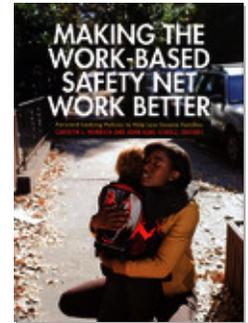# Making the Work-Based Safety Net Work Better

Scholz, Joh Karl

Published by Russell Sage Foundation

➡ For additional information about this book

Chapter 6

The Impact of Incarceration on the Employment Outcomes of Former Inmates: Policy Options for Fostering Self-Sufficiency

Steven Raphael

The United States currently incarcerates its residents at a rate that is greater than that of every other country in the world. Aggregating the state and federal prison populations as well as inmates in local jails, there were 737 inmates per 100,000 U.S. residents in 2005 (International Centre for Prison Studies 2007). This compares with a world average of 166 per 100,000 and an average among European Community member states of 135. Of the approximately 2.1 million U.S. residents incarcerated in 2005, roughly 65 percent were inmates in state and federal prisons and the remaining 35 percent were held in local jails.

Current U.S. incarceration rates are unusually high relative to historical figures for the United States itself. For the fifty-year period from the 1920s through the mid-1970s, the number of state and federal prisoners per 100,000 was approximately 110. Beginning in the mid-1970s, however, state prison populations grew at an unprecedented rate, nearly quadrupling between the mid-1970s and the present. At the same time the rate of incarceration in local jails more than tripled.

The incidence of these increases has not been evenly distributed across the population. In particular, these increases have been concentrated among men, among the less-educated, and among minorities. Incarceration rates have increased by particularly large amounts for less-educated African American men. These disparate impacts are best illustrated by changes in the lifetime likelihood of serving prison time by birth cohort. The Bureau of Justice Statistics estimates that the lifetime likelihood of serving time in a state or federal prison for a male child born in 1974 was 2.2 percent for whites, 13.4 percent for blacks, and 4 percent for Hispan-

ics. The corresponding likelihoods for a male child born in 2001 increased to 5.9 percent for whites, 32.2 percent for blacks, and 17.2 percent for Hispanics (Bonczar 2003). Moreover, estimates of the proportion of less-educated black men who have ever served time have yielded odds ratios of a prior prison spell of 2 or higher (Raphael 2005; Western 2006; Pettit and Western 2004).

These trends in incarceration rates do not bode well for the socioeconomic status of minority men, their potential partners and children, and, more generally, their communities. There is growing evidence that prior incarceration and conviction adversely impacts the employment prospects of former inmates (Holzer, Raphael, and Stoll 2002; Pager 2003; Western 2002). In many instances state and federal policies compound the problems that former inmates face when seeking employment or, more generally, attempting to reenter noninstitutionalized society. In addition, recent research links the increase in incarceration rates to poor marriage outcomes (Charles and Lough 2007), further impoverishment of low-income children (Johnson 2007), behavioral problems among the children of the incarcerated (Johnson 2007), and the spread of communicable diseases such as HIV/AIDS among disproportionately impacted communities (Johnson and Raphael, forthcoming).

Any policy agenda intended to promote pathways to self-sufficiency among low-income minority communities must address these collateral consequences associated with recent incarceration trends. It is hard to imagine healthy communities where in some instances up to one-third of working-age men may be incarcerated on any given day and considerably larger fractions are either under the jurisdiction of the criminal justice system in one form or another or have previously been incarcerated. Most of these men have children and many have outstanding child support orders with which they are ill-equipped to comply. The absence of these men and the effects of incarceration on their earnings clearly diminish the resources available to poor families. Moreover, there are few programs in the current configuration of the nation's social safety net intended to foster economic self-sufficiency among single noncustodial men.

This chapter documents recent incarceration trends, discusses the evidence pertaining to the employment effects of serving time, and discusses several policy options designed to limit the adverse collateral consequences of corrections policy on poor minority communities. Regarding policy proposals, I advocate for the following:

- the elimination of federal bans on the participation of certain convicted felons from participation in various public assistance programs

- a rationalization of federal, state, and local government employment bans that allows for greater consideration of the particulars of individual cases

- legislative guidance on how employers may and may not consider the criminal history record of an applicant

- state programs that incentivize the expunging of criminal history records for former inmates that exhibit sustained desistance from criminal activity and that meet other benchmarks of responsible postrelease behavior

I also assess the likely effects on crime of reducing the U.S. incarceration rate below current levels.

Policy proposals designed to alleviate the collateral employment, social, and health consequences of incarceration must confront the potential trade-offs between minimizing time served and public safety. In the policy discussion that follows, I highlight the likely impact of the proposed changes on criminal offending as well as the political feasibility of many of the proposed changes. In most instances the proposed changes are unlikely to increase criminal offending, and may even aid successful reintegration and criminal desistance. Moreover, the relative frequency with which we use incarceration as punishment has increased to such an extent that there are certainly many men who are currently sentenced to serve time that pose a minimal threat to society.

RECENT INCARCERATION TRENDS

Over the three decades since about 1980 the U.S. prison incarceration rate has increased to unprecedented levels. Figure 6.1 displays the number of state and federal prison inmates per 100,000 U.S. residents. Prior to the mid-1970s, the incarceration rate was stable, hovering in a narrow band around 110 inmates per 100,000. Thereafter, however, the incarceration rate increases precipitously. Between 1975 and 2005, the prison incarceration rate more than quadrupled, from a rate of 111 to 488 per 100,000. The annual incarceration rate increased by an average of 15.7 inmates per 100,000 per year during the 1980s, 16.8 inmates per year during the 1990s, and 4.3 inmates per year during the first few year of the new century. By 2005, the point-in-time population of state and federal prisoners stood at slightly over 1.4 million inmates.

State and federal prisons hold those convicted for a felony offense who are sentenced to a year or more, as well as parole violators and probation violators who may ultimately serve less than a year on any given prison admission. In addition to these inmates, there are many who are held in local and county jails while awaiting adjudication, while serving time on a sentence of less than a year, or while serving time on a prison sentence in a local jail because of overcrowding in state facilities. Figure 6.2 presents the number of inmates per 100,000 held in jails. Between 1980 and 2005, the total population in U.S. jails quadrupled, from 183,988 inmates to 747,529. Relative to the resident population, the jail population increased by slightly more than three times (an increase in inmates per 100,000 residents from approximately 81 in 1980 to 252 in 2005).

Behind this steady increase in incarceration rates are large flows of inmates into and out of the nation's prisons and jails. Given the many very short stays in local jails and the fact that even immates with longer terms are generally sentenced to less than a year, one would expect large annual flows into and out of jail. What is perhaps more surprising is the number of inmates who are released from and admitted to prison each year. There certainly are many prisoners who are serving very long sentences in the nation's penitentiaries (inmates who are most likely to be captured by point-in-time snapshots of the prison population), and in addition

FIGURE 6.1 / Prisoners in State or Federal Prison per 100,000 U.S. Residents, 1925
to 2005
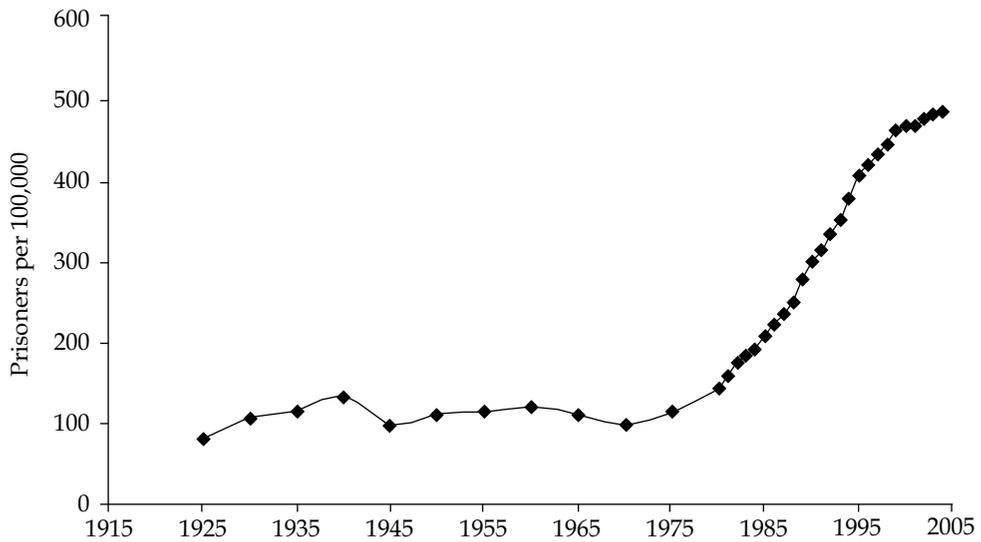
Source: U.S. Bureau of the Census, Bureau of Justice Statistics.

FIGURE 6.2 / Number of Jail Inmates per 100,000 U.S. Residents, 1980 to 2005
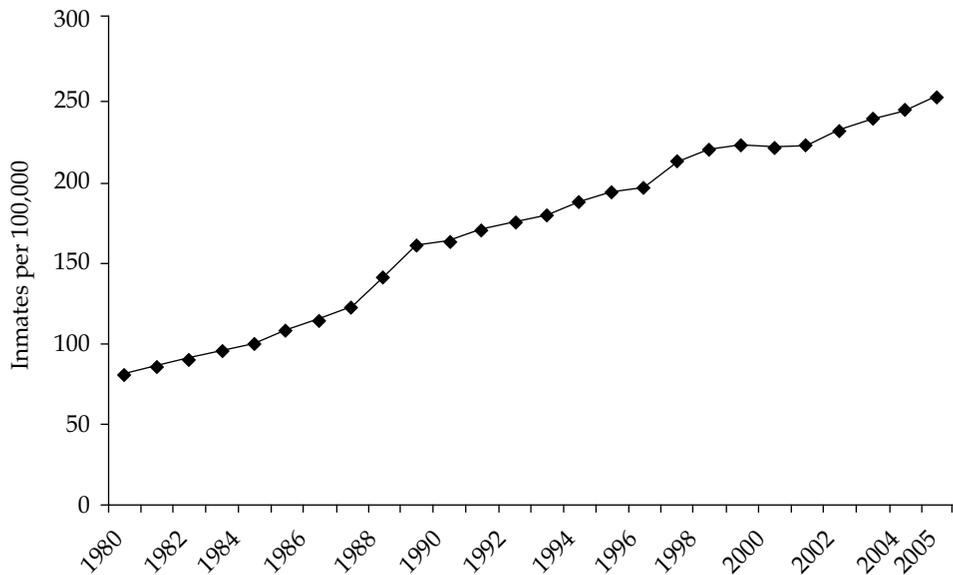
Source: U.S. Bureau of the Census, Bureau of Justice Statistics.

there are many more U.S. residents who serve relatively short spells in prison or who cycle in and out of correctional institutions while serving sequential short spells over substantial portions of their adult lives. As demonstrated by Jeremy Travis (2005), nearly all inmates are eventually released from prison, most within five years of admission. Most tellingly, annual admissions to U.S. prisons have consistently hovered around one-half the size of the prison population, and roughly half of all inmates are released in any give year. In recent decades, admissions have consistently exceeded releases, resulting in sustained increases in incarceration rates.

The increasing incarceration rates displayed in figures 6.1 and 6.2 do not reflect a general increase in the likelihood of becoming incarcerated, but a concentrated increase in the incarceration risk for well-defined subsegments of the population. First, although incarceration rates have risen for both genders, the overwhelming share of these increases is accounted for by increasing rates for men (Raphael and Stoll 2009). This is not surprising considering that men consistently account for over 90 percent of the incarcerated population in current and past decades. Within the adult male population however, the increase in incarceration risk has been further concentrated among relatively young men (ages twenty-five to forty) and minority men (black men in particular).

Tables 6.1, 6.2, and 6.3 demonstrate how the likelihood of incarceration has changed for adult males by race, level of educational attainment, and age. The figures in the tables are based on tabulations of the 1980 and 2000 Public Use Microdata Samples (PUMS) of the U.S. Census of Population and Housing. The decennial census enumerates both the institutionalized and the noninstitutionalized population. Within the institutionalized population one can separately identify individuals residing in nonmilitary institutions. This category includes inmates of federal and state prisons, local jail inmates, residents of inpatient mental hospitals, and residents of other non-elderly institutions. I use residence in a nonmilitary institution as the principal indicator of incarceration. In previous research (Raphael 2005), I have demonstrated that estimates of the incarcerated population based on residents in nonmilitary group quarters in the census are quite close to incarceration totals from alternative sources.[1]

Each table presents the proportion of the respective population that is engaged in a productive activity (either employed, in school, or in the military), the proportion that is not institutionalized but idle (not employed, not in school, not in the military), and the proportion institutionalized. All figures pertain to men eighteen to fifty-five years of age. Table 6.1 presents overall estimates for men for four mutually exclusive race-ethnicity groupings. The proportion of incarcerated increased for all groups of men between 1980 and 2000. However, the absolute increase is largest for non-Hispanic black men and Hispanic men. The 2000 census indicates that roughly 9 percent of the adult black male population was incarcerated on any given day. The comparable figures for other groups are 3 percent for Hispanics, 1.4 percent for whites, and 0.6 percent for Asians.

Table 6.2 reveals that the proportion incarcerated has increased the most for the least-educated men, and that this education-incarceration relationship differs sub-

TABLE 6.1 / Estimates of the Proportion of Men Eighteen to Fifty-Five Engaged in a
Productive Activity, Noninstitutionalized and Idle, and Institutionalized,
by Race-Ethnicity

	1980	2000	Change, 2000 to 1980
Non-Hispanic white			
Employed or in school[a]	0.899	0.878	−0.021
Idle	0.093	0.109	0.016
Institutionalized	0.008	0.014	0.006
Non-Hispanic black			
Employed or in school[a]	0.758	0.673	−0.085
Idle	0.206	0.239	0.033
Institutionalized	0.037	0.089	0.052
Non-Hispanic Asian			
Employed or in school[a]	0.918	0.859	−0.059
Idle	0.079	0.135	0.056
Institutionalized	0.003	0.006	0.003
Hispanic			
Employed or in school[a]	0.845	0.744	−0.101
Idle	0.140	0.226	0.086
Institutionalized	0.014	0.030	0.016

Source: Author's compilation based on 1980 and 2000 Public Use Microdata Samples (Ruggles et al. 2008).
a. Includes men in the armed forces.

stantially across racial groups. Among white men in 2000, those without a high school diploma are more than twice as likely to be institutionalized relative to those with a high school diploma, with 4.5 percent of the former and approximately 2 percent of the latter institutionalized in 2000. Moreover, white male high school dropouts experienced the largest increase in institutionalization rates between 1980 and 2000 (a 2.4 percentage point increase, compared with a 1.3 percentage point increase for white high school graduates and a 0.4 percentage point increase for those with some college education).

These changes as well as the levels are small in comparison to what is observed for black men. Between 1980 and 2000, the proportion of black men with less than a high school diploma who were institutionalized on any given day increases from 0.057 to 0.206. For black male high school graduates, the proportion institutionalized increases from 0.027 to 0.087. Even among black men with some college education, the incarceration increases by over two percentage points. In fact, the changes observed among this group of black men are comparable in magnitude to the changes observed among white high school dropouts.

By comparison, the changes in institutionalization rates among Asian men are small, as are the changes among Hispanic men. The relatively low institutionalization rates among Hispanic men are consistent with recent research by Kirsten

TABLE 6.2 / Estimates of the Proportion of Men Eighteen to Fifty-Five Engaged in a Productive Activity, Noninstitutionalized and Idle, and Institutionalized, by Race-Ethnicity and Education

	Non-Hispanic White		Non-Hispanic Black		Non-Hispanic Asian		Hispanic	
	1980	2000	1980	2000	1980	2000	1980	2000
Less than high school								
Employed or in school[a]	0.794	0.698	0.658	0.430	0.804	0.699	0.793	0.667
Idle	0.185	0.257	0.285	0.364	0.186	0.278	0.188	0.297
Institutionalized	0.021	0.045	0.057	0.206	0.010	0.023	0.020	0.036
High school graduate								
Employed or in school[a]	0.895	0.835	0.776	0.630	0.889	0.793	0.864	0.734
Idle	0.099	0.146	0.197	0.284	0.106	0.195	0.124	0.232
Institutionalized	0.006	0.019	0.027	0.087	0.005	0.012	0.011	0.035
Some college								
Employed or in school[a]	0.941	0.911	0.866	0.794	0.952	0.880	0.927	0.855
Idle	0.054	0.079	0.110	0.156	0.046	0.115	0.065	0.126
Institutionalized	0.005	0.009	0.024	0.050	0.002	0.005	0.007	0.019
College plus								
Employed or in school[a]	0.963	0.947	0.917	0.890	0.958	0.913	0.943	0.892
Idle	0.035	0.051	0.073	0.096	0.041	0.087	0.053	0.101
Institutionalized	0.002	0.002	0.011	0.014	0.000	0.000	0.004	0.007

Source: Author's compilation based on 1980 and 2000 Public Use Microdata Samples (Ruggles et al. 2008).
a. Includes men in the armed forces.

F. Butcher and Anne Morrison Piehl (2006) demonstrating the relatively low levels of incarceration among recent immigrants (levels that are particularly surprising, given the much lower levels of educational attainment).

Table 6.3 parses the data further for the least-educated by age. For high school dropouts and those with a high school diploma, the table presents the distribution of each group across the three possible states by race and ethnicity and by three age groups (eighteen to twenty-five years of age, twenty-six to thirty-five, and thirty-six to forty-five). The proportion institutionalized tends to be greatest for men between twenty-six and thirty-five within each education-race group. The most startling figures are those for black men in 2000. Among black men, roughly one third of high school dropouts between twenty-six and thirty-five are incarcerated on a given day, a number comparable to the proportion of this subgroup who are employed. The comparable figure for black men with a high school diploma is approximately 23 percent. More generally, the institutionalization rate increases for all of these subgroups of less-educated young men. However, the patterns for black males are particularly severe.

The patterns depicted in tables 6.1, 6.2, and 6.3 are conservative estimates of the changes in incarceration for these groups, given that I am limited to data from the 2000 census. Since the time period when the data underlying the PUMS was last collected (approximately April 1999), the prison and jail populations have continued to grow, albeit at a slower rate. Between 1999 and 2006, the point-in-time prison population increased by roughly 270,000 inmates (a 20 percent increase) and over the same period the local jail population increased by 160,000 inmates (a 26 percent increase). By contrast, the U.S. population grew by roughly 8 percent over this time period. Thus it is likely that the 2010 census will reveal even starker patterns.

The figures in tables 6.1, 6.2, and 6.3 display only the proportion incarcerated on a given day. Another relevant set of figures for understanding the importance of a prior incarceration in impacting self-sufficiency is the proportion of men who have ever served time. Given the high turnover in U.S. prisons discussed earlier, the drastic increases in incarceration rates experienced over the last three decades has left in its wake an increasingly large population of former inmates. The U.S. Bureau of Justice Statistics estimates that approximately 3 percent of white male adults, 20 percent of black male adults, and 8 percent of Hispanic male adults have served prison time at some point in their lives (Bonczar 2003). In an analysis of administrative records from the California Department of Corrections, I have estimated that at the close of the 1990s, over 90 percent of black male high school dropouts and 10 to 15 percent of black male high school graduates have served prison time in the state.[2] Becky Pettit and Bruce Western (2004) estimate that the proportion of all African American men born between 1965 and 1969 who had been to prison by 1999 was 20.5 percent, 30.2 percent for black men without a college degree, and 58.9 percent for black men without a high school degree.

Thus, less-educated minority men are considerably more likely to be incarcerated currently than at any time in the past. Moreover, given the fluidity of prison populations, the population of noninstitutionalized former inmates has grown

TABLE 6.3 / Estimates of the Proportion of Men Eighteen to Fifty-Five Engaged in a Productive Activity, Noninstitutionalized and Idle, and Institutionalized, by Race-Ethnicity, Age, and Education

Less than High School

Age and Status	Non-Hispanic White 1980	Non-Hispanic White 2000	Non-Hispanic Black 1980	Non-Hispanic Black 2000	Non-Hispanic Asian 1980	Non-Hispanic Asian 2000	Hispanic 1980	Hispanic 2000
Eighteen to twenty-five								
Employed or in school[a]	0.784	0.797	0.604	0.473	0.791	0.794	0.760	0.703
Idle	0.188	0.161	0.314	0.307	0.192	0.164	0.212	0.257
Institutionalized	0.028	0.041	0.081	0.221	0.017	0.043	0.028	0.039
Twenty-six to thirty-five								
Employed or in school[a]	0.783	0.683	0.634	0.343	0.783	0.655	0.807	0.672
Idle	0.186	0.249	0.281	0.336	0.207	0.311	0.170	0.289
Institutionalized	0.032	0.069	0.085	0.321	0.010	0.034	0.023	0.039
Thirty-six to forty-five								
Employed or in school[a]	0.823	0.666	0.726	0.423	0.845	0.685	0.824	0.645
Idle	0.161	0.286	0.240	0.387	0.150	0.301	0.165	0.318
Institutionalized	0.016	0.047	0.034	0.191	0.005	0.013	0.011	0.038

TABLE 6.3 / (Continued)

| | High School Graduates | | | | | | | |
| | Non-Hispanic White | | Non-Hispanic Black | | Non-Hispanic Asian | | Hispanic | |
Age and Status	1980	2000	1980	2000	1980	2000	1980	2000
Eighteen to twenty-five								
Employed or in school[a]	0.872	0.843	0.742	0.634	0.871	0.848	0.844	0.760
Idle	0.121	0.136	0.229	0.281	0.123	0.140	0.145	0.206
Institutionalized	0.007	0.021	0.029	0.084	0.007	0.012	0.012	0.034
Twenty-six to thirty-five								
Employed or in school[a]	0.900	0.845	0.780	0.624	0.888	0.769	0.874	0.726
Idle	0.093	0.131	0.184	0.259	0.104	0.213	0.111	0.231
Institutionalized	0.007	0.024	0.036	0.117	0.008	0.019	0.015	0.043
Thirty-six to forty-five								
Employed or in school[a]	0.926	0.845	0.827	0.635	0.913	0.785	0.898	0.725
Idle	0.069	0.137	0.156	0.280	0.085	0.208	0.094	0.244
Institutionalized	0.005	0.018	0.017	0.085	0.001	0.007	0.008	0.032

Source: Author's compilation based on 1980 and 2000 Public Use Microdata Samples (Ruggles et al. 2008).
a. Includes men in the armed forces.

continuously and now constitutes sizable minorities, and in some instances majorities, of certain subgroups of U.S. men.

HOW SERVING TIME IMPACTS ONE'S EMPLOYMENT PROSPECTS

The discussion of the patterns in tables 6.1, 6.2, and 6.3 focused primarily on the changes in incarceration rates occurring between 1980 and 2000. We saw marked increases in the proportion of men incarcerated on any given day for relatively young, less-educated minority men. Conversely, there are corresponding sizable declines in the proportions of men who are active in a productive activity (defined here as in school, employed, or in the military). For example, table 6.2 reveals declines in the proportion of black men who are active between 1980 and 2000 of twenty-three percentage points for high school dropouts, fifteen percentage points for high school graduates, and seven percentage points for those with some college education. These declines are particularly large for the young and less-educated minority men profiled in table 6.3. In previous research (Raphael 2007b), I have found that these declines were sufficient to drive black male employment rates below corresponding black female employment rates for all educational attainment groups with the exception of college graduates (where the inter-gender difference is zero). This pattern is not observed among African Americans in previous years nor among any of the other racial-ethnic groups listed in the tables.

Figure 6.3 demonstrates directly the correspondence between the changes in the proportion who are employed-active and the changes in the proportion who are incarcerated. The figure plots the ten-year changes in the proportion who are employed-active for the 1980s and 1990s against the corresponding ten-year changes in the proportion who are institutionalized for each of the demographic groups defined by the complete interaction of the four race-ethnicity groups and four education-attainment groups displayed in table 6.2 as well as four age groups corresponding to those used in table 6.3 plus the group of men forty-six to fifty-five. There is a clear negative correlation between these two variables. The results from a simple bivariate regression suggest that a 1-percentage-point increase in the proportion incarcerated is associated with a 0.83-percentage-point decrease in the proportion active. If one were to interpret this coefficient as a causal effect, it would suggest that the twenty-four-percentage-point increase in the incarceration rate of male black high school dropouts between twenty-six and thirty-five caused an approximate twenty-percentage-point decline in the employment rate of this group (thus explaining almost 70 percent of the actual decline of twenty-nine percentage points).

What causal pathways may link changes in incarceration rates to the employment outcomes of low-skilled men? First, there is a simple contemporaneous mechanical incapacitation effect of incarceration, in that institutionalized men cannot be employed in a conventional manner. If one were to randomly select a group of

FIGURE 6.3   /   Scatter Plot of Change in the Ten-Year Changes in the Proportion
Employed, in School, or in the Military Against the Ten-Year Change in
the Proportion Institutionalized, 1980 to 2000
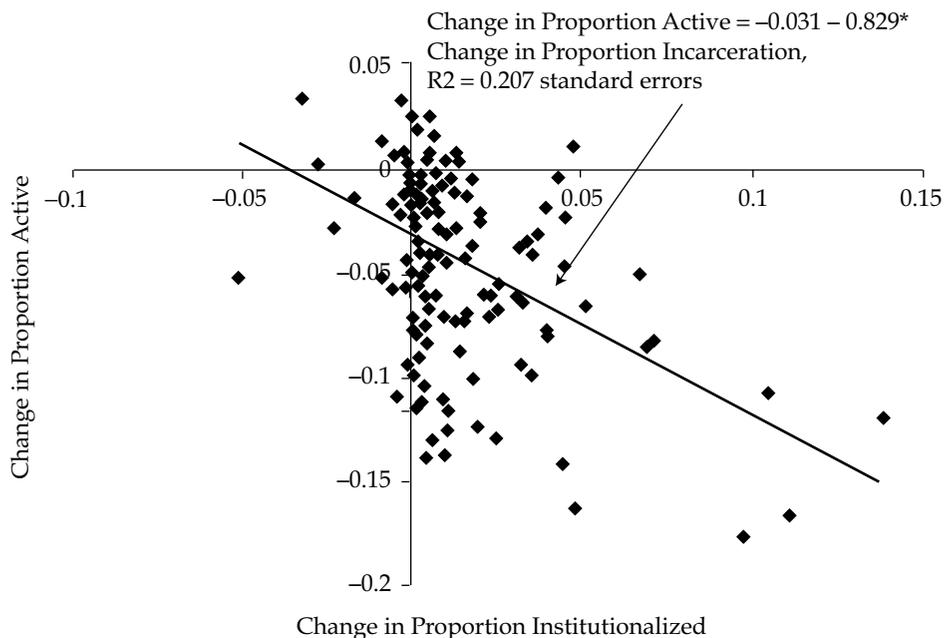
Source: Author's compilation based on 1980 and 2000 Public Use Microdata Samples (Ruggles et al. 2008).

men and incarcerate them, the slope coefficient from a regression of the change in employment on the change in incarceration should equal the employment rate for men overall. To be sure, those admitted to prison are hardly a random sample of adult men and are likely to have employment rates substantially below that of the average male. Nonetheless, exogenous increases in incarceration will mechanically reduce the employment rate for those impacted to the extent that some of the newly admitted inmates were employed at the time of arrest.[3] Since the lion's share of the increase in incarceration since the mid-1970s reflects changes in sentencing policy rather than changes in behavior,[4] this short-term contemporaneous effect will be particularly important for the most impacted subgroups.[5]

Beyond this contemporaneous effect, incarceration is also likely to have a dynamic lagged impact on the employment prospects of former inmates as well as a contemporaneous impact on the employment outcomes of men who have not been to prison yet come from demographic subgroups with high incarceration rates. On the positive side, a spell in prison may straighten some men out, and the

desire to avoid future prison spells may lead some to focus on living a conventional law-abiding life. Such a positive impact is akin to what criminologists refer to as a specific deterrent effect of incarceration, and may ultimately increase the employability of former inmates. On the negative side, inmates fail to accumulate human capital while incarcerated and may experience an erosion of prosocial tendencies, and may perhaps experience the enhancement of antisocial attitudes and a propensity toward violence.

Moreover, the stigmatizing effects (sometimes exacerbated by state and federal policy) associated with a prior felony conviction and incarceration faced by all former inmates is certainly an obstacle they face while searching for a job. There is a further avenue, other than the mechanical, by which incarceration may contemporaneously impact the employment prospects of low-skilled minority men. Employers may statistically discriminate against men from high incarceration demographic groups in an attempt to avoid hiring ex-offenders. All of these pathways are likely to suppress the current and future employment and earnings of men from demographic groups with high incarceration rates. This impact adversely affects the material well-being of the men directly impacted as well as of those intimates and children whose welfare is determined interdependently.

Incarceration and the Accumulation of Work Experience

Serving time interrupts one's work career. The extent of this interruption depends on both the expected amount of time served on a typical term as well as the likelihood of serving subsequent prison terms. The average prisoner admitted during the late 1990s on a new commitment faced a maximum sentence of three years and a minimum of one year, with many serving time closer to the minimum (Raphael and Stoll 2005). If this were the only time served for most, then the time interruption of prison would not be that substantial.[6]

However, many people serve multiple terms in prison, either due to the commission of new felonies or due to violation of parole conditions post-release. A large body of criminological research consistently finds that nearly two-thirds of ex-inmates are rearrested within a few years of release from prison (Petersilia 2003). Moreover, a sizable majority of the re-arrested will serve subsequent prison terms. Thus, for many offenders the typical experience between the ages of eighteen and thirty is characterized by multiple short prison spells with intermittent, and relatively short, spells outside of prison.

In prior longitudinal research on young offenders entering the California state prison system, I documented the degree to which prison interrupts the early potential work careers of young men. I followed a cohort of young men entering the state prison system in 1990 and gauged the amount of time served over the subsequent decade (Raphael 2005). This analysis found that the median inmate served 2.8 years during the 1990s, with the median white inmate (3.09 years) and median black inmate (3.53 years) serving more time and the median Hispanic inmate (2.23

years) serving less time.[7] Roughly 25 percent served at least 5 years during the 1990s and another 25 percent served less than 1.5 years.

However, these figures are misleading as a gauge of the extent of the temporal interruption. Cumulative time served does not account for the short periods of time between prison spells where inmates may find employment, yet are not able to solidify the employment match with any measurable amount of job tenure. A more appropriate measure of the degree to which incarceration impedes experience accumulation would be the time between the date of admission to prison for the first term served and the date of release from the last term.

Using time lapsed between first admission and final release during the 1990s, I found that five years elapses between the first date of admission and the last date of release for the median inmate. For median white, black, and Hispanic inmates, the comparable figures are 6.2, 6.5, and 3.2 years, respectively. For approximately one-quarter of inmates, nine years pass between their initial commission to prison and their last release. In other words, one quarter of these inmates spend almost the entire decade cycling in and out of prison. These figures for California are comparable to the characteristics of parolees receiving employment services from the New York–based Center for Employment Opportunities (CEO) whose transitional employment program is currently being evaluated by the MDRC (Bloom et al. 2007). Among participant parolees in the recent experimental evaluation of CEO, Dan Bloom et al. (2007) document an average age of 33.7, and an average lifetime cumulative time served in state prison of nearly five years.

Spending five or more years of one's early life cycling in and out of institutions must impact one's earnings prospects. Clearly, being behind bars and spending short spans of time outside of prison prohibits the accumulation of job experiences during a period of one's life when the returns to experience are the greatest.

Does Having Been in Prison Stigmatize Ex-Offenders?

The potential impact of serving time on future labor-market prospects extends beyond the failure to accumulate work experience. Employers are averse to hiring former prison inmates and often use formal and informal screening tools to weed ex-offenders out of the applicant pool. Given the high proportion of low-skilled men with prison time on their criminal history records, such employer sentiments and screening practices represent an increasingly important employment barrier, especially for low-skilled African American men.

Employers consider criminal history records when screening job applicants for a number of reasons. For starters, certain occupations are closed to felons under local, state, and in some instances federal law (Hahn 1991). In many states employers can be held liable for the criminal actions of their employees. Under the theory of negligent hiring, employers can be required to pay punitive damages as well as damages for loss, pain, and suffering for acts committed by an employee on the job (Craig 1987). Finally, employers looking to fill jobs where employee monitoring is imperfect may place a premium on trustworthiness and screen applicants accordingly.

In all known employer surveys where employers are asked about their willingness to hire ex-offenders, employer responses reveal a strong aversion to hiring applicants with criminal records (Holzer, Raphael, and Stoll 2006, 2007; Pager 2003). For example, over 60 percent of employers surveyed in the Multi-City Study of Urban Inequality indicated that they would "probably not" or "definitely not" hire applicants with criminal records, with "probably not" being the modal response. By contrast, only 8 percent responded similarly when queried about their willingness to hire current and former welfare recipients.

The ability of employers to act on an aversion to ex-offenders, and the nature of the action in terms of hiring and screening behavior, will depend on employer accessibility to criminal record information. If an employer can and does access criminal records, the employer may simply screen out applicants on the basis of their actual arrest and conviction records. In the absence of a formal background check, employers may statistically profile applicants using perceived correlates of previous incarceration such as age, race, or level of educational attainment and avoid hiring those from demographic groups with high rates of involvement in the criminal justice system.

Such a propensity to statistically discriminate is evident in the interaction effect of employers' stated preference regarding their willingness to hire ex-offenders, their screening behavior on this dimension, and their propensity to hire workers from high incarceration rate groups. This relationship is illustrated in figure 6.4, which reproduces some of the key findings in Harry J. Holzer, Steven Raphael, and Michael A. Stoll (2006). The figure presents tabulations of employer survey data collected in 1993 and 1994 pertaining to the proportion of employers whose most recent hire is a black male by their self-reported willingness to hire ex-offenders interacted with a self-report regarding whether the employer uses criminal history background checks in screening his or her potential employees. Among employers who indicate that they are willing to hire ex-offenders, there is no statistically discernable difference in the proportion of recent hires who are black men between those who check and those who do not check criminal backgrounds. Among employers who indicate that they are unwilling to hire ex-offenders, however, checking criminal background is associated with a 5.6-percentage-point increase in the likelihood that the most recent hire is a black male (statistically significant at the 5 percent level).[8] Thus, among those most averse to hiring former inmates, checking backgrounds actually increases the likelihood that the firm hires black males. This pattern indicates that, in the absence of such objective screening methods, employers use more informal screening tools—such as not hiring black males—to weed out potential former inmates. Holzer, Raphael, and Stoll (2006) find similar patterns with regard to employer willingness to hire other stigmatized groups of workers, such as those with large unaccounted-for gaps in their employment histories.

Regarding the direct effect of stigma on former inmates themselves, the audit study by Devah Pager (2003) offers perhaps the clearest evidence of employer aversion to ex-offenders and the stigma associated with having served time in prison. The study uses male auditors matched on observable characteristics, in-

FIGURE 6.4 / The Proportion of Employers Whose Most Recent Hire Was a Black Male by Their Self-Stated Willingness to Hire Ex-Offenders and by Their Practice of Checking Criminal Backgrounds When Screening Applicants
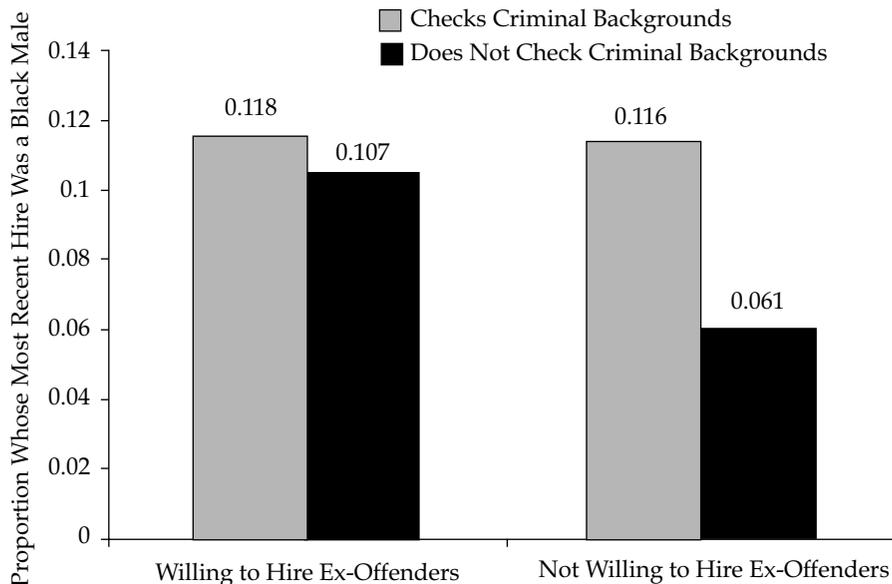
Source: Author's compilation based on Holzer, Raphael, and Stoll 2006.

cluding age, education, general appearance, demeanor, and race, to assess the effects of prior prison experience on the likelihood that each auditor is called back for an interview. The author finds consistently sizable negative effects of prior prison experience on the likelihood of being called back by the employer, with callback rates for the auditor with prior prison time one-half that of the matched coauditor.[9]

Existing Research on the Employment Consequences of Incarceration

In conjunction, the effects of stigma combined with the impact of incarceration on human capital accumulation, and perhaps depreciation, suggest that serving time is likely to adversely impact one's employment prospects. Moreover, there may be a negative spill-over affect for men from high incarceration subgroups to the extent that employers wish to screen out ex-offenders and do so using informal perceived signals of criminality such as race or gaps in one's employment history.

A growing body of empirical research investigates the effects of being convicted and serving time on postrelease employment and earnings. In nearly all of these studies, researchers analyze the pre-to-post-incarceration path of earnings and employment of those who serve time. To be sure, the principal empirical challenge in this research is to define the counterfactual path of earnings and employment for those who go to prison. Defining such a counterfactual path is difficult, considering that men tend to go prison during a time in their lives (early to mid-twenties) when labor-force attachment and earnings are changing rapidly, and those who serve time are quite different from those who do not, on both observable and unobservable dimensions.

The challenges of this line of research are illustrated in figures 6.5 and 6.6. To construct these figures, I identified all young men in the 1979 National Longitudinal Survey of Youth (NLSY79) who were interviewed while incarcerated (the principal gauge of serving time in these data) for the first time at the age of twenty-three or later. I then matched each of these youth to one non-incarcerated male in the sample, defined as youth who never do time during the period covered by the NLSY79. In choosing matches, I identified all never-incarcerated youth who match each incarcerated youth exactly on age, region of residence in the country, education at twenty-two years of age, and race. From these exact matches, I then chose either the match with the closest Armed Forced Qualifying Test (AFQT) score when the AFQT was available for the incarcerated youth, or a random match (among those who exact matched on observable dimensions) for incarcerated youth with no AFQT score. Each figure presents the mean of an outcome for the group of incarcerated youth or the never-incarcerated youth for years relative to the year of first incarceration (t = 0). The figure compares outcomes for the five years preceding incarceration as well as the subsequent eight-year period.

Figure 6.5 compares annual weeks worked. During the pre-incarceration period, average weeks worked among future inmates and the never-incarcerated are both increasing (by 5.5 weeks among future inmates and by 8 weeks among the comparison youth). At the point of first incarceration, however, the two series diverge sharply. Among the never-incarcerated, average weeks worked continues to increase from approximately 33 weeks at year zero to 40 weeks at year five (followed by a decline in employment corresponding to the early nineties recession). Among the incarcerated there is a sharp drop in weeks worked in the first survey year following the year of first observed incarceration (to 11 weeks). The pre-incarceration peak of 22 weeks is recovered five years post-incarceration but does not rise above the pre-incarceration level during the latter eight-year period. The divergence of the incarcerated and comparison groups is illustrated by the difference in mean weeks worked during the pre-incarceration period and the post-incarceration period. For the five pre-incarceration years, the never-incarcerated work roughly 9.5 more weeks per year than the group of future inmates. In the eight post-incarceration years, this average difference increases to 17.4 weeks.

Figure 6.6 shows similar patterns for average annual earnings. During the pre-incarceration period, the ratio of annual earnings for the comparison sample to

FIGURE 6.5 / Average Annual Weeks Worked for Men Who Experience Incarceration
and a Matched Comparison Group Relative to Year of First Incarceration
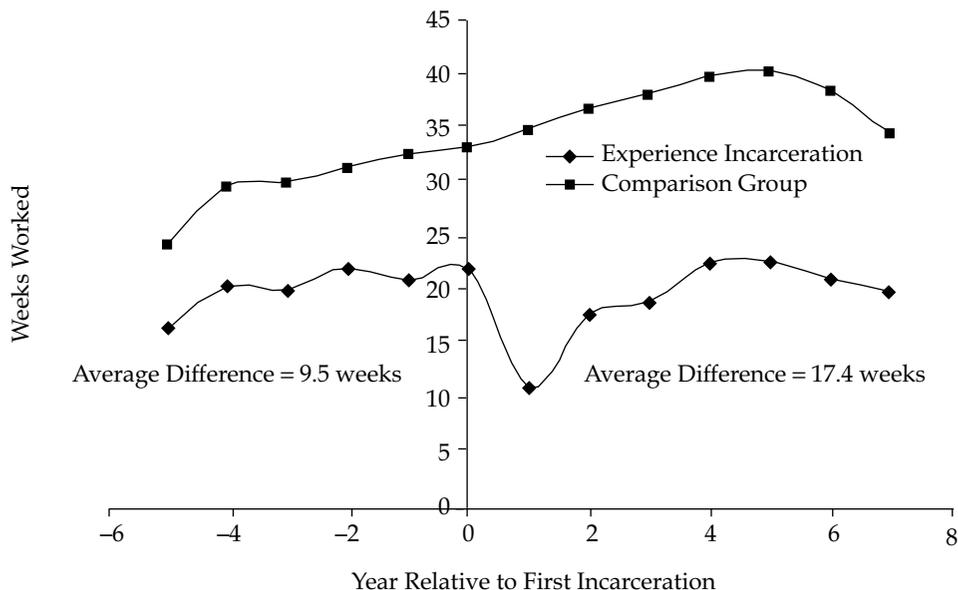
Source: Author's compilation based on National Longitudinal Survey of Youth 1979 (Ohio State University 2003).

the incarcerated sample is roughly 1.5. During the post-incarceration period, this ratio increases to an average of 2.6.

These two figures both illustrate the difficulties faced by research on this topic. As is evident from the employment and earnings path of the treatment group, incarceration occurs at a point in the age-earnings profile of young men where labor-force attachment is strengthening and annual earnings are increasing. Simple before-after comparisons of earnings and employment among those who experience incarceration will underestimate the true consequences of having served time to the extent that earnings and employment would have increased through this period in the absence of an incarceration spell.

The figure also reveals the large base disparities between those who eventually serve time and those who don't even after having matched on a number of demographic and human capital dimensions. The comparison sample works nine more weeks and earns 50 percent more than the sample of future inmates even before the first incarcerated spell. Thus, although pre-incarceration employment and earnings dynamics are similar, this large pre-treatment disparity in average outcomes raises questions about whether the post-incarceration employment and earnings paths of non-inmates provide accurate counterfactuals for those who serve time.

FIGURE 6.6   /   Average Annual Earnings Among Men Who Experience Incarceration and
a Matched Comparison Sample Relative to First Year of Incarceration
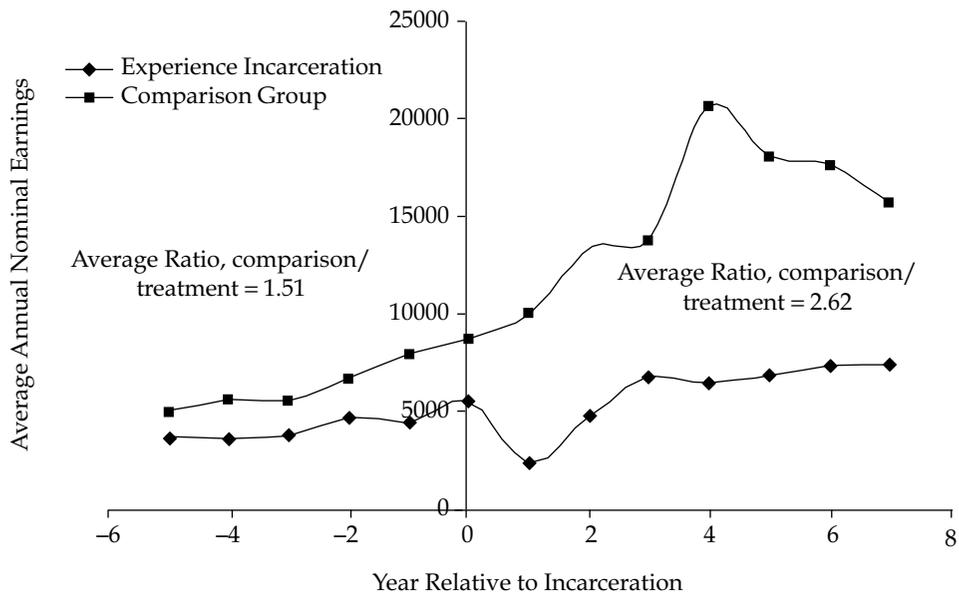
Source: Author's compilation based on National Longitudinal Survey of Youth 1979 (OSU 2003).

Several researchers have employed a host of strategies to address these methodological challenges using data from the NLSY79.[10] Bruce Western (2002) compares the earnings trajectories of NLSY79 youths who serve time to high-risk youths who do not and finds a sizable relative decline in the hourly wages of the formerly incarcerated. In previous research (Raphael 2007a), I compare the employment outcomes of NLSY79 youths who serve time early in their lives to those who serve time later in life. I find a significant and substantial negative effect of prior incarceration on annual weeks worked that corresponds in time with one's first incarceration spell. Using the more recent NLSY97 data, Gary Sweeten and Robert Apel (2007) estimate the effects of a prior incarceration spell on various employment, educational, and criminal justice outcomes after matching youths who serve time to those who don't, using a large number of observable variables. The authors find sizable effects of a previous incarceration on the probability of employment five years following release. The authors also find some evidence that a prior incarceration predicts future criminal activity and poorer educational outcomes.

A number of studies have used administrative data on arrest and incarceration

matched to administrative earnings records. Joel Waldfogel (1994) and Jeffrey Grogger (1995) are among the first to pursue this research strategy. Waldfogel uses data on people who are convicted in federal court and compares pre- and post-conviction employment outcomes culled from federal parole records. The author finds the largest earnings penalties for those who serve time and those convicted of a "breach of trust" crime. Grogger (1995) uses California administrative data to study the distributed lagged effect of arrest, conviction, probation, being sentenced to jail, and being sentenced to prison on subsequent earnings and employment. The author finds that arrest has a short-lived negative effect on earnings, whereas serving a prison sentence has a more pronounced and longer-lasting negative effect on earnings.

A number of recent studies have used state and federal prison administrative records combined with ES-202 earnings records to analyze the pre and post employment and earnings patterns of prison inmates.[11] Jeffrey R. Kling (2006) analyzes data for federal prisoners in California and state prisoners in Florida; Haeil Jung (2007) and Rosa Cho and Robert Lalonde (2005) analyze data for state prisoners in Illinois; Becky Pettit and Christopher Lyons (2007) analyze data for prisoners in Washington state; and William J. Sabol (2007) analyzes data for prisoners in Ohio. Although these studies differ from one another along a number of dimensions, there are several consistent findings. First, the ES-202 records measure very low employment and earnings among state prison inmates prior to incarceration (with roughly one-third showing positive quarterly earnings in any given quarter for the two years period preceding incarceration). Even though this is partially explained by the incompleteness of administrative data,[12] these findings do suggest low labor-force participation rates among soon-to-be inmates.

Second, nearly all of the studies find that employment increases above pre-incarceration levels immediately following release and then declines to or falls below pre-incarceration levels within a couple of years. The small post-release employment increase is likely driven by the fact that most released prisoners are conditionally released to parole authorities and must meet certain obligations, including employment search or even formal employment requirements (perhaps entailing a job more likely to be captured in ES-202 records), in order to remain in the community.

Third, several studies (Cho and Lalonde 2005; Kling 2006; Jung 2007) find that the post-release increase in employment is larger for inmates who serve longer terms. However, Kling (2006) shows that this disparity does not survive controlling for differences in inmates characteristics and program participation between inmates serving shorter and longer terms (of particular importance is the difference in participation in work-release programs).

Although these studies suggest a positive effect of conditional release on employment, they are generally unable to identify the effects of incarceration on the age-earnings and age-employment profiles of those who serve time. The reliance on quarterly Unemployment Insurance (UI) records renders these results particularly sensitive to any factors that are likely to impact the probability of working for an employer who complies with labor-market regulations. If employers who

participate in work-release programs or who have working relationships with labor-market intermediaries that place former inmates have a high degree of compliance, pre- and post-incarceration employment outcomes as measured by UI earnings records may not be comparable.[13]

In addition, these studies do not identify a comparison group who do not serve time with whom we could compare the average earnings and employment paths of those who do. Failing to account for the slope of the age-earning profile at the time of incarceration seriously distorts inferences regarding the ultimate impacts of incarceration.

A final group of studies uses data from the U.S. census to estimate the partial correlation between the proportion of a given demographic that is incarcerated and the average employment outcomes of the nonincarcerated among the corresponding group (Raphael 2005; Raphael and Ronconi 2006). These studies show that the demographic subgroups that experience the largest increase in incarceration rates also experience the largest decreases in employment among the nonincarcerated.

COULD WE REDUCE INCARCERATION RATES WITHOUT INCREASING CRIME RATES?

The enormous increase in incarceration rates just documented has left in its wake a large number of former inmates and huge flows (over 600,000 per year) of released prisoners who are in need of assistance if they hope to stay out of prison and turn their lives around. Thus, a broad-based strategy for fostering pathways toward self-sufficiency among low-skilled men must include a set of policies designed to ease former inmates' reentry into noninstitutionalized society.

However, to focus entirely on the problem of reentering former inmates obscures the dynamics of the growth in incarceration and alternative policy strategies that may prevent young men from entering the system in the first place. Each year the United States admits over 600,000 new inmates to prison, many of whom are beginning the process of cycling in and out of prison. The fiscal savings from staunching this inflow are obvious, as corrections spending per inmate averages around $35,000 per year (Donohue 2007). Moreover, sending fewer men away would generate the additional benefits from reducing the negative externalities not accounted for by explicit fiscal outlays. To be sure, one might pursue social policies that reduce the likelihood that young men most at risk for serving time in prison commit punishable offenses in the first place.

In this realm, perhaps the largest returns to such social investment would come from policies that decrease the likelihood of dropping out of high school and increase average educational attainment among high-risk youth, factors that are strong (and likely causal) predictors of serving time (see, for example, the estimates in Lochner and Moretti 2004). There is much room and great need for creative thinking in this area. For example, New York City's recent experimentation (through the Opportunity NYC program) with providing cash transfers to poor

families conditional on the educational outcomes of their children may prove to generate substantial social returns above and beyond the private returns to these children occurring through higher educational attainment levels, to the extent that this program impacts crime rates and prevents future incarceration spells.

Beyond such efforts, policymakers may consider reducing the incarceration rate simply by employing sanctions other than incarceration in punishing less serious offenders, such as shorter parole terms. Less serious parole violations may be punished by fines, community service time, or further restrictions on privileges rather than more prison time.

Of course, the social costs of such a change in direction would depend on the extent to which lowering the overall incarceration rate increases crime. Criminologists and economists have devoted considerable effort to studying and measuring the extent to which prison mechanically incapacitates the criminally active from offending as well as the extent to which the threat of prison deters potential offenders (Johnson and Raphael 2007; Nagin 1998; Levitt 1996; Raphael and Stoll 2005; Spelman 1994). This research reveals that on average, putting someone away for a year reduces criminal activity. Thus the social costs of reducing incarceration can be potentially large. However, research has also revealed that the marginal crime-abating effect of incarceration declines at a quite rapid rate as the incarceration rate increases (Johnson and Raphael 2007; Raphael and Stoll 2005; Liedka, Piehl, and Useem 2006). Moreover, there is some research that indicates that selective prison-release decisions that weigh the characteristics of the inmates may have very little to no effect on crime, especially in recent years (Raphael and Stoll 2005).

Is there room to systematically reduce the incarceration rates of U.S. states without appreciably affecting—that is, increasing—crime rates? I begin by characterizing the offenders most recently admitted to prison and the ways the characteristics of such an inmate have changed over the last twenty years. I then present some results on how the prison-crime effect has changed as the incarceration rate has increased.

Changes in the Marginal Offender

Raphael and Stoll (2009) demonstrate several facts about the recent increase in U.S. incarceration rates. First, they find substantial increases in the amount of time served, conditional on the offense committed. The increase in time served for like offenders accounts for 25 to 30 percent of the increase in incarceration rates since 1980. Second, they find a substantial increase in the likelihood of being sent to prison for committing a crime. This accounts for another 55 percent of the increase in incarceration. The study also finds that an increasing propensity to offend explains at most 15 percent of the increase in incarceration rates. In other words, the 400 percent increase in incarceration rates has been driven primarily by changes in sentencing policy (85 percent of the increase) rather than changes in criminal behavior (at most, 15 percent of the increase).

FIGURE 6.7   /   Percentage of Prison Admissions Due to the Return to Custody of Parole
Violators Without a New Term
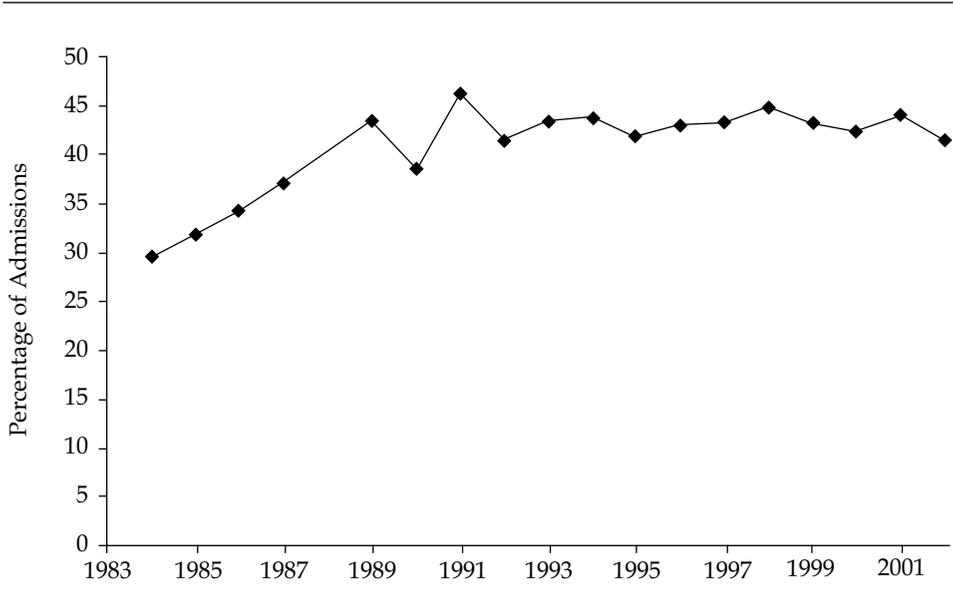
The relatively small contribution of changes in behavior as well as the huge pol-
icy expansion in the use of incarceration as punishment have resulted in the incar-
ceration of increasingly less dangerous offenders. This is reflected in both changes
in the characteristics of the marginal offender as well as changes in the relation-
ship between crime and incarceration. Here I use data from the admissions files of
the National Corrections Reporting Program (NCRP) to document changes in the
marginal prisoner admission. I only use data for the subset of states that consis-
tently report admissions information to the NCRP for all years between 1984 and
2002. Fortunately, the thirty states that consistently report to the NCRP account
for an average of 70 percent of annual prison admissions over this time period.
Thus, I am able to characterize the overwhelming majority of prison admissions.

Figure 6.7 displays the percentage of prison admissions in each year that are not
attributable to a new felony commitment. Most of these admissions are of individ-
uals returned to custody for parole violations. This category of admissions has be-
come an increasingly important source of prison admissions over the past two
decades, increasing from approximately 29 percent of admissions in 1984 to over
40 percent in 2002.

Figures 6.8 and 6.9 present the composition of prison admissions for new
felonies and for parole violators by most serious offense. For those admitted on a

FIGURE 6.8 / Percentage of Prison Admissions by Main Offense for New
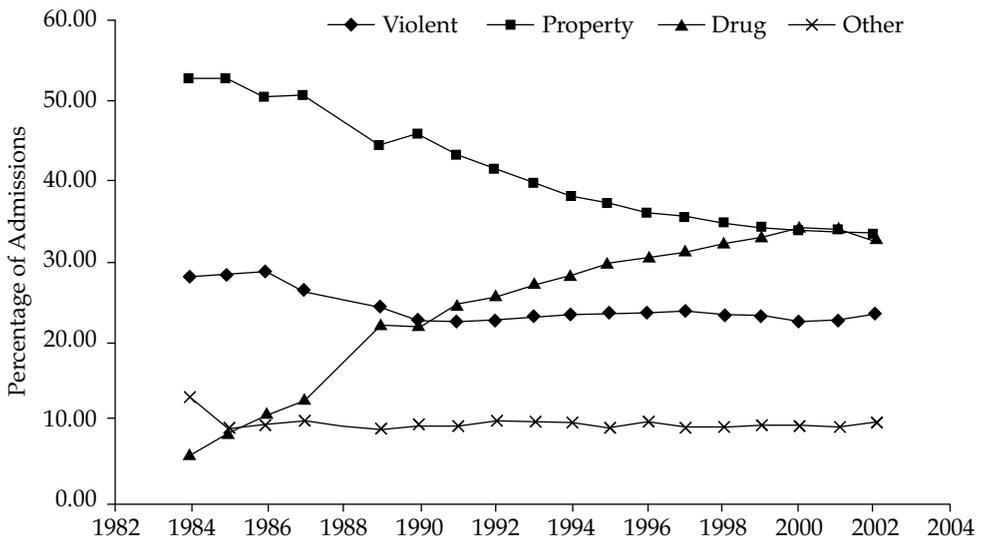Commitment, 1984 to 2002
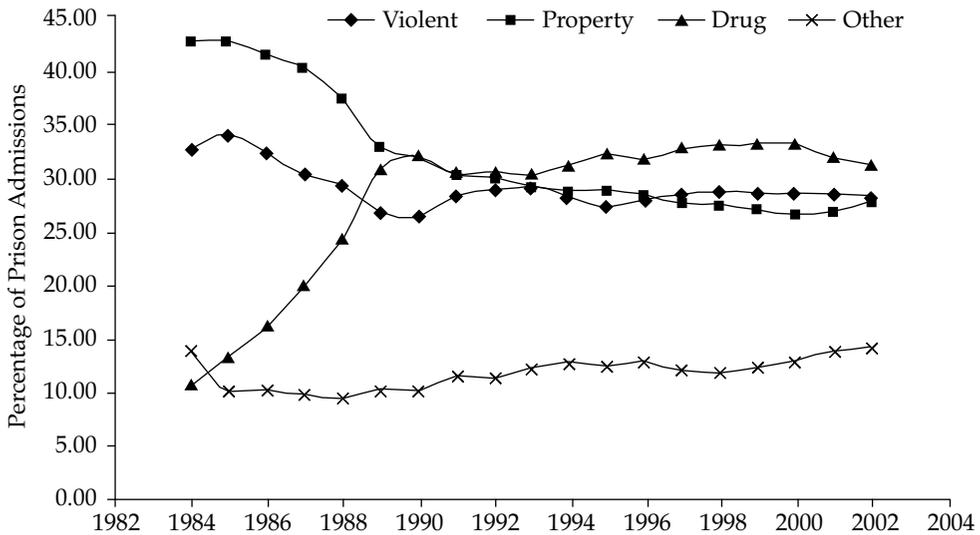
Source: Author's compilation based on the National Corrections Reporting Program (U.S.
Department of Justice, various years).

new felony conviction, the proportion admitted for a violent or property crime
declines considerably during the 1980s and then stabilizes during the 1990s. In
1984 roughly 75 percent of prison admissions are accounted for by offenders con-
victed of violent or property felony offenses; by 2002 this figure falls to below 60
percent. The proportional importance of drug offenders, on the other hand, in-
creases considerably, from slightly over 10 percent in 1984 to over 30 percent by
1990, and fluctuates around 33 percent of admissions thereafter.

Similar changes are observed in the original offense composition of those re-
turned to custody without a new felony. In 1984, almost 80 percent of former
inmates returned to custody were originally committed to prison for either a
violent or property crime (those convicted of property crimes predominated).
Drug offenders accounted for only 5 percent of this inflow. By 2002 the impor-
tance of property and violent offenders diminishes and the importance of drug
offenders increases. By 2002, those originally convicted of drug offenses consti-
tute approximately one-third of inmates returned to custody for a parole viola-
tion.

I cannot infer from the NCRP data how the criminal propensities of those ad-

FIGURE 6.9 / Percentage of Prison Admissions by Original Commitment Offense for Parole Violators, 1984 to 2002
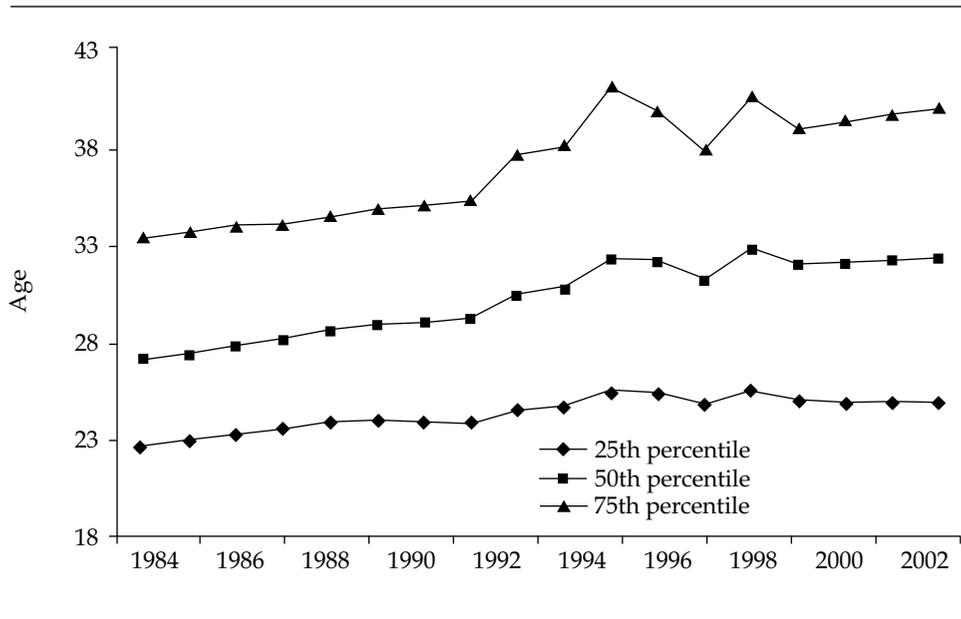

Source: Author's compilation based on the National Corrections Reporting Program (U.S. Department of Justice, various years).

mitted to prison have changed over time, but there are a few dimensions of potential criminality and offense severity that permit an assessment of how newly admitted inmates have changed on the margin. For example, the research on life-course involvement in criminal activity provides strong evidence that the criminally active desist from illegal activity as they age, and that the late teens and early twenties are the most criminally active period.[14] Since the NCRP data include nearly complete information on the age of prison admits, we can explore whether, along this dimension, the United States has been admitting persons to prison less criminally active than in the past.

Figure 6.10 presents the 25th percentile, the median, and the 75th percentile of the age distribution of those admitted to prison for each year between 1984 and 2002, and shows that there have been striking increases in the age of prison admits throughout the age distribution. The age of the admit at the 25th percentile has increased by 2.2 years over this period, the median age has increase by 5.2 years, and the age at the 75th percentile has increase by over 6 years. Thus, to the extent that older inmates are less criminally active, the United States has been admitting less dangerous offenders in recent years.

We can also use the sentences received by offense category to characterize the

FIGURE 6.10   /   Key Percentiles of the Age Distribution for Prisoner Admissions, 1984 to 2002
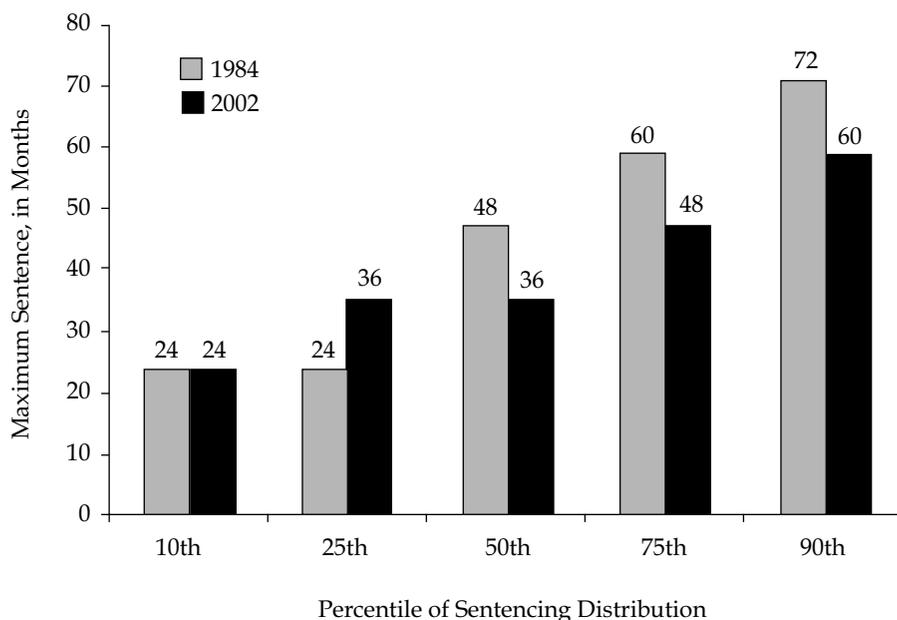

Source: Author's compilation based on the National Corrections Reporting Program (U.S. Department of Justice, various years).

severity of the offense and then use changes in this variable over time to characterize the change in prison admissions over time. But such an analysis would have to account for the fact that sentencing may have changed over time. To perform such an analysis, I do the following. First, for each of seventy offense categories reported in the NCRP I tabulate the median maximum sentence handed down to prisoners admitted in 1984. Next, I assign this median value to each admission in 1984 and each admission in 2002. Assigning the typical maximum sentence in 1984 to those admitted in 2002 allows me to characterize the sentences these latter prisoners would have received under the earlier sentencing regime. Finally, I calculate the percentiles of this constructed distribution for each year for comparison. If offenders in 2002 are admitted for less serious offenses (as judged by the courts), then the distribution of sentences should have shifted toward shorter prison spells.

Figure 6.11 presents the results of this exercise. The figure shows no change at the 10th percentile and an increase in sentence length at the 25th percentile (largely driven by the increased importance of drug offenders). For sentences at or above the median, however, offense severity (as measured by the maximum sentence that would have been handed down in 1984) diminishes by substantial

FIGURE 6.11 / Distribution of Maximum Sentences, Assigning the Median Sentence for Each of Seventy Offense Categories Handed Down in 1984 to Each Admission in 1984 and Each Admission in 2002

Source: Author's compilation based on the National Corrections Reporting Program (U.S. Department of Justice, various years).

amounts. In conjunction with the patterns in the age distribution, this suggests that indeed the average admit in 2002 was less criminally predisposed and had committed a less serious offense than the typical admit in 1984.

Change in the Effect of Incarceration on Crime at the Margin

The characteristics of the marginal prison admissions have shifted decisively toward less serious offenders. We are currently admitting increasingly older offenders for relatively less serious offenses than in years past. To what extent has this shift impacted the crime-abating effects of incarceration?

Criminologists posit that changes in incarceration impact crime through two avenues: incapacitating the criminally active and deterring the potentially criminally active. Estimation of these effects has proceeded in roughly two methodological veins. A large body of criminological research has attempted to estimate the incapacitation effect directly by using inmate surveys pertaining to previous offending

prior to arrest to approximate the amount of the offending the inmate would have engaged in had he not been incarcerated (reviewed in Spelman 1994, 2000). A second, smaller yet growing, body of literature seeks to estimate the total effect of incarceration on crime (incapacitation plus deterrence) by studying the aggregate empirical relationship between changes in the incarceration rate and changes in the rates of reported crimes (Johnson and Raphael 2007; Liedka, Piehl, and Useem 2006; Levitt 1996). A comparison of the findings from these two bodies of research suggests that the overwhelming effect of incarceration on crime is attributable to the incapacitation of the criminally active. With this in mind, a shift toward incarcerating older, less serious, and perhaps less criminally inclined offenders is likely to translate into smaller effects of prison on crime on the margin.

Indeed, the studies that have analyzed the marginal effect of incarceration over time have found this to be the case (Johnson and Raphael 2007; Raphael and Stoll 2005; Liedka, Piehl, and Useem 2006). To illustrate this finding, table 6.4 presents results from some of my research with Rucker Johnson (Johnson and Raphael 2007). The table presents estimates of the effect of a one-unit increase in the incarceration rate (expressed as inmates per 100,000) on the number of prevented reported crimes per 100,000 and the number of prevented total crimes per 100,000, accounting for incomplete reporting to the police, for two time periods, 1978 to 1990 and 1991 to 2004. The table is based on a series of state-level panel data regressions of the change in crime rates on the change in incarceration rates that uses an instrumental variables strategy to identify exogenous variation in incarceration that is not driven by reverse causal effects of changes in crime on change in prison population.[15] The key characteristic distinguishing these two periods that should be kept in mind is the difference in the average incarceration rate. Between 1978 and 1990, the population-weighted average state-level incarceration rate was approximately 186. The comparable average incarceration rate between 1991 and 2004 is 396.

Table 6.4 reveals enormous declines in the amount of crime averted for the average prison year served across these two time periods. A one-unit increase in the number of people incarcerated per 100,000 U.S. residents prevented approximately 30 crimes per 100,000 during the earlier period. The comparable figure for the latter period is 8.3 crimes. Note further that the composition of the crimes prevented shifts decisively toward less serious crimes. During the 1980s, the prevention of violent crime (murder, rape, robbery, and assault) accounts for 15 percent of the roughly 30 crimes prevented per inmate; during the 1990s and early 2000s violent crime accounts for only 7 percent of the 8 crimes prevented per inmate. In fact, the lion's share of crimes prevented through incarceration during the latter period is attributable to the effect of incarceration on larceny, or nonburglary theft without contact.

In this study we also found that the elasticity of crime with respect to prison (the percentage change in crime caused by a percentage change in incarceration) declines across these two time periods (from –0.8 to –0.2 for violent crime and from –0.43 to –0.25 for property crime).[16] If we make the conservative assumption that the crime-prison elasticity remained constant throughout the 1990s and early

TABLE 6.4   /   Effects of Crime Abatement on Reported Felony Offenses

	Effect on Crimes Reported to the Police	Effect on All Crimes Accounting for Underreporting
1978 to 1990		
Violent crime		
Murder	–0.038	–0.038
Rape	–0.200	–0.615
Robbery	–2.555	–4.467
Assault	0.262	0.474
Property crime		
Burglary	–6.769	–13.484
Larceny	–2.627	–6.553
Motor vehicle theft	–2.018	–2.564
Total	–13.945	–30.247
1991 to 2004		
Violent crime		
Murder	–0.006	–0.006
Rape	–0.021	–0.065
Robbery	–0.257	–0.449
Assault	–0.037	–0.067
Property crime		
Burglary	–0.514	–1.024
Larceny	–1.674	–6.087
Motor vehicle theft	–0.505	–0.642
Total	–4.182	–8.340

Source: Johnson and Raphael 2007.
Note: Figures are estimates of the crime-abating effect of a one-unit increase in the incarceration rate on the number of crimes per 100,000 residents. These estimates come from state-level panel data regressions that model the year-to-year change in crime rates as a function of the year-to-year change in state incarceration rates. The models are estimated using variation along the dynamic adjustment path of incarceration to underlying shocks to identify as an instrument for the interyear change in incarceration rates. See Johnson and Raphael (2007) for estimation details.

2000s (an assumption that would bias the marginal crime-abatement upward), we can use the latter elasticity estimate to forecast what the marginal crime-fighting effect of a one-unit increase in the incarceration rate is for these latter years. Since with a constant crime-prison elasticity the marginal absolute effect of a one-unit increase in incarceration declines with increases in incarceration,[17] the increases in the incarceration rate through the late 1990s and early 2000s suggest that the

crime-abating effects of prison have likely declined beyond what is depicted in table 6.4.

In 2004, the national incarceration rate stood at 484 inmates per 100,000. Also, there were 465 violent crimes and 3,517 property crimes reported per 100,000 U.S. residents. My research with Rucker Johnson finds that a 1 percent increase in the incarceration rate (equivalent to an increase in the incarceration rate of 4.84 inmates per 100,000 in 2004) should yield a –0.2 percent decrease in reported violent crime and a –0.25 percent decrease in reported property crime. Given the crime rate levels in 2004 and the magnitude of a 1 percent increase in the incarceration rate, these elasticity estimates imply that the effect of a one-unit increase in the incarceration rate would be to reduce reported violent crimes by 0.2 incidents and reported property crimes by 1.5 incidents. Accounting for the underreporting of crimes to the police suggests the total effect of a one-unit increase in the incarceration rate would be to prevent 0.38 violent crime per 100,000 and 4.3 property crimes per 100,000. In other words, the increases in incarceration occurring over the past decade have served to reduce the likely marginal effect of prison and crime by half relative to the estimates presented for the latter period in table 6.4. Thus, the available evidence suggests that the effect of incarceration on crime rates has declined considerably as the incarceration rate has increased.

Summary

The large expansion of the prison population along the extensive (who gets admitted) as well as the intensive (for how long) margin has corresponded with notable changes in the composition of the group of individuals admitted to prison. We are currently admitting more nonviolent drug offenders, more parole violators, and considerably older men than we admitted in years past. All of these characteristics are generally associated with lower levels of offending, suggesting that the composition of our prison admissions has shifted decisively toward less serious offenders.

Consistent with these patterns, I have also shown that the effect on crime of incarcerating the average prisoner declines sharply as the incarceration rate increases. Comparisons of the crime-prison effects during the late 1970s and early 1980s to the comparable effects for the 1990s and early 2000's reveal that in recent years we have gotten less bang for our buck in terms of crime reduction. Moreover, extending the elasticity estimates to the most recent years suggests that incarcerating the marginal prisoner is currently preventing very little crime.

The lion's share of this chapter has focused on the adverse social consequences of incarceration for prior inmates in terms of the impact on their future employment prospects and their ability to be self-sufficient and productive members of society. The essay has devoted less attention to some of the other social externalities of incarceration, such as the impact of incarceration on the spread of HIV/AIDS and other communicable diseases (Johnson and Raphael 2007), the effects on the material well-being, behavioral outcomes, and intergenerational impacts on children (Johnson 2007), and the impact on political participation (Manza

and Uggen 2006). In conjunction with the annual fiscal outlays on corrections and the deadweight loss associated with raising the needed funds, the implicit costs of these social externalities indicate that the costs of incarceration are currently quite high. The analysis of the change in the composition of prison admits as well as the direct analysis of the effects of prison on crime both indicate that the social benefits are generally quite low. Hence, it is most likely the case that we are currently beyond the socially optimal level of incarceration.

Moreover, the effects on crime of reducing incarceration below current levels would likely be lower than the already-low marginal effects discussed earlier. These marginal effects should be interpreted as the likely effect on crime associated with selecting an inmate at random and releasing them to noninstitutionalized society for a year. A reduction in the use of incarceration that was targeted toward less serious offenders should result in even smaller impacts on crime than that suggested by the figures given earlier. Such considerations further exacerbate the current disparity between the actual and optimal level of incarceration.

Finally, one could reanalyze the question with a focus on the opportunity cost of public resources devoted to crime abatement. Specifically, given the many alternative public investments that may have crime-preventing effects (such as investments in early childhood development, or education), is the current allocation of public funds across these investments such that the marginal impacts on crime of these investments are equal? The analysis presented in John J. Donohue and Peter Siegelman (1998) suggest that this is not the case, and that greater investment in early childhood development could yield higher reductions in crime per dollar spent in comparison to the effect of marginal corrections expenditures.

POLICY OPTIONS TO IMPROVE THE EMPLOYMENT PROSPECTS OF FORMER INMATES

Spending time in prison or having a prior felony conviction in one's history is becoming an increasingly common characteristic of low-skilled workers, especially for low-skilled minority men. Although the causes of this increased interaction with the criminal-justice system are varied, the lion's share of this development is attributable to changes in sentencing policy that have both increased the average time that an offender spends behind bars and enlarged the scope of behavior punished by a spell of incarceration (Raphael and Stoll 2009). In a recent analysis of the declining employment rates of low-skilled minority men (Raphael 2007b), I found that only a small part of these declines can be explained by declining wages, suggesting the limits of policies designed to boost take-home earnings.[18] Fully addressing the employment crises for these men requires directly addressing the barriers to employment created by their official criminal past.

Facilitating the successful reentry of former inmates and prior felons into noninstitutionalized society is an extremely complex challenge that will most likely require substantial investments in training, social services, employment services, and post-release monitoring (see the discussions in Petersilia 2003 and Travis

2005). The sheer size of this population, with roughly 600,000 inmates released each year and nearly 5 percent of the adult male population having served time, is indicative of the enormity of the challenge. Still, there are simple steps that the state and federal government could take that would not compromise public safety, yet would eliminate some of the challenges that former inmates and felons face in procuring employment and avoiding extreme poverty post-release. I list some policy proposals, beginning with perhaps the lowest-lying fruit and progressing to more complex and expensive initiatives.

Qualifying for Public Assistance

Perhaps the simplest step one could take to help ex-inmates would be to reverse the summary disqualification of former inmates and those with felony convictions from participating in federal public assistance programs and from receiving financial aid for education. Currently, those with prior drug felony convictions are prohibited from receiving federal financial education assistance. Moreover, the 1996 Personal Responsibility and Work Opportunity Reconciliation Act made drug felons ineligible for Food Stamps and cash assistance for life. The legislation gave states the option to adopt the federal ban on Food Stamps and cash assistance as is, or pass legislation to modify or eliminate the ban. States are not authorized to eliminate the ban on financial aid (Legal Action Center 2004).

    The only possible rationale for such collateral punishment of drug offenders is the assumption that enhanced and prolonged punishment will discourage people from engaging in drug crimes. However, the deterrence effects of incarceration itself are hotly debated among those who study the determinants of crime (see, for example, Lee and McCrary 2005 and Levitt 1996), with much research suggesting that the likely effects are quite small. With this in mind, the deterrent effects of much more removed, and perhaps less salient, punishments such as a lifetime ban on Food Stamps or becoming ineligible for Pell grants must certainly generate very little by way of crime reduction. Such bans, however, do make it more difficult for released offenders to avoid extreme poverty and to turn their lives around. Financial aid through the Pell grant program is one of the main sources of assistance for those attending community college, an important source of training and secondary education for less-skilled adults. Food Stamps very effectively provide basic assistance to meet the most fundamental needs of the poor. Banning former felons from participating in these programs is, frankly, counterproductive. States that maintain complete or partial bans on participation in public assistance should drop them, and the federal governments should reverse the ban on drug offenders' receiving educational assistance.

Lifting Employment Bans

Employment bans arising from former convictions and occupational licensing restrictions should not be applied in a blanket manner but instead should be based

on the content of one's criminal record. When used, employment bans should be based on conviction rather than arrest records. Any bans on the employment of felons mandated by law should be based on the content of one's previous behavior as well as on the time that has elapsed since conviction. In their analysis of the consideration by prior criminal history records, the Legal Action Center (2004) found that in nearly all states there is no standard governing the consideration of prior criminal records by employers and occupational licensing agencies. In many states employers can fire anyone who is found to have a criminal record regardless of the gravity of the offense, the time since conviction, or the relevance of the past behavior to current job responsibilities. In addition, employers are generally free, when hiring, to consider and discriminate against ex-inmates on the basis of criminal history, and most states allow employers to consider arrests not leading to conviction.

Holzer, Raphael, and Stoll (2006) demonstrate that most employers of low-skilled labor check criminal records in some manner—by directly asking the applicant, paying a private firm to check, or performing a direct query of the state criminal history repository—and that the proportion of employers that check has increased considerably over the decade of the 1990s. The high propensity to check, employers' complete discretion in considering past criminal history records, and the high proportion of men with prior convictions all indicate a need for some governing standard that recognizes not only the interests of employers but also the employment needs of former inmates and those with prior convictions. With this in mind, states should prohibit the consideration of prior arrests that did not result in a conviction in the hiring or firing of an employee. Moreover, publicly mandated employment bans of former felons for specific jobs as well as licensing bans should be based on the content of specific offenses or offender characteristics. In general, a more considerate and rational process for determining the suitability of former prisoners for employment in certain occupations is needed.

Improve Job-Search Assistance

We should invest more in labor-market intermediaries who specialize in the reentry employment needs of recently released inmates. A sizable minority of employers indicate that they are indeed willing to hire offenders and actually do so, as measured by recent hiring outcomes. Government and nonprofit entities devoted to workforce development often serve an important informational role in matching clients to employers, and this greatly minimizes the search costs for both parties. For a specific group of clients who face substantial stigma problems in the search for work, such job-search assistance is likely to be particularly important.

Over time such intermediaries establish long-term relationships and credibility with employers and are thus more effective in placing their clients in employment. Intermediaries should be able to identify the most work-ready from the large pool of former inmates and offer up a steady supply of reentering former in-

mates who are pre-screened and likely to be solid employees of comparable quality to an employer's average hire.

Given the scale of the flow of inmates out of prison each year (on the order of 600,000), there is a large potential role for agencies and nonprofits devoted to minimizing employment search costs, prescreening workers for employers, and aiding those who are reentering in becoming ready for conventional employment.

The initial results from the MDRC experimental evaluation of the New York Center for Employment Opportunities (CEO) program are suggestive of the potential effectiveness of such intermediaries and their ability to help parolees land jobs and stay our of trouble. Bloom et al. (2007) find relatively large effects on the employment rate of parolees yet modest effects on recidivism and the likelihood of being in state prison a year after intervention. However, the latter finding is somewhat misleading, since the parolees who participated in the program have a considerably low baseline recidivism rate, due to the fact that many of the referred clients had been out of prison for some time and are already less likely to re-offend. The experimental estimates restricted to recently released inmates yielded large impacts on the likelihood of being employed, rearrested, and reincarcerated in the year following the intervention. These are particularly heartening findings and suggest that specialized and experienced intermediaries can have substantial impacts on these men's life prospects as well as on public safety.

Set Time Limits on Criminal Records

States should incentivize desistance from criminal activity by expunging certain criminal records after a fixed time period has elapsed. In a recent analysis, Megan C. Kurlycheck, Robert Brame, and Shawn D. Bushway (2006) raise the important question of whether unfettered employer access to criminal records can be justified by the legitimate concerns of employers and the public. They assess whether the rate at which young offenders desist from offending with time since the last offense makes it reasonable to limit employer access to arrest and conviction information for sufficiently distant past offenses. The authors demonstrate that for a cohort of young men in Philadelphia the likelihood of a repeat offense declines precipitously with the time since the last offense. This pattern is consistent with both a causal effect of staying clean as well as a remaining population of former offenders that becomes increasingly selected with time since the last offense (to be specific, selection toward a low propensity to offend). For policy purposes, however, the exact source of this pattern is irrelevant. In light of this pattern, the authors argue that limiting employer access to criminal history records beyond a certain time period may effectively limit the collateral consequences of prison while not necessarily exposing employers and the public to significantly higher risk.

This simple proposal carries many advantages. Clearly, being able to procure and retain gainful employment is virtually a precondition for the successful reintegration of former inmates into noninstitutionalized society. The expunging of

their past offenses following a predetermined period of desistance will certainly improve the labor market as well as life prospects of former offenders. Moreover, the prospect of former inmates' having their record wiped clean after a given period of desistence provides an incentive for them to change their behavior.

Nonetheless, this proposal may have negative unintended consequences if employers care about prior criminal activity and engage in indirect and imperfect screening practices. In other words, limiting an employer's ability to access criminal history records or to ask about prior criminal convictions may not prevent employers from using various characteristics as signals of possible prior run-ins with the law when they make hiring and promotion decisions. At a minimum, employers may be able to effectively identify ex-offenders via such signals as education, where a person comes from, or through unaccounted-for gaps in an applicant's employment history. At worst, employers may systematically discriminate against workers from groups that they perceive to have a high propensity to offend, such as young black men. This important issue of how employers may respond to limits on access is key to designing a policy that both allows employers to take into account aspects of an individual's history that are legitimately related to assessing potential job performance, while protecting those who, through the passage of time, have demonstrated the irrelevance of their past infractions to their future performance.

There are several key choice variables that should be considered in designing an information policy that achieves this balance. First and foremost among these is the length of the time limit placed on criminal history inquiries. If the limit is set too short, employers will not have confidence in formal checks and thus will employ informal screens as a supplement, undoing much of the potential benefit to ex-offenders from suppressing such information in the first place. To the extent that the limit is too long, few offenders will benefit and there will be little added incentive to stay clean with an eye on the prospect of an expunged record. Kurlycheck, Brame, and Bushway (2006) focus on the seven-year limit set in the federal statute pertaining to the trucking industry. Clearly, more research on employer hiring practices with a focus on this specific question would greatly inform this choice.

A second choice variable concerns the starting point for the time period framing the criminal history record. The authors implicitly advocate for a start date corresponding to the date of the most recent conviction, arguing that since few employers have access to incarceration information, time since incarceration is irrelevant. However, one can imagine that, with the knowledge that records are purged after seven years, employers may still downgrade the applications from young men who they suspect have served some time. Knowing that a clean criminal history record check is consistent with either never having offended or having offended and potentially served time but having had no contact with the criminal justice system for the past seven years provides considerably more information than the alternative of ignoring incarceration.

A third important choice variable concerns whether there are some offenses that should never be purged. One might make the argument that someone who

has served time for a felony sex offense should never work with children, or that workers with prior serious violent offenses should not be placed in jobs involving security. Again, a better understanding of how employers consider such mitigating factors would provide useful information for forming a viable policy prescription.

The growing numbers of noninstitutionalized felons raise important policy questions regarding reintegration and ways society can ease and facilitate the transition of former offenders into productive and stable lives. Stable employment is clearly key. We should improve the prospects of former offenders and provide a positive incentive to desist from criminal offending to the extent that we can do so without substantially harming the interests of employers.

CONCLUSION

The brunt of the United States' world-leading rate of incarceration of its citizens falls disproportionately on young minority men, in particular black men. I have argued that the experience of serving time interrupts the work careers of young men and likely compounds the employment problems that many of these men were already experiencing prior to their incarceration. Moreover, the large proportions of minority men who pass through the nation's prisons suggest that the impact on poor minority communities more generally is likely to be quite large.

I have offered several policy suggestions that would aid the reentry transition for former inmates and perhaps help prevent further criminal involvement among these men. I have also argued that policymakers should be more proactive in preventing men from entering prison in the first place. Given the likely small effects of incarceration on crime at current levels, there is room to reduce the use of incarceration and increase the use of alternative sanctions without impacting the levels of serious crime.

NOTES

1. To gauge the validity of using the census data in this manner, in previous research (Raphael 2005) I compare estimates of the institutionalized population from the census to estimates of the incarcerated populations from other sources by race. Although the census estimates are slightly larger than estimates of the incarcerated population from the Bureau of Justice Statistics, the disparities are quite small relative

to the overall incarcerated population. The difference likely reflects the very small remaining inpatient population in U.S. mental hospitals.

2. The California incarceration rate is quite close to the national average in most years. California does differ, however, in the dynamics of its incarcerated population. Given the disproportionate contribution of parole violators to the prison population, the typical spell in a California prison is considerably shorter than that for the nation. The high parole failure rate leads to a much larger prison admissions rate than that for the nation.

3. A number of studies demonstrate that roughly one-third to two-thirds of inmates are employed at the time of the arrest leading to their current incarceration (see Kling 2007; Pettit and Lyons 2007; Tyler and Kling 2007; and Sabol 2007).

4. Alfred Blumstein and Allen J. Beck (1999) and Raphael and Stoll (2007) demonstrate that most of the increase (80 to 85 percent) in state incarceration rates is attributable to increased sentence length conditional on being sent to prison and an increased propensity to punish felons with incarceration, holding offenses constant. Raphael and Stoll (2007) simulate the counterfactual crime rate that would have occurred had the state prison incarceration rate not increased above 1980 levels. The results suggest that a higher propensity to offend can explain no more than 15 percent of the overall increase.

5. To be sure, causality may also run in the reverse direction, that is, from declining employment prospects to criminal activity to incarceration, but the evidence on this front is rather weak. First, the decline in wages of the least-skilled men between 1980 and 2000 was heavily concentrated in the 1980s, with some low-skilled men regaining lost ground during the 1990s and beyond. However, the increase in incarceration during the 1990s was equal in magnitude to the increase occurring during the 1980s, and the incarceration rate continued to increase between 2000 and 2006. Second, evidence of a behavioral increase in criminal activity is scant, with most research suggesting that the propensity to commit crime actually declined during the 1990s even after accounting for the increase in incarceration.

6. Of course I am not saying that a year in prison is not costly. However, a year's absence from the labor market during the beginning of one's worklife would have only a small effect on accumulated experience.

7. The California inmate population is roughly evenly distributed among whites, Hispanics, and blacks and is overwhelmingly male.

8. The 4.4-percentage-point difference-in-difference relative to firms who are willing to hire black males is statistically significant at the 10 percent level of confidence.

9. Of course, the audit evidence is subject to the critique that the demonstration of the existence of employers who discriminate against former inmates does not necessarily imply a market-level effect of this discrimination. Former inmates can adjust their supply behavior by applying only to firms willing to hire them. To the extent that the latter set of employers is larger than the unwilling-to-hire group, the ultimate impact on employment and earnings may be negligible. However, Holzer, Raphael, and Stoll (2007) find that fairly large proportions of employers express reservations about hiring former inmates. Moreover, in labor-market models with search frictions, such unwillingness may reduce the job offer arrival rate of former inmates, resulting in

greater unemployment, lower wages when employed (to the extent that former inmates lower the minimum wage for which they would be willing to work, and a higher proportion withdrawing from the workforce.

10. National Longitudinal Survey; see http://www.bls.gov/nls/nlsy79.htm for more information.

11. Employment and Wage (ES-202) data are derived from reports filed by all employers subject to unemployment compensation laws, both state and federal. Industry employment and payroll information is produced both quarterly and annually for the state, labor market areas, workforce investment areas, cities and towns, and counties. See http://lmi2.detma.org/lmi/lmi_es_a.asp for further information.

12. Kling (2006) is the only study that compares employment as measured by quarterly earnings records to inmate self-reported employment at the time of arrest. The author reports that although only 33 percent of inmates have positive earnings in the typical pre-incarceration quarter, nearly 65 percent report being employed at the time of arrest. On the basis of analysis of CPS data for comparable men, Kling concludes that most of this disparity reflects the fact that inmates are employed in informal jobs where employers are not paying Social Security taxes or paying into the Unemployment Insurance system.

13. Robert Kornfeld and Bloom (1999) provide a detailed comparison of earnings as measured by quarterly UI records to survey data earnings as measured in the JTPA (Job Training Partnership Act, 1982) training experiments and provide estimated program effects using the two sources of data. The authors show that earnings from the UI data are systematically lower than earnings from the survey records. Relative program effects are similar in magnitude using the two sources of information, except for young men with criminal records. The UI data yield larger program effect estimates than the survey records, suggesting that for this particular group, program participation is increasing the likelihood of working for an employer that complies with reporting and tax requirements.

14. The fact that criminal offending declines with age is a well-known empirical pattern. Grogger (2000) demonstrates that the proportion of youth in the 1979 National Longitudinal Survey of Youth who self-report involvement in criminal activity declines with age, a fact the author attributes to increasing legal opportunity costs. In a series of papers, Robert J. Sampson and John H. Laub (1993, 1997, 2003, 2005) find little evidence for a group of life-course criminal persisters in a long panel of offenders and individuals at high risk of offending as youths. These authors find evidence that certain life events, such as getting married, having children, or being steadily employed, correspond with desisting from crime in adulthood.

15. Specifically, we use variation along the dynamic adjustment path of prison between equilibria to identify variation in incarceration that would occur despite contemporaneous variation in crime rates. Our results for the 1978-to-1990 time period are similar in magnitude to those reported in Levitt (1996), who analyzes a similar time period yet uses the effects of court orders to relieve prisoner overcrowding occurring during the 1970s and '80s as an instrument. For details on our instrumental variables strategy, see Johnson and Raphael (2007).

16. Note that the figures in table 6.4 are effects of levels on levels, not elasticities. Converting to elasticities facilitates comparisons with prior research.

17. With a constant crime-prison elasticity, ε, the relationship between incarceration and crime can be written as $lnC = \varepsilon lnP$. Solving for the level of C yields the equation $C = P\varepsilon$, which will be decreasing in P so long as $\varepsilon < 0$.

18. To be sure, policies designed to increase take-home pay may impact the likelihood of offending in the first place. Such policy may aid in limiting further growth in the prison population, to the extent that such policy initiatives as expanding the Earned Income Tax Credit for childless adults or reforming child support policy alter the relative returns to legitimate and illegitimate activities.

REFERENCES

Bloom, Dan, Cindy Redcross, Janine Zweig, and Gilda Azurdia. 2007. "Transitional Jobs for Ex-Prisoners: Early Impacts from a Random Assignment Evaluation of the Center for Employment Opportunities Prisoner Reentry Program." MDRC Working Paper. New York: MDRC.

Blumstein, Alfred, and Allen J. Beck. 1999. "Population Growth in U.S. Prisons, 1980–1996." *Crime and Justice: A Review of Research* 26: 17–62.

Bonczar, Thomas P. 2003. *Prevalence of Imprisonment in the U.S. Population, 1974–2001.* Special report, prepared for Bureau of Justice Statistics Special, NCJ 197976. Washington, D.C.: National Criminal Justice Service.

Butcher, Kirsten F., and Anne Morrison Piehl. 2006. "Why Are Immigrant Incarceration Rates So Low? Evidence on Selective Immigration, Deterrence, and Deportation." Working paper. New Jersey: Rutgers University.

Charles, Kerwin K., and Ming Ching Louh. 2007. "Male Incarceration, the Marriage Market, and Female Outcomes." Working paper. Chicago: University of Chicago.

Cho, Rosa, and Robert Lalonde. 2005. "The Impact of Incarceration in State Prison on the Employment Prospects of Women." Harris School working paper #5-10. Chicago: University of Chicago.

Craig, Scott R. 1987. "Negligent Hiring: Guilt By Association." *Personnel Administrator* (October): 32–34.

Donohue, John J. 2007. "Assessing the Relative Benefits of Incarceration: The Overall Change of the Previous Decades and the Benefits on the Margin." Working paper. New Haven, Conn.: Yale University.

Donohue, John J., and Peter Siegelman. 1998. "Allocating Resources Among Prisons and Social Programs in the Battle Against Crime." *Journal of Legal Studies* 27(1): 1–43.

Grogger, Jeffrey. 1995. "The Effect of Arrest on the Employment and Earnings of Young Men." *Quarterly Journal of Economics* 110(1): 51–71.

———. 2000. "An Economic Model of Recent Trends in Violence." In *The Crime Drop in America*, edited by Alfred Blumstein and Joel Wallman. Cambridge: Cambridge University Press.

Hahn, Jeffrey M. 1991. "Pre-Employment Information Services: Employers Beware." *Employee Relations Law Journal* 17(1): 45–69.

Holzer, Harry J., Steven Raphael, and Michael A. Stoll. 2006. "Perceived Criminality, Criminal Background Checks and the Racial Hiring Practices of Employers." *Journal of Law and Economics* 49(2): 451–80.

———. 2007. "The Effect of an Applicant's Criminal History on Employer Hiring Decisions and Screening Practices: Evidence from Los Angeles." In *Barriers to Reentry? The Labor Market for Released Prisoners in Post-Industrial America*, edited by Shawn Bushway, Michael Stoll, and David Weiman. New York: Russell Sage Foundation.

International Centre for Prison Studies. 2007. "World Prison Brief." Available at: http://www.prisonstudies.org (accessed on January 1, 2007).

Johnson, Rucker. 2007. "Intergenerational Risks of Criminal Involvement and Incarceration." Working paper. Berkeley: University of California.

Johnson, Rucker, and Steven Raphael. Forthcoming. "The Effect of Male Incarceration Dynamics on AIDS Infection Rates Among African-American Women and Men." *Journal of Law and Economics*.

———. 2007. "How Much Crime Reduction Does the Marginal Prisoner Buy?" Working paper. Berkeley: University of California.

Jung, Haeil. 2007. "The Effects of First Incarceration on Male Ex-Offenders' Employment and Earnings." Working paper. Chicago: University of Chicago.

Kornfeld, Robert, and Howard Bloom. 1999. "Measuring Program Impacts on Earnings and Employment: Do Unemployment Insurance Wage Records Agree with Survey Reports of Individuals?" *Journal of Labor Economics* 17(1): 168–97.

Kling, Jeffrey R. 2006. "Incarceration Length, Employment, and Earnings." *American Economic Review* 96(3): 863–76.

Kurlycheck, Megan C, Robert Brame, and Shawn D. Bushway. 2006. "Scarlet Letters and Recidivism: Does An Old Criminal Record Predict Future Offending?" *Criminology and Public Policy* 5(3): 483–504.

Legal Action Center. 2004. "After Prison: Roadblocks to Reentry; A Report on State Legal Barriers Facing People with Criminal Records." New York: Legal Action Center. Available at: http://lac.org/roadblocks-to-reentry (accessed March 26, 2009).

Lee, David S., and Justin McCrary. 2005. "Crime, Punishment, and Myopia," NBER working paper #11491. Washington, D.C.: National Bureau of Economic Research.

Levitt, Steven D. 1996. "The Effect of Prison Population Size on Crime Rates: Evidence from Prison Overcrowding Legislation." *Quarterly Journal of Economics* 111(2): 319–51.

Liedka, Raymond V., Anne Morrison Piehl, and Bert Useem. 2006. "The Crime-Control Effect of Incarceration: Does Scale Matter?" *Criminology and Pubic Policy* 5(2): 245–76.

Lochner, Lance, and Enrico Moretti. 2004. "The Effect of Education on Criminal Activity: Evidence from Prison Inmates, Arrest, and Self Reports." *American Economic Review* 94(1): 155–89.

Manza, Jeff, and Christopher Uggen. 2006. *Locked Out: Felon Disenfranchisement and American Democracy.* New York: Oxford University Press.

Nagin, Daniel S. 1998. "Criminal Deterrence Research at the Outset of the Twenty-First Century." *Crime and Justice: A Review of Research* 23: 1–42.

Ohio State University, Center for Human Resource Research. 2003. National Longitudinal Survey of Youth, 1979. [Computer file]. ICPSR04683-v1. Washington, D.C.: U.S. Department of Commerce, Bureau of the Census, and U.S. Department of Labor Statistics [producers], 2003. Ann Arbor, Mich.: Inter-university Consortium for Political and Social Research [distributor] 2007-09-07. doi: 10.3886/ICPSR04683.

Pager, Devah. 2003. "The Mark of a Criminal Record." *American Journal of Sociology* 108(5): 937–75.

Petersilia, Joan. 2003. *When Prisoners Come Home.* Oxford: Oxford University Press.

Pettit, Becky, and Christopher Lyons. 2007. "Status and the Stigma of Incarceration: The Labor Market Effects of Incarceration by Race, Class, and Criminal Involvement." In *Barriers to Reentry? The Labor Market for Released Prisoners in Post-Industrial America*, edited by Shawn Bushway, Michael Stoll, and David Weiman. New York: Russell Sage Foundation.

———. 2004. "Mass Imprisonment and the Life Course: Race and Class Inequality in U.S. Incarceration." *American Sociological Review* 69(2): 151–69.

Raphael, Steven. 2005. "The Socioeconomic Status of Black Males: The Increasing Importance of Incarceration." In *Poverty, the Distribution of Income, and Public Policy*, edited by Alan Auerbach, David Card, and John Quigley. New York: Russell Sage Foundation.

———. 2007a. "Early Incarceration Spells and the Transition to Adulthood." In *The Price of Independence*, edited by Sheldon Danziger and Cecilia Rouse. New York: Russell Sage Foundation.

———. 2007b. "Boosting the Earnings and Employment of Low-Skilled Workers in the United States." In *A Future of Good Jobs: America's Challenge in the Global Economy*, edited by Timothy Bartik and Susan Houseman. Kalamazoo, Mich.: W. E. Upjohn Institute.

Raphael, Steven, and Lucas Ronconi. 2006. "Reconciling National and Regional Estimates of the Effects of Immigration on the U.S. Labor Market: The Confounding Effects of Native Male Incarceration Trends." Working Paper. Berkeley: University of California.

Raphael, Steven, and Michael Stoll. 2005. "The Effect of Prison Releases on Regional Crime Rates." In *The Brookings-Wharton Papers on Urban Economic Affairs,* edited by William G. Gale and Janet Rothenberg Pack. Volume 5. Washington, D.C.: Brookings Institution.

———. 2008. "Why Are So Many Americans in Prison?" In *Do Prisons Make Us Safer? The Benefits and Costs of the Prison Boom,* edited by Steven Raphael and Michael Stoll. New York: Russell Sage Foundation.

Ruggles, Steven, Matthew Sobek, Trent Alexander, Catherine A. Fitch, Ronald Goeken, Patricia Kelly Hall, Miriam King, and Chad Ronnander. 2008. Integrated Public Use Microdata Series: Version 4.0 [machine-readable database]. Minneapolis: Minnesota Population Center.

Sabol, William J. 2007. "Local Labor-Market Conditions and Post-Prison Employment Experiences of Offenders released from Ohio State Prisons." In *Barriers to Reentry? The Labor Market for Released Prisoners in Post-Industrial America*, edited by Shawn Bushway, Michael Stoll, and David Weiman. New York: Russell Sage Foundation.

Sampson, Robert J., and John H. Laub. 1993. *Crime in the Making: Pathways and Turning Points in Life*. Cambridge, Mass.: Harvard University Press.

———. 1997. "Life Course Theory of Cumulative Disadvantage and the Stability of Delinquency." In *Developmental Theories of Crime and Delinquency,* edited by Terrence Thornberry. Trenton, N.J.: Transaction Publishers.

———. 2003. "Life-Course Desisters? Trajectories of Crime Among Delinquent Boys Followed to Age 70?" *Criminology* 41(3): 301–39.

———. 2005. "A Life-Course View of the Development of Crime." In *Developmental Criminology and Its Discontents: Trajectory of Crime from Adulthood to Old Age,* edited by Robert J. Sampson and John H. Laub. The Annals of the American Academy of Political and Social Sciences Series. Philadelphia: American Academy of Political and Social Sciences.

Spelman, William. 1994. *Criminal Incapacitation*. New York: Plenum Press.

———. 2000. "The Limited Importance of Prison Expansion." In *The Crime Drop in Amer-*

ica, edited by Alfred Blumstein and Joel Wallman. Cambridge: Cambridge University Press.

Sweeten, Gary, and Robert Apel. 2007. "Incarceration and the Transition to Adulthood." Working paper. Phoenix: Arizona State University.

Travis, Jeremy. 2005. *But They All Come Back: Facing the Challenges of Prisoner Reentry.* Washington, D.C.: The Urban Institute Press.

Tyler, John H., and Jeffrey R. Kling. 2007. "Prison-Based Education and Reentry into the Mainstream Labor Market." In *Barriers to Reentry? The Labor Market for Released Prisoners in Post-Industrial America*, edited by Shawn Bushway, Michael Stoll, and David Weiman. New York: Russell Sage Foundation.

U.S. Department of Justice, Bureau of Justice Statistics. Various years. National Corrections Reporting Program, 2002: [United States] [Computer file]. Conducted by U.S. Department of Commerce, Bureau of the Census. ICPSR04345-v1. Ann Arbor, Mich.: Inter-university Consortium for Political and Social Research [producer and distributor], 2006. doi:10.3886/ICPSR04345.

Waldfogel, Joel. 1994. "The Effect of Criminal Convictions on Income and the Trust 'Reposed in the Workmen.'" *Journal of Human Resources* 29(1): 62–81.

Western, Bruce. 2002. "The Impact of Incarceration on Wage Mobility and Inequality." *American Sociological Review* 67(4): 526–46.

Western, Bruce. 2006. *Punishment and Inequality in America*. New York: Russell Sage Foundation.