains the crime drop of the 1990s. Levitt estimates that the increased prison population over the 1990s accounted for a 12% reduction of homicide and violent crime, and an 8% reduction in property crime—for a total of about one-third of the overall drop in crime in the 1990s.[57]

When Levitt extends his analysis to discuss the period 1973–1991, however, he sticks to the prison population exclusively and does not even consider the contribution of the declining mental hospital population.[58] For this reason, Levitt is surprised that the drop in crime did not start sooner.[59] Regarding the period 1973–1991, Levitt writes:

> The one factor that dominates all others in terms of predicted impact on crime in this earlier [1973–1991] period is the growth in the prison population. Between 1973 and 1991, the incarceration rate more than tripled, rising from 96 to 313 inmates per 100,000 residents. By my estimates, that should have reduced violent crime and homicide by

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54. *Id.* at 4.

55. *Id.* at 5.

56. *Id.* at 6.

57. Levitt, *supra* note 8, at 178–79.

58. *Id.* at 183–86.

59. *Id.* at 186.

over 30 percent and property crime by more than 20 percent. Note that this predicted impact of incarceration is much larger than for the latter [1990s] period.[60]

Based on prison data alone, Levitt is left with a significant gap between projected and actual crime rates for the period 1973–1991. "[I]n contrast to the 1990s, the actual crime experience in the 1973–1991 period is not well explained by the set of factors analyzed in this paper. There appears to be a substantial unexplained rise in crime over the period 1973–1991."[61] Levitt finds this surprising given the important effect of incarceration in the 1990s. "In the light of the estimates linking increased incarceration to lower crime, it is perhaps surprising that the rising prison population of the 1980s did not induce a commensurate decline in crime in that period."[62]

Levitt concludes: "The real puzzle in my opinion, therefore, is not why crime fell in the 1990s, but why it did not start falling sooner."[63] The answer to that puzzle, though, may well be mental hospitalizations—which, if included in the measure of confinement, would significantly alter the trend from 1973 to 1991. If the value of interest is institutional incapacitation, then imprisonment may not capture it all.

III. Measuring Confinement and Exploring Some Implications

In this Part, I turn to the empirical evidence. I present data on the aggregated institutionalization rate for the United States and explore the relationship between that measure of confinement and homicide rates.

A. Aggregating Mental Hospital and Prison Data

The first task, a simple one, is to aggregate time-series data on the population of mental institutions and prisons—to create an aggregated institutionalization rate. In order to construct such a measure, I draw first on data from the Bureau of Justice Statistics for the number of prisoners under the jurisdiction of state and federal prisons from 1925 to 2004. For data on mental health populations, I draw on several different sources, including the U.S. Department of Commerce publication *Patients in Hospitals for Mental Disease*,[64] the Center for Mental Health Services' *Mental Health* report,[65]

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60. *Id.* at 184.

61. *Id.* at 186.

62. *Id.* at 179 n.7.

63. *Id.* at 186.

64. BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, PATIENTS IN HOSPITALS FOR MENTAL DISEASE, 1946, at 53 (1948); BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, PATIENTS IN HOSPITALS FOR MENTAL DISEASE, 1937, at 2 (1939); BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, PATIENTS IN HOSPITALS FOR MENTAL DISEASE, 1936, at 2, 3 (1938); BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, PATIENTS IN HOSPITALS FOR MENTAL DISEASE, 1935, at 2 (1937); BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, PATIENTS IN HOSPITALS FOR MENTAL DISEASE, 1933, at 16 (1935).

Gerald Grob's *From Asylum to Community*,[66] and an article by Howard Goldman and his colleagues.[67] The resulting data set on mental health populations is nevertheless still missing seventeen values over the seventy-two year period from 1928 to 2000, so I have linearly interpolated the missing observations. In order to compute the rate of institutionalization per 100,000 adults over age fifteen, I use general population data from the U.S. Census Bureau, *Current Population Reports*.[68]

Because there are no reliable statistics on jail populations—in most cases, no data at all—for the period before 1970, I have not included jail population data in the aggregated institutionalization numbers. In the Appendix, I discuss jail data and replicate my models using the best available jail data. The results essentially do not change. But because the data on jail populations are so weak, I have not included them in the body of this Article.

The resulting time-series for the rate of aggregated institutionalization, as compared to the rate of incarceration in state and federal prisons, is represented in Figure 3 below.

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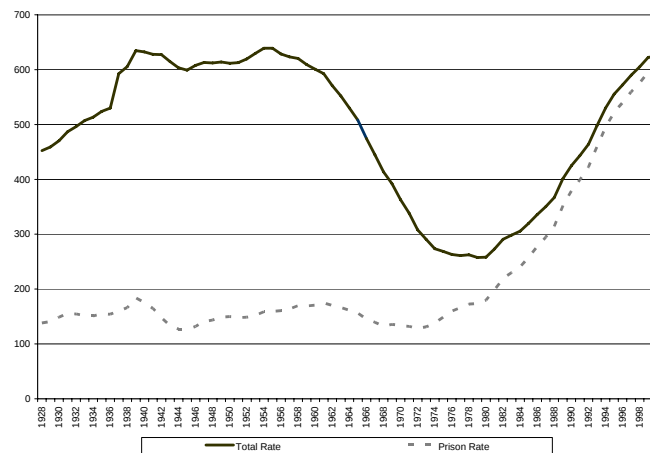
65. CTR. FOR MENTAL HEALTH SERVS., DEP'T OF HEALTH AND HUMAN SERVS., MENTAL HEALTH, UNITED STATES, 2002, at 252 tbl.5 (1998), *available at* http://www.mentalhealth.samhsa.gov/media/KEN/pdf/SMA01-3938/MHUS02_Chapter_18.pdf; CTR. FOR MENTAL HEALTH SERVS., DEP'T OF HEALTH AND HUMAN SERVS., MENTAL HEALTH, UNITED STATES, 1998, at 151 (1998).

66. GERALD N. GROB, FROM ASYLUM TO COMMUNITY: MENTAL HEALTH POLICY IN MODERN AMERICA 258–69 (1991).

67. Howard H. Goldman et al., *Deinstitutionalization: The Data Demythologized*, 34 HOSP. & COMMUNITY PSYCHIATRY 129, 132 tbl.2 (1983) (compiling data on state and county mental hospitals 1950–1980).

68. Bureau of the Census, U.S. Dep't of Commerce, Current Population Reports: Historical National Population Estimates: July 1, 1900 to July 1, 1999 (June 28, 2000), http://www.census.gov/popest/archives/1990s/popclockest.txt.

Figure 3: Institutionalization versus incarceration in the United States (per 100,000 adults)
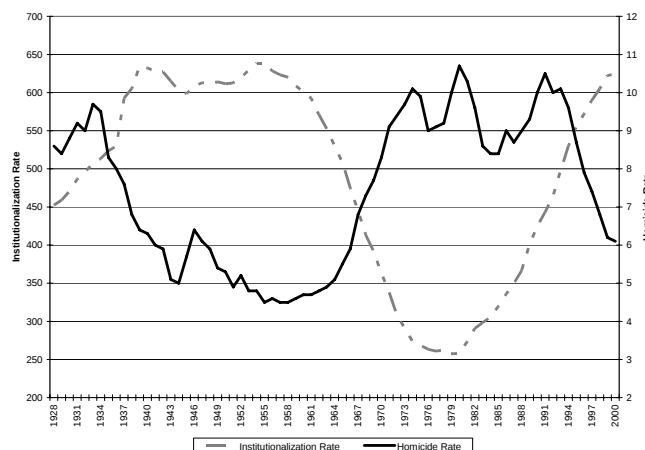
As Figure 3 demonstrates, the trend for aggregated institutionalization for the period 1928–1980 differs significantly from the trend for incarceration alone over that period.

B. *Exploring the Relationship between Institutionalization and Homicide Rates*
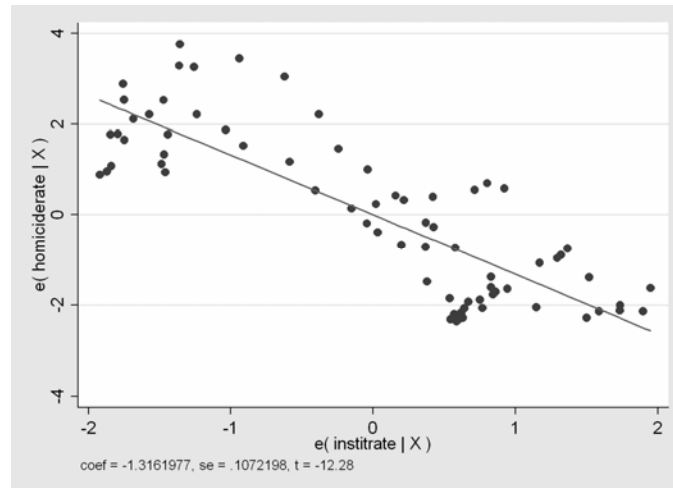
Anyone who has spent time looking at the homicide trends for the twentieth century will immediately recognize that the aggregated institutionalization rate from Figure 3 is an inverted plot—or mirror image—of the homicide trend line during the twentieth century. This is visually represented earlier in Figure 2, which I reproduce again here.

Figure 2: Institutionalization and homicide rates (per 100,000 adults)

The correlation between the aggregated institutionalization and homicide rates is remarkably high: -0.78. This is reflected in the following scatterplot, Figure 4, which plots the observations for each year between 1928 and 2000 (holding constant, as I discuss in a moment, unemployment and youth demographic change).

Figure 4: Institutionalization and homicide rate scatterplot

1. *Prais–Winsten Regression Model.*—The relevant data here involve time series, and as a result are highly autocorrelated—the value in the time series at any one time depends heavily on the value in the preceding time(s). In order to adjust for autocorrelation, I employ a Prais–Winsten regression model with an autocorrelation adjustment of one time lag.[69] The Prais–Winsten model essentially eliminates most of the autocorrelation (which is measured on a scale from 0 to 4 by the Durbin–Watson statistic, 0 being highly positively interrelated data, 2 showing no autocorrelation, and 4 being highly negatively interrelated data).[70] In addition, I compare the results I obtain against a Cochrane–Orcutt regression model, which was an earlier method intended to achieve the same result.[71] These are straightforward

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69. The Prais-Winsten model, which corrects for first-order autocorrelated error, fits this data. The correlogram (autocorrelation function plot) and partial correlogram (partial autocorrelation function plot) of the residuals from the regression analysis reveal that an AR1 effect is the only statistically significant and reliable time series error component. As a result, an AR1 model that eliminates the autocorrelated error at lag 1 fits the data best, and there is no need to use a more complex time series error model.

70. For an extensive explanation of the Prais–Winsten model, see CHARLES W. OSTROM, JR., TIME SERIES ANALYSIS: REGRESSION TECHNIQUES 31–39 (Sage Publ'ns, 2d ed. 1990) (1978).

71. For an extensive explanation of the Cochrane–Orcutt model, see *id.* at 33.

models used by many researchers in the study of time-series data. Apart from the adjustment for autocorrelation, the regression model is simple: the aggregate homicide rate serves as the dependant variable, and the rate of institutionalization and other control variables are the regressors.

The control variables that I employ consist of three leading structural covariates for homicide: the unemployment rate, the changing age structure of the United States, and the poverty rate. I run several models that take account of each individually, as well as the combined effect of these other indicators. A word about each of the three controls:

a. *Unemployment.*—A tremendous amount of research has been conducted on the relationship between rates of crime and unemployment. At a theoretical level, a range of behavioral assumptions (from rational action theory to strain and conflict theories) intuitively suggest that being unemployed may increase the motivation for crime.[72] On the other hand, as David Cantor and Kenneth Land suggest, increased unemployment may also decrease the opportunity for criminal activity by reducing crime targets (employed people with money circulating in the neighborhood).[73]

The empirical research on the unemployment–crime nexus has been mixed and inconsistent, and, as a result, different schools of thought have developed on the salience of unemployment. Some, such as James Q. Wilson and James Alan Fox, discount the relationship completely, arguing that unemployment has little or no effect on crime rates.[74] Others, however, are less categorical. In a thorough review of the research literature, *Rates of Crime and Unemployment: An Analysis of Aggregate Research Evidence*, Theodore G. Chiricos analyzes the findings from 63 studies containing 288 estimates of the crime–unemployment relationship, and concludes that there is a conditional relationship.[75] Chiricos summarizes his findings:

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72. *See* Susan M. Carlson & Raymond J. Michalowski, *Crime, Unemployment, and Social Structures of Accumulation: An Inquiry into Historical Contingency*, 14 JUST. Q. 209, 209 (1997) ("The proposition that increases in unemployment will generate increases in crime has long been accepted as a basic tenet of the macro sociology of crime and delinquency."); Harold L. Votey, Jr., *Employment, Age, Race, and Crime: A Labor Theoretic Investigation*, 7 J. QUANTITATIVE CRIMINOLOGY 123, 151 (1991) (arguing that since "unemployment and/or working shortened periods are associated with increased participation in crime . . . [the] availability of labor-market opportunities can reduce the tendency to participate in crime").

73. David Cantor & Kenneth C. Land, *Unemployment and Crime Rates in the Post-World War II United States: A Theoretical and Empirical Analysis*, 50 AM. SOC. REV. 317, 320–21 (1985).

74. JAMES ALAN FOX, FORECASTING CRIME DATA 29 (1978) ("The absence of an impact of the unemployment rate on the rate of crime appears at this time to be unequivocal."); JAMES Q. WILSON & RICHARD HERRNSTEIN, CRIME AND HUMAN NATURE 312–13 (1985).

75. Theodore G. Chiricos, *Rates of Crime and Unemployment: An Analysis of Aggregate Research Evidence*, 34 SOC. PROBS. 187, 188 (1987); *see also Unemployment and Crime: Hearings Before the Subcomm. on Crime of the House Comm. on the Judiciary*, 95th Cong. app. 2 at 601–26 (1978) (report by Robert W. Gillespie, Associate Professor of Economics, University of Illinois, Urbana, Ill.) (reviewing twenty-one studies and finding a modest conditional relationship); Richard B. Freeman, *Crime and Unemployment*, *in* CRIME AND PUBLIC POLICY 89–106 (James Q. Wilson

[f]or all crimes combined, the U-C relationship is three times more
likely to be positive than negative (75/25 percent) and more than 15
times as likely to be significant/positive as significant/negative (31/2
percent). More meaningful, of course, are comparisons of U-C
findings for specific types of crime. Table 1 reveals that *property*
crimes are more likely than *violent* crimes to produce positive results
(85/64 percent) and significant/positive results (40/22 percent).[76]

One of the main difficulties in studying the unemployment–crime nexus
concerns measurement. The official rate of unemployment reported by
governmental agencies typically includes only those persons who have been
looking for work during the past month or months, but does not include per-
sons who have given up their job search or have never looked for work. The
latter are not considered to be within the labor force, and therefore are not
considered unemployed.[77] Naturally, this complicates matters significantly
and suggests that official unemployment data may only work as a proxy for
the condition of the labor force.

Because of the basic structure of my institutionalization data—national
data collected annually that covers the whole adult population—there are few
choices to be made regarding the unemployment data. It turns out, though,
that this is not the method of analysis that produces the most highly consis-
tent positive results in the unemployment context. In fact, annual aggregated
data are possibly the least favorable to the unemployment explanation: na-
tional level data show less consistently strong results than sub-national,
violent crime is less strong than property crime, and long-term data is less
strong than more recent data since the 1970s. Nevertheless, it is still impor-
tant to factor in the effect of unemployment.

The measure I have chosen is the official unemployment rate reported
by the U.S. Census and Department of Labor, which consists of the percent-
age of the civilian labor force that is unemployed, in thousands of persons
sixteen years old and over (prior to 1947, fourteen years old and over), an-
nual averages. For these data, I have drawn on the U.S. Census Bureau's
Historical Statistics of the United States: Colonial Times to 1970 for the

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ed., 1983) (reviewing eighteen studies and concluding that the relationship is modest and
insufficient to explain the upward trend in crime); Sharon K. Long & Ann D. Witte, *Current
Economic Trends: Implications for Crime and Criminal Justice*, in CRIME AND CRIMINAL JUSTICE
IN A DECLINING ECONOMY 69, 70 (Kevin N. Wright ed., 1981) (reviewing sixteen studies involving
unemployment and finding a modest conditional relationship).

    76. Chiricos, *supra* note 75, at 192.

    77. *Id.* at 187 n.1.

period 1925–1970[78] and on data from the U.S. Department of Labor, Bureau of Labor Statistics for the period 1940–2004.[79]

   b. Demographics.—Another privileged explanation for long-term crime trends is the demographic-change hypothesis.[80] The central intuition here is that variations in the composition of the population consisting of higher offending subgroups (such as fifteen- to twenty-four-year-old males) will have significant effects on the overall societal crime rate. From this compositional effects perspective, the three central axes of demographic concern are age, gender, and race. This flows from research that consistently shows that, at the individual level, "young people, males, and members of disadvantaged minorities are at comparatively high risk of becoming offenders and victims, at least with respect to the common 'street' crimes."[81]

   Research consistently attributes a large portion of the rise in crime during the 1960s to the post-World War II baby boom which spanned the period 1946–1964 and produced a large number of high-risk persons aged fourteen to twenty-four during the 1960s and 1970s.[82] There is debate, though, over the extent of the influence as well as over how to interpret the results. Lawrence Cohen and Kenneth Land studied the relationship between the proportion of the population between fifteen and twenty-four and variations in homicide and auto theft rates, and found a highly significant statistical relationship accounting for a substantial fraction of the change.[83] In contrast, Steven Levitt conducted a study titled *The Limited Role of Changing Age Structure in Explaining Aggregate Crime Rates*, and found that "the changing age distribution can explain only 10–20% of the dramatic rise in crime observed between 1960 and 1980."[84] Levitt characterizes this

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  78. BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, HISTORICAL STATISTICS OF THE U.S.: COLONIAL TIMES TO 1970 (1975), *available at* http://www2.census.gov/prod2/statcomp/documents/CT1970p1-01.pdf.

  79. BUREAU OF LABOR STATISTICS, U.S. DEP'T OF LABOR, CURRENT POPULATION SURVEYS: EMPLOYMENT AND EARNINGS, JANUARY 2006, at 203 tbl.1 (2006), *available at* http://www.bls.gov/cps/cpsa2005.pdf.

  80. *See generally* James Alan Fox, *Demographics and U.S. Homicide*, *in* THE CRIME DROP IN AMERICA, *supra* note 14, at 288, 288 ("[C]rime statistics that overlook differences by demography can easily lead to misinterpretation.").

  81. Scott J. South & Steven F. Messner, *Crime and Demography: Multiple Linkages, Reciprocal Relations*, 26 ANN. REV. SOC. 83, 84 (2000).

  82. Alfred Blumstein & Daniel S. Nagin, *Analysis of Arrest Rates for Trends in Criminality*, 9 SOCIO-ECON. PLAN. SCI. 221, 221–22 (1975); John H. Laub, *Urbanism, Race, and Crime*, 20 J. RES. CRIME & DELINQ. 183, 192–94 (1983).

  83. Lawrence E. Cohen & Kenneth C. Land, *Age Structure and Crime: Symmetry Versus Asymmetry and the Projection of Crime Rates Through the 1990s*, 52 AM. SOC. REV. 170, 172–75 (1987).

  84. Steven D. Levitt, *The Limited Role of Changing Age Structure in Explaining Aggregate Crime Rates*, 37 CRIMINOLOGY 581, 582 (1999).

as "a limited impact."[85] James Alan Fox and Alex Piquero contend that about 10% of the drop in crime in the 1990s was due to changing demographics and refer to this as "deadly demographics."[86] So the estimates and especially the interpretations vary significantly.

Here, too, there are different methods and choices in analyzing the demographic change hypothesis. The simplest approach is to regress the crime rates using demographic and other variables as regressors. In a review of ninety such studies, Thomas Marvell and Carlisle Moody report that only a small number of the studies found significant relationships.[87] Again, however, given my institutionalization and homicide data, this is the only feasible approach here. Other approaches include computing and comparing hypothetical rates of disaggregated group-offending based on different population compositions.[88]

The population data I use are drawn from the U.S. Census Bureau, *Current Population Reports*.[89] Based on the data from those reports, I calculate the percentage of the total population represented by fifteen- to twenty-four-year-olds. A couple of caveats regarding the data: first, beginning in 1959, the populations of Alaska and Hawaii are included in the data, resulting in a 750,000 person increase in the population (or 4.2%) that year. Also, the population estimates are all July estimates. Since there is going to be a slight time discrepancy, I have decided to lag this variable: in the statistical analysis, I use July 1927 population data in the regression to represent December 31, 1927, population. Finally, the population estimates for the period 1940 to 1979 include Armed Forces overseas, whereas the earlier and later periods do not; however, this should not skew the analysis because of the large number of military personnel abroad during World War II and the Korean and Vietnam Wars.

c. Poverty.—The third and last control variable in the models is the rate of poverty. In their seminal study, *Structural Covariates of Homicide Rates: Are There Any Invariances Across Time and Social Space?*, Kenneth Land, Patricia McCall, and Lawrence Cohen review twenty-one of the leading homicide studies and find that "[b]y far, the strongest and most invariant effect is due to the resource-deprivation/affluence index; consistently across the four decennial census periods, cities, metropolitan

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85. *Id.* at 581.

86. James Alan Fox & Alex R. Piquero, *Deadly Demographics: Population Characteristics and Forecasting Homicide Trends*, 49 CRIME & DELINQ. 339, 354 (2003).

87. Thomas B. Marvell & Carlisle E. Moody, *Age Structure and Crime Rates: The Conflicting Evidence*, 7 J. QUANTITATIVE CRIMINOLOGY 237, 250–54 (1991).

88. *See* Levitt, *supra* note 84 (attempting to estimate future total crime rates by breaking down the population into distinct age groups, calculating the crime rates of each group, and then predicting future crime rates based on the changing proportion of each group in the total population).

89. *See supra* note 68.

areas, or states that are more deprived have higher homicide rates, and those that are more affluent have lower rates."[90] The trick again, however, is measuring poverty. The most widely used method is to rely on the official Census count of the percentage of households (families) below the poverty line. Since this is often highly correlated with other indicators of socio-economic status, some researchers create an index for resource deprivation. However, in order to avoid biases in the construction of the index, I use the official poverty rate directly from the U.S. Census Bureau.[91] The rates are only available from 1959 onwards, when the poverty line was first measured—so the regressions including this variable use a smaller number of observations ($N = 42$, rather than 73 as in all the other regressions).

There are, of course, other popular explanations for major recent crime trends, but they do not tend to explain *both* the earlier increase in crime in the 1960s and the drop in the 1990s. So, for instance, many point to the change in street drug markets during the 1990s and the decline of crack cocaine consumption as leading explanations for the sharp drop in crime in the 1990s.[92] Others point to the dispersion of activities away from the family and households in the period following World War II.[93] And then, of course, there is the abortion hypothesis.[94] My models do not take account of these other possible explanations.

   2. Findings.—Table 1 shows that, regardless of the model specification, the aggregated institutionalization rate has a statistically significant correlation with the homicide rate, and that the contribution of institutionalization is far more important than that of other statistically significant control variables. So, for instance, looking at Model 4, which holds constant unemployment and demographic changes, institutionalization is at least two times more influential than unemployment (with a beta of -0.876 versus 0.402 for unemployment). The Prais–Winsten coefficient of -1.119 for institutionalization in Model 4 suggests that an increase in institutionalization of 1 per 1,000 adults is likely to translate into a reduction in the homicide rate of 1.119 per 100,000—with a 95% confidence level ranging from -1.74 to -0.5.

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90. Land et al., *supra* note 12, at 951.

91. Bureau of the Census, U.S. Dep't of Commerce, Historical Poverty Tables, http://www.census.gov/hhes/www/poverty/histpov/hstpov13.html.

92. Bruce D. Johnson et al., *The Rise and Decline of Hard Drugs, Drug Markets, and Violence in Inner-City New York*, *in* THE CRIME DROP IN AMERICA, *supra* note 14, at 164, 196–97; Levitt, *supra* note 8, at 176, 179–81.

93. Lawrence E. Cohen & Marcus Felson, *Social Change and Crime Rate Trends: A Routine Activity Approach*, 44 AM. SOC. REV. 588, 604–05 (1979).

94. *See* John J. Donohue III & Steven D. Levitt, *The Impact of Legalized Abortion on Crime*, 116 Q.J. ECON. 379, 379 (2001) (offering evidence that legalized abortion has accounted for as much as a fifty percent drop in crime).

Institutionalization remains robust regardless of model specification. In all but one case, it is statistically significant at the .001 level (and that one case is significant at the .002 level), and broadly speaking, is in the same range of influence. This is not entirely surprising because, in this case, the two trends—aggregated institutionalization and homicide rates—are practically mirror images and thus are highly correlated. As a result, regardless of the model, the finding likely will be statistically significant.

Table 1: The effect of aggregating institutionalization
on the incarceration–crime nexus:
Prais–Winsten autocorrelation adjustment at Lag 1 (AR1) regression results
Dependent variable = Homicide Rates, 1928–2000

Explanatory variables:	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Institutionalization:						
Prais coefficient	-1.085[***]	-1.107[***]	-1.067[***]	-1.119[***]	-1.312[***]	-1.723[***]
Standard error	(.264)	(.251)	(.327)	(.309)	(.347)	(.44)
P value	0.000	0.000	0.002	0.001	0.001	0.000
OLS beta		-.78	-.78	-.876	-.502	-.911
Unemployment:						
Prais coefficient		.051[**]		.051[**]		.072
Standard error		(.025)		(.025)		(.102)
P value		0.042		0.043		0.484
OLS beta		.31		.402		.12
Proportion 15–24:						
Prais coefficient			0.014	-.01		-.4
Standard error			(.149)	(.14)		(.196)
P value			0.924	0.946		0.049
OLS beta			-.009	-.219		-.58
Poverty:						
Prais coefficient					.046	-.081
Standard error					(.102)	(.114)
P value					0.654	0.482
OLS beta					-.417	-.364
Durbin–Watson statistic pre-Prais-Winsten	0.1319	0.186	0.1319	0.235	0.213	0.36
Durbin–Watson statistic post-Prais-Winsten	1.3278	1.4678	1.3244	1.47	1.051	1.156
OLS R-squared	0.609	0.706	0.609	0.736	0.647	0.832
N	73	73	73	73	42	42

[*] = statistically significant at 10% cutoff. [**] = 5% cutoff. [***] = 1% cutoff.

The same cannot be said, though, of the relationship between the prison rate alone (excluding mental health populations) and the national homicide rate. Table 2 summarizes the results of Prais–Winsten regressions using similar model specifications. As Table 2 demonstrates, the initial statistical relationship between prison and homicide rates vanishes quickly as soon as other control variables, such as demographic change and poverty rates, are included in the models. It is fair to say, based on Table 2, that there is no robust relationship between the long-term trends when prison rates, rather than aggregated institutionalization rates, are used.

Overall, the analyses suggest that including mental health data in the rate of institutionalization—rather than using prison rates only—is likely to have significant effects on the study of the relationship in the United States between confinement and crime during the twentieth century. Although it is tempting to discuss incapacitation here, far more research is necessary before we can begin to evaluate possible explanations for the relationship.

One additional comment: a problem with the analysis is that there may be simultaneity bias. The relationship between crime and institutionalization is likely to be two-way. Although increased institutionalization is likely to decrease crime rates through incapacitation, increased crime is also likely to increase institutionalization through convictions and sentencing.[95] As a result, the incapacitation effect of institutionalization on crime is probably diminished and the statistical estimates are likely to understate the effect—as Levitt suggests, "perhaps dramatically."[96] But the effect of this bias, if there is one, would only be to *underestimate* the effect of aggregated institutionalization on crime, and that would only *increase* the effect of aggregated institutionalization on homicide.

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95. Levitt, *supra* note 9, at 322.
96. *Id.*

Table 2
Using prison rates only in studying the incarceration–crime nexus:
Prais–Winsten autocorrelation adjustment at lag 1 (AR1) regression results
Dependent variable = Homicide Rates, 1928–2000

Explanatory variables:	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Prison Rate:						
Prais coefficient	-.0073*	-.009**	-.004	-.006	-.006	-.005
Standard error	(.004)	(.004)	(.004)	(.005)	(.004)	(.006)
P value	0.066	0.033	0.375	0.210	0.144	0.390
Unemployment:						
Prais coefficient		.053**		.049*		.158
Standard error		(.026)		(.026)		(.123)
P value		0.048		0.064		0.206
Proportion 15–24:						
Prais coefficient			.225	.191		.05
Standard error			(.171)	(.169)		(.316)
P value			0.191	0.263		0.876
Poverty:						
Prais coefficient					-.086	-.196
Standard error					(.109)	(.182)
P value					0.437	0.288
Durbin–Watson statistic pre-Prais–Winsten	0.0669	0.0885	0.1385	0.136	0.194	0.612
Durbin–Watson statistic post-Prais–Winsten	1.109	1.221	1.127	1.229	0.947	0.992
OLS R-squared	0.0495	0.174	0.508	0.511	0.472	0.81
N	73	73	73	73	42	42

* = statistically significant at 10% cutoff. ** = 5% cutoff. *** = 1% cutoff.

    3. Estimating the Effects.—Despite possible simultaneity bias, the influence of aggregated institutionalization on the homicide rate is large and robust. Based on the six models, we can estimate (using the 95% confidence intervals) that the effect may be somewhere between a low of -0.415 and a high of -2.014. This means that a one person increase in the rate of aggregated institutionalization per 1,000 adults (or an increase of 100 per 100,000) is associated with a decrease in the homicide rate of between 0.4 and 2 persons per 100,000 adults—in a universe where the homicide rates have varied between 4.5 and 10.7, with a mean of 7.4 over the period 1928–2000. A summary of the 95% confidence intervals for the six models from Table 1 follows:

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
High	-1.612	-1.608	-1.072	-1.736	-2.014	-2.614
Low	-0.559	-0.605	-0.415	-0.502	-0.609	-0.831

Another way to estimate the possible effect is to go back to Steve Levitt's review of crime trends in the *Journal of Economic Perspectives*.[97] Recall that Levitt finds, based on his best estimates, that the elasticity of crime with respect to the size of the prison population is -0.30 for homicide and violent crime and -0.20 for property crime.[98] This leads Levitt to the following estimates:[99]

	Incarceration rate			Homicide	Violent crime	Property crime
	1991	2001	Change			
1990s	313	470	+50.2%	– 12%	– 12%	– 8%
	1973	1991	Change			
1973–1991	96	313	+226%	– 35%	– 35%	– 24%

Recall also that Levitt's estimates for homicide for the period 1973–1991 are off by a net 25%. Levitt's total estimated effect on homicide from his 10 factors is -20%, but the actual number of homicides reported by the FBI's Uniform Crime Reports (UCR) is up 5%.[100] This leads Levitt to conclude that "[t]here appears to be a substantial unexplained rise in crime over the period 1973–1991."[101]

The unexplained difference vanishes, however, if we include mental hospitalization in the aggregated institutionalization rate: the increase in confinement from 1973 to 1991 would have been only 152 per 100,000, or up 52% from a rate of 291 in 1973 to a rate of 443 in 1991. Based on Levitt's estimates, this would have translated into a 12% decrease in homicides, not a 35% decrease. Levitt's revised estimate for the total effect of his ten factors on homicide during the 1973–1991 period would be an increase in homicides of 3%, which is not far from the actual reported change in the UCR of a positive 5%. In other words, using aggregated institutionalization data rather than prison data would eliminate Levitt's disparity regarding the change in homicides.

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97. Levitt, *supra* note 8.

98. *Id.* at 178.

99. *Id.* at 178–79, 184.

100. *Id.* at 185 tbl.6.

101. *Id.* at 186.

IV. Implications and Directions

Rethinking confinement through the lens of institutionalization puts the incarceration revolution of the late twentieth century in a different light. If hospitalization and prison rates are aggregated, the United States is only now beginning to reach the levels of institutionalization that were commonplace from the mid-1930s to the mid-1950s. Naturally, this tells us nothing about the *proper amount of confinement* in society, nor should it alter our perception or evaluation of the incarceration revolution of the late twentieth century. What it does underscore, more than anything, is how much institutionalization there was in the 1930s through 1960s. Perhaps, then, it is the continuity of confinement—and not only the most recent exponential increase in imprisonment—that we need to study empirically and explain.

The potential implications are significant for sociological, criminological, and economic research into the incarceration–crime relationship.[102]   Rethinking confinement through the lens of aggregate institutionalization also significantly impacts research in punishment theory, such as studies that have attempted to operationalize and test the central insights of the Frankfurt School—specifically, Georg Rusche and Otto Kirchheimer's suggestion in *Punishment and Social Structure* that penal strategies are shaped by systems of economic production and fiscal policies.[103]   A review of that literature suggests that there is empirical plausibility to the Rusche–Kirchheimer hypothesis.[104]   To date, though, the research has focused only on imprisonment rates.

For instance, in *Unemployment, Imprisonment, and Social Structures of Accumulation: Historical Contingency in the Rusche–Kirchheimer Hypothesis*, Raymond Michalowski and Susan Carlson refine the test of the Rusche–Kirchheimer hypothesis by periodizing the analysis.[105] Drawing on recent theories about shifts in social structures of accumulation (SSAs) in the United States during the twentieth century, the authors break down the years between 1933 and 1992 into four periods: (1) a period of economic

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102. This includes not only studies of incapacitation and deterrence, but also research that studies the influence of crime rates on incarceration rates. Much of this work uses data from the early 1970s. *See, e.g.*, Marc Ouimet & Pierre Tremblay, *A Normative Theory of the Relationship Between Crime Rates and Imprisonment Rates: An Analysis of the Penal Behavior of the U.S. States from 1972 to 1992*, 33 J. CRIME & DELINQ. 109, 111 (1996) (comparing crime rates to imprisonment levels across states and time periods). Here too, aggregating mental hospitalization rates would have a significant effect.

103. GEORG RUSCHE & OTTO KIRCHHEIMER, PUNISHMENT AND SOCIAL STRUCTURE 7 (Transaction Publishers 2003) (1939) (claiming that fiscal motives have given rise to the most common forms of punishment in modern society).

104. *See* Theodore G. Chiricos & Miriam A. Delone, *Labor Surplus and Punishment: A Review and Assessment of Theory and Evidence*, 39 SOC. PROBS. 421, 431 (1992) (finding an "empirically plausible" relationship of labor surplus to punishment).

105. Raymond J. Michalowski & Susan M. Carlson, *Unemployment, Imprisonment, and Social Structures of Accumulation: Historical Contingency in the Rusche–Kirchheimer Hypothesis*, 37 CRIMINOLOGY 217 (1999).

exploration from 1933 to 1947 marked by high levels of structural unemployment, labor conflict, and worker displacement, that led to the emergence of social institutions (welfare state policies and labor accords) that have come to be known as Fordist;[106] (2) a period of economic consolidation from 1948 to 1966 marked by increasing economic output, upward trends in real wages, and decreasing unemployment;[107] (3) a period of decay from 1967 to 1979 marked by increasing unemployment, eroding labor accords, and the oil crisis of 1973;[108] and (4) a period of renewed economic exploration from 1980 to 1992 marked by significant displacement of young men, a shift away from social welfare strategies, and the growth of the service industry, that some have called the beginning of the post-Fordist period.[109]

Using only imprisonment rates, the authors find a weak, though statistically significant, impact of unemployment on prison admissions during the first period (exploration);[110] and a strong impact of unemployment on prison admissions during the third period (decay).[111] The trouble is, both of those periods are marked by stability of incarceration but instability of institutionalization. Using aggregated institutionalization data, the first period is characterized by a dramatic increase in the institutionalized population, and the third period is marked by an exponential decrease in institutionalization. In other words, things look very different if we conceptualize confinement through the larger prism of institutionalization. Studies of the relationship between education, incarceration, and crime, also would be significantly affected.[112]

A. Different Populations

One natural objection is that the different populations—prison and asylum—are so very different. Although there may be some overlap at the margin, it is hard to believe that the same people who were

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106. *Id.* at 224.

107. *Id.* at 224–25.

108. *Id.* at 225–26.

109. *Id.* at 226.

110. *Id.* at 237–38.

111. *Id.* at 238.

112. *See, e.g.*, John J. Donohue III & Peter Siegelman, *Allocating Resources Among Prisons and Social Programs in the Battle Against Crime*, 27 J. LEGAL STUD. 1, 21 (1998) (analyzing the tradeoff between investment in early education social programs, such as Head Start, and crime); Brian A. Jacobs & Lars Lefgren, *Are Idle Hands the Devil's Workshop?: Incapacitation, Concentration, and Juvenile Crime*, 93 AM. ECON. REV. 1560, 1561 (2003) (analyzing the short-term effects of school on juvenile crime); Lance Lochner, *Education, Work, and Crime: A Human Capital Approach*, 45 INT'L ECON. REV. 811, 827–28 (2004) (comparing longitudinal data on education and employment with incidence of incarceration); Lance Lochner & Enrico Moretti, *The Effect of Education on Crime: Evidence from Prison Inmates, Arrests, and Self-Reports*, 94 AM. ECON. REV. 155, 156 (2004) (studying the relationship between state compulsory schooling laws and the probability of incarceration).

deinstitutionalized would end up in prison. The continuity thesis is, in this sense, shocking to our sensibilities about the "insane" and the "criminal." This raises the question of the interdependence of the two populations, an area that has received some research attention.

In a 1984 study, Henry Steadman, John Monahan, and their colleagues tested the degree of reciprocity between the mental health and prison systems in the wake of state mental hospital deinstitutionalization.[113] They used both a comparative and longitudinal approach. Their study randomly selected a total of 3,897 male prisoners and 2,376 adult male admittees to state mental hospitals from six different states, half from 1968 and the other half from 1978.[114] They gathered full institutional histories for arrests, imprisonment, and state mental hospitalization for each inmate and then compared the system overlap between 1968 and 1978.[115] They were able, thus, to measure the extent of cross-institutionalization—the change in the number of prisoners with prior mental health contacts, as well as the change in mental health patients with criminal records.

Regarding the number and proportion of prison admittees with one or more prior mental hospitalizations, Steadman and Monahan found significant variation between the six states. Texas experienced a huge increase. California and Iowa had increases as well, but New York, Arizona, and Massachussetts experienced proportional declines.[116] Naturally, it was a period of rapid expansion in the prison population, with prison admissions up 42.4% for the six states from 1968 to 1978.[117] During that period, the overall number of prisoners in the six states with prior hospitalization almost doubled, up 97.3%.[118] Consolidating their tables, and calculating total figures, their findings can be summarized as follows:[119]

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113. Steadman et al., *supra* note 6.

114. *Id.* at 478.

115. *Id.*

116. *Id.* at 481 tbl.2.

117. *Id.* at 480 tbl.1.

118. *Id.* at 481 tbl.2.

119. *Id.* at 480 tbl.1, 481 tbl.2, 482 tbl.3.

	Prison admittees with prior hospitalization			Prison admittees with prior hospitalization (in %)		Expected 1978 number using 1968 percentages	Difference actual versus expected (in %)
	1968	1978	% Change	1968	1978		
NY	741	797	+7.6	12.1	9.3	1,037	-23.1
CA	1,069	1,777	+66.2	9.5	15.2	1,111	+59.9
AZ	35	39	+11.4	3.9	2.2	69	-43.5
TX	18	1,004	+5,477.8	0.3	8.4	35	+2,768.6
IA	64	153	+139.1	7.7	16.7	71	+115.5
MA	54	139	+157.4	12.5	9.0	194	-28.4
Total	1,981	3,909	+97.3	7.7	10.7	2,517	+55.3

Because three states (New York, Arizona, and Massachusetts) experienced relative declines—that is, taking into account the increase in the prison population—Steadman and Monahan concluded from these data that there was little evidence of movement from the mental hospitals to prisons: "the percentage of former patients among the ranks of prison admittees decreased in as many study states as it increased."[120] Thus, "[l]ittle evidence was found to support the idea that mental hospital deinstitutionalization was a significant factor in the rise of prison populations during th[e] period [from 1968 to 1978]."[121]

On the other side of the equation, Steadman and Monahan did find evidence that mental hospitals were becoming more "criminal."[122] Holding constant the changes in total mental hospital admissions for the six states—which were down 9% from 1968 to 1978—the number of mental hospital admittees with one or more prior arrests increased by an average 40.3%, and the number with a prior imprisonment increased on average by 60.4%. "In all study states but Iowa, the actual number of hospital admittees with one or more prior arrests is substantially higher (from 11.7% to 99.9%) than would be expected from total admission trends."[123]

My interpretation of their prison data is less sanguine. Although the state-by-state breakdown is even, the aggregated numbers tell a different story. The number of inmates with prior mental hospitalization is more than 50% higher than would have been expected given the prison growth.[124] To be sure, it does not account for all of the prison expansion. In this sense, Steadman and Monahan are undoubtedly right: the evidence does not show

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120. *Id.* at 483.
121. *Id.* at 490.
122. *Id.* at 487.
123. *Id.* at 486.
124. *Id.* at 482.

that deinstitutionalization *explains* the prison explosion. It does not establish direct transfer from the asylum to the penitentiary. But there may be significant overlap and, over time, more substitution. The proportion has increased by more than half. It is consistent at least with some interdependence. The real question is, how much?[125]

Steven Raphael tackles this question using an econometric model in his paper *The Deinstitutionalization of the Mentally Ill and Growth in the U.S. Prison Populations: 1971 to 1996*.[126] Raphael tests the relationship between mental hospitalization and prison populations using state-level data for the period 1971 to 1996. What he finds, across his six different models, is that the mental hospitalization rate has a statistically significant and robust negative effect on prison rates.[127] Moreover, the magnitude of the effect is large; and ranges from a low of a seven-person decline to a high of a two-person decline in mental hospitalization resulting in a one-person increase in the prison rate.[128] Translated into actual population numbers, Raphael's findings suggest that deinstitutionalization from 1971 to 1996 resulted in between 48,000 and 148,000 additional state prisoners in 1996, which according to Raphael, "accounts for 4.5 to 14 percent of the total prison population for this year and for roughly 28 to 86 percent of prison inmates suffering from mental illness."[129] What we also know is that, at the close of the twentieth century, there was a high level of mentally ill offenders in prisons and jails in the United States—283,800 in 1998—representing 16% of jail and state prison inmates.[130]

B. Back to Social Theory

The problem with these empirical analyses, though, is that again they take too literally the official categories of the "mentally ill" and of the "criminal." The diagnosis and documentation of mental illness needs to be problematized, as does the guilty verdict. The studies in effect put too much credence in the official labels. These categories are not natural and do not have independent validity and objective signification. The question is not, how many people with mental illness are in the criminal justice system? Rather, the question should be, has the criminal justice system caught in its

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125. Another problem with their analysis is that the reduction in mental health care starting in the 1960s may itself reduce the number of mental health contacts for individuals who end up in prison. Measuring the interdependence of the two populations based on prior mental hospitalization will not capture mental illness properly if there is less and less care that leaves traces on the general population.

126. Raphael, *supra* note 7.

127. *Id.* at 8–9, 10–11.

128. *Id.* at 9.

129. *Id.* at 12.

130. PAULA M. DITTON, BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, SPECIAL REPORT: MENTAL HEALTH AND THE TREATMENT OF INMATES AND PROBATIONERS 3 (1999), *available at* http://www.ojp.usdoj.gov/bjs/pub/pdf/mhtip.pdf.

wider net the type of people at the margin of society—the class of deviants from predominant social norms—who used to be caught up in the asylum and mental hospital? The real challenge is to deconstruct *both* the categories of the "insane" *and* of the "criminal" *simultaneously*.

The first is easy. With regard to the asylum, we are all constructivists today. We all accept the claim that criminality was medicalized in the early twentieth century. As Liska and Markowitz suggest, correctly, "During the first half of the 20th century, psychiatrists medicalized social problems, successfully arguing that the cause of many social problems, like crime, lies in the psychological malfunctioning of people and that the solution lies in their treatment by medical specialists in treatment centers."[131] Or as William Gronfein explains:

> In Goffman's words, "part of the official mandate of the public mental hospital is to protect the community from the danger and nuisance of certain kinds of misconduct." Publicly supported insane asylums represented an uneasy, albeit surprisingly successful, marriage between asylum and prison, a fact that was of particular importance in contributing to their long-term growth.[132]

We all agree that the category of the "insane" was created in modern times to capture the deviant and marginal. But in order to make sense of the larger trend in institutionalization, we need to view the "criminal" through the same prism. Is it possible that the category of the present-day criminal does the same work that used to be done by the category of the insane? Might it capture the same class of norm violators, the same kind of deviants?

Certainly there are important demographic differences. The gender distribution, for instance, was far more even in mental hospitals than in prisons. In 1966, for example, there were 560,548 first-time admissions to mental hospitals, of which 310,810 (55.4%) were male and 249,738 (or 44.6%) were female.[133] In contrast, new admittees to state and federal prison were consistently 95% male throughout the twentieth century.[134] There were also sharp differences in racial and age compositions, which I discuss next. But within the demographic group—within the set of male inmates, for instance—could the categories have served the same function, at least roughly? Steadman and Monahan gesture at this in their study, suggesting that the relationship between the mental health and prison systems may be indirect, "mediated by community reaction towards all types of socially

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131. Liska et al., *supra* note 6, at 1747.

132. Gronfein, *supra* note 42, at 194 (quoting GOFFMAN, *supra* note 1, at 352).

133. U.S. DEP'T OF HEALTH, EDUCATION, AND WELFARE, 1967 MENTAL HEALTH FACILITIES REPORT 10 tbl.C (1969).

134. MARGARET WERNER CAHALAN, BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, HISTORICAL CORRECTIONS STATISTICS IN THE UNITED STATES, 1850–1984, at 66 (1986).

marginal groups when the societal tolerance level for deviance is exceeded."[135] This is one direction for research to pursue.

And how does race figure into the equation, since it is such an important part of the incarceration expansion—since the prison has become, as Loïc Wacquant suggests, the last of our peculiar institutions?[136] There is some evidence to suggest that the proportion of minorities in mental hospitals was increasing during deinstitutionalization. From 1968 to 1978, for instance, there was already a demographic shift among mental hospital admittees. In Steadman and Monahan's data, for instance, the proportion of non-whites increased from 18.3% in 1968 to 31.7% in 1978: "Across the six states studied, the mean age at hospital admission decreased from 39.1 in 1968 to 33.3 by 1978. The percentage of whites among admitted patients also decreased, from 81.7% in 1968 to 68.3% in 1978."[137] There was a less stark shift in prison admissions data, though the direction of change was the same: "Across the six states, the mean age of prison admittees was 29.0 in 1968 and 28.1 in 1978. The percentage of whites among prison admittees was also relatively stable, decreasing only from 57.6% in 1968 to 52.3% in 1978."[138]

At the national level, though, the racial shift in prison admissions began well before 1968. In fact, throughout the twentieth century, African Americans have represented a consistently increasing proportion of the state and federal prison populations. Since 1926, the year the federal government began collecting data on correctional populations, the proportion of African Americans newly admitted to state prisons has increased steadily from 23% in 1926 to 46% in 1982.[139] It reached 51.8% in 1991 and stood at 47% in 1997.[140] This trend is illustrated in Figure 5 below:

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135. Steadman et al., *supra* note 6, at 490.

136. Loïc Wacquant, *Deadly Symbiosis: When Ghetto and Prison Meet and Mesh*, 3 PUNISHMENT & SOC'Y 95, 98–99 (2001).
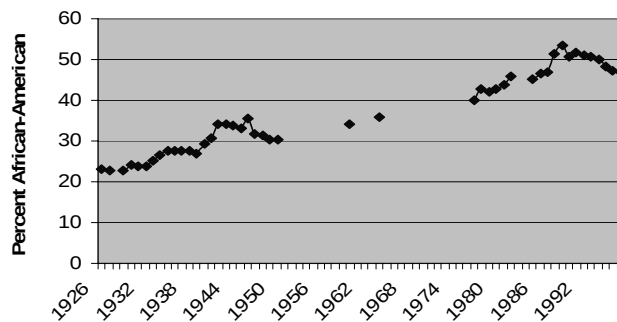
137. Steadman et al., *supra* note 6, at 479.

138. *Id.*

139. BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, RACE OF PRISONERS ADMITTED TO STATE AND FEDERAL INSTITUTIONS, 1926–86, at 5 (1991).

140. BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, CORRECTIONAL POPULATIONS IN THE UNITED STATES—1997, at 10 tbl.1.20 (2000), *available at* http://www.ojp.usdoj.gov/bjs/pub/pdf/cpus97.pdf (reporting a total of 164,300 black admissions out of 317,237 total admissions to state prisons in 1991 and 157,300 out of 334,525 in 1997).

Figure 5: Admissions to state prisons

In 1978, African Americans represented 44% of newly admitted inmates in state prisons.[141] That same year, minorities represented 31.7% of newly admitted patients in mental hospitals—up from 18.3% in 1968.[142] Is it possible that, as the population in mental hospitals became increasingly African American and young, our society gravitated toward the prison rather than the mental hospital as the proper way to deal with at-risk populations? This too would require further investigation.

Overall, it is the differences and the gradual changes in the demographic composition of the two populations that stick out. The mental hospitalization population was far more evenly distributed along gender lines, was an older population, and tended to be more white. But the demographic distributions changed over time, and this gradual change calls for explanation. It also significantly affects our interpretation of the possible relationship between institutionalization and homicide. After all, the mental hospital population was largely female,[143] and statistically women are far less likely to be violent offenders.[144] How then could there be any continuity in the effect on serious violent crime? And if there is indeed a continuing effect, might that suggest that the present prison population also includes a sizeable portion of low-risk offenders? Is it possible that the women in the mental hospitalization populations have been replaced by non-violent drug offenders in the prison populations? Also, if there is indeed a relationship, does it suggest that the *type of institutionalization* doesn't matter: regardless of whether we use

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141. BUREAU OF JUSTICE STATISTICS, *supra* note 139, at 5.

142. *See supra* note 137 and accompanying text.

143. For example, in Massachusetts 1939–41, 20–29 year-old males had a mental hospital first admission rate of 124.2 persons per 100,000 males, whereas 20–29 year-old females had a first admission rate of 91.1 per 100,000. GROB, *supra* note 37, at 184 tbl.7-3.

144. *See, e.g.*, Paige M. Harrison & Allen J. Beck, *Prisoners in 2004*, BUREAU JUST. STAT. BULL., Oct. 2005, at 9 tbl.12, *available at* http://www.ojp.usdoj.gov/bjs/pub/pdf/p04.pdf (indicating that only 26,300 out of 624,900 violent offenders (4.2%) in 2002 were female).

mental hospitals or prisons, we achieve the same result? If so, does this militate in favor of returning to a medicalized model?

V.   Rethinking Confinement

Today, the categories of "mental illness" and "criminality"—and the corresponding populations of the mental hospital and the prison—seem so distinct, so different, so particular. With the exception of the 7% to 16% of prison inmates who are suffering from mental illness,[145] it seems so wrong and confused to mix the categories. It seems almost insulting to aggregate the two populations into one variable. But is it? Will later generations question our inability to see the continuity of spatial exclusion and confinement? Will they object to the balkanization of research on forms of social control? Will they reexamine our categories?

I suspect they will. It may be time, then, to rethink the category of confinement through the larger lens of institutionalization and to begin to trace that broader history of institutional incapacitation in twentieth century United States. Of course, the story may be even more complicated. Perhaps I have not even begun to scratch the surface of institutionalization. After all, Goffman included the military in the set of total institutions.[146] Should we add the armed forces as part of our institutionalization count? Also, in the mental health area, many of the persons who were deinstitutionalized moved into private facilities. As William Gronfein writes, "many former patients have been 'transinstitutionalized' rather than deinstitutionalized, moving from state-supported asylums to privately run nursing homes or board-and-care homes."[147] Should we include nursing homes as well? And how about universities? How exactly should we define institutionalization? Where do we place the contour of the total institution?

One last question. If indeed aggregated institutionalization explains the bulk of violent crime trends, then what should we make of all those other socio-cultural and political explanations of deviance—theories of deviant subcultures, disorderliness, social disorganization, collective efficacy, anomie, social conflict, to name but a few? If the dominant factor is simply the rate of total institutionalization *qua* incapacitation—if we are really dealing only with *social physics*—how then should we understand other criminological theories?

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145. DITTON, *supra* note 130, at 1.

146. GOFFMAN, *supra* note 1, at 5.

147. Gronfein, *supra* note 42, at 193. Gerald Grob notes that "much of the decline in the number of patients in mental hospitals was more apparent than real. During the 1960s the number of mental patients in chronic nursing homes rose precipitously as states attempted to reduce their expenditures by taking advantage of new federal programs." GROB, *supra* note 37, at 317. So, for instance, whereas mental hospital populations decreased sharply and rapidly from over 500,000 in 1963 to under 370,000 seven years later in 1970, "the number of individuals with mental disorders in chronic nursing homes increased from 221,721 to 426,712 (of which 367,586 were aged sixty-five or older)." *Id.*

Appendix

A note on jail data and their effect

There are no reliable statistics on jail populations—in most cases, no data at all—for the period before 1970. That is the year that the Law Enforcement Assistance Administration (LEAA) conducted the first census of jails.[148] Prior to that, there were decennial Census Bureau counts for 1880, 1890, 1940, 1950, and 1960, but even those Census counts are not reliable. For instance, in 1970, the Census reported 129,189 inmates in jail, whereas the first Department of Justice LEAA count that same year reported 160,863 inmates in jail—24.5% higher than the Census count.[149] In addition, between 1904 and at least 1940, the Census counted only jail inmates who were *sentenced*.[150] The 1923 special report, "Prisoners, 1923," also excluded inmates who were not sentenced and omitted certain jails that were believed not to contain sentenced jail inmates.[151] All that data, including the 1933 "County and City Jails" report, excluded jail inmates who had not been sentenced yet.[152]

There are a number of reasons for the underreporting and non-reporting of jail inmates. Jails are jurisdictionally at the municipal and county level and, as a result, are much more difficult to survey than, for instance, federal prisons. Nevertheless, it is important to reconstruct some measure of prison populations. From 1940 to 1950, according to the Census count, the jail population was decreasing, down almost 13,000, or 13%, from 99,249 in 1940 to 86,492 in 1950.[153] Again, though, the 1970 LEAA count and comparison to the 1970 Census count suggests that these numbers may have been off by as much as 25%. If we make very conservative assumptions and assume (1) that the jail population stayed flat from 1928 to 1940 (recall, it was dropping from 1940 to 1950) and (2) that the Census counts were valid (recall that they are at least 25% off), and we interpolate linearly the missing data (we have only three unreliable years, 1940, 1950, and 1960, for the 42 year period from 1928 to 1970), then we obtain data that we can use to add to the institutionalization number.

For historical data on jail populations, I was able to obtain data for decennial years (1940, 1950, 1960, 1970, and 1980) as well as 1933, 1972, 1978, 1982, and 1983 from Cahalan.[154] For data since 1983, I rely on the

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148. CAHALAN, *supra* note 134, at 73, 76 tbl.4-1.

149. *Id.* at 76 tbl.4-1.

150. *Id.* at 73–74.

151. *Id.* at 73.

152. *Id.*

153. *Id.* at 76 tbl.4-1.

154. *Id.* at 76 tbl.4-1, 87 tbl.4-11.

Sourcebook of Criminal Justice Statistics, and yearly *Prison and Jail Inmates* and *Prisoners* publications of the Bureau of Justice Statistics.[155] For missing years, I have linearly interpolated the data.

When I run a model, it reduces the effect, but not by that much. The results are summarized here:

Table 3: Adding jail rate to institutionalization in
studying the incarceration–crime nexus:
Prais–Winsten autocorrelation adjustment at lag 1 (AR1) regression results
Dependent variable = Homicide rates, 1928–2000

Explanatory variables:	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Institutionalization plus jail rate:						
Prais coefficient	-.806***	-.815***	-.774**	-.78***	-.833***	-1.15***
Standard error	(.235)	(.231)	(.301)	(.296)	(.274)	(.378)
P value	0.001	0.001	0.012	0.009	0.004	0.004
Unemployment:						
Prais coefficient		.047*		.047*		.159
Standard error		(.025)		(.025)		(.106)
P value		0.061		0.064		0.129
Proportion 15 – 24:						
Prais coefficient			-.0295	.015		-.444*
Standard error			(.172)	(.169)		(.251)
P value			0.864	0.931		0.086
Poverty:						
Prais coefficient					-.02	-.258**
Standard error					(.102)	(.114)
P value					0.845	0.030
Durbin–Watson statistic pre-Prais-Winsten	0.081	0.098	0.081	0.129	0.203	0.379
Durbin–Watson statistic post-Prais-Winsten	1.274	1.396	1.269	1.393	1.017	1.183
OLS R-squared	0.351	0.437	0.352	0.484	0.565	0.821
N	73	73	73	73	42	42

* = statistically significant at 10% cutoff. ** = 5% cutoff. *** = 1% cutoff.

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155. BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, SOURCEBOOK OF CRIMINAL JUSTICE STATISTICS—2003, at 478 tbl.6.1 (Ann L. Pastore & Kathleen Maguire eds., 2004), *available at* http://www.albany.edu/sourcebook/pdf/section6.pdf.